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Status Report

ILLINOIS STATE GEOLOGICAL SURVEY
PRAIRIE RESEARCH INSTITUTE

Total Records: 1849

Top 3 County Records		Top 3 Log Type Records		Top 3 Coal Records		Top 3 Member Records	
Montgomery	1849	Drillers Log	870	HERRIN	1744	HERRIN COAL	1744
		Survey Core Study	444	DANVILLE	265	PIASA LIMESTONE	941
		Electric Log	314	CHAPEL	162	ANNA BLACK SHALE	898

Data Summary

Cross-tabulation of all selected logs, individual logs will vary.
Tabulation of logged intervals only, invidual logs will vary.

Depth and Thickness measurements in feet

Member	Lithology	Avg. Depth	Min. Depth	Max. Depth	Avg. Thk	Min. Thk	Max. Thk
SURVANT - UPPER		**515.3**	494.0	533.2	**2.8**	1.0	4.2
SURVANT - LOWER		**523.2**	506.3	535.8	**2.4**	0.7	4.3
MILLERSVILLE	LIMESTONE	**89.5**	17.0	200.0	**24.0**	8.0	38.0
MT. CARMEL	SANDSTONE	**196.5**	196.5	196.5	**78.5**	78.5	78.5
CARTHAGE	LIMESTONE	**138.7**	38.0	363.0	**9.4**	1.0	31.5
NEW HAVEN	COAL	**73.7**	73.7	73.7	**0.3**	0.3	0.3
MACOUPIN	LIMESTONE	**128.8**	76.0	361.0	**3.3**	0.7	10.0
WOMAC	COAL	**166.4**	113.5	351.5	**1.2**	0.2	6.3
BURROUGHS	LIMESTONE	**182.2**	172.0	194.0	**2.8**	0.3	5.0
CARLINVILLE	LIMESTONE	**177.9**	114.0	361.0	**4.9**	0.3	22.0
CRAMER	LIMESTONE	**181.6**	156.2	201.0	**0.7**	0.3	1.0
CHAPEL	COAL	**240.1**	150.0	511.0	**1.1**	0.2	4.5
TRIVOLI	SANDSTONE	**199.1**	157.3	253.5	**64.6**	6.0	103.4
EXLINE	LIMESTONE	**356.5**	356.5	356.5	**0.5**	0.5	0.5
LONSDALE	LIMESTONE	**287.2**	287.2	287.2	**0.3**	0.3	0.3
PIASA	LIMESTONE	**402.1**	237.0	726.0	**4.1**	0.3	25.0
DANVILLE	COAL	**440.0**	273.0	740.0	**1.4**	0.1	6.8
GALUM	LIMESTONE	**424.9**	293.3	677.0	**2.1**	0.1	22.2
ALLENBY	COAL	**441.4**	274.0	696.0	**1.4**	0.1	9.0
BANKSTON FORK	LIMESTONE	**421.6**	11.6	754.9	**6.8**	0.5	26.0
ANVIL ROCK	SANDSTONE	**436.7**	284.5	761.4	**2.5**	0.3	22.0
LAWSON	SHALE	**445.7**	12.7	741.0	**8.2**	0.2	100.0
CONANT	LIMESTONE	**455.6**	16.7	661.9	**1.0**	0.1	5.7
JAMESTOWN	COAL	**456.7**	17.5	660.4	**0.5**	0.1	1.5
BRERETON	LIMESTONE	**438.5**	18.2	764.0	**4.1**	0.1	26.0
ANNA	SHALE	**449.0**	18.4	767.0	**2.3**	0.1	12.6
ENERGY	SHALE	**363.4**	240.0	650.0	**43.1**	0.8	195.0
HERRIN	COAL	**442.1**	286.0	768.0	**7.1**	0.3	14.0
HIGGINSVILLE	LIMESTONE	**368.5**	339.8	391.9	**2.1**	0.8	4.0
ST. DAVID	LIMESTONE	**494.2**	417.0	571.3	**1.5**	1.0	1.9

TURNER MINE	SHALE	**406.0**	391.8	418.0	**3.7**	2.0	5.7
SPRINGFIELD	COAL	**439.8**	360.0	575.4	**1.8**	0.2	5.0
HANOVER	LIMESTONE	**496.4**	387.0	594.5	**1.3**	0.2	2.3
EXCELLO	SHALE	**492.6**	387.5	688.0	**5.5**	1.0	12.0
HOUCHIN CREEK	COAL	**474.4**	380.0	669.5	**2.3**	0.4	4.0
SURVANT	COAL	**502.4**	396.0	660.0	**2.3**	0.1	7.8
MECCA QUARRY	SHALE	**583.1**	463.3	764.0	**3.3**	1.8	10.0
COLCHESTER	COAL	**554.9**	440.0	774.0	**3.1**	0.1	6.7
SEELYVILLE	COAL	**622.3**	498.3	783.0	**3.8**	1.5	8.3
DEKOVEN	COAL	**571.3**	514.0	600.2	**2.9**	2.6	3.4
LOWER DEKOVEN	COAL	**606.9**	606.9	606.9	**1.5**	1.5	1.5
DAVIS	COAL	**591.2**	521.4	626.4	**2.4**	0.6	5.0
MURPHYSBORO	COAL	**637.2**	571.3	703.0	**9.8**	4.8	14.8
				Net Coal	**43.0**		

Coal Logs

This report contains non-confidential coal log descriptions from the Coal Section's stratigraphic database in the county listed. Coal logs are sorted by township/range and section. For each log, North American Datum 1983 (NAD83) Longitude/Latitude coordinates in decimal degrees are provided as well as a legal description which uses the Public Land Survey System (PLSS). The following are two examples of coal log locations:

Example location 1: COUNTY: SALINE TWP/RNG: 7S 5E SECTION: 19 QUARTERS/FOOTAGES: 330'S line, 330'W line of SE NE LONGITUDE: -88.691911 LATITUDE: 37.900435

This log is from a borehole located in Saline County, Township 7 South, Range 5 East, 330 feet from the south line and 330 feet from the west line of the southeast quarter of the northeast quarter of section 19.

Example location 2: COUNTY: SALINE TWP/RNG: 9S 5E SECTION: 36 QUARTERS/FOOTAGES: 530'N, 530'W, SE/c NE NW LONGITUDE: -88.60834 LATITUDE: 37.700006

This log is from a borehole located in Saline County, Township 9 South, Range 5 East, 530 feet north and 530 feet west of the southeast corner of the northeast quarter of the northwest quarter of section 36.

Beneath the header is geology information for that data point. The Coal Section stratigraphic database from which this .PDF file is derived is a multi-project database which contains drill hole and outcrop descriptions of Pennsylvanian stratigraphy in Illinois. Consequently, the level of detail and accuracy in the data and their interpretation vary (sometimes widely) with the geologist, project type, or original data source. Multiple descriptions of a particular location may be present. Note that both the coal stratigraphic database and this .PDF listing are only a subset of the total amount of data available from the ISGS Geologic Records Library archives, and reflect only coal-specific data and interpretations of past and present Coal Section geologists. They are not a comprehensive listing of all data that may be available from the ISGS.

MAPID: 13523764000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** SE SE NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.270683 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.080113 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 583.8 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-388 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	6.8	577.0	

MAPID: 13501733000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 32' S line, 743' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.303864 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.072036 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 567.8 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 220BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
86.1	MODESTO	PIASA	LIMESTONE	5.4	518.9	
80.7	CARBONDALE		SHALE	24.9	524.3	
55.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	549.3	
53.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.9	551.1	
52.0	CARBONDALE	LAWSON	CLAYSTONE	0.3	553.0	
51.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.8	553.3	
50.9	CARBONDALE	LAWSON	GRAY SHALE	1.7	554.1	
49.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.7	555.8	
46.5	CARBONDALE	CONANT	LIMESTONE W/ SHALE	0.9	558.5	
45.7	CARBONDALE	JAMESTOWN	BONE COAL	0.6	559.3	
45.0	CARBONDALE		DARK GRAY SHALE	0.6	560.0	
44.5	CARBONDALE	BRERETON	CALCAREOUS SHALE	0.2	560.5	
44.3	CARBONDALE	ANNA	BLACK SHALE	0.3	560.7	
44.0	CARBONDALE	HERRIN	COAL	6.8	561.0	

MAPID: 13501733000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 32' S line, 743' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.303864 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.072036 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 567.8 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 220BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
84.1	MODESTO	PIASA	LIMESTONE	5.4	518.9	
78.7	MODESTO		UNCLASSIFIED	4.3	524.3	
74.4	CARBONDALE		UNCLASSIFIED	14.7	528.6	
59.7	CARBONDALE	BANKSTON FORK	LIMESTONE	9.7	543.3	
50.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	553.0	
47.2	CARBONDALE		SHALE	2.7	555.8	
44.5	CARBONDALE	BRERETON	LIMESTONE	0.9	558.5	
43.6	CARBONDALE	ANNA	BLACK SHALE	1.6	559.4	
42.0	CARBONDALE	HERRIN	COAL	6.8	561.0	

MAPID: 13501733000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 32' S line, 743' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.303864 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.072036 **DATE COLLECTED:** 5 / 13 / 1969
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 567.6 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 220BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
44.2	CARBONDALE	HERRIN	COAL	6.8	560.8	

MAPID: 13501734000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1091' S line, 854' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.309559 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.074927 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 574.5 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 221BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
85.3	MODESTO	PIASA	LIMESTONE	2.5	534.7	
82.8	CARBONDALE		SHALE	20.7	537.2	
62.1	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	557.9	
60.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.5	559.4	
58.1	CARBONDALE	LAWSON	DARK GRAY SHALE	5.7	561.9	
52.4	CARBONDALE	ANNA	BLACK SHALE	0.5	567.6	
52.0	CARBONDALE	HERRIN	COAL	6.5	568.0	

MAPID: 13501734000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1091' S line, 854' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.309559 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.074927 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 574.5 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 221BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
85.2	MODESTO	PIASA	LIMESTONE	2.5	534.8	
82.7	MODESTO		UNCLASSIFIED	4.2	537.3	
78.5	CARBONDALE		UNCLASSIFIED	11.5	541.5	
67.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	553.0	
58.4	CARBONDALE	ANVIL ROCK	SANDSTONE	0.4	561.6	
58.0	CARBONDALE		SHALE	3.6	562.0	
54.4	CARBONDALE	BRERETON	LIMESTONE	0.8	565.6	
53.6	CARBONDALE	ANNA	BLACK SHALE	1.6	566.4	
52.0	CARBONDALE	HERRIN	COAL	6.5	568.0	

MAPID: 13501734000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1091' S line, 854' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.309559 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.074927 **DATE COLLECTED:** 5 / 19 / 1969
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 574.7 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 221BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
51.8	CARBONDALE	HERRIN	COAL	6.5	568.2	

MAPID: 13501749000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 42' N line, 39' W line of NW NW SW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.325087 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.078756 **DATE COLLECTED:** 7 / 18 / 1969
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 543.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 236-BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
83.8	CARBONDALE	HERRIN	COAL	7.7	536.2	

MAPID: 13501749000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 42' N line, 39' W line of NW NW SW

QUADRANGLE: FILLMORE **LONGITUDE:** -89.325087 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.078756 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 543.7 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 236-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
123.0	MODESTO	PIASA	LIMESTONE	2.3	497.0	
120.7	MODESTO		UNCLASSIFIED	6.3	499.3	
114.4	CARBONDALE		UNCLASSIFIED	13.4	505.6	
101.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	519.0	
91.0	CARBONDALE	ANVIL ROCK	SANDSTONE	1.7	529.0	
89.3	CARBONDALE	CONANT	LIMESTONE	0.3	530.7	
89.0	CARBONDALE		SHALE	2.5	531.0	
86.5	CARBONDALE	BRERETON	LIMESTONE	1.2	533.5	
85.3	CARBONDALE	ANNA	BLACK SHALE	1.3	534.7	
84.0	CARBONDALE	HERRIN	COAL	7.7	536.0	

MAPID: 13501750000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 168' S line, 81' E line of NE NW NW

QUADRANGLE: FILLMORE **LONGITUDE:** -89.320885 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.084818 **DATE COLLECTED:** 7 / 31 / 1969

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 547.5 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 237-BB **WELL TYPE:** Coal Test

COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
82.6	CARBONDALE	HERRIN	COAL	7.1	540.4	

MAPID: 13501750000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 168' S line, 81' E line of NE NW NW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.320885 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.084818 **DATE COLLECTED:** 7 / 0 / 1970
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 547.1 **LOG TYPE:** Drillers Log
SOURCE: DILLMAN & BUNGE **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
124.4	MODESTO	PIASA	LIMESTONE	5.1	498.6	
119.3	MODESTO		UNCLASSIFIED	6.3	503.7	
113.0	CARBONDALE		UNCLASSIFIED	13.2	510.0	
99.8	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	523.2	
89.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	533.2	
87.8	CARBONDALE		SHALE	1.5	535.2	
86.3	CARBONDALE	BRERETON	LIMESTONE	0.8	536.7	
85.5	CARBONDALE	ANNA	BLACK SHALE	2.5	537.5	
83.0	CARBONDALE	HERRIN	COAL	7.1	540.0	

MAPID: 13500336000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW SW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.340228 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.072392 **DATE COLLECTED:** 8 / 0 / 1955
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 493.8 **LOG TYPE:** Electric Log
SOURCE: LARSEN ARTHUR **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
140.8	CARBONDALE	DANVILLE	COAL	1.0	449.2	
139.8	CARBONDALE		UNCLASSIFIED	19.5	450.2	
120.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	469.7	
113.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.4	476.2	
110.4	CARBONDALE	CONANT	UNCLASSIFIED	1.2	479.6	
109.2	CARBONDALE		UNCLASSIFIED	2.9	480.8	
106.3	CARBONDALE	BRERETON	LIMESTONE	1.5	483.7	
104.8	CARBONDALE	ANNA	BLACK SHALE	1.8	485.2	
103.0	CARBONDALE	HERRIN	COAL	6.8	487.0	

MAPID: 13500358000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SW NW NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.33335 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.083323 **DATE COLLECTED:** 4 / 0 / 1956

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 537.3 **LOG TYPE:** Electric Log

SOURCE: MAGNOLIA PETROLEUM **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
130.1	MODESTO	PIASA	LIMESTONE	3.5	489.9	
126.6	MODESTO		UNCLASSIFIED	7.0	493.4	
119.6	CARBONDALE	DANVILLE	COAL	0.5	500.4	
119.1	CARBONDALE		UNCLASSIFIED	11.5	500.9	
107.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	512.4	
100.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.8	519.4	
97.8	CARBONDALE		UNCLASSIFIED	2.8	522.2	
95.0	CARBONDALE	BRERETON	LIMESTONE	3.0	525.0	
92.0	CARBONDALE	ANNA	BLACK SHALE	2.0	528.0	
90.0	CARBONDALE	HERRIN	COAL	7.3	530.0	

MAPID: 13501176000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1005' N line, 1555' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.330746 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.083292 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 525.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-PITTSBURGH 49-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
139.1	MODESTO		SILTY SHALE	21.0	482.9	
118.1	CARBONDALE	ALLENBY	DARK GRAY SHALE	2.0	503.9	
116.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.7	505.9	
112.4	CARBONDALE	LAWSON	GRAY SHALE	0.4	509.6	
112.0	CARBONDALE	LAWSON	MOTTLED SHALE	0.2	510.0	
111.8	CARBONDALE	LAWSON	CLAYSTONE	0.3	510.2	
111.6	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	510.4	
110.2	CARBONDALE	LAWSON	DARK GRAY SHALE	3.3	511.8	
106.9	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.2	515.1	
105.7	CARBONDALE	ANNA	BLACK SHALE	1.8	516.3	
104.0	CARBONDALE	HERRIN	COAL	7.2	518.0	

MAPID: 13501176000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1005' N line, 1555' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.330746 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.083292 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 525.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-PITTSBURGH 49-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
122.0	CARBONDALE		UNCLASSIFIED	2.0	500.0	
120.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	502.0	
112.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.2	509.5	
110.3	CARBONDALE		SHALE	3.3	511.7	
107.0	CARBONDALE	BRERETON	LIMESTONE	1.2	515.0	
105.8	CARBONDALE	ANNA	BLACK SHALE	1.8	516.2	
104.0	CARBONDALE	HERRIN	COAL	7.2	518.0	

MAPID: 13501176000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1005' N line, 1555' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.330746 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.083292 **DATE COLLECTED:** 0 / 0 / 1959
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 525.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-PITTSBURGH 49-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
103.9	CARBONDALE	HERRIN	COAL	7.2	518.1	

MAPID: 13501514000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 35' S line, 1200' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.339419 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.071585 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 502.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER195-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
130.0	MODESTO	PIASA	LIMESTONE	3.0	457.0	
127.0	MODESTO		MOTTLED SHALE	18.4	460.0	
108.6	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	6.3	478.4	UPPER BENCH
102.2	CARBONDALE	BANKSTON FORK	CARBONACEOUS SHALE	1.8	484.8	SHALE PARTING
100.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.5	486.5	LOWER BENCH
99.0	CARBONDALE	LAWSON	MOTTLED SHALE	3.4	488.0	
95.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.2	491.4	
94.4	CARBONDALE	ANNA	BLACK SHALE	2.4	492.6	
91.0	CARBONDALE	HERRIN	COAL	6.8	496.0	

MAPID: 13501514000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 35' S line, 1200' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.339419 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.071585 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 503.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER195-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
128.9	MODESTO	PIASA	LIMESTONE	3.0	458.1	
125.9	MODESTO		UNCLASSIFIED	9.0	461.1	
116.9	CARBONDALE		UNCLASSIFIED	9.5	470.1	
107.4	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	479.6	
101.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	485.9	
99.3	CARBONDALE	CONANT	LIMESTONE	2.3	487.7	
97.0	CARBONDALE		SHALE	3.4	490.0	
93.6	CARBONDALE	BRERETON	LIMESTONE	1.2	493.4	
92.4	CARBONDALE	ANNA	BLACK SHALE	2.4	494.6	
90.0	CARBONDALE	HERRIN	COAL	6.8	497.0	

MAPID: 13501515000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 810' S line, 1200' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.339442 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.073725 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 509.0 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER196-BB **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.0	MODESTO	PIASA	LIMESTONE	2.2	458.0	
144.8	MODESTO		MOTTLED SHALE	18.0	460.2	
126.8	CARBONDALE		GRAY SHALE	16.0	478.2	
110.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	494.2	
109.3	CARBONDALE	LAWSON	DARK GRAY SHALE	4.5	495.7	
104.8	CARBONDALE	ANNA	LIMESTONE W/ SHALE	1.9	500.2	
103.0	CARBONDALE	HERRIN	COAL	7.0	502.0	

MAPID: 13501515000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 810' S line, 1200' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.339442 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.073725 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 509.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER196-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.1	MODESTO	PIASA	LIMESTONE	2.2	457.9	
144.9	MODESTO		UNCLASSIFIED	6.0	460.1	
138.9	CARBONDALE		UNCLASSIFIED	17.0	466.1	
121.9	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	483.1	
114.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	490.6	
110.9	CARBONDALE	CONANT	LIMESTONE	1.5	494.1	
109.4	CARBONDALE		SHALE	5.3	495.6	
104.1	CARBONDALE	BRERETON	LIMESTONE	1.1	500.9	
103.0	CARBONDALE	HERRIN	COAL	7.0	502.0	

MAPID: 13501516000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2340' S line, 935' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.340428 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.077939 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 518.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER197-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
135.4	MODESTO	PIASA	LIMESTONE	1.5	473.6	
133.9	MODESTO		MOTTLED SHALE	12.5	475.1	
121.4	CARBONDALE	GALUM	LIMESTONE	0.7	487.6	
120.7	CARBONDALE		DARK GRAY SHALE	2.5	488.3	
118.2	CARBONDALE	ALLENBY	BLACK SHALE	1.3	490.8	
116.9	CARBONDALE		DARK GRAY SHALE	0.8	492.1	
116.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.6	492.8	UPPER BENCH
112.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	496.4	SHALE PARTING
110.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.8	498.4	LOWER BENCH
108.8	CARBONDALE	LAWSON	SILTY SHALE	2.0	500.2	
106.8	CARBONDALE	LAWSON	MOTTLED SHALE	1.8	502.2	
105.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.4	504.0	
103.6	CARBONDALE		CLAYSTONE	0.2	505.4	
103.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.4	505.6	
98.0	CARBONDALE	HERRIN	COAL	7.2	511.0	

MAPID: 13501516000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2340' S line, 935' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.340428 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.077939 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 519.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER197-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
126.8	MODESTO	PIASA	LIMESTONE	1.5	482.2	
125.3	MODESTO		UNCLASSIFIED	1.8	483.7	
123.5	CARBONDALE	DANVILLE	COAL	0.1	485.5	
123.4	CARBONDALE		UNCLASSIFIED	8.1	485.6	
115.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.4	493.7	
107.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.8	501.1	
104.1	CARBONDALE	CONANT	LIMESTONE	1.4	504.9	
102.7	CARBONDALE	JAMESTOWN	COAL	0.1	506.3	
102.6	CARBONDALE		SHALE	3.3	506.4	
99.3	CARBONDALE	BRERETON	LIMESTONE	2.0	509.7	
97.3	CARBONDALE	ANNA	BLACK SHALE	0.3	511.7	
97.0	CARBONDALE	HERRIN	COAL	7.2	512.0	

MAPID: 13500767000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.354256 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.077681 **DATE COLLECTED:** 4 / 0 / 1957
SURFACE ELEVATION (FT.): 567.0 **LOGGED (FT.):** 479.0 **LOG TYPE:** Electric Log
SOURCE: MABRY, HARRY **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
136.0	MODESTO	PIASA	LIMESTONE	4.0	431.0	
132.0	MODESTO		UNCLASSIFIED	4.0	435.0	
128.0	CARBONDALE		UNCLASSIFIED	13.0	439.0	
115.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	452.0	
109.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	458.0	
105.5	CARBONDALE	CONANT	UNCLASSIFIED	1.5	461.5	
104.0	CARBONDALE		UNCLASSIFIED	3.0	463.0	
101.0	CARBONDALE	BRERETON	LIMESTONE	3.0	466.0	
98.0	CARBONDALE	ANNA	BLACK SHALE	4.0	469.0	
94.0	CARBONDALE	HERRIN	COAL	6.0	473.0	

MAPID: 13501371000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.351876 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.074073 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 550.0 **LOGGED (FT.):** 474.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER186-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
119.0	MODESTO	PIASA	LIMESTONE	2.0	431.0	
117.0	CARBONDALE		CALCAREOUS SHALE	23.0	433.0	
94.0	CARBONDALE	LAWSON	MOTTLED SHALE	3.6	456.0	
90.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.1	459.6	
89.3	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	460.7	
89.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.0	461.0	
83.0	CARBONDALE	ANNA	BLACK SHALE	0.3	467.0	
83.0	CARBONDALE	HERRIN	COAL	7.5	467.0	

MAPID: 13501371000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.351876 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.074073 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 550.0 **LOGGED (FT.):** 474.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER186-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
119.4	MODESTO	PIASA	LIMESTONE	2.0	430.6	
117.4	MODESTO		UNCLASSIFIED	6.0	432.6	
111.4	CARBONDALE		UNCLASSIFIED	10.0	438.6	
101.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	448.6	
94.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.7	455.6	
90.7	CARBONDALE	CONANT	LIMESTONE	1.1	459.3	
89.6	CARBONDALE		SHALE	3.3	460.4	
86.3	CARBONDALE	BRERETON	LIMESTONE	3.0	463.7	
83.3	CARBONDALE	ANNA	BLACK SHALE	0.3	466.7	
83.0	CARBONDALE	HERRIN	COAL	7.5	467.0	

MAPID: 13501372000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1205' S line, 1190' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.358183 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.07458 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 562.0 **LOGGED (FT.):** 483.3 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER187-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
123.0	MODESTO	PIASA	LIMESTONE	1.5	439.0	
121.5	MODESTO		GRAY SHALE	18.0	440.5	
103.5	CARBONDALE	ALLENBY	BONE COAL	2.0	458.5	
101.5	CARBONDALE	LAWSON	MOTTLED SHALE	7.3	460.5	
94.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.5	467.8	
86.0	CARBONDALE	HERRIN	COAL	7.3	476.0	

MAPID: 13501372000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1205' S line, 1190' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.358183 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.07458 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 562.0 **LOGGED (FT.):** 483.3 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER187-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
123.1	MODESTO	PIASA	LIMESTONE	1.5	438.9	
121.6	MODESTO		UNCLASSIFIED	6.0	440.4	
115.6	CARBONDALE		UNCLASSIFIED	14.0	446.4	
101.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	460.4	
94.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.7	467.7	
90.6	CARBONDALE	CONANT	LIMESTONE	1.4	471.4	
89.2	CARBONDALE		SHALE	2.0	472.8	
87.2	CARBONDALE	BRERETON	LIMESTONE	1.1	474.8	
86.1	CARBONDALE	ANNA	BLACK SHALE	0.1	475.9	
86.0	CARBONDALE	HERRIN	COAL	7.3	476.0	

MAPID: 13501736000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 151' S line, 49' W line of SW SE NE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.348253 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.079062 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 535.5 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 223-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
95.5	CARBONDALE		UNCLASSIFIED	7.4	504.5	
88.1	CARBONDALE	BANKSTON FORK	LIMESTONE	7.6	511.9	
80.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.7	519.5	
78.8	CARBONDALE		SHALE	2.8	521.2	
76.0	CARBONDALE	BRERETON	LIMESTONE	1.3	524.0	
74.7	CARBONDALE	ANNA	BLACK SHALE	2.7	525.3	
72.0	CARBONDALE	HERRIN	COAL	7.5	528.0	

MAPID: 13521885000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1270' N line, 140' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.344286 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.082411 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0		
-	CARBONDALE	LAWSON	MOTTLED SHALE	3.5		
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.3		
-	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	4.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521886000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1140' N line, 110' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.344183 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.08277 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 572.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
463.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	108.3	
461.7	CARBONDALE	LAWSON	DARK GRAY SHALE	1.5	110.3	
460.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.3	111.8	
458.9	CARBONDALE	JAMESTOWN	CARBONACEOUS LIMESTONE	1.3	113.1	
457.6	CARBONDALE	BRERETON	LIMESTONE	5.0	114.4	
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521887000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1050' N line, 100' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.34415 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.083018 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 573.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0		
-	CARBONDALE	JAMESTOWN	BONE COAL	0.8		
-	CARBONDALE	ANNA	BLACK SHALE	0.4		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521888000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1280' N line, 825' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.346713 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.082373 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
424.5	CARBONDALE	LAWSON	MOTTLED SHALE	5.0	178.5	
419.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	183.5	
417.5	CARBONDALE	LAWSON	DARK GRAY SHALE	2.8	185.5	
414.7	CARBONDALE	CONANT	NODULAR LIMESTONE	1.0	188.3	
413.7	CARBONDALE	JAMESTOWN	BONE COAL	0.7	189.3	
413.0	CARBONDALE	ANNA	BLACK SHALE	0.3	190.0	
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521889000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1330' N line, 850' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.346798 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.082235 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
342.7	CARBONDALE	LAWSON	DARK GRAY SHALE	0.9	265.3	
341.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.6	266.2	
341.2	CARBONDALE	LAWSON	DARK GRAY SHALE	2.8	266.8	
338.4	CARBONDALE	CONANT	NODULAR LIMESTONE	1.3	269.6	
337.1	CARBONDALE	JAMESTOWN	CARBONACEOUS LIMESTONE	0.8	270.9	
336.3	CARBONDALE	ANNA	BLACK SHALE	0.4	271.7	
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521890000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1735' N line, 1090' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.347636 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.081112 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 573.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.6		
-	CARBONDALE	ANNA	BLACK SHALE	3.3		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521891000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1920' N line, 1190' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.347984 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.080599 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.9		
-	CARBONDALE	ANNA	BONE COAL	0.2		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521892000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1520' N line, 980' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.347252 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.081708 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.5		
-	CARBONDALE	JAMESTOWN	CARBONACEOUS LIMESTONE	1.0		
-	CARBONDALE	ANNA	BONE COAL	0.4		
-	CARBONDALE	HERRIN	COAL	6.5		

MAPID: 13521893000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1490' N line, 950' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.347146 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.081791 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.9		
-	CARBONDALE	ANNA	BLACK SHALE	0.3		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521894000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1450' N line, 920' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.347043 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.081901 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.7		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521895000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1375' N line, 870' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.346869 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.082111 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.7		
-	CARBONDALE	ANNA	CARBONACEOUS SHALE	1.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521896000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1390' N line, 900' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.346972 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.082067 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.7		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	1.1		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521897000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1510' N line, 930' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.347075 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.081736 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
238.3	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	355.7	
236.3	CARBONDALE	LAWSON	DARK GRAY SHALE	6.0	357.7	
230.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0	363.7	
229.3	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	1.0	364.7	
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521898000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1750' N line, 670' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.346149 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.081077 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
151.7	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.3	456.3	SHALE PARTING
151.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.7	456.6	LOWER BENCH
150.7	CARBONDALE	LAWSON	MOTTLED SHALE	3.5	457.3	
147.2	CARBONDALE	LAWSON	DARK GRAY SHALE	1.5	460.8	
145.7	CARBONDALE	CONANT	NODULAR LIMESTONE	0.8	462.3	
144.9	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	1.0	463.1	
143.9	CARBONDALE	ANNA	BLACK SHALE	2.0	464.1	
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521899000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2090' N line, 715' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.346296 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.080139 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 572.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5		UPPER BENCH
-	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.5		SHALE PARTING
-	CARBONDALE	BANKSTON FORK	LIMESTONE	0.6		LOWER BENCH
-	CARBONDALE	LAWSON	MOTTLED SHALE	4.0		
-	CARBONDALE	CONANT	LIMESTONE	0.9		
-	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.6		
-	CARBONDALE	ANNA	DARK GRAY SHALE	2.5		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13521900000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2040' N line, 700' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.346246 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.080277 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 576.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0		
-	CARBONDALE	ANNA	BLACK SHALE	2.5		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13500215000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** SW SE NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.34715 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.065075 **DATE COLLECTED:** 7 / 0 / 1936

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 530.0 **LOG TYPE:** Drillers Log

SOURCE: JOHNSON & HINKLE **WELL TYPE:** Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
130.0	MODESTO	PIASA	LIMESTONE	5.0	483.0	
125.0	MODESTO		UNCLASSIFIED	6.0	488.0	
119.0	CARBONDALE	DANVILLE	COAL	1.0	494.0	
118.0	CARBONDALE		UNCLASSIFIED	11.0	495.0	
107.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	506.0	
100.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	513.0	
96.5	CARBONDALE	CONANT	UNCLASSIFIED	1.5	516.5	
95.0	CARBONDALE		UNCLASSIFIED	1.0	518.0	
94.0	CARBONDALE	BRERETON	LIMESTONE	2.0	519.0	
92.0	CARBONDALE	ANNA	BLACK SHALE	2.0	521.0	
90.0	CARBONDALE	HERRIN	COAL	7.0	523.0	

MAPID: 13500215000C **VERSION:** 2 **PROJECT:** CIRC 164

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** SW SE NE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.34715 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.065075 **DATE COLLECTED:** 0 / 0 / 1940
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 2462.0 **LOG TYPE:**
SOURCE: GREENE H W, BLACKBRN W 1 **WELL TYPE:** Oil and Gas Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
387.0	BOND	CARTHAGE	LIMESTONE	-	223.0	
85.0	CARBONDALE	HERRIN	COAL	-	525.0	

MAPID: 13500216000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.361109 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.064886 **DATE COLLECTED:** 8 / 0 / 1936
SURFACE ELEVATION (FT.): 585.0 **LOGGED (FT.):** 492.0 **LOG TYPE:** Drillers Log
SOURCE: JOHNSON & HINKLE **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
100.0	CARBONDALE	HERRIN	COAL	7.0	485.0	

MAPID: 13500216000C **VERSION:** 2 **PROJECT:** CIRC 164

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.361109 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.064886 **DATE COLLECTED:** 0 / 0 / 1938
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 660.0 **LOG TYPE:**
SOURCE: JOHNSTON R, FULLER 1 **WELL TYPE:**
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
465.0	BOND	CARTHAGE	LIMESTONE	-	177.0	
160.0	CARBONDALE	HERRIN	COAL	-	482.0	

MAPID: 13501367000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1045' S line, 1390' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357281 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.059688 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 503.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER190-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
133.7	MODESTO	PIASA	LIMESTONE	4.0	461.3	
129.7	CARBONDALE	DANVILLE	COAL	0.5	465.3	
129.2	CARBONDALE		CALCAREOUS SHALE	3.2	465.8	
126.0	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.0	469.0	
124.0	CARBONDALE	ALLENBY	BLACK SHALE	6.3	471.0	
117.7	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	10.0	477.3	
107.7	CARBONDALE	LAWSON	CLAYSTONE	1.3	487.3	
106.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.1	488.6	
104.3	CARBONDALE	CONANT	LIMESTONE	0.8	490.7	
103.5	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.4	491.5	
103.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.4	491.9	
102.7	CARBONDALE	ANNA	BLACK SHALE	3.7	492.3	
99.0	CARBONDALE	HERRIN	COAL	7.3	496.0	

MAPID: 13501367000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1045' S line, 1390' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357281 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.059688 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 504.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER190-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
132.7	MODESTO	PIASA	LIMESTONE	4.0	462.3	
128.7	CARBONDALE	DANVILLE	COAL	0.5	466.3	
128.2	CARBONDALE		UNCLASSIFIED	11.5	466.8	
116.7	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	478.3	
106.7	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	488.3	
103.4	CARBONDALE	CONANT	LIMESTONE	0.8	491.6	
102.6	CARBONDALE		SHALE	0.5	492.4	
102.1	CARBONDALE	BRERETON	LIMESTONE	0.4	492.9	
101.7	CARBONDALE	ANNA	BLACK SHALE	3.7	493.3	
98.0	CARBONDALE	HERRIN	COAL	7.3	497.0	

MAPID: 13501373000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 485' N line, 1285' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.357785 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.06992 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 522.1 **LOG TYPE:** Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 188-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
130.6	MODESTO	PIASA	LIMESTONE	2.0	481.4	
128.6	MODESTO		GRAY SHALE	4.3	483.4	
124.3	CARBONDALE	GALUM	LIMESTONE	2.5	487.7	
121.8	CARBONDALE		DARK GRAY SHALE	6.0	490.2	
115.8	CARBONDALE	ALLENBY	BLACK SHALE	1.0	496.2	
114.8	CARBONDALE		CALCAREOUS SHALE	1.0	497.2	
113.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.5	498.2	
107.3	CARBONDALE	LAWSON	CLAYSTONE	2.1	504.7	
105.2	CARBONDALE	LAWSON	GRAY SHALE	1.3	506.8	
104.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.7	508.0	
96.3	CARBONDALE	ANNA	BLACK SHALE	0.3	515.7	
96.0	CARBONDALE	HERRIN	COAL	6.1	516.0	

MAPID: 13501373000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 485' N line, 1285' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.357785 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.06992 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 524.1 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 188-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
129.7	MODESTO	PIASA	LIMESTONE	2.0	482.3	
127.7	MODESTO		UNCLASSIFIED	1.8	484.3	
125.9	CARBONDALE		UNCLASSIFIED	13.0	486.1	
112.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	499.1	
106.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	505.6	
103.1	CARBONDALE	CONANT	LIMESTONE	2.7	508.9	
100.4	CARBONDALE		SHALE	2.8	511.6	
97.6	CARBONDALE	BRERETON	LIMESTONE	2.3	514.4	
95.3	CARBONDALE	ANNA	BLACK SHALE	0.3	516.7	
95.0	CARBONDALE	HERRIN	COAL	7.1	517.0	

MAPID: 13501374000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1850' N line, 1335' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357559 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.066154 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 522.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER189-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
130.3	MODESTO	PIASA	NODULAR LIMESTONE	3.3	477.7	
127.0	MODESTO		MOTTLED SHALE	1.3	481.0	
125.8	CARBONDALE	DANVILLE	DARK GRAY SHALE	0.8	482.2	
125.0	CARBONDALE		MOTTLED SHALE	9.7	483.0	
115.3	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.7	492.7	
114.7	CARBONDALE	ALLENBY	BLACK SHALE	4.0	493.3	
110.7	CARBONDALE		CLAYSTONE	1.3	497.3	
109.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	9.3	498.6	
100.2	CARBONDALE	LAWSON	MOTTLED SHALE	3.0	507.8	
97.2	CARBONDALE	LAWSON	GRAY SHALE	0.9	510.8	
96.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	511.8	
95.4	CARBONDALE	ANNA	BLACK SHALE	2.4	512.6	
93.0	CARBONDALE	HERRIN	COAL	7.0	515.0	

MAPID: 13501374000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1850' N line, 1335' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357559 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.066154 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 522.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER189-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
127.3	MODESTO	PIASA	LIMESTONE	3.3	480.7	
124.0	MODESTO		UNCLASSIFIED	1.3	484.0	
122.7	CARBONDALE		UNCLASSIFIED	13.3	485.3	
109.4	CARBONDALE	BANKSTON FORK	LIMESTONE	9.3	498.6	
100.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	507.9	
97.1	CARBONDALE		SHALE	0.9	510.9	
96.2	CARBONDALE	BRERETON	LIMESTONE	0.8	511.8	
95.4	CARBONDALE	ANNA	BLACK SHALE	2.4	512.6	
93.0	CARBONDALE	HERRIN	COAL	7.0	515.0	

MAPID: 13524154000C **VERSION:** 1 **PROJECT:** NCRDS

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** SW NW NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.351823 **GEOLOGIST:** LOUCHIOS

CONFIDENTIAL: N **LATITUDE:** 39.068629 **DATE COLLECTED:** 12 / 18 / 1976

SURFACE ELEVATION (FT.): 617.3 **LOGGED (FT.):** 551.3 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 253-BB **WELL TYPE:** Coal Test

COMMENT: HILLSBORO MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
472.5			SANDSTONE	9.8	144.8	
462.7			SILTSTONE	18.4	154.6	
444.3			CLAYSTONE & SILTSTONE	21.7	173.0	
422.6			GRAY SHALE	8.3	194.7	
414.3			FOSSILIFEROUS LIMESTONE	1.6	203.0	
412.7			GRAY SHALE	20.5	204.6	
392.2			LIMESTONE	7.3	225.1	
384.9			SHALE	13.8	232.4	
371.1			COAL	0.4	246.2	SHALEY AT BASE
370.7			SILTY, SANDY SHALE	6.6	246.6	
364.1			SILTSTONE	9.9	253.2	
354.2			GRAY SHALE	2.8	263.1	
351.4			COAL	0.3	265.9	HARD, BRIGHT BANDED
351.1			SHALE & SILTSTONE	47.8	266.2	
303.3			SILTSTONE/SANDSTONE	30.3	314.0	
273.0			SANDSTONE	98.2	344.3	SOME SHALE INTERBEDDED NEAR BASE
174.8			SHALE	16.5	442.5	
158.3			SIDERITE	0.1	459.0	LIGHT BROWN
158.2			SHALE & CLAYSTONE	34.1	459.1	
124.1	SHELBURN		FOSSILIFEROUS LIMESTONE	1.2	493.2	
122.9	SHELBURN		SHALE	5.4	494.4	
117.5	SHELBURN		LIMESTONE	7.2	499.8	
110.3	SHELBURN		CLAYSTONE & SILTSTONE	4.3	507.0	
106.0	SHELBURN		LIMESTONE	1.7	511.3	
104.3	SHELBURN		DARK SHALE	0.5	513.0	
103.8	SHELBURN	BRERETON	LIMESTONE	2.0	513.5	
101.8	SHELBURN		BLACK SHALE	0.5	515.5	CALCAREOUS
101.3	SHELBURN		FOSSILIFEROUS LIMESTONE	2.2	516.0	DENSE, HARD
99.1	CARBONDALE	ANNA	BLACK SHALE	5.0	518.2	
98.6	CARBONDALE	HERRIN	COAL	6.9	518.7	THIN PYRITE BANDS
91.7	CARBONDALE		CLAYSTONE & SILTSTONE	1.5	525.6	
90.2	CARBONDALE		LIMESTONE	3.4	527.1	
86.8	CARBONDALE		CLAYSTONE & SHALE	5.7	530.5	
81.1	CARBONDALE	SPRINGFIELD	BONE COAL	0.5	536.2	SOFT, POOR QUALITY
80.6	CARBONDALE		CLAYSTONE & SILTSTONE	5.4	536.7	
75.2	CARBONDALE		SANDSTONE	1.0	542.1	

74.2	CARBONDALE	SILTSTONE	6.2	543.1

MAPID: 13524155000C **VERSION:** 1 **PROJECT:** NCRDS

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1' N, 1' E, C /c

QUADRANGLE: FILLMORE **LONGITUDE:** -89.352953 **GEOLOGIST:** LOUCHIOS

CONFIDENTIAL: N **LATITUDE:** 39.064095 **DATE COLLECTED:** 1 / 15 / 1977

SURFACE ELEVATION (FT.): 612.5 **LOGGED (FT.):** 552.5 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 254-BB **WELL TYPE:** Coal Test

COMMENT: HILLSBORO MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
472.5			CONGLOMERATE	1.5	140.0	
471.0			CORE LOSS	1.5	141.5	
469.5			SANDSTONE/SHALE	11.0	143.0	
458.5			SANDSTONE	14.6	154.0	
443.9			SHALE & SILTSTONE	30.5	168.6	
413.4			LIMESTONE	3.2	199.1	
410.2			BLACK SHALE	0.7	202.3	
409.5			SILTSTONE	10.1	203.0	
399.4			SHALE	12.0	213.1	
387.4			LIMESTONE	8.0	225.1	
379.4			BLACK SHALE	10.2	233.1	
369.2			GRAY SHALE	10.2	243.3	
359.0			BLACK SHALE	9.5	253.5	
349.5			COAL	0.5	263.0	DULL BANDED
349.0			SHALE	2.9	263.5	
346.1			SANDSTONE/SHALE	222.2	266.4	SANDSTONE AND SHALE
123.9			LIMESTONE	0.8	488.6	
123.1			SHALE	5.0	489.4	
118.1			LIMESTONE	5.2	494.4	
112.9			GREEN SHALE	4.3	499.6	
108.6	SHELBURN	BANKSTON FORK	LIMESTONE	1.6	503.9	YELLOW-GRAY
107.0	SHELBURN		GRAY SHALE	0.6	505.5	
106.4	SHELBURN		LIMESTONE	1.5	506.1	BLUISH-WHITE
104.9	SHELBURN		GRAY SHALE	1.6	507.6	
103.3	SHELBURN	BRERETON	LIMESTONE	4.6	509.2	
98.7	SHELBURN		GRAY SHALE	0.8	513.8	
97.9	CARBONDALE	HERRIN	COAL	6.9	514.6	PYRITE BANDS
91.0	CARBONDALE		CLAYSTONE & SHALE	6.4	521.5	
84.6	CARBONDALE		LIMESTONE	2.2	527.9	
82.4	CARBONDALE		CLAYSTONE & SHALE	2.9	530.1	
79.5	CARBONDALE		BLACK SHALE	0.6	533.0	POSSIBLY POSITION OF #5
78.9	CARBONDALE		CLAYSTONE & SILTSTONE	4.3	533.6	
74.6	CARBONDALE		SANDSTONE/SHALE	14.6	537.9	

MAPID: 13500648000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.328562 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.063417 **DATE COLLECTED:** 1 / 0 / 1954
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 546.0 **LOG TYPE:** Electric Log
SOURCE: CALVERT DRILLING, INC. **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
131.0	MODESTO	PIASA	LIMESTONE	3.0	497.0	
128.0	MODESTO		UNCLASSIFIED	6.0	500.0	
122.0	CARBONDALE		UNCLASSIFIED	17.0	506.0	
105.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	523.0	
98.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	530.0	
95.5	CARBONDALE		UNCLASSIFIED	2.5	532.5	
93.0	CARBONDALE	BRERETON	LIMESTONE	2.0	535.0	
91.0	CARBONDALE	ANNA	BLACK SHALE	2.0	537.0	
89.0	CARBONDALE	HERRIN	COAL	7.0	539.0	

MAPID: 13501512000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 935' S line, 335' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.34247 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.059572 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 528.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER193-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
108.9	CARBONDALE		DARK GRAY SHALE	2.1	504.1	
106.8	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.3	506.2	
105.5	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.4	507.5	
105.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.3	507.9	
97.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	515.3	
95.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	517.3	
95.3	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.3	517.7	
95.0	CARBONDALE	ANNA	BLACK SHALE	3.0	518.0	
92.0	CARBONDALE	HERRIN	COAL	7.3	521.0	

MAPID: 13501512000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 935' S line, 335' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.34247 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.059572 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 528.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER193-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
112.5	CARBONDALE		UNCLASSIFIED	3.8	500.5	
108.7	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	504.3	
101.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.7	511.6	
97.7	CARBONDALE		SHALE	1.7	515.3	
96.0	CARBONDALE	BRERETON	LIMESTONE	0.5	517.0	
95.5	CARBONDALE	ANNA	BLACK SHALE	3.5	517.5	
92.0	CARBONDALE	HERRIN	COAL	7.3	521.0	

MAPID: 13501513000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2190' N line, 880' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.340544 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.065433 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 536.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER194-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
120.8	MODESTO	PIASA	LIMESTONE	4.0	492.2	
116.8	MODESTO		MOTTLED SHALE	2.3	496.2	
114.5	CARBONDALE	DANVILLE	BONE COAL	0.3	498.5	
114.3	CARBONDALE		CLAYSTONE & SHALE	2.4	498.7	
111.8	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.7	501.2	
110.2	CARBONDALE		LIMESTONE W/ SHALE	3.4	502.8	
106.7	CARBONDALE		DARK GRAY SHALE	2.7	506.3	
104.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.7	508.9	UPPER BENCH
100.4	CARBONDALE	BANKSTON FORK	SILTY SHALE	1.3	512.6	SHALE PARTING
99.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	513.9	LOWER BENCH
97.1	CARBONDALE	LAWSON	MOTTLED SHALE	3.8	515.9	
93.3	CARBONDALE	LAWSON	SILTY SHALE	1.0	519.7	
92.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	8.3	520.7	
84.0	CARBONDALE	HERRIN	COAL	7.2	529.0	

MAPID: 13501513000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2190' N line, 880' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.340544 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.065433 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 536.2 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER194-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
126.4	MODESTO	PIASA	LIMESTONE	4.0	486.6	
122.4	MODESTO		UNCLASSIFIED	5.6	490.6	
116.8	CARBONDALE	DANVILLE	COAL	0.3	496.2	
116.5	CARBONDALE		UNCLASSIFIED	10.2	496.5	
106.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	506.7	
99.3	CARBONDALE	ANVIL ROCK	SANDSTONE	7.4	513.7	
91.9	CARBONDALE	CONANT	LIMESTONE	1.5	521.1	
90.4	CARBONDALE		SHALE	3.1	522.6	
87.3	CARBONDALE	BRERETON	LIMESTONE	3.3	525.7	
84.0	CARBONDALE	HERRIN	COAL	7.2	529.0	

MAPID: 13501751000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 311' N line, 222' W line of NE NE SE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.326622 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.063484 **DATE COLLECTED:** 8 / 18 / 1969

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 536.9 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 238-BB **WELL TYPE:** Coal Test

COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
88.6	CARBONDALE	HERRIN	COAL	3.5	533.4	

MAPID: 13501751000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 311' N line, 222' W line of NE NE SE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.326622 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.063484 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 536.5 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 238-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.4	MODESTO	PIASA	LIMESTONE	3.0	496.6	
122.4	MODESTO		UNCLASSIFIED	3.7	499.6	
118.7	CARBONDALE		UNCLASSIFIED	11.8	503.3	
106.9	CARBONDALE	BANKSTON FORK	LIMESTONE	10.4	515.1	
96.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	525.5	
93.5	CARBONDALE		SHALE	0.9	528.5	
92.6	CARBONDALE	BRERETON	LIMESTONE	0.9	529.4	
91.7	CARBONDALE	ANNA	BLACK SHALE	2.7	530.3	
89.0	CARBONDALE	HERRIN	COAL	3.5	533.0	

MAPID: 13524156000C **VERSION:** 1 **PROJECT:** NCRDS

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** SE NW NE SE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.327981 **GEOLOGIST:** LOUCHIOS

CONFIDENTIAL: N **LATITUDE:** 39.062974 **DATE COLLECTED:** 1 / 14 / 1977

SURFACE ELEVATION (FT.): 622.1 **LOGGED (FT.):** 565.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 255-BB **WELL TYPE:** Coal Test

COMMENT: HILLSBORO MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
475.1			SHALE & SANDSTONE	-	147.0	SHALE AND SANDSTONE
405.6			FOSSILIFEROUS LIMESTONE	2.3	216.5	FOSSILS
403.3			COAL	0.3	218.8	DULL BANDED
403.0			CLAYSTONE & SILTSTONE	15.5	219.1	
388.0			NO RECORD	279.8	234.1	LOG WAS LOST
108.2			GRAY SHALE	2.7	513.9	
105.5			LIMESTONE	1.9	516.6	
103.6			LIMESTONE	5.1	518.5	
98.5			LIMESTONE	3.2	523.6	
95.3			GREEN SHALE	1.0	526.8	
94.3			LIMESTONE	2.9	527.8	
91.4			GRAY SHALE	6.0	530.7	
85.4			FOSSILIFEROUS LIMESTONE	0.7	536.7	
84.7			BONE COAL	0.2	537.4	
84.5			LIMESTONE	0.3	537.6	
84.2			BONE COAL	0.2	537.9	
84.0	CARBONDALE	ANNA	BLACK SHALE & COAL	1.4	538.1	
82.6	CARBONDALE	HERRIN	COAL	7.1	539.5	
75.5	CARBONDALE		CLAYSTONE & SILTSTONE	10.8	546.6	
64.7	CARBONDALE		SANDSTONE	1.1	557.4	
63.6	CARBONDALE		CLAYSTONE & SILTSTONE	1.8	558.5	
61.8	CARBONDALE	SPRINGFIELD	BONE COAL	0.6	560.3	
61.2	CARBONDALE		CLAYSTONE & SILTSTONE	4.1	560.9	

MAPID: 13500649000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.314564 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.058164 **DATE COLLECTED:** 6 / 0 / 1952
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 557.6 **LOG TYPE:** Electric Log
SOURCE: REZNIK JOE **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
102.5	MODESTO	PIASA	LIMESTONE	4.0	514.5	
98.5	MODESTO		UNCLASSIFIED	6.0	518.5	
92.5	CARBONDALE	DANVILLE	COAL	1.0	524.5	
91.5	CARBONDALE		UNCLASSIFIED	12.0	525.5	
79.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	537.5	
72.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	544.5	
71.5	CARBONDALE		UNCLASSIFIED	1.0	545.5	
70.5	CARBONDALE	BRERETON	LIMESTONE	1.0	546.5	
69.5	CARBONDALE	ANNA	BLACK SHALE	3.5	547.5	
66.0	CARBONDALE	HERRIN	COAL	6.6	551.0	

MAPID: 13500650000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE NW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.319287 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.065366 **DATE COLLECTED:** 4 / 0 / 1954
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 564.0 **LOG TYPE:** Electric Log
SOURCE: CALVERT DRILLING, INC. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
102.5	MODESTO	PIASA	LIMESTONE	4.0	519.5	
98.5	MODESTO		UNCLASSIFIED	6.0	523.5	
92.5	CARBONDALE	DANVILLE	COAL	1.0	529.5	
91.5	CARBONDALE		UNCLASSIFIED	9.0	530.5	
82.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	539.5	
74.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	547.5	
72.0	CARBONDALE		UNCLASSIFIED	2.5	550.0	
69.5	CARBONDALE	BRERETON	LIMESTONE	4.0	552.5	
65.5	CARBONDALE	ANNA	BLACK SHALE	1.5	556.5	
64.0	CARBONDALE	HERRIN	COAL	6.0	558.0	

MAPID: 13501376000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 430' N line, 330' E line of NW SE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.312291 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.063387 **DATE COLLECTED:** 1 / 0 / 1954

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 568.0 **LOG TYPE:** Electric Log

SOURCE: CALVERT DRILLING, INC. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
108.5	MODESTO	PIASA	LIMESTONE	6.5	521.5	
102.0	MODESTO		UNCLASSIFIED	4.5	528.0	
97.5	CARBONDALE	DANVILLE	COAL	1.0	532.5	
96.5	CARBONDALE		UNCLASSIFIED	14.5	533.5	
82.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	548.0	
75.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	555.0	
73.0	CARBONDALE		UNCLASSIFIED	2.0	557.0	
71.0	CARBONDALE	BRERETON	LIMESTONE	1.0	559.0	
70.0	CARBONDALE	ANNA	BLACK SHALE	2.0	560.0	
68.0	CARBONDALE	HERRIN	COAL	6.0	562.0	

MAPID: 13501735000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1432' N line, 403' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.307913 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.067995 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 559.2 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 222-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
102.2	CARBONDALE		SILTY SHALE	23.3	515.8	
78.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.9	539.2	UPPER BENCH
76.9	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	541.1	LOWER BENCH
73.4	CARBONDALE	LAWSON	GRAY SHALE	4.7	544.6	
68.7	CARBONDALE	LAWSON	DARK GRAY SHALE	2.3	549.3	
66.5	CARBONDALE	ANNA	DARK GRAY SHALE	1.5	551.5	
65.0	CARBONDALE	HERRIN	COAL	6.2	553.0	

MAPID: 13501735000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1432' N line, 403' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.307913 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.067995 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 559.2 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 222-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
81.9	CARBONDALE	BANKSTON FORK	LIMESTONE	8.4	536.1	
73.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.2	544.5	
71.3	CARBONDALE		SHALE	2.5	546.7	
68.8	CARBONDALE	BRERETON	LIMESTONE	2.3	549.2	
66.5	CARBONDALE	ANNA	BLACK SHALE	1.5	551.5	
65.0	CARBONDALE	HERRIN	COAL	6.2	553.0	

MAPID: 13501735000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1432' N line, 403' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.307913 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.067995 **DATE COLLECTED:** 5 / 22 / 1969
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 559.1 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 222-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
65.1	CARBONDALE	HERRIN	COAL	6.2	552.9	

MAPID: 13500304000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: FILLMORE **LONGITUDE:** -89.305301 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.071053 **DATE COLLECTED:** 5 / 0 / 1942

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 569.4 **LOG TYPE:** Electric Log

SOURCE: PAPOOSE OIL CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
85.0	MODESTO	PIASA	LIMESTONE	4.5	530.0	
80.5	MODESTO		UNCLASSIFIED	4.5	534.5	
76.0	CARBONDALE	DANVILLE	COAL	1.0	539.0	
75.0	CARBONDALE		UNCLASSIFIED	9.0	540.0	
66.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	549.0	
60.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	555.0	
57.5	CARBONDALE		UNCLASSIFIED	2.5	557.5	
55.0	CARBONDALE	BRERETON	LIMESTONE	2.0	560.0	
53.0	CARBONDALE	ANNA	BLACK SHALE	1.0	562.0	
52.0	CARBONDALE	HERRIN	COAL	6.4	563.0	

MAPID: 13500304000C **VERSION:** 2 **PROJECT:** CIRC 164

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: FILLMORE **LONGITUDE:** -89.305301 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.071053 **DATE COLLECTED:** 0 / 0 / 1942

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 1290.0 **LOG TYPE:**

SOURCE: PAPOOSE OC, WHITTEN P 1 **WELL TYPE:** Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
343.0	BOND	CARTHAGE	LIMESTONE	-	272.0	
52.0	CARBONDALE	HERRIN	COAL	-	563.0	

MAPID: 13501752000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2404' S line, 36' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.30633 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.064009 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 552.7 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 239-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
113.9	MODESTO	PIASA	LIMESTONE	4.3	505.1	
109.5	CARBONDALE		MOTTLED SHALE	14.5	509.5	
95.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.4	524.0	UPPER BENCH
94.7	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.5	524.3	SHALE PARTING
93.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.5	525.8	LOWER BENCH
90.7	CARBONDALE	LAWSON	DARK GRAY SHALE	5.5	528.3	
85.2	CARBONDALE	LAWSON	GRAY SHALE	1.7	533.8	
83.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	5.6	535.5	
77.9	CARBONDALE	BRERETON	LIMESTONE	2.6	541.1	
75.3	CARBONDALE	ANNA	DARK GRAY SHALE	2.4	543.7	
73.0	CARBONDALE	HERRIN	COAL	6.7	546.0	

MAPID: 13501752000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2404' S line, 36' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.30633 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.064009 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 552.7 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 239-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
105.4	MODESTO	PIASA	LIMESTONE	4.3	512.6	
101.1	MODESTO		UNCLASSIFIED	1.0	516.9	
100.1	CARBONDALE		UNCLASSIFIED	7.0	517.9	
93.1	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	524.9	
83.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.9	534.9	
79.2	CARBONDALE		SHALE	1.3	538.8	
77.9	CARBONDALE	BRERETON	LIMESTONE	4.0	540.1	
73.9	CARBONDALE	ANNA	BLACK SHALE	1.9	544.1	
72.0	CARBONDALE	HERRIN	COAL	6.7	546.0	

MAPID: 13501752000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2404' S line, 36' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.30633 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.064009 **DATE COLLECTED:** 8 / 25 / 1969
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 553.0 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 239-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
72.7	CARBONDALE	HERRIN	COAL	6.7	546.3	

MAPID: 13500305000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** SW NE SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.272678 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.047414 **DATE COLLECTED:** 12 / 0 / 1940
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: GINSBURG & SEALS **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	ENERGY	UNCLASSIFIED	7.0		
-	CARBONDALE	HERRIN	COAL	14.0		

MAPID: 13500305000C **VERSION:** 2 **PROJECT:** CIRC 164

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** SW NE SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.272678 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.047414 **DATE COLLECTED:** 0 / 0 / 1940
SURFACE ELEVATION (FT.): 576.0 **LOGGED (FT.):** 1239.0 **LOG TYPE:**
SOURCE: GINSBRG&SL, MCDONNOUGH 1 **WELL TYPE:** Oil and Gas Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
376.0	BOND	CARTHAGE	LIMESTONE	-	200.0	
14.0	CARBONDALE	HERRIN	COAL	-	562.0	

MAPID: 13501377000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' S line, 660' W line of NE SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.271499 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.047429 **DATE COLLECTED:** 11 / 0 / 1944
SURFACE ELEVATION (FT.): 579.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: HOTFELDER A J **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	ENERGY	UNCLASSIFIED	6.0		
-	CARBONDALE	HERRIN	COAL	11.0		

MAPID: 13500605000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' S line, 990' W line of NW SW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.302866 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.047312 **DATE COLLECTED:** 12 / 0 / 1956
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 549.0 **LOG TYPE:** Electric Log
SOURCE: RICHARDSON, M. H. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
106.5	MODESTO	PIASA	LIMESTONE	3.5	503.5	
103.0	MODESTO		UNCLASSIFIED	8.0	507.0	
95.0	CARBONDALE	DANVILLE	COAL	1.0	515.0	
94.0	CARBONDALE		UNCLASSIFIED	11.0	516.0	
83.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	527.0	
75.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	535.0	
72.5	CARBONDALE		UNCLASSIFIED	2.5	537.5	
70.0	CARBONDALE	BRERETON	LIMESTONE	2.0	540.0	
68.0	CARBONDALE	ANNA	BLACK SHALE	1.0	542.0	
67.0	CARBONDALE	HERRIN	COAL	6.0	543.0	

MAPID: 13501732000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 700' S line, 1310' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.292366 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.044707 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 581.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 219-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
75.0	MODESTO	PIASA	LIMESTONE	4.6	535.0	
70.4	MODESTO		MOTTLED SHALE	7.1	539.6	
63.3	CARBONDALE	DANVILLE	BLACK SHALE	0.2	546.7	
63.1	CARBONDALE		MOTTLED SHALE	4.2	546.9	
59.0	CARBONDALE	GALUM	CALCAREOUS SHALE	2.0	551.0	
57.0	CARBONDALE		GRAY SHALE	1.6	553.0	
55.4	CARBONDALE	ALLENBY	DARK GRAY SHALE	1.0	554.6	
54.4	CARBONDALE		CALCAREOUS SHALE	0.7	555.6	
53.7	CARBONDALE	BANKSTON FORK	LIMESTONE	0.2	556.3	UPPER BENCH
53.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	556.5	SHALE PARTING
49.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.9	560.5	LOWER BENCH
41.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.8	568.4	
36.8	CARBONDALE	BRERETON	LIMESTONE	0.8	573.2	
36.0	CARBONDALE	ANNA	DARK GRAY SHALE	1.5	574.0	
34.0	CARBONDALE	HERRIN	COAL	5.9	576.0	

MAPID: 13501732000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 700' S line, 1310' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.292366 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.044707 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 581.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 219-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
61.5	MODESTO	PIASA	LIMESTONE	4.6	535.5	
56.9	MODESTO		UNCLASSIFIED	7.1	540.1	
49.8	CARBONDALE	DANVILLE	COAL	0.2	547.2	
49.6	CARBONDALE		UNCLASSIFIED	8.8	547.4	
40.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.4	556.2	
33.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.7	563.6	
29.7	CARBONDALE	CONANT	LIMESTONE	1.7	567.3	
28.0	CARBONDALE		SHALE	4.8	569.0	
23.2	CARBONDALE	BRERETON	LIMESTONE	0.8	573.8	
22.4	CARBONDALE	ANNA	BLACK SHALE	1.4	574.6	
21.0	CARBONDALE	HERRIN	COAL	5.9	576.0	

MAPID: 13501732000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 700' S line, 1310' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.292366 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.044707 **DATE COLLECTED:** 5 / 6 / 1969
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 581.7 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 219-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
34.2	CARBONDALE	HERRIN	COAL	5.9	575.8	

MAPID: 13501110000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW NW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.323804 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054405 **DATE COLLECTED:** 8 / 0 / 1958
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 555.5 **LOG TYPE:** Electric Log
SOURCE: STRICKLAND, FRANK L. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
113.5	MODESTO	PIASA	LIMESTONE	3.5	507.5	
110.0	MODESTO		UNCLASSIFIED	6.5	511.0	
103.5	CARBONDALE	DANVILLE	COAL	1.0	517.5	
102.5	CARBONDALE		UNCLASSIFIED	14.0	518.5	
88.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	532.5	
83.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	537.5	
81.5	CARBONDALE	CONANT	UNCLASSIFIED	1.0	539.5	
80.5	CARBONDALE		UNCLASSIFIED	2.0	540.5	
78.5	CARBONDALE	BRERETON	LIMESTONE	2.5	542.5	
76.0	CARBONDALE	ANNA	BLACK SHALE	4.0	545.0	
72.0	CARBONDALE	HERRIN	COAL	6.5	549.0	

MAPID: 13501533000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1385' N line, 1590' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.319338 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.05336 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 551.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER203-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
99.0	MODESTO	PIASA	LIMESTONE	2.5	507.0	
96.5	CARBONDALE		MOTTLED SHALE	14.7	509.5	
81.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	11.5	524.2	UPPER BENCH
70.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.3	535.7	LOWER BENCH
68.0	CARBONDALE	LAWSON	MOTTLED SHALE	3.8	538.0	
64.2	CARBONDALE	CONANT	LIMESTONE	0.8	541.8	
63.3	CARBONDALE		DARK GRAY SHALE	0.7	542.7	
62.7	CARBONDALE	ANNA	BLACK SHALE	1.8	543.3	
61.0	CARBONDALE	HERRIN	COAL	6.9	545.0	

MAPID: 13501533000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1385' N line, 1590' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.319338 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.05336 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 552.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER203-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
100.0	MODESTO	PIASA	LIMESTONE	2.5	506.0	
97.5	MODESTO		UNCLASSIFIED	8.0	508.5	
89.5	CARBONDALE		UNCLASSIFIED	11.2	516.5	
78.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	527.7	
71.3	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	534.7	
69.3	CARBONDALE	CONANT	LIMESTONE	2.3	536.7	
67.0	CARBONDALE		SHALE	3.8	539.0	
63.2	CARBONDALE	BRERETON	LIMESTONE	0.8	542.8	
62.4	CARBONDALE	ANNA	BLACK SHALE	2.4	543.6	
60.0	CARBONDALE	HERRIN	COAL	6.8	546.0	

MAPID: 13500923000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 115' S line, 2540' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.334615 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.042856 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 520.0 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER202-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.7	MODESTO	PIASA	LIMESTONE	2.3	476.3	
140.5	MODESTO		MOTTLED SHALE	16.8	478.5	
123.7	CARBONDALE	ALLENBY	DARK GRAY SHALE	2.2	495.3	
121.6	CARBONDALE		GRAY SHALE	2.5	497.4	
119.1	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.3	499.9	UPPER BENCH
116.7	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.8	502.3	SHALE PARTING
112.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.3	507.0	LOWER BENCH
110.7	CARBONDALE	LAWSON	CLAYSTONE	1.8	508.3	
108.9	CARBONDALE	LAWSON	MOTTLED SHALE	1.7	510.1	
107.2	CARBONDALE	BRERETON	LIMESTONE	0.6	511.8	
106.7	CARBONDALE	ANNA	MOTTLED SHALE	1.7	512.3	
105.0	CARBONDALE	HERRIN	COAL	6.0	514.0	

MAPID: 13500923000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 115' S line, 2540' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.334615 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.042856 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 520.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER202-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.9	MODESTO	PIASA	LIMESTONE	2.3	476.1	
140.6	MODESTO		UNCLASSIFIED	8.3	478.4	
132.3	CARBONDALE		UNCLASSIFIED	13.2	486.7	
119.1	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	499.9	
114.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	504.1	
112.0	CARBONDALE	CONANT	LIMESTONE	1.3	507.0	
110.7	CARBONDALE		SHALE	3.4	508.3	
107.3	CARBONDALE	BRERETON	LIMESTONE	0.6	511.7	
106.7	CARBONDALE	ANNA	BLACK SHALE	1.7	512.3	
105.0	CARBONDALE	HERRIN	COAL	6.0	514.0	

MAPID: 13501148000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 110' N line, 1500' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.330303 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.056761 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 540.9 **LOG TYPE:** Survey Core Study

SOURCE: PITTSBURGH CONSOLIDATION C.C. 40-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
116.3	MODESTO	PIASA	LIMESTONE	4.3	496.7	
112.1	MODESTO		MOTTLED SHALE	8.0	500.9	
104.1	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	4.3	508.9	
99.8	CARBONDALE		CALCAREOUS SHALE	3.0	513.2	
96.8	CARBONDALE	ALLENBY	BLACK SHALE	0.8	516.2	
96.1	CARBONDALE		MOTTLED SHALE	1.9	516.9	
94.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.8	518.9	UPPER BENCH
91.4	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.8	521.6	SHALE PARTING
88.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.3	524.4	LOWER BENCH
84.3	CARBONDALE	LAWSON	MOTTLED SHALE	0.3	528.7	
84.1	CARBONDALE	LAWSON	CLAYSTONE	1.0	528.9	
83.1	CARBONDALE	LAWSON	GRAY SHALE	0.8	529.9	
82.2	CARBONDALE	LAWSON	MOTTLED SHALE	0.8	530.8	
81.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.7	531.6	
80.7	CARBONDALE	JAMESTOWN	BONE COAL	0.1	532.3	
80.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.1	532.4	
80.5	CARBONDALE	ANNA	BLACK SHALE	1.5	532.5	
79.0	CARBONDALE	HERRIN	COAL	6.9	534.0	

MAPID: 13501148000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 110' N line, 1500' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.330303 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.056761 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 540.9 **LOG TYPE:** Drillers Log

SOURCE: PITTSBURGH CONSOLIDATION C.C. 40-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
116.4	MODESTO	PIASA	LIMESTONE	4.3	496.6	
112.1	MODESTO		UNCLASSIFIED	4.6	500.9	
107.5	CARBONDALE		UNCLASSIFIED	12.7	505.5	
94.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.6	518.2	
89.2	CARBONDALE	ANVIL ROCK	SANDSTONE	0.9	523.8	
88.3	CARBONDALE	CONANT	LIMESTONE	3.9	524.7	
84.4	CARBONDALE		SHALE	2.9	528.6	
81.5	CARBONDALE	BRERETON	LIMESTONE	0.8	531.5	
80.7	CARBONDALE	ANNA	BLACK SHALE	1.7	532.3	
79.0	CARBONDALE	HERRIN	COAL	6.9	534.0	

MAPID: 13501148000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 110' N line, 1500' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.330303 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.056761 **DATE COLLECTED:** 9 / 0 / 1959

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 551.9 **LOG TYPE:** Drillers Log

SOURCE: PITTSBURGH CONSOLIDATION C.C. 40-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
68.0	CARBONDALE	HERRIN	COAL	6.9	545.0	

MAPID: 13501511000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 935' N line, 1345' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.338884 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054432 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 519.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER192-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
124.1	MODESTO		GRAY SHALE	20.0	469.9	
104.1	CARBONDALE		CLAYSTONE	2.0	489.9	
102.1	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.0	491.9	
94.1	CARBONDALE	LAWSON	MOTTLED SHALE	6.6	499.9	
87.5	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.9	506.5	
86.6	CARBONDALE		CALCAREOUS SHALE	0.6	507.4	
86.0	CARBONDALE	BRERETON	LIMESTONE	1.6	508.0	
84.4	CARBONDALE	ANNA	BLACK SHALE	3.4	509.6	
81.0	CARBONDALE	HERRIN	COAL	6.4	513.0	

MAPID: 13501511000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 935' N line, 1345' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.338884 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054432 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 519.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER192-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
114.2	CARBONDALE		UNCLASSIFIED	12.0	479.8	
102.2	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	491.8	
94.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.9	499.8	
90.3	CARBONDALE	CONANT	LIMESTONE	3.6	503.7	
86.7	CARBONDALE		SHALE	0.7	507.3	
86.0	CARBONDALE	BRERETON	LIMESTONE	1.6	508.0	
84.4	CARBONDALE	ANNA	BLACK SHALE	3.4	509.6	
81.0	CARBONDALE	HERRIN	COAL	6.4	513.0	

MAPID: 13501517000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 845' N line, 1505' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.330304 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.054735 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 533.0 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER198-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
119.2	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.0	488.8	
117.2	MODESTO		CLAYSTONE	9.0	490.8	
108.2	CARBONDALE	ALLENBY	BLACK SHALE	8.7	499.8	
99.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	508.5	UPPER BENCH
95.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.9	512.5	SHALE PARTING
90.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.9	517.4	LOWER BENCH
86.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.8	521.3	
83.9	CARBONDALE	CONANT	LIMESTONE	0.8	524.1	
83.1	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.1	524.9	
83.0	CARBONDALE	ANNA	BLACK SHALE	1.0	525.0	
82.0	CARBONDALE	HERRIN	COAL	7.0	526.0	

MAPID: 13501517000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 845' N line, 1505' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.330304 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.054735 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 533.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER198-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
119.7	MODESTO	PIASA	LIMESTONE	2.0	488.3	
117.7	MODESTO		UNCLASSIFIED	5.0	490.3	
112.7	CARBONDALE		UNCLASSIFIED	14.3	495.3	
98.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	509.6	
92.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.4	515.1	
91.5	CARBONDALE	CONANT	LIMESTONE	4.1	516.5	
87.4	CARBONDALE		SHALE	2.8	520.6	
84.6	CARBONDALE	BRERETON	LIMESTONE	0.8	523.4	
83.8	CARBONDALE	ANNA	BLACK SHALE	1.8	524.2	
82.0	CARBONDALE	HERRIN	COAL	7.0	526.0	

MAPID: 13501518000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 1105' N line, 105' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.325341 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054046 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 560.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER199-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
98.0	MODESTO	PIASA	LIMESTONE	2.5	510.0	
95.5	MODESTO		MOTTLED SHALE	13.5	512.5	
82.0	CARBONDALE	ALLENBY	DARK GRAY SHALE	9.0	526.0	
73.0	CARBONDALE		CLAYSTONE	2.3	535.0	
70.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.0	537.3	UPPER BENCH
67.7	CARBONDALE	BANKSTON FORK	CLAYSTONE	0.4	540.3	SHALE PARTING
67.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.2	540.7	LOWER BENCH
66.2	CARBONDALE	LAWSON	CLAYSTONE	2.8	541.8	
63.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.8	544.7	
61.6	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.4	546.4	
61.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.8	546.8	
53.3	CARBONDALE	ANNA	CALCAREOUS SHALE	0.3	554.7	
55.0	CARBONDALE	HERRIN	COAL	7.0	553.0	

MAPID: 13501518000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 1105' N line, 105' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.325341 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054046 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 559.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER199-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
98.5	MODESTO	PIASA	LIMESTONE	2.5	509.5	
96.0	MODESTO		UNCLASSIFIED	7.0	512.0	
89.0	CARBONDALE		UNCLASSIFIED	14.1	519.0	
74.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.8	533.1	
68.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	539.9	
65.3	CARBONDALE	CONANT	LIMESTONE	5.7	542.7	
59.6	CARBONDALE		SHALE	2.3	548.4	
57.3	CARBONDALE	BRERETON	LIMESTONE	2.0	550.7	
55.3	CARBONDALE	ANNA	BLACK SHALE	0.3	552.7	
55.0	CARBONDALE	HERRIN	COAL	6.9	553.0	

MAPID: 13501226000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1240' S line, 1220' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357726 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.045758 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 553.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 63-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
168.6	MODESTO		SHALE	24.0	500.4	
144.6	CARBONDALE	GALUM	LIMESTONE W/ SHALE	4.5	524.4	
140.1	CARBONDALE		MOTTLED SHALE	6.5	528.9	
133.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	535.4	
131.6	CARBONDALE	LAWSON	DARK GRAY SHALE	1.0	537.4	
130.6	CARBONDALE	LAWSON	COAL	0.5	538.4	
130.1	CARBONDALE	LAWSON	MOTTLED SHALE	5.6	538.9	
124.5	CARBONDALE	ANNA	BLACK SHALE	2.5	544.5	
122.0	CARBONDALE	HERRIN	COAL	6.9	547.0	

MAPID: 13501226000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1240' S line, 1220' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357726 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.045758 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 552.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 63-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
153.6	MODESTO		UNCLASSIFIED	4.0	515.4	
149.6	CARBONDALE		UNCLASSIFIED	8.5	519.4	
141.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	527.9	
132.6	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	536.4	
131.6	CARBONDALE	JAMESTOWN	COAL	0.5	537.4	
131.1	CARBONDALE		SHALE	5.6	537.9	
125.5	CARBONDALE	BRERETON	LIMESTONE	0.9	543.5	
124.6	CARBONDALE	ANNA	BLACK SHALE	1.6	544.4	
123.0	CARBONDALE	HERRIN	COAL	6.8	546.0	

MAPID: 13501226000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1240' S line, 1220' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357726 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.045758 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 553.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 63-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
122.4	CARBONDALE	HERRIN	COAL	6.9	546.6	

MAPID: 13501352000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 790' N line, 845' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.35915 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054597 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 490.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER172-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
162.0	MODESTO	PIASA	LIMESTONE	4.0	438.0	
158.0	MODESTO		MOTTLED SHALE	18.5	442.0	
139.5	CARBONDALE	ALLENBY	DARK GRAY SHALE	5.0	460.5	
134.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	465.5	
132.0	CARBONDALE	LAWSON	GRAY SHALE	2.7	468.0	
129.3	CARBONDALE	LAWSON	MOTTLED SHALE	1.9	470.7	
127.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.2	472.6	
126.2	CARBONDALE		DARK GRAY SHALE	1.3	473.8	
124.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.8	475.1	
117.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.2	482.8	
117.0	CARBONDALE	HERRIN	COAL	7.0	483.0	

MAPID: 13501352000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 790' N line, 845' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.35915 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.054597 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 489.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER172-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
163.1	MODESTO	PIASA	LIMESTONE	4.0	436.9	
159.1	MODESTO		UNCLASSIFIED	8.5	440.9	
150.6	CARBONDALE		UNCLASSIFIED	15.0	449.4	
135.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	464.4	
130.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	469.2	
128.5	CARBONDALE	CONANT	LIMESTONE	1.2	471.5	
127.3	CARBONDALE		SHALE	6.1	472.7	
121.2	CARBONDALE	BRERETON	LIMESTONE	3.0	478.8	
118.2	CARBONDALE	ANNA	BLACK SHALE	0.2	481.8	
118.0	CARBONDALE	HERRIN	COAL	7.0	482.0	

MAPID: 13501352000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 790' N line, 845' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.35915 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.054597 **DATE COLLECTED:** 0 / 0 / 1963

SURFACE ELEVATION (FT.): 600.1 **LOGGED (FT.):** 489.6 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER172-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
117.5	CARBONDALE	HERRIN	COAL	7.0	482.6	

MAPID: 13501363000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 835' N line, 2025' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.350815 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054584 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 507.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER183-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
140.8	MODESTO		MOTTLED SHALE	11.0	465.2	
129.8	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.0	476.2	
128.8	CARBONDALE		BLACK SHALE	4.2	477.2	
124.7	CARBONDALE	ALLENBY	BONE COAL	0.2	481.3	
124.5	CARBONDALE		DARK GRAY SHALE	0.2	481.5	
124.3	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	7.8	481.7	
116.5	CARBONDALE	LAWSON	MOTTLED SHALE	3.5	489.5	
113.0	CARBONDALE	LAWSON	DARK GRAY SHALE	5.2	493.0	
107.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.7	498.2	
107.1	CARBONDALE	JAMESTOWN	BONE COAL	0.3	498.9	
106.8	CARBONDALE	BRERETON	NODULAR LIMESTONE	0.3	499.2	
106.6	CARBONDALE	ANNA	BLACK SHALE	0.6	499.4	
106.0	CARBONDALE	HERRIN	COAL	7.3	500.0	

MAPID: 13501363000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 835' N line, 2025' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.350815 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054584 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 507.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER183-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
138.0	MODESTO		UNCLASSIFIED	5.0	468.0	
133.0	CARBONDALE		UNCLASSIFIED	8.6	473.0	
124.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	481.6	
116.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.9	489.4	
112.7	CARBONDALE		SHALE	4.8	493.3	
107.9	CARBONDALE	BRERETON	LIMESTONE	1.3	498.1	
106.6	CARBONDALE	ANNA	BLACK SHALE	0.6	499.4	
106.0	CARBONDALE	HERRIN	COAL	7.3	500.0	

MAPID: 13501363000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 835' N line, 2025' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.350815 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054584 **DATE COLLECTED:** 5 / 0 / 1963
SURFACE ELEVATION (FT.): 605.8 **LOGGED (FT.):** 507.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER183-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
105.8	CARBONDALE	HERRIN	COAL	7.3	500.0	

MAPID: 13501365000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 735' N line, 2010' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.355028 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054804 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 491.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER182-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
141.7	MODESTO		SILTY SHALE	15.3	450.3	
126.3	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.2	465.7	
126.2	CARBONDALE		CLAYSTONE	2.2	465.8	
124.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	7.3	468.0	
116.7	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	475.3	
115.5	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0	476.5	
114.5	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.4	477.5	
114.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.1	477.9	
107.0	CARBONDALE	HERRIN	COAL	6.9	485.0	

MAPID: 13501365000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 735' N line, 2010' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.355028 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054804 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 492.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER182-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
125.4	CARBONDALE		UNCLASSIFIED	0.8	466.6	
124.6	CARBONDALE	BANKSTON FORK	LIMESTONE	8.9	467.4	
115.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	476.3	
114.5	CARBONDALE	CONANT	LIMESTONE	1.0	477.5	
113.5	CARBONDALE		SHALE	4.6	478.5	
108.9	CARBONDALE	BRERETON	LIMESTONE	2.0	483.1	
106.9	CARBONDALE	ANNA	BLACK SHALE	0.9	485.1	
106.0	CARBONDALE	HERRIN	COAL	6.9	486.0	

MAPID: 13501366000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 675' N line, 1160' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.347755 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055066 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 516.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER184-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.8	MODESTO		GRAY SHALE	27.5	463.2	
120.3	CARBONDALE	ALLENBY	BLACK SHALE	0.3	490.7	
120.1	CARBONDALE		CLAYSTONE & SHALE	1.2	490.9	
118.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.3	492.1	
113.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.8	497.4	
110.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	2.9	500.2	
107.9	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	503.1	
107.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.3	503.3	
102.3	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	508.7	
102.0	CARBONDALE	HERRIN	COAL	7.2	509.0	

MAPID: 13501366000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 675' N line, 1160' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.347755 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055066 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 516.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER184-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
120.8	CARBONDALE		UNCLASSIFIED	1.9	490.2	
118.9	CARBONDALE	BANKSTON FORK	LIMESTONE	9.7	492.1	
109.2	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	501.8	
107.9	CARBONDALE		SHALE	4.0	503.1	
103.9	CARBONDALE	BRERETON	LIMESTONE	1.6	507.1	
102.3	CARBONDALE	ANNA	BLACK SHALE	0.3	508.7	
102.0	CARBONDALE	HERRIN	COAL	7.2	509.0	

MAPID: 13501375000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 705' N line, 70' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.343896 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055036 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 526.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER191-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
139.7	MODESTO	PIASA	LIMESTONE	2.5	476.3	
137.2	MODESTO		CALCAREOUS SHALE	21.5	478.8	
115.7	CARBONDALE	ALLENBY	BLACK SHALE	0.9	500.3	
114.7	CARBONDALE		CLAYSTONE	1.8	501.3	
112.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.5	503.1	
106.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.4	509.6	
105.0	CARBONDALE	LAWSON	MOTTLED SHALE	2.2	511.0	
102.8	CARBONDALE	LAWSON	DARK GRAY SHALE	4.5	513.2	
98.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	517.7	
97.7	CARBONDALE	ANNA	BLACK SHALE	0.8	518.3	
97.0	CARBONDALE	HERRIN	COAL	7.1	519.0	

MAPID: 13501375000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 705' N line, 70' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.343896 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055036 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 526.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER191-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
140.8	MODESTO	PIASA	LIMESTONE	2.5	475.2	
138.3	MODESTO		UNCLASSIFIED	11.0	477.7	
127.3	CARBONDALE		UNCLASSIFIED	14.2	488.7	
113.1	CARBONDALE	BANKSTON FORK	LIMESTONE	7.9	502.9	
105.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.2	510.8	
103.0	CARBONDALE		SHALE	4.5	513.0	
98.5	CARBONDALE	BRERETON	LIMESTONE	0.6	517.5	
97.9	CARBONDALE	ANNA	BLACK SHALE	0.9	518.1	
97.0	CARBONDALE	HERRIN	COAL	7.1	519.0	

MAPID: 13501723000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1430' N line, 300' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.3447 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.053021 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 520.0 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER COAL CO 243-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
146.0	MODESTO	PIASA	NODULAR LIMESTONE	4.3	470.0	
141.7	CARBONDALE		MOTTLED SHALE	14.8	474.3	
126.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.8	489.1	
126.1	CARBONDALE		DARK GRAY SHALE	2.4	489.9	
123.7	CARBONDALE	ALLENBY	BLACK SHALE	0.8	492.3	
122.8	CARBONDALE		DARK GRAY SHALE	1.8	493.2	
121.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.7	494.9	UPPER BENCH
118.4	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	4.8	497.6	SHALE PARTING
113.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.7	502.4	LOWER BENCH
110.9	CARBONDALE	LAWSON	MOTTLED SHALE	3.8	505.1	
107.1	CARBONDALE	CONANT	LIMESTONE	0.4	508.9	
106.7	CARBONDALE		DARK GRAY SHALE	1.9	509.3	
104.7	CARBONDALE	ANNA	BLACK SHALE	0.9	511.3	
103.0	CARBONDALE	HERRIN	COAL	7.0	513.0	

MAPID: 13501723000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1430' N line, 300' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.3447 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053021 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 521.0 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 243-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
144.0	MODESTO	PIASA	LIMESTONE	4.3	472.0	
139.7	MODESTO		UNCLASSIFIED	6.6	476.3	
133.1	CARBONDALE		UNCLASSIFIED	14.1	482.9	
119.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	497.0	
109.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	507.0	
106.2	CARBONDALE		SHALE	1.0	509.8	
105.2	CARBONDALE	BRERETON	LIMESTONE	0.4	510.8	
104.8	CARBONDALE	ANNA	BLACK SHALE	2.8	511.2	
102.0	CARBONDALE	HERRIN	COAL	7.0	514.0	

MAPID: 13501723000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1430' N line, 300' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.3447 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053021 **DATE COLLECTED:** 2 / 0 / 1971
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 519.6 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 243-BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V1 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
103.4	CARBONDALE	HERRIN	COAL	7.0	512.6	

MAPID: 13521881000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 975' N line, 500' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.345413 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.05427 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
604.4	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.3	11.6	SHALE PARTING
604.1	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	11.9	LOWER BENCH
603.3	CARBONDALE	LAWSON	MOTTLED SHALE	2.5	12.7	
600.8	CARBONDALE	LAWSON	GRAY SHALE	1.5	15.2	
599.3	CARBONDALE	CONANT	NODULAR LIMESTONE	0.8	16.7	
598.5	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.7	17.5	
597.8	CARBONDALE	BRERETON	NODULAR LIMESTONE	0.2	18.2	
597.6	CARBONDALE	ANNA	BLACK SHALE	2.0	18.4	
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521882000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 940' N line, 1600' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.349307 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.054314 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE		GRAY SHALE	4.3		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5		
-	CARBONDALE	LAWSON	MOTTLED SHALE	3.0		
-	CARBONDALE	CONANT	NODULAR LIMESTONE	0.8		
-	CARBONDALE	JAMESTOWN	CARBONACEOUS LIMESTONE	0.4		
-	CARBONDALE	ANNA	BLACK SHALE	4.6		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521883000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 740' N line, 190' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.344317 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.054934 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	GRAY SHALE	1.0		
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.8		
-	CARBONDALE	ANNA	BLACK SHALE	0.2		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521884000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 825' N line, 110' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.344035 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.054702 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
572.4	CARBONDALE		MOTTLED SHALE	1.5	48.6	
570.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	50.1	UPPER BENCH
567.9	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.5	53.1	SHALE PARTING
567.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	53.6	LOWER BENCH
566.4	CARBONDALE	LAWSON	MOTTLED SHALE	4.0	54.6	
562.4	CARBONDALE	LAWSON	DARK GRAY SHALE	4.0	58.6	
558.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	62.6	
557.6	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.6	63.4	
557.0	CARBONDALE	ANNA	BLACK SHALE	1.5	64.0	
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13501162000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 19 **QUARTERS/FOOTAGES:** 120' S line, 65' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.361588 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.028009 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 483.8 **LOG TYPE:** Survey Core Study
SOURCE: PITTSBURGH CONSOLIDATION C.C. 48-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.2	MODESTO	PIASA	LIMESTONE	3.2	439.8	
155.0	MODESTO		MOTTLED SHALE	11.8	443.0	
143.2	CARBONDALE		DARK GRAY SHALE	4.0	454.8	
139.2	CARBONDALE	ALLENBY	BLACK SHALE	5.9	458.8	
133.3	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.4	464.7	
129.8	CARBONDALE	LAWSON	SILTY SHALE	7.0	468.2	
122.8	CARBONDALE	LAWSON	DARK GRAY SHALE	1.7	475.2	
121.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.2	476.8	
120.0	CARBONDALE	HERRIN	COAL	5.8	478.0	

MAPID: 13501162000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 19 **QUARTERS/FOOTAGES:** 120' S line, 65' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.361588 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.028009 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 483.8 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONSOLIDATION C.C. 48-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.9	MODESTO	PIASA	LIMESTONE	3.2	439.1	
155.7	MODESTO		UNCLASSIFIED	6.8	442.3	
148.9	CARBONDALE		UNCLASSIFIED	15.4	449.1	
133.5	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	464.5	
124.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	473.1	
122.9	CARBONDALE		SHALE	1.7	475.1	
121.2	CARBONDALE	BRERETON	LIMESTONE	1.2	476.8	
120.0	CARBONDALE	HERRIN	COAL	5.8	478.0	

MAPID: 13501162000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 19 **QUARTERS/FOOTAGES:** 120' S line, 65' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.361588 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.028009 **DATE COLLECTED:** 10 / 0 / 1959
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 483.6 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONSOLIDATION C.C. 48-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
120.2	CARBONDALE	HERRIN	COAL	5.8	477.8	

MAPID: 13501520000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2510' S line, 1285' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357359 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.034649 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 499.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER201-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
137.4	MODESTO	PIASA	LIMESTONE	1.0	464.6	
136.4	MODESTO		MOTTLED SHALE	11.0	465.6	
125.4	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	476.6	UPPER BENCH
121.4	CARBONDALE	BANKSTON FORK	SHALE	2.0	480.6	SHALE PARTING
119.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.0	482.6	LOWER BENCH
116.4	CARBONDALE	LAWSON	MOTTLED SHALE	3.9	485.6	
112.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	489.5	
111.8	CARBONDALE	LAWSON	DARK GRAY SHALE	1.6	490.2	
110.2	CARBONDALE	ANNA	BLACK SHALE	0.3	491.8	
110.0	CARBONDALE	HERRIN	COAL	7.3	492.0	

MAPID: 13501520000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2510' S line, 1285' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.357359 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.034649 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 499.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER201-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
141.8	CARBONDALE		UNCLASSIFIED	13.5	460.2	
128.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	473.7	
120.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	481.2	
117.8	CARBONDALE	CONANT	LIMESTONE	1.4	484.2	
116.4	CARBONDALE		SHALE	3.9	485.6	
112.5	CARBONDALE	BRERETON	LIMESTONE	0.7	489.5	
111.8	CARBONDALE	ANNA	BLACK SHALE	1.8	490.2	
110.0	CARBONDALE	HERRIN	COAL	7.3	492.0	

MAPID: 13500651000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 990' N line, 990' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.328364 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.03986 **DATE COLLECTED:** 12 / 0 / 1953
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 526.5 **LOG TYPE:** Electric Log
SOURCE: CALVERT DRILLING, INC. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
135.1	MODESTO	PIASA	LIMESTONE	4.5	481.9	
130.6	MODESTO		UNCLASSIFIED	4.3	486.4	
126.3	CARBONDALE		UNCLASSIFIED	14.8	490.7	
111.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	505.5	
105.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	511.5	
102.0	CARBONDALE	CONANT	UNCLASSIFIED	1.0	515.0	
101.0	CARBONDALE		UNCLASSIFIED	2.0	516.0	
99.0	CARBONDALE	BRERETON	LIMESTONE	1.0	518.0	
98.0	CARBONDALE	ANNA	BLACK SHALE	1.0	519.0	
97.0	CARBONDALE	HERRIN	COAL	6.5	520.0	

MAPID: 13501228000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.335196 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.028827 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 494.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 65-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
135.9	MODESTO	PIASA	LIMESTONE	4.0	460.1	
131.9	CARBONDALE		MOTTLED SHALE	11.0	464.1	
120.9	CARBONDALE	ALLENBY	COAL	0.3	475.1	
120.6	CARBONDALE		GRAY SHALE	2.7	475.4	
117.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	478.1	
115.1	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.3	480.9	
110.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	485.3	
108.5	CARBONDALE	BRERETON	LIMESTONE AND SANDSTONE	0.8	487.5	
107.7	CARBONDALE	ANNA	BLACK SHALE	0.7	488.3	
107.0	CARBONDALE	HERRIN	COAL	5.2	489.0	

MAPID: 13501228000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.335196 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.028827 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 494.2 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 65-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
146.9	MODESTO	PIASA	LIMESTONE	3.0	449.1	
143.9	MODESTO		UNCLASSIFIED	4.0	452.1	
139.9	CARBONDALE		UNCLASSIFIED	19.3	456.1	
120.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	475.4	
112.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	483.2	
110.8	CARBONDALE		SHALE	2.3	485.2	
108.5	CARBONDALE	BRERETON	LIMESTONE	0.8	487.5	
107.7	CARBONDALE	ANNA	BLACK SHALE	0.7	488.3	
107.0	CARBONDALE	HERRIN	COAL	5.2	489.0	

MAPID: 13501228000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.335196 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.028827 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 494.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 65-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
107.2	CARBONDALE	HERRIN	COAL	5.2	488.8	

MAPID: 13501378000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW
QUADRANGLE: FILLMORE **LONGITUDE:** -89.335325 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.036135 **DATE COLLECTED:** 10 / 0 / 1951
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Electric Log
SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
152.5	MODESTO	PIASA	LIMESTONE	2.0	452.5	
150.5	MODESTO		UNCLASSIFIED	5.0	454.5	
145.5	CARBONDALE	DANVILLE	COAL	1.0	459.5	
144.5	CARBONDALE		UNCLASSIFIED	21.0	460.5	
123.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	481.5	
118.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	486.5	
117.0	CARBONDALE	CONANT	UNCLASSIFIED	1.0	488.0	
116.0	CARBONDALE		UNCLASSIFIED	3.0	489.0	
113.0	CARBONDALE	BRERETON	LIMESTONE	2.0	492.0	
111.0	CARBONDALE	ANNA	BLACK SHALE	1.0	494.0	
110.0	CARBONDALE	HERRIN	COAL	5.0	495.0	

MAPID: 13501519000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2345' N line, 2000' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.336419 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.036048 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 502.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER200-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
146.4	MODESTO		SILTY SHALE	30.0	453.6	
116.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	483.6	UPPER BENCH
113.4	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.0	486.6	SHALE PARTING
111.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	488.6	LOWER BENCH
107.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.9	492.6	
104.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.8	495.5	
103.7	CARBONDALE	ANNA	DARK GRAY SHALE	0.7	496.3	
103.0	CARBONDALE	HERRIN	COAL	5.4	497.0	

MAPID: 13501519000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2345' N line, 2000' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.336419 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.036048 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 502.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER200-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
111.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	488.1	
109.9	CARBONDALE	CONANT	LIMESTONE	1.5	490.1	
108.4	CARBONDALE		SHALE	3.2	491.6	
105.2	CARBONDALE	BRERETON	LIMESTONE	0.6	494.8	
104.6	CARBONDALE	ANNA	BLACK SHALE	1.6	495.4	
103.0	CARBONDALE	HERRIN	COAL	5.4	497.0	

MAPID: 13501731000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1' N line, 18' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.324828 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.042624 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 545.1 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 218-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
106.8	MODESTO	PIASA	LIMESTONE	3.3	499.2	
103.5	CARBONDALE		MOTTLED SHALE	16.9	502.5	
86.7	CARBONDALE	GALUM	LIMESTONE AND SANDSTONE	0.7	519.3	
86.0	CARBONDALE		SILTY SHALE	0.3	520.0	
85.7	CARBONDALE	ALLENBY	DARK GRAY SHALE	1.3	520.3	
84.3	CARBONDALE		SILTY SHALE	1.4	521.7	
83.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	523.0	UPPER BENCH
82.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	5.4	524.0	SHALE PARTING
76.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	529.5	LOWER BENCH
74.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.3	531.5	
72.2	CARBONDALE	LAWSON	MOTTLED SHALE	2.1	533.8	
70.1	CARBONDALE	CONANT	LIMESTONE	0.6	535.9	
69.4	CARBONDALE		CALCAREOUS SHALE	0.1	536.6	
69.3	CARBONDALE	BRERETON	LIMESTONE	2.1	536.7	
67.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.2	538.8	
67.0	CARBONDALE	HERRIN	COAL	6.1	539.0	

MAPID: 13501731000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1' N line, 18' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.324828 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.042624 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 545.0 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 218-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
104.7	MODESTO	PIASA	LIMESTONE	3.3	500.3	
101.4	MODESTO		UNCLASSIFIED	5.4	503.6	
96.0	CARBONDALE		UNCLASSIFIED	11.4	509.0	
84.6	CARBONDALE	BANKSTON FORK	LIMESTONE	11.1	520.4	
73.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	531.5	
71.2	CARBONDALE		SHALE	2.1	533.8	
69.1	CARBONDALE	BRERETON	LIMESTONE	2.8	535.9	
66.3	CARBONDALE	ANNA	BLACK SHALE	0.3	538.7	
66.0	CARBONDALE	HERRIN	COAL	6.0	539.0	

MAPID: 13501731000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1' N line, 18' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.324828 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.042624 **DATE COLLECTED:** 4 / 23 / 1969
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 544.7 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 218-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
67.4	CARBONDALE	HERRIN	COAL	6.1	538.6	

MAPID: 13500652000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.291139 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.034606 **DATE COLLECTED:** 4 / 0 / 1951
SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 614.0 **LOG TYPE:** Electric Log
SOURCE: SHULMAN BROS. INC. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
86.6	MODESTO	PIASA	LIMESTONE	6.0	560.4	
80.6	MODESTO		UNCLASSIFIED	6.7	566.4	
73.9	CARBONDALE	DANVILLE	COAL	0.7	573.1	
73.2	CARBONDALE		UNCLASSIFIED	17.7	573.8	
55.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	591.5	
47.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	599.5	
45.0	CARBONDALE	CONANT	UNCLASSIFIED	1.0	602.0	
44.0	CARBONDALE		UNCLASSIFIED	2.5	603.0	
41.5	CARBONDALE	BRERETON	LIMESTONE	2.0	605.5	
39.5	CARBONDALE	ANNA	BLACK SHALE	1.5	607.5	
38.0	CARBONDALE	HERRIN	COAL	5.0	609.0	

MAPID: 13501182000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.288794 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.029177 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 549.8 **LOG TYPE:** Survey Core Study
SOURCE: PITTSBURGH CONSOLIDATION C.C. 54-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
92.0	MODESTO	PIASA	LIMESTONE	4.1	499.0	
87.9	MODESTO		MOTTLED SHALE	10.2	503.1	
77.7	CARBONDALE	DANVILLE	BONE COAL	2.1	513.3	
75.7	CARBONDALE		LIMESTONE W/ SHALE	8.8	515.3	
66.8	CARBONDALE	ALLENBY	BLACK SHALE	3.8	524.2	
63.1	CARBONDALE		CALCAREOUS SHALE	2.8	527.9	
60.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.3	530.7	UPPER BENCH
57.1	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.3	533.9	SHALE PARTING
53.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.5	537.2	LOWER BENCH
50.3	CARBONDALE	LAWSON	MOTTLED SHALE	3.4	540.7	
46.9	CARBONDALE	BRERETON	LIMESTONE	0.5	544.1	
46.4	CARBONDALE	ANNA	BLACK SHALE	0.4	544.6	
47.0	CARBONDALE	HERRIN	COAL	5.8	544.0	

MAPID: 13501182000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.288794 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.029177 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 549.8 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONSOLIDATION C.C. 54-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
92.6	MODESTO	PIASA	LIMESTONE	4.1	498.4	
88.5	MODESTO		UNCLASSIFIED	9.9	502.5	
78.6	CARBONDALE	DANVILLE	COAL	2.1	512.4	
76.5	CARBONDALE		UNCLASSIFIED	14.2	514.5	
62.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.9	528.7	
56.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	534.6	
54.6	CARBONDALE	CONANT	LIMESTONE	3.3	536.4	
51.3	CARBONDALE		SHALE	3.3	539.7	
48.0	CARBONDALE	BRERETON	LIMESTONE	0.6	543.0	
47.4	CARBONDALE	ANNA	BLACK SHALE	0.4	543.6	
47.0	CARBONDALE	HERRIN	COAL	5.8	544.0	

MAPID: 13501182000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.288794 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.029177 **DATE COLLECTED:** 2 / 0 / 1960
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 550.1 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONSOLIDATION C.C. 54-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
46.7	CARBONDALE	HERRIN	COAL	5.8	544.3	

MAPID: 13501358000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1640' S line, 2140' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.373088 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.075826 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 528.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER180-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
143.3	MODESTO	PIASA	LIMESTONE	5.6	479.7	
137.7	MODESTO		GRAY SHALE	5.3	485.3	
132.5	CARBONDALE	DANVILLE	BONE COAL	0.6	490.5	
131.9	CARBONDALE		CLAYSTONE & SHALE	6.3	491.1	
125.6	CARBONDALE	GALUM	LIMESTONE W/ SHALE	3.4	497.4	
122.2	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	1.2	500.8	
121.0	CARBONDALE		CLAYSTONE	1.6	502.0	
119.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.5	503.6	UPPER BENCH
117.9	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	6.1	505.1	SHALE PARTING
111.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	511.2	LOWER BENCH
109.3	CARBONDALE	LAWSON	CLAYSTONE	1.8	513.7	
107.5	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	515.5	
106.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	516.7	
106.1	CARBONDALE		CARBONACEOUS SHALE	1.4	516.9	
104.7	CARBONDALE	ANNA	BLACK SHALE	2.7	518.3	
102.0	CARBONDALE	HERRIN	COAL	7.4	521.0	

MAPID: 13501358000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1640' S line, 2140' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.373088 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.075826 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 529.4 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER180-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.9	MODESTO	PIASA	LIMESTONE	5.6	480.1	
137.3	MODESTO		UNCLASSIFIED	5.3	485.7	
132.0	CARBONDALE	DANVILLE	COAL	0.6	491.0	
131.4	CARBONDALE		UNCLASSIFIED	12.6	491.6	
118.8	CARBONDALE	BANKSTON FORK	LIMESTONE	10.3	504.2	
108.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	514.5	
105.5	CARBONDALE	CONANT	LIMESTONE	0.3	517.5	
105.2	CARBONDALE		SHALE	1.2	517.8	
104.0	CARBONDALE	BRERETON	LIMESTONE	0.3	519.0	
103.7	CARBONDALE	ANNA	BLACK SHALE	2.7	519.3	
101.0	CARBONDALE	HERRIN	COAL	7.4	522.0	

MAPID: 13501359000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1150' N line, 1720' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.374673 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.082605 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 524.3 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER181-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
153.9	MODESTO		MOTTLED SHALE	19.0	468.1	
134.9	CARBONDALE		MOTTLED SHALE	4.3	487.1	
130.7	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.8	491.3	
129.8	CARBONDALE		DARK GRAY SHALE	2.8	492.2	
127.0	CARBONDALE	ALLENBY	BLACK SHALE	1.3	495.0	
125.8	CARBONDALE		DARK GRAY SHALE	1.9	496.2	
123.8	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.8	498.2	
117.0	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	505.0	
114.4	CARBONDALE	CONANT	LIMESTONE	1.4	507.6	
113.0	CARBONDALE	JAMESTOWN	CARBONACEOUS LIMESTONE	0.4	509.0	
112.6	CARBONDALE	BRERETON	LIMESTONE	7.4	509.4	
105.2	CARBONDALE	ANNA	BLACK SHALE	0.2	516.8	
105.0	CARBONDALE	HERRIN	COAL	7.3	517.0	

MAPID: 13501359000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1150' N line, 1720' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.374673 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.082605 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 524.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER181-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.0	MODESTO		UNCLASSIFIED	7.0	480.0	
135.0	CARBONDALE		UNCLASSIFIED	11.1	487.0	
123.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.8	498.1	
117.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.6	504.9	
114.5	CARBONDALE	CONANT	LIMESTONE	1.4	507.5	
113.1	CARBONDALE		SHALE	0.4	508.9	
112.7	CARBONDALE	BRERETON	LIMESTONE	7.4	509.3	
105.3	CARBONDALE	ANNA	BLACK SHALE	0.3	516.7	
105.0	CARBONDALE	HERRIN	COAL	7.3	517.0	

MAPID: 13500338000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.381839 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.075882 **DATE COLLECTED:** 9 / 0 / 1955
SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 527.0 **LOG TYPE:** Electric Log
SOURCE: SHULMAN BROS. INC. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
149.0	MODESTO	PIASA	LIMESTONE	3.0	482.0	
146.0	MODESTO		UNCLASSIFIED	3.0	485.0	
143.0	CARBONDALE	DANVILLE	COAL	1.0	488.0	
142.0	CARBONDALE		UNCLASSIFIED	14.0	489.0	
128.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.5	503.0	
118.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	512.5	
115.0	CARBONDALE		UNCLASSIFIED	1.5	516.0	
113.5	CARBONDALE	BRERETON	LIMESTONE	1.5	517.5	
112.0	CARBONDALE	ANNA	BLACK SHALE	1.0	519.0	
111.0	CARBONDALE	HERRIN	COAL	7.0	520.0	

MAPID: 13501642000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1145' S line, 2490' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.390472 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.074563 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 503.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 210VBBD **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
171.1	MODESTO	PIASA	LIMESTONE	4.8	453.9	
166.3	MODESTO		MOTTLED SHALE	1.9	458.7	
164.3	CARBONDALE	DANVILLE	BLACK SHALE	2.2	460.7	
162.2	CARBONDALE		MOTTLED SHALE	8.3	462.8	
153.9	CARBONDALE	GALUM	LIMESTONE W/ SHALE	0.8	471.1	
153.2	CARBONDALE		DARK GRAY SHALE	2.3	471.8	
150.8	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.5	474.2	
150.3	CARBONDALE		CLAYSTONE	1.4	474.7	
148.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.0	476.1	UPPER BENCH
144.9	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	0.4	480.1	SHALE PARTING
144.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.4	480.5	LOWER BENCH
143.1	CARBONDALE	LAWSON	CLAYSTONE	0.8	481.9	
142.3	CARBONDALE	LAWSON	MOTTLED SHALE	4.8	482.7	
137.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.7	487.6	
135.8	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.4	489.2	
135.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.2	489.7	
129.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.2	495.8	
129.0	CARBONDALE	HERRIN	COAL	7.5	496.0	

MAPID: 13501642000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1145' S line, 2490' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390472 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.074563 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 503.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 210VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
171.2	MODESTO	PIASA	LIMESTONE	4.8	453.8	
166.4	MODESTO		UNCLASSIFIED	4.7	458.6	
161.7	CARBONDALE		UNCLASSIFIED	12.7	463.3	
149.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	476.0	
142.3	CARBONDALE	ANVIL ROCK	SANDSTONE	4.8	482.7	
137.5	CARBONDALE	CONANT	LIMESTONE	1.7	487.5	
135.8	CARBONDALE		SHALE	3.0	489.2	
132.8	CARBONDALE	BRERETON	LIMESTONE	3.6	492.2	
129.2	CARBONDALE	ANNA	BLACK SHALE	0.2	495.8	
129.0	CARBONDALE	HERRIN	COAL	7.5	496.0	

MAPID: 13501642000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1145' S line, 2490' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390472 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.074563 **DATE COLLECTED:** 4 / 7 / 1969
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 503.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 210VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
128.6	CARBONDALE	HERRIN	COAL	7.5	496.4	

MAPID: 13501674000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2440' S line, 2500' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389556 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.078137 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 518.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 207VBBD **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
157.5	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.2	470.5	
152.3	MODESTO		CLAYSTONE	0.8	475.7	
151.5	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.8	476.5	
149.7	CARBONDALE		CLAYSTONE	4.3	478.3	
145.5	CARBONDALE	GALUM	LIMESTONE W/ SHALE	4.5	482.5	
141.0	CARBONDALE		MOTTLED SHALE	1.1	487.0	
139.9	CARBONDALE	ALLENBY	BLACK SHALE	2.3	488.1	
137.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	8.3	490.4	UPPER BENCH
129.3	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	2.6	498.7	SHALE PARTING
126.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.7	501.3	LOWER BENCH
125.1	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.3	502.9	
124.8	CARBONDALE	LAWSON	MOTTLED SHALE	3.3	503.2	
121.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.5	506.5	
118.0	CARBONDALE	ANNA	DARK GRAY SHALE	1.0	510.0	
117.0	CARBONDALE	HERRIN	COAL	7.0	511.0	

MAPID: 13501674000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2440' S line, 2500' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389556 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.078137 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 512.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 207VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.7	MODESTO	PIASA	LIMESTONE	5.2	469.3	
153.5	MODESTO		UNCLASSIFIED	2.6	474.5	
150.9	CARBONDALE		UNCLASSIFIED	12.2	477.1	
138.7	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	489.3	
130.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.6	497.6	
127.8	CARBONDALE	CONANT	LIMESTONE	1.7	500.2	
126.1	CARBONDALE		SHALE	3.6	501.9	
122.5	CARBONDALE	BRERETON	LIMESTONE	3.5	505.5	
119.0	CARBONDALE	ANNA	BLACK SHALE	1.0	509.0	
118.0	CARBONDALE	HERRIN	COAL	2.5	510.0	

MAPID: 13501682000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2185' S line, 990' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.384195 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.077414 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 519.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 212VBBD **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.3	MODESTO	PIASA	LIMESTONE	6.3	476.7	
150.1	MODESTO		MOTTLED SHALE	2.5	482.9	
147.6	CARBONDALE	GALUM	LIMESTONE W/ SHALE	5.8	485.4	
141.8	CARBONDALE		CALCAREOUS SHALE	3.3	491.2	
138.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.7	494.5	UPPER BENCH
132.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.3	500.2	SHALE PARTING
131.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.3	501.5	LOWER BENCH
130.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.5	502.7	
128.8	CARBONDALE	LAWSON	CARBONACEOUS SHALE	2.5	504.2	
126.3	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	0.2	506.7	
126.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.2	506.9	
124.9	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.7	508.1	
124.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.2	508.8	
122.1	CARBONDALE	ANNA	MOTTLED SHALE	1.1	510.9	
121.0	CARBONDALE	HERRIN	COAL	7.7	512.0	

MAPID: 13501682000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2185' S line, 990' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.384195 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.077414 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 519.7 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 212VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
159.8	MODESTO	PIASA	LIMESTONE	6.3	473.2	
153.5	MODESTO		UNCLASSIFIED	3.0	479.5	
150.5	CARBONDALE		UNCLASSIFIED	11.7	482.5	
138.8	CARBONDALE	BANKSTON FORK	LIMESTONE	9.9	494.2	
128.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.7	504.1	
126.2	CARBONDALE	CONANT	LIMESTONE	1.2	506.8	
125.0	CARBONDALE		SHALE	0.7	508.0	
124.3	CARBONDALE	BRERETON	LIMESTONE	2.2	508.7	
122.1	CARBONDALE	ANNA	BLACK SHALE	1.1	510.9	
121.0	CARBONDALE	HERRIN	COAL	7.7	512.0	

MAPID: 13501682000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2185' S line, 990' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.384195 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.077414 **DATE COLLECTED:** 5 / 6 / 1969
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 519.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 212VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
121.2	CARBONDALE	HERRIN	COAL	7.7	511.8	

MAPID: 13501683000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1660' N line, 750' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.383399 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.08119 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 526.7 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER COAL CO 213-VBBD **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.9	MODESTO	PIASA	LIMESTONE	3.8	480.1	
144.2	MODESTO		DARK GRAY SHALE	5.3	483.8	
138.9	CARBONDALE	DANVILLE	COAL	1.2	489.1	
137.7	CARBONDALE		CALCAREOUS SHALE	5.8	490.3	
131.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.3	496.1	
131.6	CARBONDALE		DARK GRAY SHALE	2.7	496.4	
128.9	CARBONDALE	ALLENBY	BLACK SHALE	1.0	499.1	
127.9	CARBONDALE		DARK GRAY SHALE	2.6	500.1	
125.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	502.7	UPPER BENCH
123.3	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.6	504.7	SHALE PARTING
122.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.2	505.2	LOWER BENCH
117.6	CARBONDALE	LAWSON	MOTTLED SHALE	3.2	510.4	
114.4	CARBONDALE	LAWSON	NODULAR LIMESTONE	0.4	513.6	
114.0	CARBONDALE	LAWSON	MOTTLED SHALE	1.8	514.0	
112.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.7	515.8	
111.5	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.6	516.5	
110.9	CARBONDALE	ANNA	DARK GRAY SHALE	1.9	517.1	
109.0	CARBONDALE	HERRIN	COAL	7.7	519.0	

MAPID: 13501683000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1660' N line, 750' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.383399 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.08119 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 525.7 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 213-VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
149.6	MODESTO	PIASA	LIMESTONE	3.8	478.4	
145.8	MODESTO		UNCLASSIFIED	6.4	482.2	
139.4	CARBONDALE		UNCLASSIFIED	13.0	488.6	
126.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	501.6	
118.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.2	509.4	
115.4	CARBONDALE	CONANT	LIMESTONE	0.4	512.6	
115.0	CARBONDALE		SHALE	1.8	513.0	
113.2	CARBONDALE	BRERETON	LIMESTONE	0.7	514.8	
112.5	CARBONDALE	ANNA	BLACK SHALE	2.5	515.5	
110.0	CARBONDALE	HERRIN	COAL	7.7	518.0	

MAPID: 13501683000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1660' N line, 750' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.383399 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.08119 **DATE COLLECTED:** 5 / 13 / 1969
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 526.5 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 213-VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
109.2	CARBONDALE	HERRIN	COAL	7.7	518.8	

MAPID: 13500161000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** NE SE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.400556 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.08138 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** **LOG TYPE:**
SOURCE: COSGROVE 4HS **WELL TYPE:** Underground mine
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
100.0	CARBONDALE	HERRIN	COAL	7.5	534.0	

MAPID: 13500161000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** NE SE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.400556 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.08138 **DATE COLLECTED:** 0 / 0 / 1905
SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 526.0 **LOG TYPE:** Drillers Log
SOURCE: CLOVER LEAF COAL **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.0	MODESTO	PIASA	LIMESTONE	4.0	470.0	
160.0	MODESTO		UNCLASSIFIED	6.0	474.0	
154.0	CARBONDALE		UNCLASSIFIED	20.0	480.0	
134.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	500.0	
125.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	509.0	
122.0	CARBONDALE		UNCLASSIFIED	3.0	512.0	
119.0	CARBONDALE	BRERETON	LIMESTONE	2.0	515.0	
117.0	CARBONDALE	ANNA	BLACK SHALE	1.0	517.0	
116.0	CARBONDALE	HERRIN	COAL	8.0	518.0	

MAPID: 13501200000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 200' E line of NE SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404774 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.081999 **DATE COLLECTED:** 1 / 28 / 1969
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 3.5 **LOG TYPE:**
SOURCE: TRUAX-TRAER COAL CO 206VBBD **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	3.5		Anvil Rock Channel, coal probably erode

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MAPID: 13501200000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 200' E line of NE SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404774 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.081999 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 518.4 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 206VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
152.6	MODESTO	PIASA	LIMESTONE	1.3	475.4	
151.3	MODESTO		UNCLASSIFIED	5.7	476.7	
145.6	CARBONDALE		UNCLASSIFIED	12.7	482.4	
132.9	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	495.1	
124.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	503.4	
121.6	CARBONDALE	CONANT	LIMESTONE	2.0	506.4	
119.6	CARBONDALE		SHALE	4.0	508.4	
115.6	CARBONDALE	BRERETON	LIMESTONE	2.6	512.4	
113.0	CARBONDALE	HERRIN	COAL	3.4	515.0	

MAPID: 13501227000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** NE SE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.40989 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.081346 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 521.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 66-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
148.0	CARBONDALE	HERRIN	COAL	7.5	514.0	

MAPID: 13501227000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** NE SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.40989 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.081346 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 521.5 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 66-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.2	MODESTO	PIASA	LIMESTONE	3.0	471.8	
147.2	MODESTO		UNCLASSIFIED	4.5	474.8	
142.7	CARBONDALE		UNCLASSIFIED	15.2	479.3	
127.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.9	494.5	
117.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.2	504.4	
114.4	CARBONDALE	CONANT	LIMESTONE	0.9	507.6	
113.5	CARBONDALE		SHALE	0.4	508.5	
113.1	CARBONDALE	BRERETON	LIMESTONE	1.8	508.9	
111.3	CARBONDALE	ANNA	BLACK SHALE	3.3	510.7	
108.0	CARBONDALE	HERRIN	COAL	7.5	514.0	

MAPID: 13501281000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** NW SW SW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.416791 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.073964 **DATE COLLECTED:** 0 / 0 / 1962

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 475.7 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 109-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
141.2	CARBONDALE	HERRIN	COAL	7.9	467.8	

MAPID: 13501281000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** NW SW SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.416791 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.073964 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 505.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 109-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.9	MODESTO	PIASA	LIMESTONE	3.0	454.1	
151.9	MODESTO		UNCLASSIFIED	8.0	457.1	
143.9	CARBONDALE		UNCLASSIFIED	12.9	465.1	
131.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	478.0	
124.3	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	484.7	
122.0	CARBONDALE	CONANT	LIMESTONE	2.9	487.0	
119.1	CARBONDALE		SHALE	5.7	489.9	
113.4	CARBONDALE	BRERETON	LIMESTONE	0.6	495.6	
112.8	CARBONDALE	ANNA	BLACK SHALE	1.8	496.2	
111.0	CARBONDALE	HERRIN	COAL	7.8	498.0	

MAPID: 13501684000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 60' W line of NE SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.406187 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.081995 **DATE COLLECTED:** 5 / 19 / 1969
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 214VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded

MAPID: 13501684000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 60' W line of NE SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.406187 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.081995 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 214VBBD **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501685000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 320' W line of NW SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407597 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.08199 **DATE COLLECTED:** 5 / 22 / 1969
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 215VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded

MAPID: 13501685000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 320' W line of NW SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407597 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.08199 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 215VBBD **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501686000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 80' E line of NE SE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409014 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.081986 **DATE COLLECTED:** 5 / 28 / 1969
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 545.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 216VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
73.0	CARBONDALE	HERRIN	COAL	8.8	537.0	

MAPID: 13501686000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 100' N line, 80' E line of NE SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.409014 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.081986 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 545.8 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 216VBBD **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
115.5	MODESTO	PIASA	LIMESTONE	5.5	494.5	
110.0	MODESTO		UNCLASSIFIED	3.3	500.0	
106.7	CARBONDALE	DANVILLE	COAL	0.2	503.3	
106.5	CARBONDALE		UNCLASSIFIED	12.9	503.5	
93.6	CARBONDALE	BANKSTON FORK	LIMESTONE	6.4	516.4	
87.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	522.8	
84.9	CARBONDALE	CONANT	LIMESTONE	3.0	525.1	
81.9	CARBONDALE		SHALE	4.4	528.1	
77.5	CARBONDALE	BRERETON	LIMESTONE	1.8	532.5	
75.7	CARBONDALE	ANNA	BLACK SHALE	2.7	534.3	
73.0	CARBONDALE	HERRIN	COAL	8.8	537.0	

MAPID: 13501687000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 1420' N line, 2160' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.410417 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.081992 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 522.4 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 217VBBD **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
138.3	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.6	473.7	
134.7	MODESTO		MOTTLED SHALE	4.3	477.3	
130.3	CARBONDALE	DANVILLE	BONE COAL	0.2	481.7	
130.2	CARBONDALE		GRAY SHALE	2.8	481.8	
127.4	CARBONDALE	GALUM	NODULAR LIMESTONE	2.2	484.6	
125.3	CARBONDALE		CALCAREOUS SHALE	6.6	486.7	
118.7	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	1.3	493.3	
117.4	CARBONDALE		CLAYSTONE	2.2	494.6	
115.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.1	496.7	UPPER BENCH
114.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.1	497.8	SHALE PARTING
110.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.5	501.9	LOWER BENCH
105.6	CARBONDALE	LAWSON	MOTTLED SHALE	0.4	506.4	
105.2	CARBONDALE	LAWSON	LIMESTONE/UNDERCLAY	0.3	506.8	
104.8	CARBONDALE	LAWSON	MOTTLED SHALE	1.8	507.2	
103.1	CARBONDALE	LAWSON	DARK GRAY SHALE	3.0	508.9	
100.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	511.9	
99.2	CARBONDALE	JAMESTOWN	BONE COAL	1.0	512.8	
98.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.9	513.8	
97.3	CARBONDALE	ANNA	BLACK SHALE	0.3	514.7	
97.0	CARBONDALE	HERRIN	COAL	7.4	515.0	

MAPID: 13501687000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 1420' N line, 2160' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.410417 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.081992 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 522.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 217VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
139.0	MODESTO	PIASA	LIMESTONE	3.6	473.0	
135.4	MODESTO		UNCLASSIFIED	4.3	476.6	
131.1	CARBONDALE	DANVILLE	COAL	0.2	480.9	
130.9	CARBONDALE		UNCLASSIFIED	14.9	481.1	
116.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.4	496.0	
105.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	506.4	
103.1	CARBONDALE		SHALE	3.0	508.9	
100.1	CARBONDALE	BRERETON	LIMESTONE	2.8	511.9	
97.3	CARBONDALE	ANNA	BLACK SHALE	0.3	514.7	
97.0	CARBONDALE	HERRIN	COAL	7.4	515.0	

MAPID: 13501687000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 1420' N line, 2160' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.410417 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.081992 **DATE COLLECTED:** 6 / 2 / 1969
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 522.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 217VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
96.8	CARBONDALE	HERRIN	COAL	7.4	515.2	

MAPID: 13501275000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 0' S line, 0' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.436616 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.07137 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 527.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 107-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.0	MODESTO	PIASA	LIMESTONE	3.5	476.0	
150.5	CARBONDALE		CALCAREOUS SHALE	12.0	479.5	
138.5	CARBONDALE		GRAY SHALE	6.0	491.5	
132.5	CARBONDALE	BANKSTON FORK	CLAYSTONE	4.5	497.5	UPPER BENCH
128.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.8	502.0	LOWER BENCH
125.2	CARBONDALE	LAWSON	CLAYSTONE	2.5	504.8	
122.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.9	507.3	
121.8	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.6	508.2	
121.2	CARBONDALE		SILTY SHALE	1.6	508.8	
119.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	9.8	510.3	
109.8	CARBONDALE	ANNA	BLACK SHALE	0.3	520.2	
110.0	CARBONDALE	HERRIN	COAL	7.1	520.0	

MAPID: 13501275000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 0' S line, 0' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.436616 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.07137 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 527.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 107-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.4	MODESTO	PIASA	LIMESTONE	3.5	475.6	
150.9	MODESTO		UNCLASSIFIED	8.0	479.1	
142.9	CARBONDALE		UNCLASSIFIED	14.5	487.1	
128.4	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	501.6	
121.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.6	508.3	
120.1	CARBONDALE	CONANT	LIMESTONE	2.4	509.9	
117.7	CARBONDALE		SHALE	4.3	512.3	
113.4	CARBONDALE	BRERETON	LIMESTONE	3.0	516.6	
110.4	CARBONDALE	ANNA	BLACK SHALE	0.4	519.6	
110.0	CARBONDALE	HERRIN	COAL	7.1	520.0	

MAPID: 13501275000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 0' S line, 0' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.436616 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.07137 **DATE COLLECTED:** 6 / 0 / 1962
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 527.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 107-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
110.0	CARBONDALE	HERRIN	COAL	7.1	520.0	

MAPID: 13500147000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.466326 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.069909 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 598.2 **LOGGED (FT.):** 526.0 **LOG TYPE:**
SOURCE: W BREASTFC B **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		

MAPID: 13500147000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.466326 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.069909 **DATE COLLECTED:** 10 / 0 / 1903
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	1.0		
-	MODESTO		UNCLASSIFIED	6.0		
-	CARBONDALE		UNCLASSIFIED	17.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	1.5		
-	CARBONDALE	BRERETON	LIMESTONE	1.5		
-	CARBONDALE	ANNA	BLACK SHALE	4.0		
-	CARBONDALE	HERRIN	COAL	5.0		

MAPID: 13500147000C **VERSION:** 3 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** NE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.466326 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.069909 **DATE COLLECTED:** 10 / 0 / 1903

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 526.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO., WHITEBREAST **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
620.0			CLAY	91.0	0.0	W/ SAND & GRAVEL SEAMS
529.0			COAL	0.3	91.0	PROBABLY WOOD
528.7			CLAY	72.7	91.3	W/ SAND & GRAVEL SEAMS
456.0			CLAY & GRAVEL	10.0	164.0	
446.0			SAND & GRAVEL	16.0	174.0	
430.0	BOND		CALCAREOUS SHALE	4.0	190.0	
426.0	BOND		FOSSILIFEROUS SHALE	1.0	194.0	
425.0	BOND		CALCAREOUS SHALE	7.0	195.0	
418.0	BOND	CARTHAGE	LIMESTONE	8.0	202.0	
410.0	MODESTO		SHALE	13.0	210.0	
397.0	MODESTO		SANDY SHALE	27.0	223.0	
370.0	MODESTO		SHALE	28.0	250.0	
342.0	MODESTO		SHALE	16.0	278.0	
326.0	MODESTO		LIMESTONE & CONGLOMERATE	19.0	294.0	
307.0	MODESTO		SHALE	29.0	313.0	
278.0	MODESTO		FOSSILIFEROUS SHALE	1.0	342.0	
277.0	MODESTO		SHALE	3.0	343.0	
274.0	MODESTO		FOSSILIFEROUS SHALE	1.0	346.0	
273.0	MODESTO		SHALE	1.0	347.0	
272.0	MODESTO		SHALE	19.0	348.0	
253.0	MODESTO		SHALE	7.0	367.0	
246.0	MODESTO	CHAPEL	COAL	0.3	374.0	
245.7	MODESTO		SHALE	10.7	374.3	
235.0	MODESTO		SANDY SHALE	8.0	385.0	
227.0	MODESTO		SHALE	10.0	393.0	
217.0	MODESTO		SANDY SHALE	35.0	403.0	
182.0	MODESTO		SHALE	24.0	438.0	
158.0	MODESTO		SANDY SHALE	4.0	462.0	
154.0	MODESTO		CLAYSTONE & SILTSTONE	4.0	466.0	
150.0	MODESTO		SHALE	8.0	470.0	
142.0	MODESTO		LIMESTONE	1.0	478.0	
141.0	MODESTO		SHALE	4.0	479.0	
137.0	MODESTO		SHALE	11.0	483.0	
126.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	494.0	
124.0	CARBONDALE		SHALE	10.0	496.0	
114.0	CARBONDALE		LIMESTONE	6.0	506.0	
108.0	CARBONDALE		CALCAREOUS SHALE	3.0	512.0	
105.0	CARBONDALE	ANNA	BLACK SHALE	4.0	515.0	

101.0	CARBONDALE	HERRIN	COAL	5.0	519.0
96.0	CARBONDALE		UNDERCLAY	1.0	524.0
95.0	CARBONDALE		LIMESTONE	1.0	525.0

MAPID: 13501271000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** NW NE SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.467473 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.063534 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 513.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 103-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
113.5	CARBONDALE	HERRIN	COAL	7.3	506.5	

MAPID: 13501272000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.456226 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.057957 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 514.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 104-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
165.0	MODESTO	PIASA	LIMESTONE	4.0	463.0	
161.0	MODESTO		MOTTLED SHALE	5.0	467.0	
156.0	CARBONDALE	DANVILLE	DARK GRAY SHALE	2.0	472.0	
154.0	CARBONDALE		GRAY SHALE	9.5	474.0	
144.5	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.3	483.5	
144.2	CARBONDALE		CALCAREOUS SHALE	1.2	483.8	
143.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.1	484.9	UPPER BENCH
139.0	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	3.3	489.0	SHALE PARTING
135.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.8	492.3	LOWER BENCH
128.9	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	499.1	
126.9	CARBONDALE	CONANT	CALCAREOUS SHALE	0.2	501.1	
126.7	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	501.3	
126.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.0	501.5	
125.5	CARBONDALE	ANNA	BLACK SHALE	4.0	502.5	
121.0	CARBONDALE	HERRIN	COAL	7.5	507.0	

MAPID: 13501272000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.456226 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.057957 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 514.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 104-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.6	MODESTO	PIASA	LIMESTONE	4.0	463.4	
160.6	MODESTO		UNCLASSIFIED	7.0	467.4	
153.6	CARBONDALE		UNCLASSIFIED	10.9	474.4	
142.7	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	485.3	
134.4	CARBONDALE	ANVIL ROCK	SANDSTONE	4.9	493.6	
129.5	CARBONDALE	CONANT	LIMESTONE	1.0	498.5	
128.5	CARBONDALE		SHALE	2.5	499.5	
126.0	CARBONDALE	BRERETON	LIMESTONE	1.0	502.0	
125.0	CARBONDALE	ANNA	BLACK SHALE	4.0	503.0	
121.0	CARBONDALE	HERRIN	COAL	7.5	507.0	

MAPID: 13501272000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.456226 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.057957 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 514.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 104-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
121.5	CARBONDALE	HERRIN	COAL	7.5	506.5	

MAPID: 13501185000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** SE SE SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.446885 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.057851 **DATE COLLECTED:** 2 / 0 / 1960
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 532.7 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONSOLIDATION C.C. 55-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
103.1	CARBONDALE	HERRIN	COAL	7.8	524.9	

MAPID: 13501185000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** SE SE SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.446885 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.057851 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 532.8 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONSOLIDATION C.C. 55-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
146.8	MODESTO		UNCLASSIFIED	4.4	481.2	
142.4	CARBONDALE		UNCLASSIFIED	17.4	485.6	
125.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.5	503.0	
113.5	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	514.5	
109.5	CARBONDALE		SHALE	1.2	518.5	
108.3	CARBONDALE	BRERETON	LIMESTONE	1.8	519.7	
106.5	CARBONDALE	ANNA	BLACK SHALE	3.5	521.5	
103.0	CARBONDALE	HERRIN	COAL	7.8	525.0	

MAPID: 13501273000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.437548 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.057733 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 527.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 105-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
153.0	MODESTO	PIASA	LIMESTONE	4.5	474.0	
148.5	CARBONDALE		MOTTLED SHALE	11.5	478.5	
137.0	CARBONDALE		DARK GRAY SHALE	4.8	490.0	
132.2	CARBONDALE	ALLENBY	BLACK SHALE	1.0	494.8	
131.2	CARBONDALE		CLAYSTONE	2.5	495.8	
128.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.8	498.3	UPPER BENCH
127.9	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.8	499.1	SHALE PARTING
124.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.0	502.8	LOWER BENCH
121.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.8	505.8	
118.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	508.7	
117.5	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.5	509.5	
117.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	9.5	510.0	
107.6	CARBONDALE	ANNA	BLACK SHALE	0.6	519.4	
107.0	CARBONDALE	HERRIN	COAL	7.5	520.0	

MAPID: 13501273000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.437548 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.057733 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 527.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 105-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
155.0	MODESTO	PIASA	LIMESTONE	4.5	472.0	
150.5	MODESTO		UNCLASSIFIED	8.0	476.5	
142.5	CARBONDALE		UNCLASSIFIED	13.7	484.5	
128.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.7	498.2	
121.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	505.9	
118.3	CARBONDALE	CONANT	LIMESTONE	0.8	508.7	
117.5	CARBONDALE		SHALE	2.4	509.5	
115.1	CARBONDALE	BRERETON	LIMESTONE	7.5	511.9	
107.6	CARBONDALE	ANNA	BLACK SHALE	0.6	519.4	
107.0	CARBONDALE	HERRIN	COAL	7.4	520.0	

MAPID: 13501273000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.437548 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.057733 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 528.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 105-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
106.6	CARBONDALE	HERRIN	COAL	7.8	520.4	

MAPID: 13501276000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW SE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.439975 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.065056 **DATE COLLECTED:** 5 / 0 / 1962
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 534.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 106-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
101.6	CARBONDALE	HERRIN	COAL	7.4	527.4	

MAPID: 13501276000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW SE NE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.439975 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.065056 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 534.4 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 106-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
146.6	MODESTO	PIASA	LIMESTONE	4.5	482.4	
142.1	MODESTO		UNCLASSIFIED	5.5	486.9	
136.6	CARBONDALE		UNCLASSIFIED	13.4	492.4	
123.2	CARBONDALE	BANKSTON FORK	LIMESTONE	13.1	505.8	
110.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	518.9	
108.3	CARBONDALE	CONANT	LIMESTONE	0.1	520.7	
108.2	CARBONDALE		SHALE	1.8	520.8	
106.4	CARBONDALE	BRERETON	LIMESTONE	1.3	522.6	
105.1	CARBONDALE	ANNA	BLACK SHALE	3.1	523.9	
102.0	CARBONDALE	HERRIN	COAL	7.4	527.0	

MAPID: 13501277000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.453828 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.070796 **DATE COLLECTED:** 0 / 0 / 1962

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 513.8 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 108-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
109.5	CARBONDALE	HERRIN	COAL	7.3	506.5	

MAPID: 13501277000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.453828 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.070796 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 514.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 108-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.9	MODESTO	PIASA	LIMESTONE	4.7	465.1	
146.2	MODESTO		UNCLASSIFIED	4.3	469.8	
141.9	CARBONDALE		UNCLASSIFIED	14.0	474.1	
127.9	CARBONDALE	BANKSTON FORK	LIMESTONE	12.5	488.1	
115.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	500.6	
114.4	CARBONDALE		SHALE	1.3	501.6	
113.1	CARBONDALE	BRERETON	LIMESTONE	1.3	502.9	
111.8	CARBONDALE	ANNA	BLACK SHALE	2.8	504.2	
109.0	CARBONDALE	HERRIN	COAL	7.3	507.0	

MAPID: 13500769000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1280' N line, 1200' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.422142 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.067698 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 519.8 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 10BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.4	CARBONDALE		MOTTLED SHALE	13.8	475.6	
144.6	CARBONDALE	ALLENBY	BLACK SHALE	1.0	489.4	
143.6	CARBONDALE		MOTTLED SHALE	3.7	490.4	
139.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.5	494.1	UPPER BENCH
139.4	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.3	494.6	SHALE PARTING
135.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.9	498.8	LOWER BENCH
132.3	CARBONDALE	LAWSON	MOTTLED SHALE	0.7	501.7	
131.6	CARBONDALE	LAWSON	SILTY SHALE	0.3	502.4	
131.3	CARBONDALE	LAWSON	GRAY SHALE	0.4	502.7	
130.9	CARBONDALE	LAWSON	MOTTLED SHALE	3.2	503.1	
127.7	CARBONDALE	CONANT	LIMESTONE AND SANDSTONE	0.7	506.3	
127.1	CARBONDALE	JAMESTOWN	BONE COAL	0.3	506.9	
126.8	CARBONDALE		CLAYSTONE	0.3	507.2	
126.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.6	507.5	
123.9	CARBONDALE	ANNA	BLACK SHALE	1.9	510.1	
122.0	CARBONDALE	HERRIN	COAL	7.8	512.0	

MAPID: 13500769000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1280' N line, 1200' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.422142 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.067698 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 519.8 **LOG TYPE:** Drillers Log
SOURCE: D.C. DONAN 10BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
144.1	CARBONDALE		UNCLASSIFIED	4.1	489.9	
140.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	494.0	
131.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	502.6	
127.8	CARBONDALE	CONANT	LIMESTONE	0.7	506.2	
127.1	CARBONDALE		SHALE	0.6	506.9	
126.5	CARBONDALE	BRERETON	LIMESTONE	2.6	507.5	
123.9	CARBONDALE	ANNA	BLACK SHALE	1.9	510.1	
122.0	CARBONDALE	HERRIN	COAL	7.8	512.0	

MAPID: 13500769000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1280' N line, 1200' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.422142 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.067698 **DATE COLLECTED:** 9 / 6 / 1957
SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 519.4 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 10BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
122.4	CARBONDALE	HERRIN	COAL	7.8	511.6	

MAPID: 13500769000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1280' N line, 1200' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.422142 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.067698 **DATE COLLECTED:** 9 / 9 / 1957

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 537.0 **LOG TYPE:** Drillers Log

SOURCE: DONAN 10-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
634.0	PLEISTOCENE		UNCONSOLIDATED	127.0	0.0	
507.0	BOND		LIMESTONE	0.3	127.0	
506.7	BOND		SHALE	40.7	127.3	
466.0	BOND		SANDSTONE	2.0	168.0	
464.0	BOND		CLAYSTONE	3.5	170.0	
460.5	BOND		SANDSTONE	2.0	173.5	
458.5	BOND		SHALE	19.5	175.5	
439.0	BOND		COAL	1.0	195.0	
438.0	BOND		SHALE	24.8	196.0	
413.2	BOND	CARTHAGE	LIMESTONE	14.0	220.8	
399.2			SHALE	254.1	234.8	
145.2			BLACK SHALE	1.0	488.8	
144.2			SHALE	3.7	489.8	
140.5			LIMESTONE	0.5	493.5	
140.0			SHALE	4.3	494.0	
135.7			LIMESTONE	2.9	498.3	
132.8			SHALE	4.5	501.2	
128.3			LIMESTONE	0.7	505.7	
127.7			SHALE	0.2	506.3	
127.5			BLACK SHALE	0.1	506.5	WITH COAL STREAKS
127.4			CLAYSTONE & SILTSTONE	0.3	506.6	
127.1			BLACK SHALE	0.0	506.9	
127.1	CARBONDALE	BRERETON	LIMESTONE	2.6	506.9	
124.5	CARBONDALE	ANNA	BLACK SHALE	2.1	509.5	
122.4	CARBONDALE	HERRIN	COAL	7.8	511.6	
114.7	CARBONDALE		UNDERCLAY	1.2	519.3	
113.5	CARBONDALE		CLAYSTONE & SILTSTONE	4.4	520.5	
109.1	CARBONDALE		SHALE	3.3	524.9	
105.7	CARBONDALE		LIMESTONE	0.8	528.3	
105.0	CARBONDALE		SHALE	0.4	529.0	
104.6	CARBONDALE		BLACK SHALE	1.5	529.4	
103.1	CARBONDALE		CLAYSTONE & SILTSTONE	1.8	530.9	
101.2	CARBONDALE		LIMESTONE	0.8	532.8	
100.5	CARBONDALE		CLAYSTONE & SILTSTONE	0.6	533.5	
99.9	CARBONDALE		SHALE	2.9	534.1	

MAPID: 13501282000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NW SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.40732 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.063234 **DATE COLLECTED:** 6 / 0 / 1962
SURFACE ELEVATION (FT.): 621.8 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 110-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		coal out, Anvil Rock, depth Aprox, Elv

MAPID: 13501282000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NW SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.40732 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.063234 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 110-BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501283000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW NE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.402709 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.068688 **DATE COLLECTED:** 6 / 0 / 1962
SURFACE ELEVATION (FT.): 623.3 **LOGGED (FT.):** 508.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 111-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
123.0	CARBONDALE	HERRIN	COAL	7.8	500.3	

MAPID: 13501283000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW NE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.402709 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.068688 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 507.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 111-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.3	MODESTO	PIASA	LIMESTONE	5.3	466.7	
151.0	MODESTO		UNCLASSIFIED	2.8	472.0	
148.2	CARBONDALE		UNCLASSIFIED	9.0	474.8	
139.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	483.8	
134.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	488.3	
131.8	CARBONDALE		SHALE	5.1	491.2	
126.7	CARBONDALE	BRERETON	LIMESTONE	2.4	496.3	
124.3	CARBONDALE	ANNA	BLACK SHALE	1.3	498.7	
123.0	CARBONDALE	HERRIN	COAL	7.8	500.0	

MAPID: 13501291000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NE SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.412002 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.063182 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 612.7 **LOGGED (FT.):** 498.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 116-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
121.8	CARBONDALE	HERRIN	COAL	7.5	490.9	

MAPID: 13501291000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NE SW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.412002 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.063182 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 498.4 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 116-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
146.9	CARBONDALE		UNCLASSIFIED	6.0	466.1	
140.9	CARBONDALE	BANKSTON FORK	LIMESTONE	10.8	472.1	
130.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.6	482.9	
127.5	CARBONDALE		SHALE	3.3	485.5	
124.2	CARBONDALE	BRERETON	LIMESTONE	0.6	488.8	
123.6	CARBONDALE	ANNA	BLACK SHALE	1.6	489.4	
122.0	CARBONDALE	HERRIN	COAL	7.4	491.0	

MAPID: 13501292000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW SE NE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.402661 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.065088 **DATE COLLECTED:** 0 / 0 / 1962

SURFACE ELEVATION (FT.): 624.8 **LOGGED (FT.):** 512.4 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 113-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
120.5	CARBONDALE	HERRIN	COAL	8.1	504.3	

MAPID: 13501292000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW SE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.402661 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.065088 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 513.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 113-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
139.6	CARBONDALE		UNCLASSIFIED	3.3	485.4	
136.3	CARBONDALE	BANKSTON FORK	LIMESTONE	9.1	488.7	
127.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	497.8	
124.3	CARBONDALE	CONANT	LIMESTONE	0.5	500.7	
123.8	CARBONDALE		SHALE	0.6	501.2	
123.2	CARBONDALE	BRERETON	LIMESTONE	1.8	501.8	
121.4	CARBONDALE	ANNA	BLACK SHALE	1.4	503.6	
120.0	CARBONDALE	HERRIN	COAL	8.1	505.0	

MAPID: 13501293000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW NW SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407298 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.061437 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 609.2 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 117-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		coal out, Anvil Rock, depth Aprox, Elv

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MAPID: 13501293000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW NW SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407298 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.061437 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 117-BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501315000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409632 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.057828 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 557.0 **LOGGED (FT.):** 453.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 144-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.0	MODESTO	PIASA	NODULAR LIMESTONE	0.8	415.0	
141.2	CARBONDALE		DARK GRAY SHALE	6.6	415.8	
134.6	CARBONDALE	ALLENBY	BLACK SHALE	1.5	422.4	
133.1	CARBONDALE		CLAYSTONE	2.0	423.9	
131.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.5	425.9	UPPER BENCH
129.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.2	427.4	SHALE PARTING
123.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.8	433.6	LOWER BENCH
120.7	CARBONDALE	LAWSON	MOTTLED SHALE	4.8	436.3	
115.9	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.9	441.1	
115.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	442.0	
114.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.5	442.5	
114.0	CARBONDALE	ANNA	BLACK SHALE	3.0	443.0	
111.0	CARBONDALE	HERRIN	COAL	7.5	446.0	

MAPID: 13501315000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409632 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.057828 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 557.0 **LOGGED (FT.):** 453.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 144-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.0	CARBONDALE		UNCLASSIFIED	10.9	415.0	
131.1	CARBONDALE	BANKSTON FORK	LIMESTONE	10.4	425.9	
120.7	CARBONDALE	ANVIL ROCK	SANDSTONE	4.8	436.3	
115.9	CARBONDALE	CONANT	LIMESTONE	0.9	441.1	
115.0	CARBONDALE		SHALE	0.6	442.0	
114.4	CARBONDALE	BRERETON	LIMESTONE	0.4	442.6	
114.0	CARBONDALE	ANNA	BLACK SHALE	3.0	443.0	
111.0	CARBONDALE	HERRIN	COAL	7.5	446.0	

MAPID: 13501315000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.409632 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.057828 **DATE COLLECTED:** 9 / 0 / 1962

SURFACE ELEVATION (FT.): 556.9 **LOGGED (FT.):** 453.3 **LOG TYPE:**

SOURCE: CONSOLIDATION C.C. 144-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
111.1	CARBONDALE	HERRIN	COAL	7.5	445.8	

MAPID: 13500202000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 150' N line, 150' E line of SW SW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.394963 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.060176 **DATE COLLECTED:** 0 / 0 / 1939

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 1065.0 **LOG TYPE:**

SOURCE: SOLIDAY SN **WELL TYPE:** Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
76.0	CARBONDALE	HERRIN	COAL	8.0	547.0	

MAPID: 13501326000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1020' S line, 2590' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.389903 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.05974 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 496.7 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 151-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
178.0	MODESTO		SILTY SHALE	20.0	436.0	
158.0	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	0.3	456.0	
157.7	CARBONDALE		MOTTLED SHALE	3.8	456.3	
153.9	CARBONDALE	GALUM	NODULAR LIMESTONE	0.8	460.1	
153.2	CARBONDALE		DARK GRAY SHALE	5.3	460.8	
147.8	CARBONDALE	ALLENBY	BLACK SHALE	2.8	466.2	
145.1	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.5	468.9	
136.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.1	477.4	
135.5	CARBONDALE	LAWSON	GRAY SHALE	2.8	478.5	
132.7	CARBONDALE	LAWSON	SILTY SHALE	0.3	481.3	
132.4	CARBONDALE	LAWSON	DARK GRAY SHALE	1.7	481.6	
130.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	483.3	
130.2	CARBONDALE		DARK GRAY SHALE	2.5	483.8	
127.7	CARBONDALE	BRERETON	CARBONACEOUS LIMESTONE	2.0	486.3	
125.7	CARBONDALE	ANNA	BLACK SHALE	0.8	488.3	
125.0	CARBONDALE	HERRIN	COAL	7.7	489.0	

MAPID: 13501326000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1020' S line, 2590' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.389903 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.05974 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 496.7 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 151-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.0	CARBONDALE	DANVILLE	COAL	0.3	456.0	
157.7	CARBONDALE		UNCLASSIFIED	12.6	456.3	
145.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	468.9	
136.6	CARBONDALE	ANVIL ROCK	SANDSTONE	5.8	477.4	
130.8	CARBONDALE	CONANT	LIMESTONE	0.5	483.2	
130.3	CARBONDALE		SHALE	2.5	483.7	
127.8	CARBONDALE	BRERETON	LIMESTONE	2.0	486.2	
125.8	CARBONDALE	ANNA	BLACK SHALE	0.8	488.2	
125.0	CARBONDALE	HERRIN	COAL	7.7	489.0	

MAPID: 13501326000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1020' S line, 2590' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389903 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.05974 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 613.9 **LOGGED (FT.):** 496.2 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 151-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
125.4	CARBONDALE	HERRIN	COAL	7.7	488.5	

MAPID: 13501327000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2560' N line, 2350' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390821 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.064338 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 489.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 152-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
160.0	MODESTO	PIASA	LIMESTONE	3.0	440.0	
157.0	MODESTO		MOTTLED SHALE	13.0	443.0	
144.0	CARBONDALE		DARK GRAY SHALE	8.3	456.0	
135.7	CARBONDALE	LAWSON	MOTTLED SHALE	7.0	464.3	
128.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.4	471.3	
127.2	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	472.8	
126.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	9.0	473.1	
117.9	CARBONDALE	ANNA	CALCAREOUS SHALE	0.5	482.1	
118.0	CARBONDALE	HERRIN	COAL	7.2	482.0	

MAPID: 13501327000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2560' N line, 2350' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390821 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.064338 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 489.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 152-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
160.4	MODESTO	PIASA	LIMESTONE	3.0	439.6	
157.4	MODESTO		UNCLASSIFIED	5.0	442.6	
152.4	CARBONDALE		UNCLASSIFIED	12.3	447.6	
140.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	459.9	
131.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	468.5	
129.2	CARBONDALE	CONANT	LIMESTONE	1.4	470.8	
127.8	CARBONDALE		SHALE	4.2	472.2	
123.6	CARBONDALE	BRERETON	LIMESTONE	5.0	476.4	
118.6	CARBONDALE	ANNA	BLACK SHALE	0.6	481.4	
118.0	CARBONDALE	HERRIN	COAL	7.2	482.0	

MAPID: 13501327000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2560' N line, 2350' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390821 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.064338 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 599.7 **LOGGED (FT.):** 489.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 152-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
117.7	CARBONDALE	HERRIN	COAL	7.0	482.0	

MAPID: 13501330000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 870' N line, 2340' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390923 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.069003 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 499.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 155-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
168.0	MODESTO	PIASA	LIMESTONE	2.5	453.0	
165.5	MODESTO		GRAY SHALE	4.5	455.5	
161.0	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.0	460.0	
160.0	CARBONDALE		MOTTLED SHALE	15.0	461.0	
145.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.2	476.0	
137.8	CARBONDALE	LAWSON	CLAYSTONE	0.6	483.2	
137.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.9	483.8	
129.3	CARBONDALE	ANNA	BLACK SHALE	0.3	491.7	
129.0	CARBONDALE	HERRIN	COAL	7.3	492.0	

MAPID: 13501330000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 870' N line, 2340' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390923 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.069003 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 499.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 155-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
159.2	MODESTO	PIASA	LIMESTONE	2.5	451.8	
156.7	MODESTO		UNCLASSIFIED	4.5	454.3	
152.2	CARBONDALE		UNCLASSIFIED	11.0	458.8	
141.2	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	469.8	
132.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	478.8	
130.2	CARBONDALE	CONANT	LIMESTONE	2.2	480.8	
128.0	CARBONDALE		SHALE	4.3	483.0	
123.7	CARBONDALE	BRERETON	LIMESTONE	4.2	487.3	
119.5	CARBONDALE	ANNA	BLACK SHALE	0.5	491.5	
119.0	CARBONDALE	HERRIN	COAL	7.3	492.0	

MAPID: 13501330000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 870' N line, 2340' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390923 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.069003 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 620.9 **LOGGED (FT.):** 499.5 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 155-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
128.7	CARBONDALE	HERRIN	COAL	7.3	492.2	

MAPID: 13501641000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 65' N line, 2465' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389333 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.071219 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 499.3 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER COAL CO 211-VBB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
170.8	MODESTO	PIASA	LIMESTONE	4.3	453.2	
166.5	MODESTO		GRAY SHALE	13.5	457.5	
153.0	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.9	471.0	
152.1	CARBONDALE		CALCAREOUS SHALE	3.9	471.9	
148.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.9	475.9	UPPER BENCH
144.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.6	479.8	SHALE PARTING
143.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.3	480.4	LOWER BENCH
143.3	CARBONDALE	LAWSON	MOTTLED SHALE	7.2	480.7	
136.1	CARBONDALE	LAWSON	DARK GRAY SHALE	1.8	487.9	
134.3	CARBONDALE	CONANT	CARBONACEOUS LIMESTONE	0.7	489.7	
133.6	CARBONDALE	ANNA	BLACK SHALE	1.6	490.4	
132.0	CARBONDALE	HERRIN	COAL	7.3	492.0	

MAPID: 13501641000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 65' N line, 2465' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389333 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.071219 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 498.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 211-VBB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
172.6	MODESTO	PIASA	LIMESTONE	4.3	451.4	
168.3	MODESTO		UNCLASSIFIED	4.8	455.7	
163.5	CARBONDALE		UNCLASSIFIED	11.3	460.5	
152.2	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	471.8	
144.4	CARBONDALE	ANVIL ROCK	SANDSTONE	5.8	479.6	
138.6	CARBONDALE		SHALE	3.2	485.4	
135.4	CARBONDALE	BRERETON	LIMESTONE	0.8	488.6	
134.6	CARBONDALE	ANNA	BLACK SHALE	1.6	489.4	
133.0	CARBONDALE	HERRIN	COAL	7.3	491.0	

MAPID: 13501641000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 65' N line, 2465' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389333 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.071219 **DATE COLLECTED:** 4 / 11 / 1969
SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 498.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 211-VBB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
132.4	CARBONDALE	HERRIN	COAL	7.3	491.6	

MAPID: 13501688000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 970' S line, 2010' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.387595 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.059575 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 510.2 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER COAL CO 208-VBBD **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
163.0	MODESTO	PIASA	LIMESTONE	6.1	463.0	
156.9	CARBONDALE		CLAYSTONE & SHALE	7.4	469.1	
149.5	CARBONDALE	GALUM	NODULAR LIMESTONE	3.1	476.5	
146.4	CARBONDALE		MOTTLED SHALE	1.5	479.6	
144.9	CARBONDALE	ALLENBY	BLACK SHALE	2.1	481.1	
142.8	CARBONDALE		CLAYSTONE	1.4	483.2	
141.4	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	6.0	484.6	UPPER BENCH
135.4	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.5	490.6	SHALE PARTING
133.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.2	492.1	LOWER BENCH
132.7	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	493.3	
132.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	8.7	493.8	
123.6	CARBONDALE	ANNA	BLACK SHALE	0.3	502.4	
123.0	CARBONDALE	HERRIN	COAL	7.2	503.0	

MAPID: 13501688000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 970' S line, 2010' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.387595 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.059575 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 510.2 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 208-VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
163.1	MODESTO	PIASA	LIMESTONE	6.1	462.9	
157.0	MODESTO		UNCLASSIFIED	5.5	469.0	
151.5	CARBONDALE		UNCLASSIFIED	10.3	474.5	
141.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	484.8	
135.2	CARBONDALE	ANVIL ROCK	SANDSTONE	1.5	490.8	
133.7	CARBONDALE	CONANT	LIMESTONE	1.2	492.3	
132.5	CARBONDALE		SHALE	4.5	493.5	
128.0	CARBONDALE	BRERETON	LIMESTONE	4.7	498.0	
123.3	CARBONDALE	ANNA	BLACK SHALE	0.3	502.7	
123.0	CARBONDALE	HERRIN	COAL	7.2	503.0	

MAPID: 13501688000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 970' S line, 2010' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.387595 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.059575 **DATE COLLECTED:** 3 / 23 / 1969
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 510.4 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 208-VBBD **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
122.8	CARBONDALE	HERRIN	COAL	7.2	503.2	

MAPID: 13501125000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2350' S line, 100' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.380163 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.063306 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 511.2 **LOG TYPE:** Survey Core Study
SOURCE: PITTSBURGH CONS. COAL CO. 29BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
155.3	MODESTO	PIASA	LIMESTONE	4.0	465.7	
151.3	MODESTO		CALCAREOUS SHALE	27.0	469.7	
124.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	496.7	
122.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.3	498.7	
122.0	CARBONDALE	LAWSON	NODULAR LIMESTONE	0.6	499.0	
121.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.8	499.6	
118.6	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.9	502.4	
117.7	CARBONDALE	ANNA	BLACK SHALE	0.7	503.3	
117.0	CARBONDALE	HERRIN	COAL	7.2	504.0	

MAPID: 13501125000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2350' S line, 100' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.380163 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.063306 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 513.2 **LOG TYPE:** Drillers Log

SOURCE: PITTSBURGH CONS. COAL CO. 29BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
153.4	MODESTO	PIASA	LIMESTONE	4.0	467.6	
149.4	MODESTO		UNCLASSIFIED	7.0	471.6	
142.4	CARBONDALE		UNCLASSIFIED	12.0	478.6	
130.4	CARBONDALE	BANKSTON FORK	LIMESTONE	9.9	490.6	
120.5	CARBONDALE	ANVIL ROCK	SANDSTONE	0.3	500.5	
120.2	CARBONDALE	CONANT	LIMESTONE	0.6	500.8	
119.6	CARBONDALE		SHALE	2.8	501.4	
116.8	CARBONDALE	BRERETON	LIMESTONE	0.9	504.2	
115.9	CARBONDALE	ANNA	BLACK SHALE	0.9	505.1	
115.0	CARBONDALE	HERRIN	COAL	7.2	506.0	

MAPID: 13501125000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2350' S line, 100' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.380163 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.063306 **DATE COLLECTED:** 4 / 0 / 1959

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 510.7 **LOG TYPE:** Survey Core Study

SOURCE: PITTSBURGH CONS. COAL CO. 29BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
117.5	CARBONDALE	HERRIN	COAL	7.2	503.5	

MAPID: 13501125000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2350' S line, 100' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.380163 **GEOLOGIST:** MCCRACKEN
CONFIDENTIAL: N **LATITUDE:** 39.063306 **DATE COLLECTED:** 5 / 1 / 1959
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 513.0 **LOG TYPE:** Drillers Log
SOURCE: DONAN 29-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
621.0	PLEISTOCENE		UNCONSOLIDATED	118.0	0.0	
503.0	BOND		SHALE	52.7	118.0	
450.3	BOND		SANDSTONE	10.3	170.7	
440.0	BOND		SHALE	5.0	181.0	
435.0	BOND	CARTHAGE	LIMESTONE	10.5	186.0	
424.5			SHALE	3.5	196.5	DARK
421.0			CLAYSTONE	3.5	200.0	
417.5			SHALE	66.5	203.5	
351.0			SANDSTONE	56.0	270.0	
295.0			SHALE	139.0	326.0	
156.0			LIMESTONE	4.0	465.0	
152.0			SHALE	27.0	469.0	
125.0			LIMESTONE	2.9	496.0	
122.1			SHALE	3.0	498.9	
119.1	CARBONDALE	BRERETON	LIMESTONE	0.9	501.9	
118.2	CARBONDALE	ANNA	SHALE	0.7	502.8	
117.5	CARBONDALE	HERRIN	COAL	7.2	503.5	
110.3	CARBONDALE		UNDERCLAY	1.3	510.7	
109.0	CARBONDALE		LIMESTONE	1.0	512.0	

MAPID: 13501353000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1005' S line, 1750' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.374281 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.059567 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 443.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER173-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
146.9	MODESTO		SANDSTONE	11.0	397.1	
135.9	CARBONDALE		CALCAREOUS SHALE	4.3	408.1	
131.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	16.5	412.4	
115.1	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.8	428.9	
111.3	CARBONDALE	ANNA	BLACK SHALE	4.3	432.7	
107.0	CARBONDALE	HERRIN	COAL	6.9	437.0	

MAPID: 13501353000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1005' S line, 1750' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.374281 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.059567 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 432.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER173-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
155.9	MODESTO	PIASA	LIMESTONE	2.7	388.1	
153.2	MODESTO		UNCLASSIFIED	4.0	390.8	
149.2	CARBONDALE		UNCLASSIFIED	10.8	394.8	
138.4	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	405.6	
126.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	417.6	
123.4	CARBONDALE	CONANT	LIMESTONE	1.1	420.6	
122.3	CARBONDALE		SHALE	2.1	421.7	
120.2	CARBONDALE	BRERETON	LIMESTONE	0.8	423.8	
119.4	CARBONDALE	ANNA	BLACK SHALE	1.4	424.6	
118.0	CARBONDALE	HERRIN	COAL	6.9	426.0	

MAPID: 13501353000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1005' S line, 1750' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.374281 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.059567 **DATE COLLECTED:** 0 / 0 / 1963
SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 443.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER173-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
107.5	CARBONDALE	HERRIN	COAL	6.9	436.5	

MAPID: 13501355000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2410' N line, 1860' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.373946 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.064654 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 435.8 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER175-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.0	MODESTO	PIASA	LIMESTONE	3.5	388.0	
152.5	MODESTO		DARK GRAY SHALE	18.5	391.5	
134.0	CARBONDALE	LAWSON	MOTTLED SHALE	8.5	410.0	
125.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	10.1	418.5	
115.4	CARBONDALE	ANNA	DARK GRAY SHALE	0.2	428.6	
115.0	CARBONDALE	HERRIN	COAL	6.8	429.0	

MAPID: 13501355000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2410' N line, 1860' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.373946 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.064654 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 434.8 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER175-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
157.3	MODESTO	PIASA	LIMESTONE	3.5	386.7	
153.8	MODESTO		UNCLASSIFIED	5.0	390.2	
148.8	CARBONDALE		UNCLASSIFIED	13.5	395.2	
135.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	408.7	
126.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	417.2	
124.8	CARBONDALE	CONANT	LIMESTONE	2.5	419.2	
122.3	CARBONDALE		SHALE	2.0	421.7	
120.3	CARBONDALE	BRERETON	LIMESTONE	3.6	423.7	
116.7	CARBONDALE	ANNA	BLACK SHALE	0.7	427.3	
116.0	CARBONDALE	HERRIN	COAL	6.8	428.0	

MAPID: 13501370000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 350' N line, 1940' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.373724 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.070338 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 545.0 **LOGGED (FT.):** 441.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER177-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
149.0	MODESTO	PIASA	LIMESTONE	4.0	396.0	
145.0	MODESTO		DARK GRAY SHALE	5.0	400.0	
140.0	CARBONDALE	DANVILLE	BONE COAL	0.8	405.0	
139.2	CARBONDALE		GRAY SHALE	12.0	405.8	
127.2	CARBONDALE		CALCAREOUS SHALE	4.6	417.8	
122.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.8	422.4	
119.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.8	425.3	
117.0	CARBONDALE	LAWSON	DARK GRAY SHALE	4.0	428.0	
113.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0	432.0	
112.0	CARBONDALE	JAMESTOWN	BONE COAL	0.3	433.0	
111.7	CARBONDALE	ANNA	BLACK SHALE	0.8	433.3	
111.0	CARBONDALE	HERRIN	COAL	7.2	434.0	

MAPID: 13501370000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 350' N line, 1940' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.373724 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.070338 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 545.0 **LOGGED (FT.):** 441.2 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER177-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.3	MODESTO	PIASA	LIMESTONE	4.0	394.7	
146.3	MODESTO		UNCLASSIFIED	5.0	398.7	
141.3	CARBONDALE	DANVILLE	COAL	0.8	403.7	
140.5	CARBONDALE		UNCLASSIFIED	13.2	404.5	
127.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	417.7	
119.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	425.2	
117.0	CARBONDALE		SHALE	4.0	428.0	
113.0	CARBONDALE	BRERETON	LIMESTONE	1.0	432.0	
112.0	CARBONDALE	ANNA	BLACK SHALE	1.0	433.0	
111.0	CARBONDALE	HERRIN	COAL	7.2	434.0	

MAPID: 13501329000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 880' N line, 140' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.379948 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.054386 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 477.4 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 154-BB **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
171.0	MODESTO	PIASA	LIMESTONE	3.5	432.0	
167.5	MODESTO		DARK GRAY SHALE	24.3	435.5	
143.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	8.0	459.8	
135.2	CARBONDALE	ANNA	BLACK SHALE	2.4	467.8	
133.0	CARBONDALE	HERRIN	COAL	7.4	470.0	

MAPID: 13501329000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 880' N line, 140' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.379948 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.054386 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 478.4 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 154-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
170.2	MODESTO	PIASA	LIMESTONE	3.5	432.8	
166.7	MODESTO		UNCLASSIFIED	3.3	436.3	
163.4	CARBONDALE		UNCLASSIFIED	12.0	439.6	
151.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	451.6	
144.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	458.6	
141.4	CARBONDALE	CONANT	LIMESTONE	2.0	461.6	
139.4	CARBONDALE		SHALE	3.0	463.6	
136.4	CARBONDALE	BRERETON	LIMESTONE	2.0	466.6	
134.4	CARBONDALE	ANNA	BLACK SHALE	2.4	468.6	
132.0	CARBONDALE	HERRIN	COAL	7.4	471.0	

MAPID: 13501329000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 880' N line, 140' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.379948 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054386 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 602.8 **LOGGED (FT.):** 477.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 154-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
132.4	CARBONDALE	HERRIN	COAL	7.4	470.4	

MAPID: 13501331000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 945' N line, 670' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.378068 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054199 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 484.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER156-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
166.9	MODESTO	PIASA	LIMESTONE	3.0	442.1	
163.9	MODESTO		MOTTLED SHALE	15.0	445.1	
148.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	460.1	
143.9	CARBONDALE	LAWSON	GRAY SHALE	3.1	465.1	
140.8	CARBONDALE	LAWSON	SILTY SHALE	1.2	468.2	
139.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.4	469.3	
137.2	CARBONDALE	LAWSON	CLAYSTONE	0.9	471.8	
136.3	CARBONDALE	LAWSON	DARK GRAY SHALE	0.3	472.7	
136.0	CARBONDALE	ANNA	BLACK SHALE	4.0	473.0	
132.0	CARBONDALE	HERRIN	COAL	7.3	477.0	

MAPID: 13501331000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 945' N line, 670' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.378068 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054199 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 485.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER156-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.2	MODESTO	PIASA	LIMESTONE	3.0	441.8	
164.2	MODESTO		UNCLASSIFIED	3.5	444.8	
160.7	CARBONDALE		UNCLASSIFIED	11.5	448.3	
149.2	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	459.8	
141.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	467.8	
137.6	CARBONDALE	CONANT	LIMESTONE	0.9	471.4	
136.7	CARBONDALE		SHALE	1.7	472.3	
135.0	CARBONDALE	BRERETON	LIMESTONE	1.5	474.0	
133.5	CARBONDALE	ANNA	BLACK SHALE	2.5	475.5	
131.0	CARBONDALE	HERRIN	COAL	7.3	478.0	

MAPID: 13501331000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 945' N line, 670' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.378068 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054199 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 608.6 **LOGGED (FT.):** 484.7 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER156-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
131.2	CARBONDALE	HERRIN	COAL	7.3	477.4	

MAPID: 13501343000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 390' N line, 85' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.362458 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.055661 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 491.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER165-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.6	MODESTO		MOTTLED SHALE	23.0	440.4	
133.6	CARBONDALE		GRAY SHALE	7.0	463.4	
126.6	CARBONDALE	LAWSON	SILTY SHALE	0.8	470.4	
125.7	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	1.5	471.3	
124.2	CARBONDALE	LAWSON	GRAY SHALE	1.5	472.8	
122.7	CARBONDALE	LAWSON	MOTTLED SHALE	1.6	474.3	
121.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.5	475.8	
119.7	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	1.4	477.3	
118.2	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	4.6	478.8	
113.7	CARBONDALE	ANNA	DARK GRAY SHALE	0.7	483.3	
113.0	CARBONDALE	HERRIN	COAL	7.2	484.0	

MAPID: 13501343000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 390' N line, 85' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.362458 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.055661 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 490.2 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER165-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
155.8	MODESTO	PIASA	LIMESTONE	3.0	441.2	
152.8	MODESTO		UNCLASSIFIED	5.0	444.2	
147.8	CARBONDALE		UNCLASSIFIED	13.0	449.2	
134.8	CARBONDALE	BANKSTON FORK	LIMESTONE	9.3	462.2	
125.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	471.5	
122.4	CARBONDALE	CONANT	LIMESTONE	1.5	474.6	
120.9	CARBONDALE		SHALE	4.1	476.1	
116.8	CARBONDALE	BRERETON	LIMESTONE	2.0	480.2	
114.8	CARBONDALE	ANNA	BLACK SHALE	0.8	482.2	
114.0	CARBONDALE	HERRIN	COAL	7.2	483.0	

MAPID: 13501343000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 390' N line, 85' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.362458 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.055661 **DATE COLLECTED:** 12 / 0 / 1962
SURFACE ELEVATION (FT.): 597.3 **LOGGED (FT.):** 490.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER165-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
113.7	CARBONDALE	HERRIN	COAL	7.2	483.6	

MAPID: 13501345000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 495' N line, 1155' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.366244 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055389 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 511.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER167-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
159.0	MODESTO	PIASA	LIMESTONE	3.0	461.0	
156.0	CARBONDALE		MOTTLED SHALE	16.0	464.0	
140.0	CARBONDALE		DARK GRAY SHALE	5.0	480.0	
135.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.0	485.0	UPPER BENCH
130.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.2	490.0	LOWER BENCH
127.8	CARBONDALE	LAWSON	MOTTLED SHALE	2.8	492.2	
125.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	8.2	495.0	
116.8	CARBONDALE	ANNA	BLACK SHALE	0.2	503.2	
116.0	CARBONDALE	HERRIN	COAL	7.2	504.0	

MAPID: 13501345000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 495' N line, 1155' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.366244 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055389 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 511.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER167-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
158.6	MODESTO	PIASA	LIMESTONE	3.0	461.4	
155.6	MODESTO		UNCLASSIFIED	6.0	464.4	
149.6	CARBONDALE		UNCLASSIFIED	15.0	470.4	
134.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.2	485.4	
127.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	492.6	
124.6	CARBONDALE	CONANT	LIMESTONE	1.0	495.4	
123.6	CARBONDALE		SHALE	5.9	496.4	
117.7	CARBONDALE	BRERETON	LIMESTONE	1.3	502.3	
116.4	CARBONDALE	ANNA	BLACK SHALE	0.4	503.6	
116.0	CARBONDALE	HERRIN	COAL	7.2	504.0	

MAPID: 13501345000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 495' N line, 1155' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.366244 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.055389 **DATE COLLECTED:** 12 / 0 / 1962
SURFACE ELEVATION (FT.): 619.6 **LOGGED (FT.):** 510.7 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER167-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
116.1	CARBONDALE	HERRIN	COAL	7.2	503.5	

MAPID: 13501346000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1000' N line, 1775' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.374156 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054029 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 438.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER168-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
157.0	MODESTO	PIASA	LIMESTONE	1.5	387.0	
155.5	MODESTO		MOTTLED SHALE	16.5	388.5	
139.0	CARBONDALE		CALCAREOUS SHALE	3.7	405.0	
135.3	CARBONDALE	ALLENBY	BLACK SHALE	2.0	408.7	
133.3	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.6	410.7	
127.7	CARBONDALE	LAWSON	MOTTLED SHALE	3.0	416.3	
124.7	CARBONDALE	BRERETON	LIMESTONE	10.7	419.3	
114.1	CARBONDALE	ANNA	BLACK SHALE	0.3	429.9	
113.0	CARBONDALE	HERRIN	COAL	7.3	431.0	

MAPID: 13501346000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1000' N line, 1775' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.374156 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054029 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 438.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER168-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
157.2	MODESTO	PIASA	LIMESTONE	1.5	386.8	
155.7	MODESTO		UNCLASSIFIED	6.3	388.3	
149.4	CARBONDALE		UNCLASSIFIED	16.3	394.6	
133.1	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	410.9	
127.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.6	416.9	
124.5	CARBONDALE	CONANT	LIMESTONE	2.1	419.5	
122.4	CARBONDALE		SHALE	5.0	421.6	
117.4	CARBONDALE	BRERETON	LIMESTONE	3.6	426.6	
113.8	CARBONDALE	ANNA	BLACK SHALE	0.8	430.2	
113.0	CARBONDALE	HERRIN	COAL	7.3	431.0	

MAPID: 13501346000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1000' N line, 1775' W line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.374156 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054029 **DATE COLLECTED:** 12 / 0 / 1962
SURFACE ELEVATION (FT.): 543.6 **LOGGED (FT.):** 438.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER168-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
112.6	CARBONDALE	HERRIN	COAL	7.3	431.0	

MAPID: 13501350000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 960' N line, 2300' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.370283 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054121 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** 438.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER170-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
161.8	MODESTO	PIASA	LIMESTONE	3.0	387.2	
158.8	MODESTO		MOTTLED SHALE	23.0	390.2	
135.8	CARBONDALE		DARK GRAY SHALE	4.0	413.2	
131.8	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.0	417.2	
128.8	CARBONDALE	LAWSON	SILTY SHALE	2.8	420.2	
126.0	CARBONDALE	LAWSON	CLAYSTONE	3.2	423.0	
122.8	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	426.2	
121.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	427.7	
121.1	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	1.0	427.9	
120.1	CARBONDALE	ANNA	BLACK SHALE	3.1	428.9	
117.0	CARBONDALE	HERRIN	COAL	6.2	432.0	

MAPID: 13501350000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 960' N line, 2300' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.370283 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054121 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** 438.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER170-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
157.0	MODESTO	PIASA	LIMESTONE	3.0	392.0	
154.0	MODESTO		UNCLASSIFIED	5.5	395.0	
148.5	CARBONDALE		UNCLASSIFIED	16.0	400.5	
132.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	416.5	
123.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	425.5	
121.5	CARBONDALE	CONANT	LIMESTONE	0.3	427.5	
121.2	CARBONDALE		SHALE	0.4	427.8	
120.8	CARBONDALE	BRERETON	LIMESTONE	1.0	428.2	
119.8	CARBONDALE	ANNA	BLACK SHALE	2.8	429.2	
117.0	CARBONDALE	HERRIN	COAL	6.2	432.0	

MAPID: 13501350000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 960' N line, 2300' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.370283 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054121 **DATE COLLECTED:** 0 / 0 / 1963
SURFACE ELEVATION (FT.): 549.4 **LOGGED (FT.):** 438.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C.-TRUAX-TRAER170-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
117.0	CARBONDALE	HERRIN	COAL	6.2	432.4	

MAPID: 13501770000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1050' N line, 910' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.365358 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053851 **DATE COLLECTED:** 8 / 27 / 1968
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 518.7 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 204-BB-BH **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
110.7	CARBONDALE	HERRIN	COAL	7.4	511.3	

MAPID: 13501770000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1050' N line, 910' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.365358 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.053851 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 511.4 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 204-BB-BH **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
160.0	MODESTO	PIASA	LIMESTONE	3.5	462.0	
156.5	MODESTO		SHALE	29.0	465.5	
127.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	494.5	
126.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.0	496.0	
122.0	CARBONDALE	BRERETON	LIMESTONE	3.1	500.0	
118.9	CARBONDALE	ANNA	BLACK SHALE	0.8	503.1	
118.0	CARBONDALE	HERRIN	COAL	7.4	504.0	

MAPID: 13524203000C **VERSION:** 1 **PROJECT:** NCRDS

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1038' N line, 837' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.365081 **GEOLOGIST:** LOUCHIOS

CONFIDENTIAL: N **LATITUDE:** 39.053904 **DATE COLLECTED:** 12 / 2 / 1964

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 541.0 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 204-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
622.0	PLEISTOCENE		CLAY	30.0	0.0	
592.0	PLEISTOCENE		GLACIAL DRIFT	105.0	30.0	
487.0			SHALE	25.0	135.0	
462.0			SANDSTONE	50.0	160.0	
412.0			LIMESTONE	13.0	210.0	
399.0			BLACK SHALE	4.0	223.0	
395.0			GRAY SHALE	58.0	227.0	
337.0			SANDY SHALE	145.0	285.0	
192.0			LIMESTONE	4.0	430.0	
188.0			GRAY SHALE	36.0	434.0	
152.0			SHALE	4.3	470.0	MULTI-COLORED
147.7			LIMESTONE	0.3	474.3	
147.3			SHALE	7.3	474.7	MULTI-COLORED
140.0			LIMESTONE	3.0	482.0	
137.0			GRAY SHALE	5.0	485.0	
132.0			COAL	0.0	490.0	THK ASSUMED ZERO OR NEAR-ZERO
132.0			CLAYSTONE & SILTSTONE	4.0	490.0	
128.0			SHALE WITH LIMESTONE	4.0	494.0	
124.0			FOSSILIFEROUS LIMESTONE	0.5	498.0	
123.5			FOSSILIFEROUS SHALE	2.5	498.5	
121.0			DARK SHALE	2.0	501.0	
119.0			LIMESTONE	5.0	503.0	
114.0			CLAYSTONE & SILTSTONE	4.0	508.0	
110.0			LIMESTONE	2.3	512.0	
107.7			GREEN SHALE	7.5	514.3	
100.2			LIMESTONE	0.7	521.8	
99.5			SHALE	4.5	522.5	
95.0			FOSSILIFEROUS LIMESTONE	2.2	527.0	
92.8	CARBONDALE	ANNA	BLACK SHALE	3.4	529.2	
89.4	CARBONDALE	HERRIN	COAL	7.7	532.6	
81.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.7	540.3	

MAPID: 13501284000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2420' S line, 2500' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.389279 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.049042 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 493.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 114-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
171.0	MODESTO	PIASA	NODULAR LIMESTONE	1.1	442.0	
169.9	MODESTO		DARK GRAY SHALE	1.2	443.1	
168.7	CARBONDALE	DANVILLE	BONE COAL	0.1	444.3	
168.6	CARBONDALE		MOTTLED SHALE	16.5	444.4	
152.1	CARBONDALE	GALUM	CALCAREOUS SHALE	4.8	460.9	
147.3	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.3	465.7	
147.0	CARBONDALE		CALCAREOUS SHALE	1.5	466.0	
145.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.3	467.5	UPPER BENCH
144.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.3	468.8	SHALE PARTING
139.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.6	473.2	LOWER BENCH
138.3	CARBONDALE	LAWSON	MOTTLED SHALE	4.3	474.7	
133.9	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	479.1	
133.1	CARBONDALE	JAMESTOWN	CLAYSTONE	0.4	479.9	
132.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.8	480.3	
128.9	CARBONDALE	ANNA	BLACK SHALE	0.8	484.1	
127.0	CARBONDALE	HERRIN	COAL	7.2	486.0	

MAPID: 13501284000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2420' S line, 2500' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389279 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.049042 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 493.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 114-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
163.4	MODESTO	PIASA	LIMESTONE	1.1	449.6	
162.3	MODESTO		UNCLASSIFIED	1.2	450.7	
161.1	CARBONDALE	DANVILLE	COAL	0.2	451.9	
160.9	CARBONDALE		UNCLASSIFIED	16.9	452.1	
144.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	469.0	
136.7	CARBONDALE	ANVIL ROCK	SANDSTONE	4.3	476.3	
132.4	CARBONDALE	CONANT	LIMESTONE	0.8	480.6	
131.6	CARBONDALE		SHALE	2.0	481.4	
129.6	CARBONDALE	BRERETON	LIMESTONE	1.8	483.4	
127.8	CARBONDALE	ANNA	BLACK SHALE	0.8	485.2	
127.0	CARBONDALE	HERRIN	COAL	7.2	486.0	

MAPID: 13501284000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2420' S line, 2500' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389279 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.049042 **DATE COLLECTED:** 6 / 0 / 1962
SURFACE ELEVATION (FT.): 613.4 **LOGGED (FT.):** 493.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 114-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
127.4	CARBONDALE	HERRIN	COAL	7.2	486.0	

MAPID: 13501294000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 20' N line, 1400' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.394075 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.056914 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 500.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 118-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
169.0	MODESTO	PIASA	LIMESTONE	0.8	452.0	
168.2	CARBONDALE		MOTTLED SHALE	18.9	452.8	
149.3	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.4	471.7	
148.9	CARBONDALE		CLAYSTONE	2.0	472.1	
146.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.3	474.1	UPPER BENCH
145.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.3	475.4	SHALE PARTING
139.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	481.8	LOWER BENCH
135.2	CARBONDALE	LAWSON	MOTTLED SHALE	3.4	485.8	
131.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0	489.2	
130.8	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.3	490.2	
130.5	CARBONDALE		DARK GRAY SHALE	2.3	490.5	
128.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.9	492.8	
127.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	493.8	
127.0	CARBONDALE	HERRIN	COAL	6.8	494.0	

MAPID: 13501294000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 20' N line, 1400' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.394075 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056914 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 511.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 118-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
157.7	MODESTO	PIASA	LIMESTONE	0.8	463.3	
156.9	MODESTO		UNCLASSIFIED	2.3	464.1	
154.6	CARBONDALE		UNCLASSIFIED	18.1	466.4	
136.5	CARBONDALE	BANKSTON FORK	LIMESTONE	11.7	484.5	
124.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	496.2	
121.2	CARBONDALE	CONANT	LIMESTONE	1.0	499.8	
120.2	CARBONDALE		SHALE	2.7	500.8	
117.5	CARBONDALE	BRERETON	LIMESTONE	1.2	503.5	
116.3	CARBONDALE	ANNA	BLACK SHALE	0.3	504.7	
116.0	CARBONDALE	HERRIN	COAL	6.8	505.0	

MAPID: 13501294000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 20' N line, 1400' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.394075 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056914 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 620.7 **LOGGED (FT.):** 501.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 118-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
126.3	CARBONDALE	HERRIN	COAL	6.8	494.4	

MAPID: 13501295000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1350' N line, 215' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398216 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.053288 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 509.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 119-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
158.0	MODESTO	PIASA	NODULAR LIMESTONE	3.9	461.0	
154.1	CARBONDALE		MOTTLED SHALE	12.4	464.9	
141.7	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.5	477.3	
141.2	CARBONDALE		SILTY SHALE	0.6	477.8	
140.6	CARBONDALE	ALLENBY	BLACK SHALE	3.3	478.4	
137.2	CARBONDALE		CLAYSTONE	2.9	481.8	
134.3	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.8	484.7	UPPER BENCH
133.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.3	485.5	SHALE PARTING
132.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.6	486.8	LOWER BENCH
127.7	CARBONDALE	LAWSON	MOTTLED SHALE	5.1	491.3	
122.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.9	496.4	
117.7	CARBONDALE	ANNA	BLACK SHALE	0.9	501.3	
117.0	CARBONDALE	HERRIN	COAL	7.1	502.0	

MAPID: 13501295000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1350' N line, 215' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398216 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053288 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 509.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 119-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.4	MODESTO	PIASA	LIMESTONE	3.9	460.6	
154.5	MODESTO		UNCLASSIFIED	5.1	464.5	
149.4	CARBONDALE		UNCLASSIFIED	14.7	469.6	
134.7	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	484.3	
128.0	CARBONDALE	ANVIL ROCK	SANDSTONE	5.1	491.0	
122.9	CARBONDALE		SHALE	2.7	496.1	
120.2	CARBONDALE	BRERETON	LIMESTONE	2.3	498.8	
117.9	CARBONDALE	ANNA	BLACK SHALE	0.9	501.1	
117.0	CARBONDALE	HERRIN	COAL	7.1	502.0	

MAPID: 13501295000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1350' N line, 215' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398216 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053288 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 619.3 **LOGGED (FT.):** 509.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 119-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
117.4	CARBONDALE	HERRIN	COAL	7.1	501.9	

MAPID: 13501296000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1250' N line, 1405' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.394006 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.053519 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 505.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 121-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
160.0	MODESTO		GRAY SHALE	7.3	460.0	
152.7	CARBONDALE	DANVILLE	BONE COAL	0.2	467.3	
152.5	CARBONDALE		CLAYSTONE	0.3	467.5	
152.2	CARBONDALE	GALUM	LIMESTONE W/ SHALE	5.8	467.8	
146.5	CARBONDALE		GRAY SHALE	1.8	473.5	
144.7	CARBONDALE	ALLENBY	BLACK SHALE	0.8	475.3	
143.9	CARBONDALE		CLAYSTONE	1.2	476.1	
142.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.5	477.3	UPPER BENCH
140.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	8.3	479.8	LOWER BENCH
132.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.8	488.0	
130.2	CARBONDALE	LAWSON	MOTTLED SHALE	3.2	489.8	
127.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.3	493.0	
125.7	CARBONDALE	ANNA	BLACK SHALE	3.8	494.3	
122.0	CARBONDALE	HERRIN	COAL	7.6	498.0	

MAPID: 13501296000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1250' N line, 1405' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.394006 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053519 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 504.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 121-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
165.0	MODESTO	PIASA	LIMESTONE	3.3	455.0	
161.7	MODESTO		UNCLASSIFIED	4.1	458.3	
157.6	CARBONDALE	DANVILLE	COAL	0.2	462.4	
157.4	CARBONDALE		UNCLASSIFIED	14.2	462.6	
143.2	CARBONDALE	BANKSTON FORK	LIMESTONE	10.8	476.8	
132.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	487.6	
130.4	CARBONDALE		SHALE	2.3	489.6	
128.1	CARBONDALE	BRERETON	LIMESTONE	1.3	491.9	
126.8	CARBONDALE	ANNA	BLACK SHALE	3.8	493.2	
123.0	CARBONDALE	HERRIN	COAL	7.6	497.0	

MAPID: 13501296000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1250' N line, 1405' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.394006 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053519 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 620.3 **LOGGED (FT.):** 505.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 121-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
122.6	CARBONDALE	HERRIN	COAL	7.6	497.7	

MAPID: 13501297000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1230' N line, 2385' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.39054 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.053535 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 493.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 123-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.3	447.0	
163.7	MODESTO		GRAY SHALE	4.8	447.3	
158.8	CARBONDALE	DANVILLE	BLACK SHALE	0.9	452.2	
157.9	CARBONDALE		CLAYSTONE & SHALE	3.9	453.1	
154.0	CARBONDALE	GALUM	NODULAR LIMESTONE	0.5	457.0	
153.5	CARBONDALE		MOTTLED SHALE	7.0	457.5	
146.5	CARBONDALE	ALLENBY	BONE COAL	0.3	464.5	
146.2	CARBONDALE		CLAYSTONE	1.2	464.8	
145.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.5	465.9	UPPER BENCH
142.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.9	468.4	SHALE PARTING
137.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.3	473.3	LOWER BENCH
132.3	CARBONDALE	LAWSON	MOTTLED SHALE	3.6	478.7	
128.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	482.3	
128.2	CARBONDALE	ANNA	BLACK SHALE	2.9	482.8	
125.0	CARBONDALE	HERRIN	COAL	7.3	486.0	

MAPID: 13501297000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1230' N line, 2385' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.39054 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053535 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 493.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 123-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
163.4	MODESTO	PIASA	LIMESTONE	0.3	446.6	
163.1	MODESTO		UNCLASSIFIED	4.8	446.9	
158.3	CARBONDALE	DANVILLE	COAL	0.9	451.7	
157.4	CARBONDALE		UNCLASSIFIED	13.5	452.6	
143.9	CARBONDALE	BANKSTON FORK	LIMESTONE	11.4	466.1	
132.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	477.5	
130.5	CARBONDALE		SHALE	3.0	479.5	
127.5	CARBONDALE	BRERETON	LIMESTONE	0.6	482.5	
126.9	CARBONDALE	ANNA	BLACK SHALE	2.9	483.1	
124.0	CARBONDALE	HERRIN	COAL	7.3	486.0	

MAPID: 13501297000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1230' N line, 2385' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.39054 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053535 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 610.6 **LOGGED (FT.):** 493.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 123-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
124.2	CARBONDALE	HERRIN	COAL	7.3	486.4	

MAPID: 13501298000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' N line, 320' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.397899 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.057012 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 508.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 125-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.6	MODESTO	PIASA	NODULAR LIMESTONE	4.2	457.4	
152.5	CARBONDALE		MOTTLED SHALE	16.3	461.5	
136.1	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.3	477.9	
135.8	CARBONDALE		DARK GRAY SHALE	2.1	478.2	
133.7	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	1.0	480.3	
132.7	CARBONDALE		CLAYSTONE	1.0	481.3	
131.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.0	482.3	UPPER BENCH
129.7	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.5	484.3	SHALE PARTING
127.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.3	486.8	LOWER BENCH
119.9	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	494.1	
117.3	CARBONDALE	LAWSON	DARK GRAY SHALE	2.4	496.7	
114.9	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	499.1	
114.3	CARBONDALE	ANNA	BLACK SHALE	1.3	499.7	
113.0	CARBONDALE	HERRIN	COAL	7.5	501.0	

MAPID: 13501298000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' N line, 320' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.397899 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.057012 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 508.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 125-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.5	MODESTO	PIASA	LIMESTONE	4.2	457.5	
152.3	MODESTO		UNCLASSIFIED	4.3	461.7	
148.0	CARBONDALE		UNCLASSIFIED	16.9	466.0	
131.1	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	482.9	
120.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.6	493.9	
117.5	CARBONDALE		SHALE	2.5	496.5	
115.0	CARBONDALE	BRERETON	LIMESTONE	0.6	499.0	
114.4	CARBONDALE	ANNA	BLACK SHALE	1.4	499.6	
113.0	CARBONDALE	HERRIN	COAL	7.4	501.0	

MAPID: 13501298000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' N line, 320' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.397899 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.057012 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 613.8 **LOGGED (FT.):** 508.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 125-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
112.9	CARBONDALE	HERRIN	COAL	7.5	500.9	

MAPID: 13501300000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 660' N line, 180' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398369 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055196 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 513.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 120-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
153.0	MODESTO	PIASA	NODULAR LIMESTONE	5.8	465.0	
147.3	MODESTO		MOTTLED SHALE	2.1	470.7	
145.2	CARBONDALE	DANVILLE	BONE COAL	0.3	472.8	
144.9	CARBONDALE		CLAYSTONE	3.5	473.1	
141.4	CARBONDALE	GALUM	LIMESTONE W/ SHALE	4.6	476.6	
136.9	CARBONDALE		DARK GRAY SHALE	2.9	481.1	
133.9	CARBONDALE	ALLENBY	BLACK SHALE	0.8	484.1	
133.2	CARBONDALE		GRAY SHALE	2.1	484.8	
131.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.0	486.9	UPPER BENCH
129.1	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.8	488.9	SHALE PARTING
125.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	492.6	LOWER BENCH
120.4	CARBONDALE	LAWSON	MOTTLED SHALE	3.9	497.6	
116.4	CARBONDALE	LAWSON	BLACK SHALE	2.8	501.6	
113.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.8	504.4	
112.9	CARBONDALE	ANNA	BLACK SHALE	0.9	505.1	
112.0	CARBONDALE	HERRIN	COAL	7.4	506.0	

MAPID: 13501300000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 660' N line, 180' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398369 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055196 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 513.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 120-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
154.5	MODESTO	PIASA	LIMESTONE	5.8	463.5	
148.7	MODESTO		UNCLASSIFIED	2.1	469.3	
146.6	CARBONDALE	DANVILLE	COAL	0.3	471.4	
146.3	CARBONDALE		UNCLASSIFIED	14.7	471.7	
131.6	CARBONDALE	BANKSTON FORK	LIMESTONE	10.8	486.4	
120.8	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	497.2	
116.8	CARBONDALE		SHALE	2.8	501.2	
114.0	CARBONDALE	BRERETON	LIMESTONE	0.8	504.0	
113.2	CARBONDALE	ANNA	BLACK SHALE	1.2	504.8	
112.0	CARBONDALE	HERRIN	COAL	7.4	506.0	

MAPID: 13501300000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 660' N line, 180' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398369 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.055196 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 617.9 **LOGGED (FT.):** 513.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 120-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
112.1	CARBONDALE	HERRIN	COAL	7.3	505.8	

MAPID: 13501314000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 990' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.395514 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.056076 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 509.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 142-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
155.1	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.5	465.9	
152.6	MODESTO		MOTTLED SHALE	2.7	468.4	
149.9	CARBONDALE		CLAYSTONE	2.4	471.1	
147.5	CARBONDALE	GALUM	NODULAR LIMESTONE	1.2	473.5	
146.3	CARBONDALE		GRAY SHALE	7.2	474.7	
139.2	CARBONDALE	ALLENBY	BLACK SHALE	0.7	481.8	
138.5	CARBONDALE		CLAYSTONE	1.3	482.5	
137.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.6	483.8	UPPER BENCH
131.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.3	489.4	SHALE PARTING
130.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.6	490.8	LOWER BENCH
127.7	CARBONDALE	LAWSON	MOTTLED SHALE	0.3	493.3	
127.4	CARBONDALE	LAWSON	LIMESTONE/UNDERCLAY	0.3	493.6	
127.2	CARBONDALE	LAWSON	MOTTLED SHALE	4.2	493.8	
123.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	498.0	
122.6	CARBONDALE	ANNA	BLACK SHALE	3.6	498.4	
119.0	CARBONDALE	HERRIN	COAL	7.2	502.0	

MAPID: 13501314000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.395514 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056076 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 509.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 142-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
155.9	MODESTO	PIASA	LIMESTONE	2.5	465.1	
153.4	MODESTO		UNCLASSIFIED	2.7	467.6	
150.7	CARBONDALE	DANVILLE	COAL	0.1	470.3	
150.6	CARBONDALE		UNCLASSIFIED	12.6	470.4	
138.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	483.0	
128.0	CARBONDALE	ANVIL ROCK	SANDSTONE	4.2	493.0	
123.8	CARBONDALE	CONANT	LIMESTONE	0.4	497.2	
123.4	CARBONDALE		SHALE	0.9	497.6	
122.5	CARBONDALE	BRERETON	LIMESTONE	1.3	498.5	
121.2	CARBONDALE	ANNA	BLACK SHALE	2.2	499.8	
119.0	CARBONDALE	HERRIN	COAL	7.2	502.0	

MAPID: 13501314000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.395514 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056076 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 620.8 **LOGGED (FT.):** 509.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 142-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
118.6	CARBONDALE	HERRIN	COAL	7.2	502.2	

MAPID: 13501316000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 210' S line, 170' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398223 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.042935 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 415.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 143-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
222.0	MODESTO	PIASA	LIMESTONE	1.0	372.0	
221.0	CARBONDALE		MOTTLED SHALE	15.0	373.0	
206.0	CARBONDALE	ALLENBY	BLACK SHALE	3.4	388.0	
202.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.3	391.4	UPPER BENCH
199.3	CARBONDALE	BANKSTON FORK	CARBONACEOUS SHALE	1.1	394.7	SHALE PARTING
198.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.3	395.8	LOWER BENCH
194.0	CARBONDALE	LAWSON	MOTTLED SHALE	3.5	400.0	
190.5	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	403.5	
190.0	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.4	404.0	
189.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.8	404.4	
188.8	CARBONDALE	ANNA	BLACK SHALE	2.7	405.2	
186.0	CARBONDALE	HERRIN	COAL	7.3	408.0	

MAPID: 13501316000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 210' S line, 170' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398223 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.042935 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 415.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 143-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
218.2	MODESTO	PIASA	LIMESTONE	1.0	375.8	
217.2	MODESTO		UNCLASSIFIED	3.0	376.8	
214.2	CARBONDALE		UNCLASSIFIED	11.3	379.8	
202.9	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	391.1	
194.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	399.7	
190.8	CARBONDALE	CONANT	LIMESTONE	0.5	403.2	
190.3	CARBONDALE		SHALE	0.4	403.7	
189.9	CARBONDALE	BRERETON	LIMESTONE	0.8	404.1	
189.1	CARBONDALE	ANNA	BLACK SHALE	3.1	404.9	
186.0	CARBONDALE	HERRIN	COAL	7.3	408.0	

MAPID: 13501316000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 210' S line, 170' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.398223 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.042935 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 415.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 143-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
185.8	CARBONDALE	HERRIN	COAL	7.3	408.2	

MAPID: 13501321000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1385' N line, 2035' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.387644 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.053077 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 453.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 149-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
157.0	MODESTO	PIASA	LIMESTONE	2.0	421.0	
155.0	CARBONDALE		CALCAREOUS SHALE	15.0	423.0	
140.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	438.0	
136.0	CARBONDALE	LAWSON	DARK GRAY SHALE	0.3	442.0	
135.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	442.3	
135.4	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.4	442.6	
135.0	CARBONDALE	ANNA	BLACK SHALE	3.5	443.0	
132.0	CARBONDALE	HERRIN	COAL	7.3	446.0	

MAPID: 13501321000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1385' N line, 2035' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.387644 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053077 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 454.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 149-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
156.6	CARBONDALE		UNCLASSIFIED	7.0	421.4	
149.6	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	428.4	
141.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	436.4	
139.6	CARBONDALE		SHALE	2.7	438.4	
136.9	CARBONDALE	BRERETON	LIMESTONE	2.0	441.1	
134.9	CARBONDALE	ANNA	BLACK SHALE	3.9	443.1	
131.0	CARBONDALE	HERRIN	COAL	7.3	447.0	

MAPID: 13501321000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1385' N line, 2035' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.387644 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053077 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 577.8 **LOGGED (FT.):** 453.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 149-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
131.5	CARBONDALE	HERRIN	COAL	7.3	446.3	

MAPID: 13501322000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** NE NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390893 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056025 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 617.2 **LOGGED (FT.):** 484.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 148-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
139.2	CARBONDALE	HERRIN	COAL	6.5	478.0	

MAPID: 13501322000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** NE NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.390893 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056025 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 484.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 148-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.0	MODESTO	PIASA	LIMESTONE	3.0	438.0	
176.0	MODESTO		UNCLASSIFIED	5.0	441.0	
171.0	CARBONDALE		UNCLASSIFIED	13.0	446.0	
158.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	459.0	
149.0	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	468.0	
146.0	CARBONDALE		SHALE	3.0	471.0	
143.0	CARBONDALE	BRERETON	LIMESTONE	2.0	474.0	
141.0	CARBONDALE	ANNA	BLACK SHALE	2.0	476.0	
139.0	CARBONDALE	HERRIN	COAL	6.5	478.0	

MAPID: 13501324000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1050' N line, 1470' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.393785 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054068 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 508.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 147-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
157.8	MODESTO	PIASA	NODULAR LIMESTONE	2.8	463.2	
155.1	MODESTO		MOTTLED SHALE	6.2	465.9	
148.9	CARBONDALE	DANVILLE	BONE COAL	0.2	472.1	
148.7	CARBONDALE		MOTTLED SHALE	9.3	472.3	
139.4	CARBONDALE	GALUM	CALCAREOUS SHALE	0.7	481.6	
138.7	CARBONDALE	ALLENBY	BLACK SHALE	3.2	482.3	
135.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.0	485.4	
129.6	CARBONDALE	LAWSON	GRAY SHALE	1.8	491.4	
127.8	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	493.2	
126.3	CARBONDALE	LAWSON	DARK GRAY SHALE	3.8	494.7	
122.6	CARBONDALE	CONANT	LIMESTONE	0.6	498.4	
122.0	CARBONDALE	ANNA	BLACK SHALE	2.0	499.0	
120.0	CARBONDALE	HERRIN	COAL	7.2	501.0	

MAPID: 13501324000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1050' N line, 1470' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.393785 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054068 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 508.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 147-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.1	MODESTO	PIASA	LIMESTONE	2.8	462.9	
155.3	MODESTO		UNCLASSIFIED	6.2	465.7	
149.1	CARBONDALE	DANVILLE	COAL	0.2	471.9	
148.9	CARBONDALE		UNCLASSIFIED	13.2	472.1	
135.7	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	485.3	
129.7	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	491.3	
126.4	CARBONDALE		SHALE	3.8	494.6	
122.6	CARBONDALE	BRERETON	LIMESTONE	0.6	498.4	
122.0	CARBONDALE	ANNA	BLACK SHALE	2.0	499.0	
120.0	CARBONDALE	HERRIN	COAL	7.2	501.0	

MAPID: 13501324000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1050' N line, 1470' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.393785 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054068 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 620.7 **LOGGED (FT.):** 507.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 147-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
120.1	CARBONDALE	HERRIN	COAL	7.2	500.6	

MAPID: 13501325000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 550' N line, 2060' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.391716 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.055427 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 439.1 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 150-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
183.0	MODESTO	PIASA	LIMESTONE	3.0	395.0	
180.0	MODESTO		MOTTLED SHALE	6.0	398.0	
174.0	CARBONDALE	GALUM	LIMESTONE	1.0	404.0	
173.0	CARBONDALE		DARK GRAY SHALE	15.5	405.0	
157.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.1	420.5	
154.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.3	423.6	
154.2	CARBONDALE	LAWSON	MOTTLED SHALE	2.7	423.8	
151.5	CARBONDALE	LAWSON	DARK GRAY SHALE	3.5	426.5	
148.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	430.0	
147.7	CARBONDALE	JAMESTOWN	CARBONACEOUS LIMESTONE	0.3	430.3	
147.4	CARBONDALE	ANNA	BLACK SHALE	1.4	430.6	
146.0	CARBONDALE	HERRIN	COAL	7.1	432.0	

MAPID: 13501325000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 550' N line, 2060' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.391716 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.055427 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 439.1 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 150-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.1	MODESTO	PIASA	LIMESTONE	3.0	393.9	
181.1	MODESTO		UNCLASSIFIED	4.0	396.9	
177.1	CARBONDALE		UNCLASSIFIED	13.5	400.9	
163.6	CARBONDALE	BANKSTON FORK	LIMESTONE	9.1	414.4	
154.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	423.5	
151.6	CARBONDALE		SHALE	3.5	426.4	
148.1	CARBONDALE	BRERETON	LIMESTONE	0.7	429.9	
147.4	CARBONDALE	ANNA	BLACK SHALE	1.4	430.6	
146.0	CARBONDALE	HERRIN	COAL	7.1	432.0	

MAPID: 13501325000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 550' N line, 2060' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.391716 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.055427 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 577.8 **LOGGED (FT.):** 439.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 150-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
145.7	CARBONDALE	HERRIN	COAL	7.1	432.1	

MAPID: 13501328000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 910' N line, 835' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.383397 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054339 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 481.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 153-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
172.6	CARBONDALE		MOTTLED SHALE	16.5	445.4	
156.1	CARBONDALE	LAWSON	GRAY SHALE	1.8	461.9	
154.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	5.0	463.8	
149.2	CARBONDALE	BRERETON	CARBONACEOUS LIMESTONE	5.3	468.8	
144.0	CARBONDALE	HERRIN	COAL	7.0	474.0	

MAPID: 13501328000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 910' N line, 835' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.383397 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054339 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 625.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 153-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
29.9	CARBONDALE		UNCLASSIFIED	7.5	588.1	
22.4	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	595.6	
13.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	604.6	
10.4	CARBONDALE		SHALE	5.0	607.6	
5.4	CARBONDALE	BRERETON	LIMESTONE	4.8	612.6	
0.6	CARBONDALE	ANNA	BLACK SHALE	0.6	617.4	
0.0	CARBONDALE	HERRIN	COAL	7.0	618.0	

MAPID: 13501328000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 910' N line, 835' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.383397 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054339 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 612.1 **LOGGED (FT.):** 481.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 153-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
137.7	CARBONDALE	HERRIN	COAL	7.0	474.4	

MAPID: 13501332000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 780' N line, 2555' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389953 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054771 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 485.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 157-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
169.0	CARBONDALE		MOTTLED SHALE	16.3	443.0	
152.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	459.3	UPPER BENCH
150.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	5.3	461.8	SHALE PARTING
145.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	467.0	LOWER BENCH
143.0	CARBONDALE	LAWSON	DARK GRAY SHALE	1.2	469.0	
141.8	CARBONDALE	LAWSON	MOTTLED SHALE	2.2	470.2	
139.7	CARBONDALE	LAWSON	GRAY SHALE	0.6	472.3	
139.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	472.9	
138.5	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.4	473.5	
138.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.6	473.9	
135.5	CARBONDALE	ANNA	BLACK SHALE	1.5	476.5	
134.0	CARBONDALE	HERRIN	COAL	7.5	478.0	

MAPID: 13501332000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 780' N line, 2555' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389953 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054771 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 485.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 157-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
168.8	MODESTO		UNCLASSIFIED	4.0	443.2	
164.8	CARBONDALE		UNCLASSIFIED	12.0	447.2	
152.8	CARBONDALE	BANKSTON FORK	LIMESTONE	9.8	459.2	
143.0	CARBONDALE	ANVIL ROCK	SANDSTONE	3.9	469.0	
139.1	CARBONDALE	CONANT	LIMESTONE	0.6	472.9	
138.5	CARBONDALE		SHALE	0.4	473.5	
138.1	CARBONDALE	BRERETON	LIMESTONE	2.6	473.9	
135.5	CARBONDALE	ANNA	BLACK SHALE	1.5	476.5	
134.0	CARBONDALE	HERRIN	COAL	7.5	478.0	

MAPID: 13501332000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 780' N line, 2555' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389953 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054771 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 612.1 **LOGGED (FT.):** 485.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 157-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
134.1	CARBONDALE	HERRIN	COAL	7.5	478.0	

MAPID: 13501333000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 695' S line, 1410' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.393853 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.044279 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 478.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 158-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
180.0	MODESTO	PIASA	LIMESTONE	7.0	428.0	
173.0	MODESTO		MOTTLED SHALE	7.0	435.0	
166.0	CARBONDALE		DARK GRAY SHALE	11.0	442.0	
155.0	CARBONDALE		CLAYSTONE	1.9	453.0	
153.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	454.9	UPPER BENCH
150.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.4	457.4	SHALE PARTING
147.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.4	460.8	LOWER BENCH
144.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.9	463.3	
141.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	466.2	
141.2	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	466.8	
140.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.3	467.1	
139.7	CARBONDALE	ANNA	BLACK SHALE	4.3	468.3	
136.0	CARBONDALE	HERRIN	COAL	6.3	472.0	

MAPID: 13501333000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 695' S line, 1410' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.393853 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.044279 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 478.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 158-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
179.5	MODESTO	PIASA	LIMESTONE	7.0	428.5	
172.5	MODESTO		UNCLASSIFIED	4.3	435.5	
168.2	CARBONDALE		UNCLASSIFIED	13.5	439.8	
154.7	CARBONDALE	BANKSTON FORK	LIMESTONE	9.3	453.3	
145.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	462.6	
142.5	CARBONDALE	CONANT	LIMESTONE	0.6	465.5	
141.9	CARBONDALE		SHALE	0.3	466.1	
141.6	CARBONDALE	BRERETON	LIMESTONE	1.3	466.4	
140.3	CARBONDALE	ANNA	BLACK SHALE	4.3	467.7	
136.0	CARBONDALE	HERRIN	COAL	6.3	472.0	

MAPID: 13501333000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 695' S line, 1410' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.393853 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.044279 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 608.4 **LOGGED (FT.):** 478.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 158-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
136.2	CARBONDALE	HERRIN	COAL	6.3	472.2	

MAPID: 13501342000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 800' N line, 750' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.396344 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.054788 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 510.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 164-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
155.0	MODESTO	PIASA	LIMESTONE	1.5	466.0	
153.5	CARBONDALE		SHALE	9.9	467.5	
143.6	CARBONDALE		CLAYSTONE	1.5	477.4	
142.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	7.5	478.9	
134.6	CARBONDALE	LAWSON	GRAY SHALE	3.9	486.4	
130.7	CARBONDALE	LAWSON	DARK GRAY SHALE	1.3	490.3	
129.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.8	491.6	
126.7	CARBONDALE	LAWSON	GRAY SHALE	1.8	494.3	
124.9	CARBONDALE	LAWSON	DARK GRAY SHALE	5.3	496.1	
119.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	501.3	
118.8	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.8	502.2	
118.0	CARBONDALE	HERRIN	COAL	7.1	503.0	

MAPID: 13501342000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 800' N line, 750' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.396344 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054788 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 510.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 164-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.4	MODESTO	PIASA	LIMESTONE	2.3	464.6	
154.1	MODESTO		UNCLASSIFIED	6.2	466.9	
147.9	CARBONDALE		UNCLASSIFIED	15.2	473.1	
132.7	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	488.3	
125.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.6	495.8	
122.6	CARBONDALE		SHALE	3.0	498.4	
119.6	CARBONDALE	BRERETON	LIMESTONE	0.8	501.4	
118.8	CARBONDALE	ANNA	BLACK SHALE	0.8	502.2	
118.0	CARBONDALE	HERRIN	COAL	7.1	503.0	

MAPID: 13501342000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 800' N line, 750' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.396344 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054788 **DATE COLLECTED:** 12 / 0 / 1962
SURFACE ELEVATION (FT.): 621.2 **LOGGED (FT.):** 510.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 164-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
117.9	CARBONDALE	HERRIN	COAL	7.1	503.3	

MAPID: 13521867000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1675' N line, 1730' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.386562 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.052264 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	2.0		
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0		
-	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.5		
-	CARBONDALE	BRERETON	LIMESTONE	2.5		
-	CARBONDALE	ANNA	BLACK SHALE	2.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521868000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2140' S line, 1550' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.385913 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.048271 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	1.0		
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5		
-	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.4		
-	CARBONDALE	ANNA	BLACK SHALE	2.5		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521869000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2430' S line, 1630' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.386199 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.049072 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE		MOTTLED SHALE	3.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0		UPPER BENCH
-	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	0.5		SHALE PARTING
-	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5		LOWER BENCH
-	CARBONDALE	LAWSON	MOTTLED SHALE	4.0		
-	CARBONDALE	LAWSON	DARK GRAY SHALE	4.0		
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	1.1		
-	CARBONDALE	ANNA	BLACK SHALE	1.5		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521870000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2485' S line, 1750' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.386623 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.049224 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	6.0		
-	CARBONDALE	CONANT	NODULAR LIMESTONE	1.0		
-	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	1.5		
-	CARBONDALE	ANNA	BLACK SHALE	2.5		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521871000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2280' N line, 2030' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.38762 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.050603 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	4.4		
-	CARBONDALE	CONANT	NODULAR LIMESTONE	0.7		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.6		
-	CARBONDALE	ANNA	BLACK SHALE	5.2		
-	CARBONDALE	HERRIN	COAL	6.5		

MAPID: 13521872000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1870' N line, 2190' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.388188 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.051744 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	2.9		
-	CARBONDALE	CONANT	NODULAR LIMESTONE	1.2		
-	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.8		
-	CARBONDALE	ANNA	BLACK SHALE	3.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521873000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1525' N line, 2475' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.389202 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.052705 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	2.0		
-	CARBONDALE	CONANT	NODULAR LIMESTONE	1.0		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.5		
-	CARBONDALE	BRERETON	LIMESTONE	11.5		
-	CARBONDALE	HERRIN	COAL	6.7		

MAPID: 13521874000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1610' N line, 2060' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.38773 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.052455 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.5		
-	CARBONDALE	BRERETON	LIMESTONE	6.5		
-	CARBONDALE	ANNA	LIMESTONE/UNDERCLAY	0.3		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521875000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1525' N line, 1700' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.386455 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.052675 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.0		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	1.2		
-	CARBONDALE		MOTTLED SHALE	0.4		
-	CARBONDALE	ANNA	BLACK SHALE	2.8		
-	CARBONDALE	HERRIN	COAL	6.4		

MAPID: 13521876000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1490' N line, 1330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.385148 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.052757 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	0.8		
-	CARBONDALE	ANNA	BLACK SHALE	3.2		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13521878000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1500' N line, 1180' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.384617 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.052723 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.7		
-	CARBONDALE	LAWSON	MOTTLED SHALE	4.0		
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.2		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.7		
-	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.7		
-	CARBONDALE	ANNA	BLACK SHALE	0.9		
-	CARBONDALE	HERRIN	COAL	6.5		

MAPID: 13521879000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1570' N line, 1070' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.384225 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.052527 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0		UPPER BENCH
-	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	0.6		SHALE PARTING
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0		LOWER BENCH
-	CARBONDALE	LAWSON	MOTTLED SHALE	3.0		
-	CARBONDALE	CONANT	LIMESTONE	1.3		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.6		
-	CARBONDALE		MOTTLED SHALE	0.2		
-	CARBONDALE	BRERETON	LIMESTONE	6.0		
-	CARBONDALE	ANNA	BLACK SHALE	0.7		
-	CARBONDALE	HERRIN	COAL	8.4		

MAPID: 13521880000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1570' N line, 1140' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.384473 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.05253 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	MOTTLED SHALE	3.7		
-	CARBONDALE	CONANT	LIMESTONE	1.3		
-	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.5		
-	CARBONDALE	BRERETON	LIMESTONE	5.0		
-	CARBONDALE	ANNA	BLACK SHALE	1.7		
-	CARBONDALE	HERRIN	COAL	7.5		

MAPID: 13501152000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.411954 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055982 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 492.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 41-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
151.8	MODESTO	PIASA	LIMESTONE	3.6	441.2	
148.3	CARBONDALE		MOTTLED SHALE	17.8	444.7	
130.4	CARBONDALE	ALLENBY	BLACK SHALE	0.9	462.6	
129.5	CARBONDALE		CLAYSTONE	1.0	463.5	
128.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.8	464.5	UPPER BENCH
122.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.7	470.2	SHALE PARTING
121.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.5	471.9	LOWER BENCH
117.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.8	475.4	
116.8	CARBONDALE	LAWSON	CARBONACEOUS SHALE	2.1	476.2	
114.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	478.2	
114.1	CARBONDALE	LAWSON	SILTY SHALE	1.4	478.9	
112.7	CARBONDALE	CONANT	LIMESTONE	0.7	480.3	
112.0	CARBONDALE	JAMESTOWN	BONE COAL	0.3	481.0	
111.7	CARBONDALE	BRERETON	LIMESTONE AND SANDSTONE	1.5	481.3	
110.2	CARBONDALE	ANNA	BLACK SHALE	2.2	482.8	
108.0	CARBONDALE	HERRIN	COAL	7.4	485.0	

MAPID: 13501152000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.411954 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055982 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 492.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 41-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.6	MODESTO	PIASA	LIMESTONE	3.6	438.4	
151.0	MODESTO		UNCLASSIFIED	4.9	442.0	
146.1	CARBONDALE		UNCLASSIFIED	17.1	446.9	
129.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.4	464.0	
118.6	CARBONDALE	ANVIL ROCK	SANDSTONE	4.8	474.4	
113.8	CARBONDALE	CONANT	LIMESTONE	0.8	479.2	
113.0	CARBONDALE		SHALE	0.8	480.0	
112.2	CARBONDALE	BRERETON	LIMESTONE	2.0	480.8	
110.2	CARBONDALE	ANNA	BLACK SHALE	2.2	482.8	
108.0	CARBONDALE	HERRIN	COAL	7.4	485.0	

MAPID: 13501152000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.411954 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.055982 **DATE COLLECTED:** 9 / 0 / 1959
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 492.2 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 41-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
108.2	CARBONDALE	HERRIN	COAL	7.4	484.8	

MAPID: 13501287000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1440' N line, 1360' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403789 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.053003 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 475.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 124-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.5	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.3	430.5	
167.2	MODESTO		DARK GRAY SHALE	2.2	430.8	
165.1	CARBONDALE	LAWSON	SHALE & SILTSTONE	36.3	432.9	
128.7	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	4.8	469.3	
124.0	CARBONDALE	HERRIN	COAL	1.6	474.0	

MAPID: 13501287000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1440' N line, 1360' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403789 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053003 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 476.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 124-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
131.9	CARBONDALE	BRERETON	LIMESTONE	3.2	466.1	
128.7	CARBONDALE	ANNA	BLACK SHALE	4.7	469.3	
124.0	CARBONDALE	HERRIN	COAL	2.2	474.0	

MAPID: 13501287000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1440' N line, 1360' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403789 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053003 **DATE COLLECTED:** 7 / 0 / 1962
SURFACE ELEVATION (FT.): 598.4 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 124-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

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MAPID: 13501288000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407234 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056023 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 586.7 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 122-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

MAPID: 13501288000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407234 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056023 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 122-BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501289000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE SE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.40014 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.052428 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 612.9 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 128-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

MAPID: 13501289000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE SE NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.40014 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.052428 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 128-BB **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.0		
-	MODESTO		UNCLASSIFIED	5.5		
-	CARBONDALE		UNCLASSIFIED	12.4		

MAPID: 13501290000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NW SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.4142 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.048613 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 611.6 **LOGGED (FT.):** 508.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 115-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
111.5	CARBONDALE	HERRIN	COAL	8.0	500.1	

MAPID: 13501290000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NW SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.4142 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.048613 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 508.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 115-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
151.7	MODESTO	PIASA	LIMESTONE	4.9	460.3	
146.8	MODESTO		UNCLASSIFIED	3.7	465.2	
143.1	CARBONDALE		UNCLASSIFIED	12.7	468.9	
130.4	CARBONDALE	BANKSTON FORK	LIMESTONE	11.3	481.6	
119.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	492.9	
116.0	CARBONDALE	CONANT	LIMESTONE	0.3	496.0	
115.7	CARBONDALE		SHALE	0.4	496.3	
115.3	CARBONDALE	BRERETON	LIMESTONE	0.5	496.7	
114.8	CARBONDALE	ANNA	BLACK SHALE	2.8	497.2	
112.0	CARBONDALE	HERRIN	COAL	8.0	500.0	

MAPID: 13501299000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 5' N line, 141' W line of NE SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.405527 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053277 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 558.5 **LOGGED (FT.):** 445.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 129-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
120.8	CARBONDALE	HERRIN	COAL	7.5	437.7	

MAPID: 13501299000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 5' N line, 141' W line of NE SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.405527 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053277 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 558.0 **LOGGED (FT.):** 444.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 129-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
164.0	MODESTO	PIASA	LIMESTONE	4.0	394.0	
160.0	MODESTO		UNCLASSIFIED	5.4	398.0	
154.6	CARBONDALE		UNCLASSIFIED	15.0	403.4	
139.6	CARBONDALE	BANKSTON FORK	LIMESTONE	9.7	418.4	
129.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	428.1	
126.8	CARBONDALE		SHALE	2.2	431.2	
124.6	CARBONDALE	BRERETON	LIMESTONE	0.8	433.4	
123.8	CARBONDALE	ANNA	BLACK SHALE	2.8	434.2	
121.0	CARBONDALE	HERRIN	COAL	7.5	437.0	

MAPID: 13501301000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 30' N line, 940' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.402361 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.056908 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 521.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 126-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
145.7	MODESTO		SHALE & SILTSTONE	30.0	468.3	
115.7	CARBONDALE		MOTTLED SHALE	1.5	498.3	
114.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	499.8	
110.2	CARBONDALE	LAWSON	MOTTLED SHALE	2.9	503.8	
107.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.0	506.8	
104.2	CARBONDALE	ANNA	BLACK SHALE	2.3	509.8	
102.0	CARBONDALE	HERRIN	COAL	9.6	512.0	

MAPID: 13501301000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 30' N line, 940' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.402361 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056908 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 521.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 126-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
136.3	MODESTO	PIASA	LIMESTONE	2.4	476.7	
133.9	MODESTO		UNCLASSIFIED	3.0	479.1	
130.9	CARBONDALE		UNCLASSIFIED	12.5	482.1	
118.4	CARBONDALE	BANKSTON FORK	LIMESTONE	9.3	494.6	
109.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	503.9	
106.2	CARBONDALE		SHALE	1.9	506.8	
104.3	CARBONDALE	BRERETON	LIMESTONE	1.0	508.7	
103.3	CARBONDALE	ANNA	BLACK SHALE	2.3	509.7	
101.0	CARBONDALE	HERRIN	COAL	9.4	512.0	

MAPID: 13501301000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 30' N line, 940' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.402361 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056908 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 613.5 **LOGGED (FT.):** 521.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 126-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
101.2	CARBONDALE	HERRIN	COAL	9.4	512.3	

MAPID: 13501302000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 32' N line, 187' W line of NW SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407712 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.05318 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 602.1 **LOGGED (FT.):** 492.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 127-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
117.4	CARBONDALE	HERRIN	COAL	7.5	484.7	

MAPID: 13501302000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 32' N line, 187' W line of NW SW NE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.407712 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.05318 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 492.5 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 127-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.9	MODESTO	PIASA	LIMESTONE	1.7	451.1	
149.2	MODESTO		UNCLASSIFIED	2.2	452.8	
147.0	CARBONDALE	DANVILLE	COAL	0.1	455.0	
146.9	CARBONDALE		UNCLASSIFIED	10.1	455.1	
136.8	CARBONDALE	BANKSTON FORK	LIMESTONE	9.1	465.2	
127.7	CARBONDALE	ANVIL ROCK	SANDSTONE	3.9	474.3	
123.8	CARBONDALE	CONANT	LIMESTONE	1.0	478.2	
122.8	CARBONDALE		SHALE	2.8	479.2	
120.0	CARBONDALE	BRERETON	LIMESTONE	1.8	482.0	
118.2	CARBONDALE	ANNA	BLACK SHALE	1.2	483.8	
117.0	CARBONDALE	HERRIN	COAL	7.5	485.0	

MAPID: 13501303000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1500' N line, 1600' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.404636 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.052827 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 569.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 133-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO		SILTY SHALE	30.0		
149.0	CARBONDALE	LAWSON	SILTSTONE	28.9	420.0	
120.1	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	4.6	448.9	
115.5	CARBONDALE	LAWSON	SHALE & SILTSTONE	5.3	453.5	
110.2	CARBONDALE	LAWSON	CONGLOMERATE	6.6	458.8	

MAPID: 13501303000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1500' N line, 1600' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.404636 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.052827 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 569.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 133-BB **WELL TYPE:** Coal Test

COMMENT:

MAPID: 13501303000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1500' N line, 1600' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404636 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.052827 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 568.8 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 133-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

MAPID: 13501304000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 385' N line, 1400' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403973 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055913 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 526.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 130-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
138.3	CARBONDALE	LAWSON	SHALE & SILTSTONE	43.8	470.7	
94.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.8	514.5	
89.7	CARBONDALE	LAWSON	BONE COAL	0.2	519.3	
89.6	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.3	519.4	
88.3	CARBONDALE	ANNA	BLACK SHALE	1.3	520.7	
87.0	CARBONDALE	HERRIN	COAL	4.8	522.0	

MAPID: 13501304000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 385' N line, 1400' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403973 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055913 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 526.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 130-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
94.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.4	514.5	
93.1	CARBONDALE	CONANT	LIMESTONE	1.2	515.9	
91.9	CARBONDALE		SHALE	2.8	517.1	
89.1	CARBONDALE	BRERETON	LIMESTONE	0.5	519.9	
88.6	CARBONDALE	ANNA	BLACK SHALE	1.6	520.4	
87.0	CARBONDALE	HERRIN	COAL	4.8	522.0	

MAPID: 13501304000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 385' N line, 1400' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403973 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.055913 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 609.4 **LOGGED (FT.):** 526.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 130-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
87.5	CARBONDALE	HERRIN	COAL	4.8	521.9	

MAPID: 13501305000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409581 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 555.6 **LOGGED (FT.):** 452.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 131-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
110.8	CARBONDALE	HERRIN	COAL	7.2	444.8	

MAPID: 13501305000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409581 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 556.0 **LOGGED (FT.):** 452.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 131-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
151.0	MODESTO	PIASA	LIMESTONE	2.9	405.0	
148.1	MODESTO		UNCLASSIFIED	5.8	407.9	
142.3	CARBONDALE		UNCLASSIFIED	10.4	413.7	
131.9	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	424.1	
121.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	434.1	
118.8	CARBONDALE	CONANT	LIMESTONE	0.3	437.2	
118.5	CARBONDALE		SHALE	2.4	437.5	
116.1	CARBONDALE	BRERETON	LIMESTONE	4.1	439.9	
112.0	CARBONDALE	ANNA	BLACK SHALE	1.0	444.0	
111.0	CARBONDALE	HERRIN	COAL	7.2	445.0	

MAPID: 13501306000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1565' N line, 170' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.399573 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.052698 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 509.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 132-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
166.9	MODESTO		SILTY SHALE	30.0	450.1	
136.9	CARBONDALE		CALCAREOUS SHALE	3.8	480.1	
133.1	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	6.6	483.9	
126.5	CARBONDALE	LAWSON	MOTTLED SHALE	2.7	490.5	
123.9	CARBONDALE	LAWSON	DARK GRAY SHALE	4.8	493.1	
119.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	498.0	
118.3	CARBONDALE	JAMESTOWN	BONE COAL	0.1	498.7	
118.2	CARBONDALE	ANNA	BLACK SHALE	2.2	498.8	
116.0	CARBONDALE	HERRIN	COAL	8.5	501.0	

MAPID: 13501306000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1565' N line, 170' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.399573 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.052698 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 509.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 132-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
133.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.6	484.0	
126.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.7	490.6	
123.7	CARBONDALE		SHALE	4.8	493.3	
118.9	CARBONDALE	BRERETON	LIMESTONE	0.8	498.1	
118.1	CARBONDALE	ANNA	BLACK SHALE	2.1	498.9	
116.0	CARBONDALE	HERRIN	COAL	8.4	501.0	

MAPID: 13501306000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1565' N line, 170' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.399573 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.052698 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 616.8 **LOGGED (FT.):** 509.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 132-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
116.3	CARBONDALE	HERRIN	COAL	8.5	500.5	

MAPID: 13501307000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 256' N line, 273' W line of NW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407442 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056233 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 559.7 **LOGGED (FT.):** 447.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 134-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
118.9	CARBONDALE	HERRIN	COAL	7.1	440.8	

MAPID: 13501307000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 256' N line, 273' W line of NW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407442 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056233 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 560.0 **LOGGED (FT.):** 448.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 134-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
140.0	CARBONDALE		UNCLASSIFIED	2.0	420.0	
138.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	422.0	
128.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.7	432.0	
125.3	CARBONDALE		SHALE	4.3	434.7	
121.0	CARBONDALE	BRERETON	LIMESTONE	0.7	439.0	
120.3	CARBONDALE	ANNA	BLACK SHALE	1.3	439.7	
119.0	CARBONDALE	HERRIN	COAL	7.1	441.0	

MAPID: 13501308000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** SW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407211 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.05419 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 587.3 **LOGGED (FT.):** 446.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 136-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
148.8	CARBONDALE	HERRIN	COAL	7.8	438.5	

MAPID: 13501308000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** SW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.407211 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.05419 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 445.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 136-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
167.3	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	419.7	
157.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.8	429.7	
153.5	CARBONDALE		SHALE	1.3	433.5	
152.2	CARBONDALE	BRERETON	LIMESTONE	0.5	434.8	
151.7	CARBONDALE	ANNA	BLACK SHALE	2.7	435.3	
149.0	CARBONDALE	HERRIN	COAL	7.8	438.0	

MAPID: 13501309000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1650' N line, 385' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.400331 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.052456 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 499.9 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 137-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.3	MODESTO	PIASA	LIMESTONE	2.0	466.7	
148.3	CARBONDALE		CLAYSTONE & SHALE	12.9	468.7	
135.4	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.3	481.6	
134.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.4	482.8	
132.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.3	484.3	
132.4	CARBONDALE	LAWSON	DARK GRAY SHALE	2.6	484.6	
129.8	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.5	487.2	
129.3	CARBONDALE	CONANT	CARBONACEOUS LIMESTONE	0.8	487.7	
128.5	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	1.0	488.5	
127.5	CARBONDALE	ANNA	BLACK SHALE	2.5	489.5	
125.0	CARBONDALE	HERRIN	COAL	7.9	492.0	

MAPID: 13501309000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1650' N line, 385' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.400331 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.052456 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 499.9 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 137-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
148.5	CARBONDALE		UNCLASSIFIED	12.0	467.5	
136.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	479.5	
131.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	484.5	
128.4	CARBONDALE	CONANT	LIMESTONE	0.5	487.6	
127.9	CARBONDALE		SHALE	0.8	488.1	
127.1	CARBONDALE	BRERETON	LIMESTONE	0.5	488.9	
126.6	CARBONDALE	ANNA	BLACK SHALE	2.6	489.4	
124.0	CARBONDALE	HERRIN	COAL	7.9	492.0	

MAPID: 13501309000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1650' N line, 385' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.400331 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.052456 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 616.6 **LOGGED (FT.):** 500.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 137-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
124.3	CARBONDALE	HERRIN	COAL	7.9	492.3	

MAPID: 13501310000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 232' N line, 435' W line of NW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.406869 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056304 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 580.7 **LOGGED (FT.):** 465.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 140-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
123.0	CARBONDALE	HERRIN	COAL	7.3	457.7	

MAPID: 13501310000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 232' N line, 435' W line of NW NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.406869 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.056304 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 465.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 140-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
140.7	CARBONDALE	BANKSTON FORK	LIMESTONE	9.1	440.3	
131.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	449.4	
128.3	CARBONDALE		SHALE	1.6	452.7	
126.7	CARBONDALE	BRERETON	LIMESTONE	0.4	454.3	
126.3	CARBONDALE	ANNA	BLACK SHALE	3.3	454.7	
123.0	CARBONDALE	HERRIN	COAL	7.3	458.0	

MAPID: 13501311000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** SE NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404864 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.054216 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 583.4 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 138-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

---

MAPID: 13501311000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** SE NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404864 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.054216 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 583.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 138-BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501312000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 400' N line, 1155' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403106 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055879 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 578.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 139-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	1.3		
151.7	CARBONDALE	LAWSON	SANDSTONE	13.4	460.3	
138.3	CARBONDALE	LAWSON	SILTY SHALE	10.3	473.7	
128.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	30.2	484.0	
97.8	CARBONDALE	LAWSON	SILTSTONE	4.2	514.2	
93.6	CARBONDALE	LAWSON	CONGLOMERATE	0.8	518.4	

MAPID: 13501312000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 400' N line, 1155' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403106 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055879 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 139-BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501312000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 400' N line, 1155' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403106 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.055879 **DATE COLLECTED:** 8 / 0 / 1962
SURFACE ELEVATION (FT.): 612.3 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 139-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

MAPID: 13501317000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 600' N line, 1040' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.402692 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.055332 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 503.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 141-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
148.1	MODESTO		MOTTLED SHALE	20.0	459.9	
128.1	CARBONDALE		SILTY SHALE	7.0	479.9	
121.1	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.7	486.9	
118.4	CARBONDALE	LAWSON	SILTY SHALE	0.6	489.6	
117.8	CARBONDALE	LAWSON	NODULAR LIMESTONE	0.2	490.2	
117.7	CARBONDALE	LAWSON	SILTY SHALE	2.7	490.3	
115.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.7	493.0	
114.3	CARBONDALE	JAMESTOWN	BONE COAL	0.7	493.7	
113.6	CARBONDALE	ANNA	BLACK SHALE	0.6	494.4	
113.0	CARBONDALE	HERRIN	COAL	8.9	495.0	

MAPID: 13501317000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 600' N line, 1040' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.402692 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.055332 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 503.8 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 141-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
128.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	479.7	
121.3	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	486.7	
119.5	CARBONDALE		SHALE	4.2	488.5	
115.3	CARBONDALE	BRERETON	LIMESTONE	0.8	492.7	
114.5	CARBONDALE	ANNA	BLACK SHALE	1.5	493.5	
113.0	CARBONDALE	HERRIN	COAL	8.8	495.0	

MAPID: 13501317000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 600' N line, 1040' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.402692 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.055332 **DATE COLLECTED:** 9 / 0 / 1962

SURFACE ELEVATION (FT.): 607.9 **LOGGED (FT.):** 504.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 141-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
112.6	CARBONDALE	HERRIN	COAL	8.9	495.3	

MAPID: 13501319000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2265' S line, 1205' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403176 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.048563 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 564.0 **LOGGED (FT.):** 459.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 145-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
153.2	MODESTO	PIASA	LIMESTONE	5.5	410.8	
147.7	CARBONDALE		MOTTLED SHALE	14.0	416.3	
133.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	430.3	UPPER BENCH
129.7	CARBONDALE	BANKSTON FORK	CLAYSTONE	6.0	434.3	SHALE PARTING
123.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.2	440.3	LOWER BENCH
119.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.5	444.4	
119.1	CARBONDALE	LAWSON	MOTTLED SHALE	3.3	444.9	
115.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	448.2	
115.5	CARBONDALE	JAMESTOWN	LIMESTONE W/ SHALE	0.4	448.5	
115.1	CARBONDALE	ANNA	BLACK SHALE	3.1	448.9	
112.0	CARBONDALE	HERRIN	COAL	7.4	452.0	

MAPID: 13501319000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2265' S line, 1205' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403176 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.048563 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 564.0 **LOGGED (FT.):** 459.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 145-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.4	MODESTO	PIASA	LIMESTONE	5.5	416.6	
141.9	MODESTO		UNCLASSIFIED	3.0	422.1	
138.9	CARBONDALE		UNCLASSIFIED	9.0	425.1	
129.9	CARBONDALE	BANKSTON FORK	LIMESTONE	10.2	434.1	
119.7	CARBONDALE	ANVIL ROCK	SANDSTONE	3.8	444.3	
115.9	CARBONDALE	CONANT	LIMESTONE	0.3	448.1	
115.6	CARBONDALE		SHALE	0.3	448.4	
115.3	CARBONDALE	BRERETON	LIMESTONE	0.2	448.7	
115.1	CARBONDALE	ANNA	BLACK SHALE	3.1	448.9	
112.0	CARBONDALE	HERRIN	COAL	7.4	452.0	

MAPID: 13501319000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2265' S line, 1205' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403176 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.048563 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 563.7 **LOGGED (FT.):** 458.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 145-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
112.2	CARBONDALE	HERRIN	COAL	7.4	451.5	

MAPID: 13501320000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 18' S line, 375' E line of SE NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.405007 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053346 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 563.4 **LOGGED (FT.):** 455.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 146-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
115.9	CARBONDALE	HERRIN	COAL	7.5	447.5	

MAPID: 13501320000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 18' S line, 375' E line of SE NW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.405007 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053346 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 563.0 **LOGGED (FT.):** 454.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 146-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
121.1	CARBONDALE	CONANT	LIMESTONE	0.1	441.9	
121.0	CARBONDALE		SHALE	2.4	442.0	
118.6	CARBONDALE	BRERETON	LIMESTONE	0.8	444.4	
117.8	CARBONDALE	ANNA	BLACK SHALE	1.8	445.2	
116.0	CARBONDALE	HERRIN	COAL	7.4	447.0	

MAPID: 13501334000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 370' S line, 32' E line of SE SW SE SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.401303 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.043352 **DATE COLLECTED:** 11 / 0 / 1962

SURFACE ELEVATION (FT.): 590.4 **LOGGED (FT.):** 455.8 **LOG TYPE:** Survey Core Study

SOURCE: TRUAX-TRAER DIV. CONS. COAL CO159BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
141.8	CARBONDALE	HERRIN	COAL	7.2	448.6	

MAPID: 13501334000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 370' S line, 32' E line of SE SW SE SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.401303 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.043352 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 455.2 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER DIV. CONS. COAL CO159BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
175.6	MODESTO		UNCLASSIFIED	6.0	414.4	
169.6	CARBONDALE		UNCLASSIFIED	10.0	420.4	
159.6	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	430.4	
153.6	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	436.4	
149.6	CARBONDALE	CONANT	LIMESTONE	2.0	440.4	
147.6	CARBONDALE		SHALE	2.5	442.4	
145.1	CARBONDALE	BRERETON	LIMESTONE	2.5	444.9	
142.6	CARBONDALE	ANNA	BLACK SHALE	0.6	447.4	
142.0	CARBONDALE	HERRIN	COAL	7.2	448.0	

MAPID: 13501336000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 95' S line, 1395' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403757 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.042565 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 489.9 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO161BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
178.8	MODESTO		SILTY SHALE	30.0	441.2	
148.8	CARBONDALE	LAWSON	CLAYSTONE	2.0	471.2	
146.8	CARBONDALE	LAWSON	MOTTLED SHALE	0.6	473.2	
146.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	473.8	
145.4	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.5	474.6	
144.9	CARBONDALE		GRAY SHALE	1.0	475.1	
143.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.5	476.2	
137.3	CARBONDALE	ANNA	BLACK SHALE	0.3	482.7	
137.0	CARBONDALE	HERRIN	COAL	6.9	483.0	

MAPID: 13501336000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 95' S line, 1395' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403757 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.042565 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 489.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO161BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
149.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	470.7	
146.2	CARBONDALE	CONANT	LIMESTONE	0.8	473.8	
145.4	CARBONDALE	JAMESTOWN	COAL	0.3	474.6	
145.1	CARBONDALE		SHALE	1.3	474.9	
143.8	CARBONDALE	BRERETON	LIMESTONE	6.5	476.2	
137.3	CARBONDALE	ANNA	BLACK SHALE	0.3	482.7	
137.0	CARBONDALE	HERRIN	COAL	6.9	483.0	

MAPID: 13501336000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 95' S line, 1395' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.403757 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.042565 **DATE COLLECTED:** 11 / 0 / 1962
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 489.8 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO161BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
137.1	CARBONDALE	HERRIN	COAL	6.9	482.9	

MAPID: 13501337000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 32' S line, 152' E line of SE SE SW SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404069 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.042388 **DATE COLLECTED:** 11 / 0 / 1962
SURFACE ELEVATION (FT.): 621.9 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO162BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

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MAPID: 13501341000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 40' S line, 1495' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404111 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.04241 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 485.3 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO163BB **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
222.0	MODESTO		SILTY SHALE	30.0	401.0	
192.0	CARBONDALE	LAWSON	SILTY SHALE	50.0	431.0	
142.0	CARBONDALE	HERRIN	COAL	4.3	481.0	

MAPID: 13501341000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 40' S line, 1495' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404111 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.04241 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 486.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO163BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
141.0	CARBONDALE	HERRIN	COAL	4.3	482.0	

MAPID: 13501341000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 40' S line, 1495' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.404111 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.04241 **DATE COLLECTED:** 12 / 0 / 1962
SURFACE ELEVATION (FT.): 622.9 **LOGGED (FT.):** 485.3 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO163BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
141.9	CARBONDALE	HERRIN	COAL	4.3	481.0	

MAPID: 13501356000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2100' S line, 1030' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.40255 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.048113 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO176BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO		SILTY SHALE	30.0		
192.4	CARBONDALE	LAWSON	SILTY SHALE	16.4	402.6	
176.0	CARBONDALE	LAWSON	SILTSTONE	6.6	419.0	
169.4	CARBONDALE	LAWSON	CLAYSTONE	6.6	425.6	
162.8	CARBONDALE	LAWSON	SILTY SHALE	20.0	432.2	

MAPID: 13501357000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1740' S line, 1010' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.402462 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.047121 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: TRUAX-TRAER DIV. CONS. COAL CO179BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO		GRAY SHALE	61.0		
169.0	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	10.0	380.0	
159.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	49.0	390.0	
110.0	CARBONDALE	LAWSON	SILTSTONE	2.0	439.0	

MAPID: 13501362000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 950' S line, 300' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.399916 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.044966 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 553.0 **LOGGED (FT.):** 417.3 **LOG TYPE:** Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 185-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
186.0	MODESTO	PIASA	LIMESTONE	2.0	367.0	
184.0	CARBONDALE		SILTY SHALE	22.2	369.0	
161.8	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.7	391.2	
155.2	CARBONDALE	LAWSON	MOTTLED SHALE	3.6	397.8	
151.6	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.1	401.4	
150.5	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	0.7	402.5	
149.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.0	403.2	
142.7	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.1	410.3	
143.0	CARBONDALE	HERRIN	COAL	7.3	410.0	

MAPID: 13501362000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 950' S line, 300' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.399916 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.044966 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 553.0 **LOGGED (FT.):** 416.3 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO 185-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.1	MODESTO	PIASA	LIMESTONE	2.0	368.9	
182.1	MODESTO		UNCLASSIFIED	6.0	370.9	
176.1	CARBONDALE		UNCLASSIFIED	16.3	376.9	
159.8	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	393.2	
153.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	399.9	
149.5	CARBONDALE	CONANT	LIMESTONE	1.1	403.5	
148.4	CARBONDALE		SHALE	3.8	404.6	
144.6	CARBONDALE	BRERETON	LIMESTONE	0.4	408.4	
144.2	CARBONDALE	ANNA	BLACK SHALE	0.2	408.8	
144.0	CARBONDALE	HERRIN	COAL	7.3	409.0	

MAPID: 13501368000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1900' S line, 995' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.402416 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.047563 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 545.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: TRUAX-TRAER DIV. CONS. COAL CO178BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO		CLAYSTONE & SHALE	50.5		
175.0	CARBONDALE	LAWSON	SILTSTONE	25.0	370.0	
150.0	CARBONDALE	LAWSON	CONGLOMERATE	11.0	395.0	
139.0	CARBONDALE	LAWSON	SILTSTONE	3.8	406.0	
135.2	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	8.8	409.8	

MAPID: 13501225000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.425873 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.044903 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 520.0 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 62-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
139.0	MODESTO	PIASA	LIMESTONE	2.0	482.0	
137.0	CARBONDALE		MOTTLED SHALE	10.5	484.0	
126.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.5	494.5	UPPER BENCH
121.0	CARBONDALE	BANKSTON FORK	CLAYSTONE	1.0	500.0	SHALE PARTING
120.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	501.0	LOWER BENCH
116.8	CARBONDALE	LAWSON	MOTTLED SHALE	0.6	504.2	
116.2	CARBONDALE	LAWSON	BLACK SHALE	3.8	504.8	
112.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	508.6	
112.1	CARBONDALE	ANNA	BLACK SHALE	3.1	508.9	
109.0	CARBONDALE	HERRIN	COAL	8.0	512.0	

MAPID: 13501225000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.425873 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.044903 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 520.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 62-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.4	CARBONDALE		UNCLASSIFIED	16.0	478.6	
126.4	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	494.6	
117.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.7	503.1	
116.2	CARBONDALE		SHALE	3.8	504.8	
112.4	CARBONDALE	BRERETON	LIMESTONE	0.3	508.6	
112.1	CARBONDALE	ANNA	BLACK SHALE	3.1	508.9	
109.0	CARBONDALE	HERRIN	COAL	8.0	512.0	

MAPID: 13501225000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.425873 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.044903 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 620.8 **LOGGED (FT.):** 520.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 62-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
108.8	CARBONDALE	HERRIN	COAL	8.0	512.0	

MAPID: 13501151000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1650' N line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.464956 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.052579 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 503.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 33-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
171.9	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.5	450.1	
171.4	MODESTO		DARK GRAY SHALE	5.0	450.6	
166.4	CARBONDALE	DANVILLE	BLACK SHALE	1.7	455.6	
164.7	CARBONDALE		MOTTLED SHALE	11.3	457.3	
153.5	CARBONDALE		DARK GRAY SHALE	2.3	468.5	
151.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.3	470.8	UPPER BENCH
151.0	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	0.4	471.0	SHALE PARTING
150.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.1	471.4	LOWER BENCH
149.5	CARBONDALE	LAWSON	BLACK SHALE	0.0	472.5	
149.5	CARBONDALE	LAWSON	MOTTLED SHALE	5.8	472.5	
143.7	CARBONDALE	LAWSON	SILTY SHALE	17.9	478.3	
125.7	CARBONDALE	LAWSON	DARK GRAY SHALE	3.0	496.3	
122.7	CARBONDALE	LAWSON	CONGLOMERATE	0.8	499.3	
122.0	CARBONDALE	HERRIN	BONE COAL	3.0	500.0	

MAPID: 13501151000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1650' N line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.464956 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.052579 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 504.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 33-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
153.8	CARBONDALE		UNCLASSIFIED	15.5	468.2	
138.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	483.7	
131.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	490.7	
128.3	CARBONDALE		SHALE	3.0	493.7	
125.3	CARBONDALE	BRERETON	LIMESTONE	2.5	496.7	
122.8	CARBONDALE	ANNA	BLACK SHALE	0.8	499.2	
122.0	CARBONDALE	HERRIN	COAL	4.0	500.0	

MAPID: 13501151000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1650' N line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.464956 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.052579 **DATE COLLECTED:** 9 / 0 / 1959
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 506.8 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 33-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
123.0	CARBONDALE	HERRIN	COAL	7.8	499.0	

MAPID: 13500653000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' N line, 380' W line of SW SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.462921 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.03049 **DATE COLLECTED:** 10 / 0 / 1951

SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 476.5 **LOG TYPE:** Electric Log

SOURCE: COLUMBUS EXPLORATION **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
202.5	MODESTO	PIASA	LIMESTONE	4.0	424.5	
198.5	MODESTO		UNCLASSIFIED	7.0	428.5	
191.5	CARBONDALE	DANVILLE	COAL	1.0	435.5	
190.5	CARBONDALE		UNCLASSIFIED	14.0	436.5	
176.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	450.5	
169.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	457.5	
167.5	CARBONDALE	CONANT	UNCLASSIFIED	2.0	459.5	
165.5	CARBONDALE		UNCLASSIFIED	3.5	461.5	
162.0	CARBONDALE	BRERETON	LIMESTONE	4.0	465.0	
158.0	CARBONDALE	ANNA	BLACK SHALE	1.0	469.0	
157.0	CARBONDALE	HERRIN	COAL	6.5	470.0	

MAPID: 13501338000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** SE SE SW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.46541 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.028658 **DATE COLLECTED:** 11 / 0 / 1962

SURFACE ELEVATION (FT.): 617.9 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: TRUAX-TRAER DIV. CONS. COAL CO160BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

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MAPID: 13501338000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** SE SE SW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.46541 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.028658 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 461.0 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO160BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
211.0	MODESTO	PIASA	LIMESTONE	4.0	407.0	
207.0	MODESTO		UNCLASSIFIED	6.0	411.0	
201.0	CARBONDALE		UNCLASSIFIED	19.0	417.0	
182.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	436.0	
174.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	444.0	
171.5	CARBONDALE		SHALE	2.5	446.5	
169.0	CARBONDALE	BRERETON	LIMESTONE	4.0	449.0	
165.0	CARBONDALE	HERRIN	COAL	8.0	453.0	

MAPID: 13501351000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 100' N line, 110' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.455541 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.04211 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 508.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO171BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
140.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	487.3	
136.6	CARBONDALE	LAWSON	SILTY SHALE	7.3	491.4	
129.2	CARBONDALE	BRERETON	LIMESTONE	2.1	498.8	
127.2	CARBONDALE	ANNA	BLACK SHALE	0.2	500.8	
127.0	CARBONDALE	HERRIN	COAL	7.3	501.0	

MAPID: 13501351000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 100' N line, 110' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.455541 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.04211 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO171BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
151.9	CARBONDALE	BANKSTON FORK	LIMESTONE	8.2	475.1	
143.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.7	483.3	
141.0	CARBONDALE		SHALE	2.7	486.0	
138.3	CARBONDALE	BRERETON	LIMESTONE	2.0	488.7	
136.3	CARBONDALE	ANNA	BLACK SHALE	2.3	490.7	
134.0	CARBONDALE	HERRIN	COAL	7.0	493.0	

MAPID: 13501351000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 100' N line, 110' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.455541 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.04211 **DATE COLLECTED:** 0 / 0 / 1963
SURFACE ELEVATION (FT.): 627.5 **LOGGED (FT.):** 500.6 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO171BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
134.2	CARBONDALE	HERRIN	COAL	7.3	493.3	

MAPID: 13501549000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 990' S line, 990' W line of SW SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.460762 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.03047 **DATE COLLECTED:** 11 / 0 / 1965
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 481.0 **LOG TYPE:** Electric Log
SOURCE: HAMPTON & JONAS **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.0	CARBONDALE	HERRIN	COAL	6.0	475.0	

MAPID: 13500654000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1650' S line, 330' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.453979 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.032282 **DATE COLLECTED:** 10 / 0 / 1950

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 503.0 **LOG TYPE:** Electric Log

SOURCE: DERRINGTON H H **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
164.5	MODESTO	PIASA	LIMESTONE	2.5	458.5	
162.0	MODESTO		UNCLASSIFIED	1.5	461.0	
160.5	CARBONDALE	DANVILLE	COAL	1.0	462.5	
159.5	CARBONDALE		UNCLASSIFIED	15.5	463.5	
144.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.5	479.0	
136.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	486.5	
133.5	CARBONDALE	CONANT	UNCLASSIFIED	1.0	489.5	
132.5	CARBONDALE		UNCLASSIFIED	2.0	490.5	
130.5	CARBONDALE	BRERETON	LIMESTONE	2.0	492.5	
128.5	CARBONDALE	ANNA	BLACK SHALE	1.5	494.5	
127.0	CARBONDALE	HERRIN	COAL	7.0	496.0	

MAPID: 13500654000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1650' S line, 330' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.453979 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.032282 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 503.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	458.0	
162.0	CARBONDALE		LIMESTONE W/ SHALE	17.5	463.0	
144.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	480.5	
139.0	CARBONDALE	LAWSON	SHALE	7.0	486.0	
132.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	1.5	493.0	
130.5	CARBONDALE	ANNA	BLACK SHALE	1.0	494.5	
129.0	CARBONDALE	HERRIN	COAL	7.0	496.0	

MAPID: 13500782000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1050' S line, 580' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.434294 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.030536 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 473.0 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 11BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
188.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	6.0	410.0	
182.0	MODESTO		MOTTLED SHALE	7.0	416.0	
175.0	CARBONDALE	DANVILLE	BONE COAL	0.3	423.0	
174.8	CARBONDALE		MOTTLED SHALE	19.4	423.2	
155.4	CARBONDALE	ALLENBY	BONE COAL	0.9	442.6	
154.4	CARBONDALE		CLAYSTONE & SHALE	1.8	443.6	
152.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.6	445.3	UPPER BENCH
151.1	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	4.3	446.9	SHALE PARTING
146.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.3	451.2	LOWER BENCH
142.5	CARBONDALE	LAWSON	MOTTLED SHALE	4.8	455.5	
137.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	460.3	
137.2	CARBONDALE		CALCAREOUS SHALE	0.6	460.8	
136.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.9	461.4	
134.7	CARBONDALE	ANNA	BLACK SHALE	2.2	463.3	
132.0	CARBONDALE	HERRIN	COAL	7.0	466.0	

MAPID: 13500782000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1050' S line, 580' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.434294 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.030536 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 473.0 **LOG TYPE:** Drillers Log

SOURCE: D.C. DONAN 11BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.7	MODESTO	PIASA	LIMESTONE	0.9	418.3	
178.8	MODESTO		UNCLASSIFIED	7.0	419.2	
171.8	CARBONDALE	DANVILLE	COAL	0.3	426.2	
171.5	CARBONDALE		UNCLASSIFIED	19.0	426.5	
152.5	CARBONDALE	BANKSTON FORK	LIMESTONE	10.3	445.5	
142.2	CARBONDALE	ANVIL ROCK	SANDSTONE	4.9	455.8	
137.3	CARBONDALE	CONANT	LIMESTONE	0.5	460.7	
136.8	CARBONDALE	JAMESTOWN	COAL	0.1	461.2	
136.7	CARBONDALE		SHALE	0.6	461.3	
136.1	CARBONDALE	BRERETON	LIMESTONE	1.8	461.9	
134.3	CARBONDALE	ANNA	BLACK SHALE	2.3	463.7	
132.0	CARBONDALE	HERRIN	COAL	7.0	466.0	

MAPID: 13500782000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1050' S line, 580' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.434294 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.030536 **DATE COLLECTED:** 7 / 5 / 1957

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 472.7 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 11BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
132.3	CARBONDALE	HERRIN	COAL	7.0	465.7	

MAPID: 13500782000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1050' S line, 580' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.434294 **GEOLOGIST:** MCCRACKEN
CONFIDENTIAL: N **LATITUDE:** 39.030536 **DATE COLLECTED:** 7 / 6 / 1957
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 473.3 **LOG TYPE:** Multiple log types
SOURCE: DONAN 11-BB **WELL TYPE:** Coal Test
COMMENT: 10' SECTION DESCRIPTIONS (264'-415')

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
598.0	PLEISTOCENE		UNCONSOLIDATED	186.0	0.0	
412.0			NO RECORD	78.0	186.0	
334.0			SHALE	90.0	264.0	
244.0			SANDSTONE	40.0	354.0	
204.0			SHALE	16.0	394.0	
188.0	MODESTO	PIASA	LIMESTONE	5.9	410.0	START OF CORE
182.1			SHALE	4.2	415.9	
177.9			BLACK SHALE	3.0	420.1	
174.9			SHALE	18.3	423.1	
156.6			BLACK SHALE	2.6	441.4	
154.0	CARBONDALE		SHALE	1.8	444.0	
152.2	CARBONDALE		SHALE	1.6	445.8	
150.7	CARBONDALE		SHALE	4.5	447.3	
146.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.3	451.8	
141.8	CARBONDALE		SHALE	4.9	456.2	
136.9	CARBONDALE	CONANT	LIMESTONE	0.6	461.1	
136.3	CARBONDALE		SHALE	0.6	461.7	
135.7	CARBONDALE	BRERETON	LIMESTONE	1.9	462.3	
133.9	CARBONDALE	ANNA	BLACK SHALE	1.5	464.1	
132.3	CARBONDALE	HERRIN	COAL	7.0	465.7	
125.3	CARBONDALE		UNDERCLAY	0.6	472.7	

MAPID: 13500146000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1875' S line, 4250' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.413865 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.032844 **DATE COLLECTED:** 0 / 0 / 1906
SURFACE ELEVATION (FT.): 608.5 **LOGGED (FT.):** 497.0 **LOG TYPE:**
SOURCE: W BREASTFC0001 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
128.5	CARBONDALE	HERRIN	COAL	7.5	480.0	

MAPID: 13500146000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1875' S line, 4250' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.413865 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.032844 **DATE COLLECTED:** 9 / 0 / 1906

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 486.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
133.9	CARBONDALE		UNCLASSIFIED	2.3	474.1	
131.6	CARBONDALE	BRERETON	LIMESTONE	2.3	476.4	
129.3	CARBONDALE	ANNA	BLACK SHALE	0.3	478.7	
129.0	CARBONDALE	HERRIN	COAL	7.0	479.0	

MAPID: 13500146000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1875' S line, 4250' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.413865 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.032844 **DATE COLLECTED:** 9 / 17 / 1906

SURFACE ELEVATION (FT.): 608.5 **LOGGED (FT.):** 497.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO., #1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
608.5			SOIL	3.0	0.0	
605.5			CLAY & GRAVEL	118.0	3.0	
487.5			SAND & GRAVEL	24.0	121.0	
463.5	BOND		BLUE SHALE	7.0	145.0	W/LS PEBBLES
456.5	BOND		BLUE SHALE	11.2	152.0	
445.3	BOND		FOSSILIFEROUS SHALE	1.5	163.2	
443.8	BOND		BLUE SHALE	7.8	164.7	
436.0	BOND	CARTHAGE	LIMESTONE	10.1	172.5	
425.9	MODESTO		DARK SHALE	4.8	182.6	
421.1	MODESTO		SHALE	5.6	187.4	W/COAL PARTINGS
415.5	MODESTO		SANDY SHALE	18.0	193.0	
397.5	MODESTO		SHALY COAL	1.0	211.0	
396.5	MODESTO		BLUE SHALE	27.0	212.0	
369.5	MODESTO		DARK SHALE	2.8	239.0	
366.7	MODESTO		SHALE	0.7	241.8	W/COAL PARTINGS
366.1	MODESTO		BLUE SHALE	5.6	242.4	
360.5	MODESTO		SANDY SHALE	30.0	248.0	
330.5	MODESTO		SANDSTONE	7.0	278.0	
323.5	MODESTO		SANDY SHALE	5.5	285.0	
318.0	MODESTO		SANDSTONE	105.8	290.5	W/SH AT TOP AND BOTTOM
212.2	MODESTO		CONGLOMERATE	1.0	396.3	
211.2	MODESTO		SANDSTONE	7.8	397.3	
203.5	MODESTO		CONGLOMERATE	1.5	405.0	
202.0	MODESTO		SANDSTONE	2.5	406.5	
199.5	MODESTO		BLUE SHALE	31.0	409.0	
168.5	MODESTO		SHALE	20.0	440.0	RED/BLUE
148.5	MODESTO		BLUE SHALE	19.7	460.0	
128.8	CARBONDALE		BLACK SHALE	0.3	479.7	
128.5	CARBONDALE	HERRIN	COAL	5.3	480.0	
123.2	CARBONDALE	HERRIN	SHALE	0.2	485.3	BLUE BAND
123.1	CARBONDALE	HERRIN	COAL	1.6	485.4	
121.5	CARBONDALE		UNDERCLAY	6.0	487.0	
115.5	CARBONDALE		SHALY LIMESTONE	4.0	493.0	

MAPID: 13500148000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.405848 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.029574 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 496.0 **LOG TYPE:**

SOURCE: W BREASTFC 3 **WELL TYPE:** Coal Test

COMMENT: LOCATION AND SURFACE ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
131.0	CARBONDALE	HERRIN	COAL	7.2	479.0	

MAPID: 13500148000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.405848 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.029574 **DATE COLLECTED:** 11 / 0 / 1906

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 486.2 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
170.9	MODESTO	PIASA	LIMESTONE	4.0	439.1	
166.9	MODESTO		UNCLASSIFIED	3.5	443.1	
163.4	CARBONDALE		UNCLASSIFIED	16.0	446.6	
147.4	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	462.6	
138.4	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.6	471.6	
137.8	CARBONDALE	CONANT	UNCLASSIFIED	0.8	472.2	
137.0	CARBONDALE		UNCLASSIFIED	2.0	473.0	
135.0	CARBONDALE	BRERETON	LIMESTONE	2.0	475.0	
133.0	CARBONDALE	ANNA	BLACK SHALE	2.0	477.0	
131.0	CARBONDALE	HERRIN	COAL	7.2	479.0	

MAPID: 13500148000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.405848 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.029574 **DATE COLLECTED:** 11 / 0 / 1906

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 496.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO., PROSPECT #3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
610.0			SOIL	5.0	0.0	
605.0			CLAY	15.0	5.0	YELLOW
590.0			CLAY	12.0	20.0	BLUE
578.0			SAND & GRAVEL	8.0	32.0	
570.0			CLAY	38.0	40.0	BLUE
532.0			CLAY & GRAVEL	59.0	78.0	
473.0			SAND & GRAVEL	8.0	137.0	
465.0	BOND		BLUE SHALE	14.8	145.0	
450.2	BOND		FOSSILIFEROUS SHALE	0.8	159.8	
449.3	BOND		BLUE SHALE	22.3	160.7	
427.0	BOND		FOSSILIFEROUS SHALE	1.2	183.0	
425.8	BOND		BLUE SHALE	1.4	184.2	
424.4	BOND	CARTHAGE	LIMESTONE	7.3	185.6	
417.1	MODESTO		BLACK SHALE	1.6	192.9	
415.5	MODESTO		SANDY SHALE	9.5	194.5	
406.0	MODESTO		BLUE SHALE	40.8	204.0	
365.2	MODESTO	WOMAC	COAL	0.9	244.8	
364.3	MODESTO		BLACK SHALE	0.4	245.7	
363.9	MODESTO		BLUE SHALE	3.9	246.1	
360.0	MODESTO		BLACK SHALE	0.5	250.0	
359.5	MODESTO		BLUE SHALE	7.0	250.5	
352.5	MODESTO		SANDY SHALE	6.0	257.5	
346.5	MODESTO		BLUE SHALE	23.3	263.5	
323.2	MODESTO		CLAYSTONE & SHALE	5.3	286.8	
318.0	MODESTO		SHALE	3.7	292.0	RED/YEL
314.3	MODESTO		BLUE SHALE	14.8	295.7	
299.5	MODESTO		SANDY SHALE	14.0	310.5	
285.5	MODESTO		SANDSTONE	20.0	324.5	
265.5	MODESTO		SANDY SHALE	44.8	344.5	
220.7	MODESTO		SANDSTONE	3.0	389.3	
217.7	MODESTO		SANDY SHALE	6.8	392.3	
211.0	MODESTO		SANDSTONE	17.6	399.0	
193.4	MODESTO		BLUE SHALE	1.4	416.6	
192.0	MODESTO		BLUE SHALE	3.5	418.0	W/LS
188.5	MODESTO		BLUE SHALE	2.5	421.5	
186.0	MODESTO		BLUE SHALE	6.5	424.0	W/LS
179.5	MODESTO		SANDSTONE	5.0	430.5	
174.5	MODESTO		SHALE	4.0	435.5	
170.5	MODESTO	PIASA	LIMESTONE	4.0	439.5	

166.5	MODESTO		SHALE	19.5	443.5	MULTI
147.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	463.0	
140.0	CARBONDALE		BLUE SHALE	0.8	470.0	
139.2	CARBONDALE	BRERETON	LIMESTONE	1.3	470.8	
138.0	CARBONDALE		BLUE SHALE	0.6	472.0	
137.4	CARBONDALE	ANNA	BLACK SHALE	6.8	472.6	
130.7	CARBONDALE	HERRIN	COAL	7.2	479.3	
123.5	CARBONDALE		SHALE	4.0	486.5	DRK BLUE
119.5	CARBONDALE		SHALY LIMESTONE	3.0	490.5	
116.5	CARBONDALE		BLUE SHALE	2.5	493.5	

MAPID: 13501344000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.409486 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.04133 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 520.3 **LOG TYPE:** Survey Core Study

SOURCE: TRUAX-TRAER DIV. CONS. COAL CO166BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.7	CARBONDALE		GRAY SHALE	16.0	474.3	
131.7	CARBONDALE	ALLENBY	DARK GRAY SHALE	4.8	490.3	
126.9	CARBONDALE	BANKSTON FORK	LIMESTONE	7.4	495.1	UPPER BENCH
119.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.5	502.5	LOWER BENCH
116.0	CARBONDALE	LAWSON	MOTTLED SHALE	1.7	506.0	
114.3	CARBONDALE	LAWSON	DARK GRAY SHALE	2.0	507.7	
112.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	509.7	
111.7	CARBONDALE	ANNA	BLACK SHALE	2.8	510.3	
109.0	CARBONDALE	HERRIN	COAL	7.3	513.0	

MAPID: 13501344000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409486 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.04133 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 520.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO166BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
132.9	CARBONDALE		UNCLASSIFIED	4.8	489.1	
128.1	CARBONDALE	BANKSTON FORK	LIMESTONE	10.2	493.9	
117.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	504.1	
114.4	CARBONDALE		SHALE	2.0	507.6	
112.4	CARBONDALE	BRERETON	LIMESTONE	1.2	509.6	
111.2	CARBONDALE	ANNA	BLACK SHALE	2.2	510.8	
109.0	CARBONDALE	HERRIN	COAL	7.3	513.0	

MAPID: 13501344000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409486 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.04133 **DATE COLLECTED:** 12 / 0 / 1962
SURFACE ELEVATION (FT.): 621.7 **LOGGED (FT.):** 510.1 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO166BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
118.9	CARBONDALE	HERRIN	COAL	7.3	502.8	

MAPID: 13501347000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 350' N line, 250' E line of NE NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409125 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.04128 **DATE COLLECTED:** 12 / 0 / 1962
SURFACE ELEVATION (FT.): 621.7 **LOGGED (FT.):** 520.2 **LOG TYPE:** Survey Core Study
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO169BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
109.3	CARBONDALE	HERRIN	COAL	7.8	512.4	

MAPID: 13501347000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 350' N line, 250' E line of NE NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.409125 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.04128 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 520.8 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER DIV. CONS. COAL CO169BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
129.7	CARBONDALE		UNCLASSIFIED	2.5	492.3	
127.2	CARBONDALE	BANKSTON FORK	LIMESTONE	10.7	494.8	
116.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	505.5	
113.5	CARBONDALE		SHALE	1.3	508.5	
112.2	CARBONDALE	BRERETON	LIMESTONE	0.8	509.8	
111.4	CARBONDALE	ANNA	BLACK SHALE	2.4	510.6	
109.0	CARBONDALE	HERRIN	COAL	7.8	513.0	

MAPID: 13501522000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 350' N line, 125' E line of NE NE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.408683 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.041282 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 517.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO 174-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
115.0	CARBONDALE	ANNA	BLACK SHALE	3.0	506.0	
112.0	CARBONDALE	HERRIN	COAL	8.3	509.0	

MAPID: 13500655000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 60' N line, 415' W line of NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.397581 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.04167 **DATE COLLECTED:** 12 / 0 / 1946

SURFACE ELEVATION (FT.): 547.0 **LOGGED (FT.):** 421.0 **LOG TYPE:** Electric Log

SOURCE: RICHARDSON, M. H. **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.5	MODESTO	PIASA	LIMESTONE	5.0	367.5	
174.5	MODESTO		UNCLASSIFIED	4.0	372.5	
170.5	CARBONDALE	DANVILLE	COAL	1.0	376.5	
169.5	CARBONDALE		UNCLASSIFIED	19.0	377.5	
150.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	396.5	
140.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	406.5	
138.0	CARBONDALE		UNCLASSIFIED	2.5	409.0	
135.5	CARBONDALE	BRERETON	LIMESTONE	1.0	411.5	
134.5	CARBONDALE	ANNA	BLACK SHALE	1.5	412.5	
133.0	CARBONDALE	HERRIN	COAL	7.0	414.0	

MAPID: 13500656000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.397652 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.028739 **DATE COLLECTED:** 11 / 0 / 1954

SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 455.5 **LOG TYPE:** Electric Log

SOURCE: SIMPSON, C. J. DRLG. CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
187.0	MODESTO	PIASA	LIMESTONE	6.0	405.0	
181.0	MODESTO		UNCLASSIFIED	7.0	411.0	
174.0	CARBONDALE	DANVILLE	COAL	1.0	418.0	
173.0	CARBONDALE		UNCLASSIFIED	17.0	419.0	
156.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	436.0	
149.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	443.0	
147.0	CARBONDALE		UNCLASSIFIED	1.5	445.0	
145.5	CARBONDALE	BRERETON	LIMESTONE	1.0	446.5	
144.5	CARBONDALE	ANNA	BLACK SHALE	1.5	447.5	
143.0	CARBONDALE	HERRIN	COAL	6.5	449.0	

MAPID: 13501243000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.386229 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.034123 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 426.1 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 61-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
174.8	MODESTO	PIASA	LIMESTONE	6.0	367.2	
168.8	MODESTO		MOTTLED SHALE	12.2	373.2	
156.6	CARBONDALE	DANVILLE	BLACK SHALE	0.5	385.4	
156.1	CARBONDALE		DARK GRAY SHALE	10.8	385.9	
145.3	CARBONDALE	GALUM	NODULAR LIMESTONE	0.7	396.7	
144.6	CARBONDALE		CLAYSTONE	2.8	397.4	
141.8	CARBONDALE	ALLENBY	BLACK SHALE	1.4	400.2	
140.3	CARBONDALE		CLAYSTONE	3.8	401.7	
136.6	CARBONDALE	BANKSTON FORK	ROCK	1.4	405.4	UPPER BENCH
135.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	406.8	LOWER BENCH
132.6	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	0.7	409.4	
131.9	CARBONDALE	LAWSON	MOTTLED SHALE	2.5	410.1	
129.4	CARBONDALE	LAWSON	DARK GRAY SHALE	3.0	412.6	
126.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	415.6	
126.0	CARBONDALE	JAMESTOWN	BONE COAL	0.3	416.0	
125.7	CARBONDALE	ANNA	BLACK SHALE	2.8	416.3	
123.0	CARBONDALE	HERRIN	COAL	7.1	419.0	

MAPID: 13501243000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.386229 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.034123 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 425.1 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 61-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
157.3	MODESTO	PIASA	LIMESTONE	3.0	384.7	
154.3	MODESTO		UNCLASSIFIED	4.2	387.7	
150.1	CARBONDALE		UNCLASSIFIED	9.1	391.9	
141.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.4	401.0	
132.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.4	409.4	
130.2	CARBONDALE		SHALE	3.0	411.8	
127.2	CARBONDALE	BRERETON	LIMESTONE	0.4	414.8	
126.8	CARBONDALE	ANNA	BLACK SHALE	2.8	415.2	
124.0	CARBONDALE	HERRIN	COAL	7.1	418.0	

MAPID: 13501243000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.386229 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.034123 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 425.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 61-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
123.7	CARBONDALE	HERRIN	COAL	7.1	418.3	

MAPID: 13501339000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1450' N line, 845' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.395802 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.038359 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 537.0 **LOGGED (FT.):** 404.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 135-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
173.2	MODESTO		MOTTLED SHALE	16.0	363.8	
157.2	CARBONDALE		CLAYSTONE	1.5	379.8	
155.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.3	381.2	UPPER BENCH
154.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.6	382.5	SHALE PARTING
150.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.2	386.1	LOWER BENCH
145.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.8	391.3	
142.9	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	394.1	
142.5	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.5	394.5	
142.0	CARBONDALE	ANNA	BLACK SHALE	2.0	395.0	
140.0	CARBONDALE	HERRIN	COAL	7.2	397.0	

MAPID: 13501339000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1450' N line, 845' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.395802 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.038359 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 537.0 **LOGGED (FT.):** 404.2 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 135-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
176.4	MODESTO	PIASA	LIMESTONE	4.0	360.6	
172.4	MODESTO		UNCLASSIFIED	5.0	364.6	
167.4	CARBONDALE		UNCLASSIFIED	7.6	369.6	
159.8	CARBONDALE	BANKSTON FORK	LIMESTONE	10.1	377.2	
149.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	387.3	
146.9	CARBONDALE	CONANT	LIMESTONE	0.4	390.1	
146.5	CARBONDALE		SHALE	3.3	390.5	
143.2	CARBONDALE	BRERETON	LIMESTONE	0.8	393.8	
142.4	CARBONDALE	ANNA	BLACK SHALE	2.4	394.6	
140.0	CARBONDALE	HERRIN	COAL	7.2	397.0	

MAPID: 13501339000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1450' N line, 845' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.395802 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.038359 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 537.5 **LOGGED (FT.):** 404.6 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 135-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
140.1	CARBONDALE	HERRIN	COAL	7.2	397.4	

MAPID: 13500783000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.374549 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.034072 **DATE COLLECTED:** 6 / 0 / 1957

SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 515.5 **LOG TYPE:** Electric Log

SOURCE: RICHARDSON, M. H. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
165.5	MODESTO	PIASA	LIMESTONE	3.0	462.5	
162.5	MODESTO		UNCLASSIFIED	5.0	465.5	
157.5	CARBONDALE	DANVILLE	COAL	1.0	470.5	
156.5	CARBONDALE		UNCLASSIFIED	23.0	471.5	
133.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.5	494.5	
125.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	503.0	
124.0	CARBONDALE		UNCLASSIFIED	1.0	504.0	
123.0	CARBONDALE	BRERETON	LIMESTONE	1.0	505.0	
122.0	CARBONDALE	ANNA	BLACK SHALE	2.0	506.0	
120.0	CARBONDALE	HERRIN	COAL	7.5	508.0	

MAPID: 13500783000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.374549 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.034072 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 515.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
160.0	CARBONDALE		SHALE	30.0	468.0	
130.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	498.0	
126.0	CARBONDALE	LAWSON	SHALE	6.0	502.0	
120.0	CARBONDALE	HERRIN	COAL	7.0	508.0	

MAPID: 13521866000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 3W **SECTION:** 24 **QUARTERS/FOOTAGES:** 650' N line, 475' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.378725 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.040567 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.1		
-	CARBONDALE		DARK GRAY SHALE	3.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.0		
-	CARBONDALE	LAWSON	MOTTLED SHALE	10.0		
-	CARBONDALE	LAWSON	DARK GRAY SHALE	2.5		
-	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0		
-	CARBONDALE	JAMESTOWN	CARBONACEOUS LIMESTONE	1.0		
-	CARBONDALE	BRERETON	NODULAR LIMESTONE	0.7		
-	CARBONDALE	ANNA	BLACK SHALE	0.3		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13500128000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** NW NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.489556 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.084423 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 483.0 **LOG TYPE:**

SOURCE: W BREASTFC0003 **WELL TYPE:** Coal Test

COMMENT: LOCATION AND SURFACE ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
144.0	CARBONDALE	HERRIN	COAL	8.5	472.0	

MAPID: 13500128000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** NW NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.489556 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.084423 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 480.5 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
185.0	MODESTO	PIASA	LIMESTONE	7.0	431.0	
178.0	MODESTO		UNCLASSIFIED	5.0	438.0	
173.0	CARBONDALE		UNCLASSIFIED	12.0	443.0	
161.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	455.0	
154.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	462.0	
152.5	CARBONDALE		UNCLASSIFIED	1.5	463.5	
151.0	CARBONDALE	BRERETON	LIMESTONE	5.0	465.0	
146.0	CARBONDALE	ANNA	BLACK SHALE	2.0	470.0	
144.0	CARBONDALE	HERRIN	COAL	8.5	472.0	

MAPID: 13500128000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** NW NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.489556 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.084423 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 483.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO., #3 **WELL TYPE:** Coal Test

COMMENT: WYE LEVEL AS ESOURCE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
616.0			SAND/CLAY	152.0	0.0	
464.0	BOND	CARTHAGE	LIMESTONE	15.0	152.0	
449.0	MODESTO		BLUE SHALE	1.0	167.0	
448.0	MODESTO		SHALE	4.0	168.0	BLK/BLUE
444.0	MODESTO		COAL	1.5	172.0	
442.5	MODESTO		BLUE SHALE	37.5	173.5	
405.0	MODESTO		BLACK SHALE	2.0	211.0	
403.0	MODESTO		COAL	0.8	213.0	
402.2	MODESTO		BLUE SHALE	11.2	213.8	
391.0	MODESTO		SHALE	15.0	225.0	SANDY
376.0	MODESTO		LIMESTONE	3.0	240.0	
373.0	MODESTO		SANDY SHALE	19.0	243.0	
354.0	MODESTO		BLACK SHALE	20.0	262.0	
334.0	MODESTO		LIMESTONE	3.0	282.0	
331.0	MODESTO		SHALE	8.0	285.0	
323.0	MODESTO		SANDY SHALE	21.0	293.0	
302.0	MODESTO	CHAPEL	COAL	1.5	314.0	
300.5	MODESTO		SANDY SHALE	14.5	315.5	
286.0	MODESTO		SANDSTONE	19.0	330.0	
267.0	MODESTO		SANDY SHALE	41.0	349.0	
226.0	MODESTO		LIMESTONE	1.0	390.0	
225.0	MODESTO		SANDY SHALE	10.0	391.0	
215.0	MODESTO		BLUE SHALE	23.0	401.0	
192.0	MODESTO		SANDY SHALE	7.0	424.0	
185.0	MODESTO	PIASA	LIMESTONE	7.0	431.0	
178.0	MODESTO		SHALE	12.0	438.0	
166.0	CARBONDALE		CALCAREOUS SHALE	5.0	450.0	
161.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	455.0	
154.0	CARBONDALE		BLUE SHALE	3.0	462.0	
151.0	CARBONDALE	BRERETON	LIMESTONE	5.0	465.0	
146.0	CARBONDALE	ANNA	BLACK SHALE	2.0	470.0	
144.0	CARBONDALE	HERRIN	COAL	8.5	472.0	
135.5	CARBONDALE		BLUE SHALE	2.5	480.5	

MAPID: 13500135000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 100' N line, 660' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.489573 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.085969 **DATE COLLECTED:** 2 / 0 / 1914
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 480.5 **LOG TYPE:** Drillers Log
SOURCE: SHOAL CREEK COAL CO **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
178.5	MODESTO	PIASA	LIMESTONE	3.2	435.5	
175.3	MODESTO		UNCLASSIFIED	4.9	438.7	
170.4	CARBONDALE		UNCLASSIFIED	10.9	443.6	
159.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	454.5	
150.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	463.5	
147.5	CARBONDALE		UNCLASSIFIED	0.3	466.5	
147.2	CARBONDALE	BRERETON	LIMESTONE	0.7	466.8	
146.5	CARBONDALE	ANNA	BLACK SHALE	4.5	467.5	
142.0	CARBONDALE	HERRIN	COAL	8.5	472.0	

MAPID: 13500135000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 100' N line, 660' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.489573 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.085969 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 480.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.0	MODESTO	PIASA	LIMESTONE	3.2	435.0	
175.8	CARBONDALE		SHALE	9.8	438.2	
166.0	CARBONDALE	GALUM	LIMESTONE	2.0	448.0	
164.0	CARBONDALE		CALCAREOUS SHALE	8.0	450.0	
156.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	458.0	
151.0	CARBONDALE	LAWSON	SHALE	3.0	463.0	
148.0	CARBONDALE	JAMESTOWN	BLACK SHALE	0.3	466.0	
147.7	CARBONDALE	BRERETON	LIMESTONE	0.7	466.3	
147.0	CARBONDALE	ANNA	BLACK SHALE	4.5	467.0	
142.0	CARBONDALE	HERRIN	COAL	8.5	472.0	

MAPID: 13500135000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 100' N line, 660' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.489573 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.085969 **DATE COLLECTED:** 0 / 0 / 1914

SURFACE ELEVATION (FT.): 613.6 **LOGGED (FT.):** 482.0 **LOG TYPE:**

SOURCE: SHOAL CKCC0005 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.6	CARBONDALE	HERRIN	COAL	8.5	471.0	

MAPID: 13500135000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 100' N line, 660' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.489573 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.085969 **DATE COLLECTED:** 2 / 4 / 1914

SURFACE ELEVATION (FT.): 613.8 **LOGGED (FT.):** 482.0 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO., HOLE #5 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
613.8			CLAY	14.0	0.0	
599.8			SAND	4.0	14.0	
595.8			SAND/CLAY	107.0	18.0	
488.8	BOND		SHALE	25.0	125.0	
463.8	BOND		CALCAREOUS SHALE	1.0	150.0	
462.8	BOND		SHALE	17.0	151.0	
445.8	BOND	CARTHAGE	LIMESTONE	14.0	168.0	
431.8	MODESTO		DARK SHALE	3.0	182.0	
428.8	MODESTO		SHALE	30.0	185.0	
398.8	MODESTO		CALCAREOUS SHALE	2.0	215.0	
396.8	MODESTO		DARK SHALE	7.0	217.0	
389.8	MODESTO		SHALE	86.0	224.0	
303.8	MODESTO		CALCAREOUS SHALE	1.3	310.0	
302.5	MODESTO		SHALE	10.8	311.3	
291.8	MODESTO		SANDY SHALE	49.0	322.0	
242.8	MODESTO		SHALE	9.0	371.0	
233.8	MODESTO		DARK SHALE	55.0	380.0	
178.8	MODESTO	PIASA	LIMESTONE	3.2	435.0	
175.6	MODESTO		SHALE	9.8	438.2	
165.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	448.0	
163.8	CARBONDALE		CALCAREOUS SHALE	4.0	450.0	
159.8	CARBONDALE		SHALE	4.0	454.0	
155.8	CARBONDALE		LIMESTONE	5.0	458.0	
150.8	CARBONDALE		SHALE	3.0	463.0	
147.8	CARBONDALE		BLACK SHALE	0.3	466.0	
147.5	CARBONDALE	BRERETON	LIMESTONE	0.7	466.3	
146.8	CARBONDALE	ANNA	BLACK SHALE	4.5	467.0	
142.3	CARBONDALE	HERRIN	COAL	8.5	471.5	
133.8	CARBONDALE		UNDERCLAY	2.0	480.0	

MAPID: 13500765000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.488349 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.07986 **DATE COLLECTED:** 3 / 0 / 1957

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: HELGEN VIRGIL I **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	DANVILLE	COAL	1.0		
-	CARBONDALE		UNCLASSIFIED	19.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	1.0		
-	CARBONDALE	ANNA	BLACK SHALE	1.5		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13501124000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1650' N line, 2310' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.502219 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.081743 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 475.9 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 28-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
182.3	MODESTO	PIASA	LIMESTONE/UNDERCLAY	4.3	426.7	
178.0	MODESTO		MOTTLED SHALE	3.1	431.0	
174.9	CARBONDALE		MOTTLED SHALE	6.9	434.1	
168.0	CARBONDALE	GALUM	NODULAR LIMESTONE	0.3	441.0	
167.7	CARBONDALE		CALCAREOUS SHALE	2.6	441.3	
165.2	CARBONDALE	ALLENBY	BLACK SHALE	1.2	443.8	
164.0	CARBONDALE		CALCAREOUS SHALE	1.8	445.0	
162.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	446.8	UPPER BENCH
156.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.7	452.8	SHALE PARTING
154.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.3	454.5	LOWER BENCH
152.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.9	456.8	
150.2	CARBONDALE	LAWSON	SILTY SHALE	1.4	458.8	
148.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	460.2	
148.6	CARBONDALE	JAMESTOWN	BONE COAL	0.2	460.4	
148.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.6	460.6	
143.8	CARBONDALE	ANNA	BLACK SHALE	2.8	465.2	
141.0	CARBONDALE	HERRIN	COAL	7.9	468.0	

MAPID: 13501124000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1650' N line, 2310' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.502219 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.081743 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 474.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 28-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
181.9	MODESTO	PIASA	LIMESTONE	4.3	427.1	
177.6	MODESTO		UNCLASSIFIED	3.1	431.4	
174.5	CARBONDALE	DANVILLE	COAL	0.1	434.5	
174.4	CARBONDALE		UNCLASSIFIED	12.7	434.6	
161.7	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	447.3	
151.7	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	457.3	
148.4	CARBONDALE	CONANT	LIMESTONE	0.2	460.6	
148.2	CARBONDALE	JAMESTOWN	COAL	0.3	460.8	
147.9	CARBONDALE		SHALE	2.3	461.1	
145.6	CARBONDALE	BRERETON	LIMESTONE	2.3	463.4	
143.3	CARBONDALE	ANNA	BLACK SHALE	1.3	465.7	
142.0	CARBONDALE	HERRIN	COAL	7.9	467.0	

MAPID: 13501124000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1650' N line, 2310' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.502219 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.081743 **DATE COLLECTED:** 4 / 22 / 1959
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 475.4 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 28-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
141.5	CARBONDALE	HERRIN	COAL	7.9	467.5	

MAPID: 13501265000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.502151 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.072523 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 488.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 101-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
180.2	MODESTO		CALCAREOUS SHALE	5.0	441.8	
175.2	CARBONDALE	DANVILLE	BLACK SHALE	1.0	446.8	
174.2	CARBONDALE		SHALE & SILTSTONE	12.3	447.8	
161.9	CARBONDALE		CONGLOMERATE	1.0	460.1	
160.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.3	461.1	UPPER BENCH
160.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	5.2	461.4	SHALE PARTING
155.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.0	466.6	LOWER BENCH
150.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.5	471.6	
147.9	CARBONDALE	CONANT	CALCAREOUS SHALE	0.3	474.1	
147.7	CARBONDALE	JAMESTOWN	BONE COAL	0.2	474.3	
147.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.8	474.5	
143.7	CARBONDALE	ANNA	BLACK SHALE	2.7	478.3	
141.0	CARBONDALE	HERRIN	COAL	7.1	481.0	

MAPID: 13501265000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.502151 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.072523 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 487.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 101-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
178.4	MODESTO		UNCLASSIFIED	5.0	443.6	
173.4	CARBONDALE	DANVILLE	COAL	1.0	448.6	
172.4	CARBONDALE		UNCLASSIFIED	10.7	449.6	
161.7	CARBONDALE	BANKSTON FORK	LIMESTONE	10.2	460.3	
151.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	470.5	
149.0	CARBONDALE	CONANT	LIMESTONE	0.2	473.0	
148.8	CARBONDALE	JAMESTOWN	COAL	0.3	473.2	
148.5	CARBONDALE		SHALE	2.0	473.5	
146.5	CARBONDALE	BRERETON	LIMESTONE	1.8	475.5	
144.7	CARBONDALE	ANNA	BLACK SHALE	2.7	477.3	
142.0	CARBONDALE	HERRIN	COAL	7.1	480.0	

MAPID: 13501265000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.502151 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.072523 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 487.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 101-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
141.5	CARBONDALE	HERRIN	COAL	7.1	480.5	

MAPID: 13501250000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.527989 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.078118 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 450.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 91-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
209.4	CARBONDALE		SILTY SHALE	30.0	396.6	
179.4	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	426.6	SHALE PARTING
177.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.5	428.6	LOWER BENCH
170.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.4	435.1	
170.5	CARBONDALE	LAWSON	MOTTLED SHALE	0.9	435.5	
169.6	CARBONDALE	LAWSON	SILTY SHALE	1.5	436.4	
168.1	CARBONDALE	JAMESTOWN	BONE COAL	0.2	437.9	
167.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.4	438.1	
165.5	CARBONDALE	ANNA	BLACK SHALE	2.5	440.5	
163.0	CARBONDALE	HERRIN	COAL	7.0	443.0	

MAPID: 13501250000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.527989 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.078118 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 450.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 91-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
193.5	MODESTO		UNCLASSIFIED	4.0	412.5	
189.5	CARBONDALE		UNCLASSIFIED	10.7	416.5	
178.8	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	427.2	
170.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.4	435.5	
168.1	CARBONDALE	JAMESTOWN	COAL	0.2	437.9	
167.9	CARBONDALE		SHALE	0.2	438.1	
167.7	CARBONDALE	BRERETON	LIMESTONE	2.4	438.3	
165.3	CARBONDALE	ANNA	BLACK SHALE	2.3	440.7	
163.0	CARBONDALE	HERRIN	COAL	7.0	443.0	

MAPID: 13501250000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.527989 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.078118 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 450.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 91-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
162.8	CARBONDALE	HERRIN	COAL	7.5	443.2	

MAPID: 13500129000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1450' S line, 1200' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.533431 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.075775 **DATE COLLECTED:** 10 / 21 / 1903

SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 469.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
542.0			UNCONSOLIDATED	75.0	0.0	
467.0			ROCK	31.0	75.0	
436.0			COAL	0.8	106.0	
435.2			ROCK	33.2	106.8	
402.0			COAL	0.3	140.0	
401.7			ROCK	90.4	140.3	
311.2			COAL	1.3	230.8	
310.0			ROCK	130.0	232.0	
180.0			SHALE	7.0	362.0	
173.0			BLACK SHALE	2.0	369.0	
171.0			SHALE	9.0	371.0	
162.0			LIMESTONE	8.0	380.0	
154.0			BLACK SHALE	2.0	388.0	
152.0	CARBONDALE	HERRIN	COAL	7.8	390.0	
144.2	CARBONDALE		ROCK	31.3	397.8	
113.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	429.0	
111.0			ROCK	38.0	431.0	

MAPID: 13500129000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1450' S line, 1200' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.533431 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.075775 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 397.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
202.0	MODESTO	PIASA	LIMESTONE	5.0	340.0	
197.0	CARBONDALE		SHALE & SANDSTONE	24.0	345.0	
173.0	CARBONDALE	ALLENBY	BLACK SHALE	2.0	369.0	
171.0	CARBONDALE		SILTY SHALE	9.0	371.0	
162.0	CARBONDALE	BRERETON	LIMESTONE	8.0	380.0	
154.0	CARBONDALE	ANNA	BLACK SHALE	2.0	388.0	
152.0	CARBONDALE	HERRIN	COAL	7.8	390.0	

MAPID: 13500129000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1450' S line, 1200' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.533431 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.075775 **DATE COLLECTED:** 10 / 0 / 1903
SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 397.8 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
193.0	MODESTO	PIASA	LIMESTONE	5.0	349.0	
188.0	MODESTO		UNCLASSIFIED	5.0	354.0	
183.0	CARBONDALE		UNCLASSIFIED	13.0	359.0	
170.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	372.0	
162.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	380.0	
159.5	CARBONDALE		UNCLASSIFIED	2.5	382.5	
157.0	CARBONDALE	BRERETON	LIMESTONE	3.0	385.0	
154.0	CARBONDALE	ANNA	BLACK SHALE	2.0	388.0	
152.0	CARBONDALE	HERRIN	COAL	7.8	390.0	

MAPID: 13500129000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1450' S line, 1200' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.533431 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.075775 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 469.0 **LOG TYPE:**
SOURCE: LUMAGHI CC A **WELL TYPE:** Coal Test
COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
152.0	CARBONDALE	HERRIN	COAL	7.8	390.0	
113.0	CARBONDALE	SPRINGFIELD	COAL	2.0	429.0	

MAPID: 13500129000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1450' S line, 1200' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.533431 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.075775 **DATE COLLECTED:** 10 / 21 / 1903

SURFACE ELEVATION (FT.): 542.0 **LOGGED (FT.):** 469.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO., #6A **WELL TYPE:** Coal Test

COMMENT: WYE LEVEL (ESOURCE)

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
542.0			UNCONSOLIDATED	70.0	0.0	CLAY, SND, GRV, BOULDERS
472.0	BOND		CLAYSTONE & SHALE	5.0	70.0	
467.0	BOND	CARTHAGE	LIMESTONE	22.0	75.0	
445.0	MODESTO		SHALE	2.0	97.0	
443.0	MODESTO		BLUE SHALE	6.2	99.0	
436.8	MODESTO		BLACK SHALE	0.8	105.2	
436.0	MODESTO		COAL	0.8	106.0	
435.2	MODESTO		BLACK SHALE	0.3	106.8	
434.8	MODESTO		CLAYSTONE & SHALE	29.8	107.2	
405.0	MODESTO		BLACK SHALE	3.0	137.0	
402.0	MODESTO		COAL	0.3	140.0	
401.7	MODESTO		BLACK SHALE	8.7	140.3	
393.0	MODESTO		CLAYSTONE & SHALE	19.0	149.0	
374.0	MODESTO		SHALE	4.0	168.0	W/SS PARTINGS
370.0	MODESTO		SANDSTONE	12.0	172.0	W/SH PARTINGS
358.0	MODESTO		SHALE	17.0	184.0	W/SS BANDS
341.0	MODESTO		SANDSTONE	3.0	201.0	
338.0	MODESTO		SHALE	4.0	204.0	W/SS BANDS
334.0	MODESTO		SHALE	22.8	208.0	W/LS BANDS
311.2	MODESTO	CHAPEL	COAL	1.3	230.8	
310.0	MODESTO		CLAYSTONE & SHALE	3.0	232.0	
307.0	MODESTO		SHALE	75.0	235.0	W/SS BANDS
232.0	MODESTO		BLACK SHALE	9.0	310.0	
223.0	MODESTO		SHALE	11.0	319.0	DRK BLUE
212.0	MODESTO		CLAYSTONE & SHALE	4.0	330.0	
208.0	MODESTO		SANDSTONE	6.0	334.0	
202.0	MODESTO	PIASA	LIMESTONE	5.0	340.0	
197.0	MODESTO		RED SHALE	4.0	345.0	
193.0	CARBONDALE	ANVIL ROCK	SANDSTONE	10.0	349.0	
183.0	CARBONDALE	ANVIL ROCK	CLAYSTONE & SHALE	3.0	359.0	
180.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	7.0	362.0	
173.0	CARBONDALE		BLACK SHALE	2.0	369.0	
171.0	CARBONDALE		SANDY SHALE	9.0	371.0	
162.0	CARBONDALE	BRERETON	LIMESTONE	8.0	380.0	
154.0	CARBONDALE	ANNA	BLACK SHALE	2.0	388.0	
152.0	CARBONDALE	HERRIN	COAL	7.8	390.0	
144.2	CARBONDALE		CLAYSTONE & SHALE	7.3	397.8	
137.0	CARBONDALE		BLACK SHALE	4.0	405.0	
133.0	CARBONDALE		CONGLOMERATE	3.0	409.0	

130.0	CARBONDALE		SHALE	13.0	412.0
117.0	CARBONDALE	EXCELLO	BLACK SHALE	4.0	425.0
113.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	429.0
111.0	CARBONDALE		CLAYSTONE & SHALE	2.0	431.0
109.0	CARBONDALE		SANDSTONE	36.0	433.0

MAPID: 13500129000C **VERSION:** 6 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1450' S line, 1200' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.533431 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.075775 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 525.0 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-10 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
135.0	CARBONDALE	HERRIN	COAL	7.8	390.0	

MAPID: 13500130000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2600' N line, 2200' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.555651 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.079295 **DATE COLLECTED:** 8 / 0 / 1907

SURFACE ELEVATION (FT.): 529.0 **LOGGED (FT.):** 380.3 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
529.0			UNCONSOLIDATED	39.0	0.0	
490.0			ROCK	81.0	39.0	
409.0			COAL	0.5	120.0	
408.5			ROCK	90.5	120.5	
318.0			COAL/CLAYSTONE	4.0	211.0	
314.0			ROCK	133.5	215.0	
180.5			LIMESTONE	1.5	348.5	
179.0			SHALE	18.5	350.0	
160.5			LIMESTONE	4.0	368.5	
156.5			SHALE	1.3	372.5	
155.2	CARBONDALE	HERRIN	COAL	6.5	373.8	

MAPID: 13500130000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2600' N line, 2200' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.555651 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.079295 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 529.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
195.0	MODESTO	PIASA	LIMESTONE	3.0	334.0	
192.0	CARBONDALE		MOTTLED SHALE	11.5	337.0	
180.5	CARBONDALE	GALUM	LIMESTONE	1.5	348.5	
179.0	CARBONDALE	ALLENBY	DARK GRAY SHALE	1.5	350.0	
177.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	17.0	351.5	
160.5	CARBONDALE	BRERETON	LIMESTONE	4.0	368.5	
156.5	CARBONDALE	ANNA	DARK GRAY SHALE	1.3	372.5	
155.0	CARBONDALE	HERRIN	COAL	6.0	374.0	

MAPID: 13500130000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2600' N line, 2200' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.555651 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.079295 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 529.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: GRANHOLM & ASSOC. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
195.3	MODESTO	PIASA	LIMESTONE	3.0	333.7	
192.3	MODESTO		UNCLASSIFIED	5.0	336.7	
187.3	CARBONDALE	DANVILLE	COAL	2.0	341.7	
185.3	CARBONDALE		UNCLASSIFIED	10.0	343.7	
175.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	353.7	
166.3	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	362.7	
163.3	CARBONDALE		UNCLASSIFIED	3.0	365.7	
160.3	CARBONDALE	BRERETON	LIMESTONE	4.0	368.7	
156.3	CARBONDALE	ANNA	BLACK SHALE	1.3	372.7	
155.0	CARBONDALE	HERRIN	COAL	6.0	374.0	

MAPID: 13500130000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2600' N line, 2200' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.555651 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.079295 **DATE COLLECTED:** 0 / 0 / 1907
SURFACE ELEVATION (FT.): 529.0 **LOGGED (FT.):** 380.0 **LOG TYPE:**
SOURCE: DERING CC 75 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
155.0	CARBONDALE	HERRIN	COAL	6.0	374.0	

MAPID: 13500131000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.571507 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.075504 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 518.0 **LOG TYPE:** Drillers Log
SOURCE: D. P. ATTERBURY FARM **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
595.0			UNCONSOLIDATED	70.0	0.0	
525.0			ROCK	362.3	70.0	
162.7			COAL	0.4	432.3	
162.2			ROCK	39.6	432.8	
122.7			COAL WITH SHALE	2.0	472.3	
120.7			ROCK	37.0	474.3	
83.7			COAL	6.7	511.3	

MAPID: 13500131000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.571507 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.075504 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.4 **LOGGED (FT.):** 518.0 **LOG TYPE:**
SOURCE: ATTERBURY 1 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
162.4	CARBONDALE	HOUCHIN CREEK	COAL	0.4	432.0	C71 CORRELATED THIS AS #6
83.4	CARBONDALE	COLCHESTER	COAL	6.7	511.0	C71 CORRELATED THIS AS #5

MAPID: 13500131000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.571507 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.075504 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 594.4 **LOGGED (FT.):** 518.0 **LOG TYPE:** Drillers Log

SOURCE: D.P. ATTERBURY #1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
594.4			UNCONSOLIDATED	18.0	0.0	
576.4			SAND	27.0	18.0	
549.4			CLAY	25.0	45.0	BLUE
524.4	BOND		SANDSTONE	5.0	70.0	
519.4	BOND		SANDY SHALE	21.0	75.0	
498.4	BOND	CARTHAGE	LIMESTONE	15.7	96.0	
482.7	MODESTO		BLACK SHALE	2.3	111.7	
480.4	MODESTO		CALCAREOUS SHALE	21.5	114.0	
458.9	MODESTO		BLUE SHALE	36.5	135.5	
422.4	MODESTO		CALCAREOUS SHALE	8.0	172.0	
414.4	MODESTO		BLUE SHALE	9.5	180.0	
404.9	MODESTO		SANDSTONE	6.0	189.5	
398.9	MODESTO		UNDERCLAY	3.5	195.5	
395.4	MODESTO		SANDSTONE	0.5	199.0	
394.9	MODESTO		UNDERCLAY	3.5	199.5	
391.4	MODESTO		BLUE SHALE	4.0	203.0	
387.4	MODESTO		CALCAREOUS SHALE	11.5	207.0	
375.9	MODESTO		BLUE SHALE	4.0	218.5	
371.9	MODESTO		SANDSTONE	1.0	222.5	
370.9	MODESTO		CALCAREOUS SHALE	5.5	223.5	
365.4	MODESTO		BLACK SHALE	0.3	229.0	
365.1	MODESTO		LIMESTONE AND SANDSTONE	0.7	229.3	
364.4	MODESTO		BLUE SHALE	45.0	230.0	
319.4	MODESTO		LIMESTONE	2.5	275.0	
316.9	MODESTO		BLUE SHALE	33.0	277.5	
283.9	MODESTO		SANDSTONE	4.0	310.5	
279.9	CARBONDALE		BLUE SHALE	46.0	314.5	
233.9	CARBONDALE		SANDSTONE	1.0	360.5	
232.9	CARBONDALE		BLUE SHALE	14.0	361.5	
218.9	CARBONDALE	HERRIN	SANDY SHALE	5.0	375.5	
213.9	CARBONDALE		UNDERCLAY	3.0	380.5	
210.9	CARBONDALE		SANDY SHALE	7.0	383.5	
203.9	CARBONDALE		UNDERCLAY	1.5	390.5	
202.4	CARBONDALE		LIMESTONE	8.0	392.0	
194.4	CARBONDALE		BLUE SHALE	2.0	400.0	
192.4	CARBONDALE		BLACK SHALE	3.0	402.0	
189.4	CARBONDALE		SHALE	6.0	405.0	
183.4	CARBONDALE		BLACK SHALE	1.0	411.0	

182.4	CARBONDALE		CALCAREOUS SHALE	15.3	412.0	
167.1	CARBONDALE		BLUE SHALE	2.0	427.3	
165.1	CARBONDALE		BLACK SHALE	3.0	429.3	
162.1	CARBONDALE	HOUCHIN CREEK	COAL	0.4	432.3	
161.6	CARBONDALE		BLUE SHALE	15.0	432.8	
146.6	CARBONDALE		UNDERCLAY	4.4	447.8	
142.2	CARBONDALE		CALCAREOUS SHALE	5.0	452.2	
137.2	CARBONDALE		UNDERCLAY	3.2	457.2	
134.1	CARBONDALE		CALCAREOUS SHALE	10.0	460.3	
124.1	CARBONDALE		BLACK SHALE	2.0	470.3	
122.1	CARBONDALE	SURVANT	SHALE/COAL	2.0	472.3	BLUE SH AND COAL
120.1	CARBONDALE		CALCAREOUS SHALE	4.2	474.3	
115.9	CARBONDALE		UNDERCLAY	1.5	478.5	
114.4	CARBONDALE		CALCAREOUS SHALE	21.3	480.0	
93.1	CARBONDALE		UNDERCLAY	0.5	501.3	
92.6	CARBONDALE		CALCAREOUS SHALE	4.9	501.8	
87.6	CARBONDALE		LIMESTONE	4.6	506.8	
83.1	CARBONDALE	COLCHESTER	COAL	6.7	511.3	
76.4	SPOON		CALCAREOUS SHALE	0.0	518.0	T.D.

MAPID: 13501213000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.58248 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.072819 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 403.3 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 58-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
233.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.7	360.0	
227.3	MODESTO		MOTTLED SHALE	5.0	365.7	
222.3	CARBONDALE	DANVILLE	BONE COAL	0.7	370.7	
221.7	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.9	371.3	
219.7	CARBONDALE	ALLENBY	BONE COAL	1.2	373.3	
218.6	CARBONDALE		CLAYSTONE	3.0	374.4	
215.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.8	377.4	UPPER BENCH
209.8	CARBONDALE	BANKSTON FORK	SILTSTONE	2.3	383.2	SHALE PARTING
207.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	385.4	LOWER BENCH
202.2	CARBONDALE	LAWSON	SILTY SHALE	0.3	390.8	
202.0	CARBONDALE	ANNA	BLACK SHALE	2.6	391.0	
198.0	CARBONDALE	HERRIN	COAL	8.3	395.0	

MAPID: 13501213000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.58248 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.072819 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 403.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 58-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
233.4	MODESTO	PIASA	LIMESTONE	5.7	359.6	
227.7	MODESTO		UNCLASSIFIED	2.8	365.3	
224.9	CARBONDALE	DANVILLE	COAL	0.5	368.1	
224.4	CARBONDALE		UNCLASSIFIED	10.1	368.6	
214.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	378.7	
208.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	384.5	
206.2	CARBONDALE	CONANT	LIMESTONE	0.7	386.8	
205.5	CARBONDALE		SHALE	0.3	387.5	
205.2	CARBONDALE	BRERETON	LIMESTONE	4.4	387.8	
200.8	CARBONDALE	ANNA	BLACK SHALE	2.8	392.2	
198.0	CARBONDALE	HERRIN	COAL	8.3	395.0	

MAPID: 13501213000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.58248 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.072819 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 403.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 58-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
197.7	CARBONDALE	HERRIN	COAL	8.3	395.3	

MAPID: 13501746000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 76' N line, 15' W line of NW SE NE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.571547 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.082668 **DATE COLLECTED:** 7 / 3 / 1969
SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 451.8 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 233BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
159.0	CARBONDALE	HERRIN	COAL	8.8	443.0	

MAPID: 13501746000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 76' N line, 15' W line of NW SE NE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.571547 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.082668 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 451.8 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO. 233BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
197.8	MODESTO	PIASA	LIMESTONE	5.7	404.2	
192.1	MODESTO		UNCLASSIFIED	5.0	409.9	
187.1	CARBONDALE		UNCLASSIFIED	9.3	414.9	
177.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.4	424.2	
170.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.4	431.6	
168.0	CARBONDALE	CONANT	LIMESTONE	1.1	434.0	
166.9	CARBONDALE		SHALE	0.2	435.1	
166.7	CARBONDALE	BRERETON	LIMESTONE	4.7	435.3	
162.0	CARBONDALE	ANNA	BLACK SHALE	3.0	440.0	
159.0	CARBONDALE	HERRIN	COAL	8.8	443.0	

MAPID: 13501744000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2450' S line, 1450' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.580873 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.064146 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 393.0 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO. 231BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
255.0	MODESTO	PIASA	LIMESTONE	6.3	344.0	
248.7	CARBONDALE		SILTY SHALE	14.7	350.3	
234.0	CARBONDALE	ALLENBY	DARK GRAY SHALE	1.3	365.0	
232.7	CARBONDALE		SILTY SHALE	5.3	366.3	
227.5	CARBONDALE	BANKSTON FORK	LIMESTONE AND SANDSTONE	4.0	371.5	UPPER BENCH
223.5	CARBONDALE	BANKSTON FORK	SILTY SHALE	2.5	375.5	SHALE PARTING
221.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.7	378.0	LOWER BENCH
216.3	CARBONDALE	LAWSON	GRAY SHALE	0.2	382.7	
216.1	CARBONDALE	ANNA	BLACK SHALE	2.1	382.9	
214.0	CARBONDALE	HERRIN	COAL	8.0	385.0	

MAPID: 13501744000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2450' S line, 1450' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.580873 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.064146 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 392.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 231BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
252.0	MODESTO	PIASA	LIMESTONE	6.3	344.0	
245.7	MODESTO		UNCLASSIFIED	7.5	350.3	
238.2	CARBONDALE		UNCLASSIFIED	10.7	357.8	
227.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	368.5	
220.2	CARBONDALE	ANVIL ROCK	SANDSTONE	1.5	375.8	
218.7	CARBONDALE		SHALE	1.0	377.3	
217.7	CARBONDALE	BRERETON	LIMESTONE	4.6	378.3	
213.1	CARBONDALE	ANNA	BLACK SHALE	2.1	382.9	
211.0	CARBONDALE	HERRIN	COAL	7.9	385.0	

MAPID: 13501744000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2450' S line, 1450' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.580873 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.064146 **DATE COLLECTED:** 6 / 25 / 1969
SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 392.8 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 231BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
214.2	CARBONDALE	HERRIN	COAL	8.0	384.8	

MAPID: 13500890000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SW NE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.553867 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.067306 **DATE COLLECTED:** 1 / 0 / 1950

SURFACE ELEVATION (FT.): 571.0 **LOGGED (FT.):** 415.0 **LOG TYPE:** Electric Log

SOURCE: MAZZARINO & NEARY **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
204.0	MODESTO	PIASA	LIMESTONE	5.0	367.0	
199.0	MODESTO		UNCLASSIFIED	4.0	372.0	
195.0	CARBONDALE	DANVILLE	COAL	1.0	376.0	
194.0	CARBONDALE		UNCLASSIFIED	14.0	377.0	
180.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	391.0	
170.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	401.0	
168.0	CARBONDALE		UNCLASSIFIED	1.5	403.0	
166.5	CARBONDALE	BRERETON	LIMESTONE	2.0	404.5	
164.5	CARBONDALE	ANNA	BLACK SHALE	1.5	406.5	
163.0	CARBONDALE	HERRIN	COAL	7.0	408.0	

MAPID: 13501155000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 330' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565704 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.065462 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 576.0 **LOGGED (FT.):** 404.0 **LOG TYPE:** Survey Core Study

SOURCE: PITTSBURGH CONS. COAL CO. 44BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
219.0	MODESTO	PIASA	LIMESTONE	2.9	357.0	
216.1	MODESTO		MOTTLED SHALE	10.0	359.9	
206.1	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	3.9	369.9	
202.2	CARBONDALE	GALUM	NODULAR LIMESTONE	1.2	373.8	
200.9	CARBONDALE	ALLENBY	BONE COAL	1.2	375.1	
199.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	18.3	376.3	
181.5	CARBONDALE	ANNA	BLACK SHALE	1.8	394.5	
179.0	CARBONDALE	HERRIN	COAL	7.0	397.0	

MAPID: 13501155000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565704 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.065462 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 576.0 **LOGGED (FT.):** 403.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONS. COAL CO. 44BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
219.0	MODESTO	PIASA	LIMESTONE	2.9	357.0	
216.1	MODESTO		UNCLASSIFIED	8.5	359.9	
207.6	CARBONDALE		UNCLASSIFIED	9.3	368.4	
198.3	CARBONDALE	BANKSTON FORK	LIMESTONE	10.2	377.7	
188.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	387.9	
186.1	CARBONDALE		SHALE	0.3	389.9	
185.8	CARBONDALE	BRERETON	LIMESTONE	4.0	390.2	
181.8	CARBONDALE	ANNA	BLACK SHALE	1.8	394.2	
180.0	CARBONDALE	HERRIN	COAL	7.0	396.0	

MAPID: 13501155000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565704 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.065462 **DATE COLLECTED:** 9 / 0 / 1959
SURFACE ELEVATION (FT.): 576.0 **LOGGED (FT.):** 403.8 **LOG TYPE:** Survey Core Study
SOURCE: PITTSBURGH CONS. COAL CO. 44BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.2	CARBONDALE	HERRIN	COAL	7.0	396.8	

MAPID: 13501747000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 122' S line, 307' E line of SE NE NW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.5585 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.068549 **DATE COLLECTED:** 7 / 10 / 1969
SURFACE ELEVATION (FT.): 580.0 **LOGGED (FT.):** 435.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO 234BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
152.9	CARBONDALE	HERRIN	COAL	8.2	427.1	

MAPID: 13501747000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 122' S line, 307' E line of SE NE NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.5585 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.068549 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 580.0 **LOGGED (FT.):** 435.2 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO 234BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
194.4	MODESTO	PIASA	LIMESTONE	4.1	385.6	
190.3	MODESTO		UNCLASSIFIED	6.6	389.7	
183.7	CARBONDALE	DANVILLE	COAL	1.2	396.3	
182.5	CARBONDALE		UNCLASSIFIED	9.5	397.5	
173.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.3	407.0	
162.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	417.3	
160.9	CARBONDALE	CONANT	LIMESTONE	0.5	419.1	
160.4	CARBONDALE		SHALE	0.4	419.6	
160.0	CARBONDALE	BRERETON	LIMESTONE	3.0	420.0	
157.0	CARBONDALE	ANNA	BLACK SHALE	4.0	423.0	
153.0	CARBONDALE	HERRIN	COAL	8.2	427.0	

MAPID: 13500350000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.546865 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.060035 **DATE COLLECTED:** 1 / 0 / 1956

SURFACE ELEVATION (FT.): 516.0 **LOGGED (FT.):** 367.5 **LOG TYPE:** Electric Log

SOURCE: FAITH OIL CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
193.5	MODESTO	PIASA	LIMESTONE	4.5	322.5	
189.0	MODESTO		UNCLASSIFIED	5.5	327.0	
183.5	CARBONDALE	DANVILLE	COAL	1.0	332.5	
182.5	CARBONDALE		UNCLASSIFIED	15.0	333.5	
167.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	348.5	
159.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	356.5	
158.0	CARBONDALE		UNCLASSIFIED	1.5	358.0	
156.5	CARBONDALE	BRERETON	LIMESTONE	1.0	359.5	
155.5	CARBONDALE	ANNA	BLACK SHALE	0.5	360.5	
155.0	CARBONDALE	HERRIN	COAL	6.5	361.0	

MAPID: 13500355000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.542127 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.065464 **DATE COLLECTED:** 3 / 0 / 1956

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: FAITH OIL CO **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE	DANVILLE	COAL	1.0		
-	CARBONDALE		UNCLASSIFIED	18.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5		
-	CARBONDALE		UNCLASSIFIED	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	1.0		
-	CARBONDALE	ANNA	BLACK SHALE	0.5		
-	CARBONDALE	HERRIN	COAL	6.5		

MAPID: 13500356000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 350' N line, 330' E line of SE SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.530375 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.059913 **DATE COLLECTED:** 3 / 0 / 1956

SURFACE ELEVATION (FT.): 545.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Electric Log

SOURCE: FAITH OIL CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
209.5	MODESTO	PIASA	LIMESTONE	3.0	335.5	
206.5	MODESTO		UNCLASSIFIED	5.0	338.5	
201.5	CARBONDALE	DANVILLE	COAL	1.0	343.5	
200.5	CARBONDALE		UNCLASSIFIED	18.0	344.5	
182.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	362.5	
176.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	368.5	
173.0	CARBONDALE	CONANT	UNCLASSIFIED	2.0	372.0	
171.0	CARBONDALE		UNCLASSIFIED	2.5	374.0	
168.5	CARBONDALE	BRERETON	LIMESTONE	2.0	376.5	
166.5	CARBONDALE	ANNA	BLACK SHALE	1.5	378.5	
165.0	CARBONDALE	HERRIN	COAL	6.0	380.0	

MAPID: 13501126000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' N line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.544446 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.070902 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 537.0 **LOGGED (FT.):** 378.8 **LOG TYPE:** Survey Core Study
SOURCE: PITTSBURGH CONS. COAL CO. 26BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
205.7	MODESTO		CALCAREOUS SHALE	8.0	331.3	
197.7	CARBONDALE	DANVILLE	BONE COAL	1.6	339.3	
196.2	CARBONDALE		MOTTLED SHALE	2.3	340.8	
193.9	CARBONDALE	GALUM	NODULAR LIMESTONE	3.8	343.1	
190.1	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.6	346.9	
189.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.4	347.5	UPPER BENCH
186.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	11.4	350.9	LOWER BENCH
174.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.9	362.3	
171.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.2	365.3	
171.6	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	365.4	
171.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.6	365.8	
168.7	CARBONDALE	ANNA	BLACK SHALE	2.7	368.3	
166.0	CARBONDALE	HERRIN	COAL	7.8	371.0	

MAPID: 13501126000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' N line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.544446 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.070902 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 537.0 **LOGGED (FT.):** 378.8 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONS. COAL CO. 26BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
202.8	MODESTO	PIASA	LIMESTONE	2.7	334.2	
200.1	MODESTO		UNCLASSIFIED	2.3	336.9	
197.8	CARBONDALE	DANVILLE	COAL	1.6	339.2	
196.2	CARBONDALE		UNCLASSIFIED	10.1	340.8	
186.1	CARBONDALE	BANKSTON FORK	LIMESTONE	11.4	350.9	
174.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	362.3	
171.8	CARBONDALE	CONANT	LIMESTONE	0.2	365.2	
171.6	CARBONDALE		SHALE	0.3	365.4	
171.3	CARBONDALE	BRERETON	LIMESTONE	2.6	365.7	
168.7	CARBONDALE	ANNA	BLACK SHALE	2.7	368.3	
166.0	CARBONDALE	HERRIN	COAL	7.8	371.0	

MAPID: 13501126000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' N line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.544446 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.070902 **DATE COLLECTED:** 5 / 0 / 1959
SURFACE ELEVATION (FT.): 537.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONS. COAL CO. 26BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
165.8	CARBONDALE	HERRIN	COAL	7.8	371.2	

MAPID: 13501742000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 120' S line, 55' E line of SE NW NE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.5341 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.068479 **DATE COLLECTED:** 6 / 16 / 1969
SURFACE ELEVATION (FT.): 540.0 **LOGGED (FT.):** 373.6 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO 229BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
173.2	CARBONDALE	HERRIN	COAL	6.8	366.8	

MAPID: 13501742000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 120' S line, 55' E line of SE NW NE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.5341 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.068479 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 540.0 **LOGGED (FT.):** 373.8 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO 229BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
210.2	MODESTO	PIASA	LIMESTONE	3.2	329.8	
207.0	MODESTO		UNCLASSIFIED	5.9	333.0	
201.1	CARBONDALE		UNCLASSIFIED	9.8	338.9	
191.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.8	348.7	
182.5	CARBONDALE	ANVIL ROCK	SANDSTONE	4.5	357.5	
178.0	CARBONDALE		SHALE	1.1	362.0	
176.9	CARBONDALE	BRERETON	LIMESTONE	3.1	363.1	
173.8	CARBONDALE	ANNA	BLACK SHALE	0.8	366.2	
173.0	CARBONDALE	HERRIN	COAL	6.8	367.0	

MAPID: 13500393000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.520988 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.059896 **DATE COLLECTED:** 5 / 0 / 1956

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 461.0 **LOG TYPE:** Electric Log

SOURCE: FAITH OIL CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
172.0	CARBONDALE		UNCLASSIFIED	7.5	430.0	
164.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.5	437.5	
156.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	446.0	
152.0	CARBONDALE		UNCLASSIFIED	1.0	450.0	
151.0	CARBONDALE	BRERETON	LIMESTONE	2.0	451.0	
149.0	CARBONDALE	ANNA	BLACK SHALE	2.0	453.0	
147.0	CARBONDALE	HERRIN	COAL	6.0	455.0	

MAPID: 13501386000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 340' N line, 115' E line of SE NE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.51077 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.067001 **DATE COLLECTED:** 7 / 0 / 1951

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 463.0 **LOG TYPE:** Electric Log

SOURCE: SCHIERMANN **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
186.0	MODESTO	PIASA	LIMESTONE	4.0	419.0	
182.0	MODESTO		UNCLASSIFIED	4.5	423.0	
177.5	CARBONDALE		UNCLASSIFIED	12.5	427.5	
165.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	440.0	
157.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	448.0	
154.0	CARBONDALE		UNCLASSIFIED	2.0	451.0	
152.0	CARBONDALE	BRERETON	LIMESTONE	2.0	453.0	
150.0	CARBONDALE	ANNA	BLACK SHALE	2.0	455.0	
148.0	CARBONDALE	HERRIN	COAL	6.0	457.0	

MAPID: 13501741000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1243' N line, 1295' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.514938 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.068165 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 466.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO 228BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
183.3	CARBONDALE		MOTTLED SHALE	20.0	418.7	
163.3	CARBONDALE	GALUM	LIMESTONE	0.5	438.7	
162.8	CARBONDALE		SILTY SHALE	5.4	439.2	
157.4	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.6	444.6	
156.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.9	445.2	UPPER BENCH
152.9	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	449.1	SHALE PARTING
151.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	450.2	LOWER BENCH
149.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.4	452.2	
147.4	CARBONDALE	LAWSON	GRAY SHALE	0.6	454.6	
146.8	CARBONDALE	LAWSON	MOTTLED SHALE	0.4	455.2	
146.4	CARBONDALE	LAWSON	DARK GRAY SHALE	1.0	455.6	
145.4	CARBONDALE	ANNA	BLACK SHALE	2.4	456.6	
143.0	CARBONDALE	HERRIN	COAL	7.3	459.0	

MAPID: 13501741000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1243' N line, 1295' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.514938 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.068165 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 466.3 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO 228BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
170.3	CARBONDALE		UNCLASSIFIED	12.0	432.7	
158.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	444.7	
150.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.4	452.2	
148.4	CARBONDALE		SHALE	1.0	454.6	
147.4	CARBONDALE	ANNA	BLACK SHALE	3.4	455.6	
144.0	CARBONDALE	HERRIN	COAL	7.3	459.0	

MAPID: 13501741000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1243' N line, 1295' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.514938 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.068165 **DATE COLLECTED:** 6 / 12 / 1969
SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 466.1 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO 228BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
143.2	CARBONDALE	HERRIN	COAL	7.3	458.8	

MAPID: 13500132000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1225' S line, 150' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.492324 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.06053 **DATE COLLECTED:** 0 / 0 / 1914
SURFACE ELEVATION (FT.): 566.2 **LOGGED (FT.):** 417.0 **LOG TYPE:**
SOURCE: SHOAL CKCC 6 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
160.2	CARBONDALE	HERRIN	COAL	7.2	406.0	

MAPID: 13500132000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1225' S line, 150' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.492324 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.06053 **DATE COLLECTED:** 2 / 0 / 1914
SURFACE ELEVATION (FT.): 566.0 **LOGGED (FT.):** 413.2 **LOG TYPE:** Drillers Log
SOURCE: SHOAL CREEK COAL CO **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
194.9	MODESTO	PIASA	LIMESTONE	3.5	371.1	
191.4	MODESTO		UNCLASSIFIED	5.8	374.6	
185.6	CARBONDALE		UNCLASSIFIED	9.3	380.4	
176.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	389.7	
168.3	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	397.7	
166.8	CARBONDALE		UNCLASSIFIED	3.1	399.2	
163.7	CARBONDALE	BRERETON	LIMESTONE	3.2	402.3	
160.5	CARBONDALE	ANNA	BLACK SHALE	0.5	405.5	
160.0	CARBONDALE	HERRIN	COAL	7.2	406.0	

MAPID: 13500132000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1225' S line, 150' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.492324 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.06053 **DATE COLLECTED:** 2 / 17 / 1914

SURFACE ELEVATION (FT.): 566.3 **LOGGED (FT.):** 417.0 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO., #6 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
566.3			CLAY	82.0	0.0	BLUE
484.3	BOND		SANDY SHALE	9.0	82.0	
475.3	BOND		SHALE	15.0	91.0	
460.3	BOND	CARTHAGE	LIMESTONE	14.0	106.0	
446.3	MODESTO		BLACK SHALE	4.3	120.0	
442.0	MODESTO		COAL	0.3	124.3	
441.6	MODESTO		SHALE	36.3	124.7	
405.3	MODESTO		BLACK SHALE	5.0	161.0	
400.3	MODESTO		SHALE	34.0	166.0	
366.3	MODESTO		SANDY SHALE	21.0	200.0	
345.3	MODESTO		SHALE	21.0	221.0	
324.3	MODESTO		DARK SHALE	12.0	242.0	
312.3	MODESTO		SHALE	96.0	254.0	
216.3	MODESTO		DARK SHALE	20.0	350.0	
196.3	MODESTO		SHALE	1.5	370.0	
194.8	MODESTO	PIASA	LIMESTONE	3.5	371.5	
191.3	MODESTO		SHALE	2.0	375.0	
189.3	CARBONDALE		GREEN SHALE	7.0	377.0	
182.3	CARBONDALE		SHALE	2.5	384.0	
179.8	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	386.5	
179.3	CARBONDALE		CALCAREOUS SHALE	7.0	387.0	
172.3	CARBONDALE		LIMESTONE	4.0	394.0	
168.3	CARBONDALE		CALCAREOUS SHALE	1.5	398.0	
166.8	CARBONDALE	BRERETON	LIMESTONE	6.3	399.5	
160.5	CARBONDALE	ANNA	BLACK SHALE	0.5	405.8	
160.0	CARBONDALE	HERRIN	COAL	5.6	406.3	
154.4	CARBONDALE	HERRIN	SHALE	0.2	411.9	BLUE BAND
154.3	CARBONDALE	HERRIN	COAL	1.4	412.0	
152.9	CARBONDALE		UNDERCLAY	3.6	413.4	

MAPID: 13500133000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 15' N line, 3450' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.503992 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.071556 **DATE COLLECTED:** 9 / 0 / 1913

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 475.2 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
163.6	CARBONDALE		UNCLASSIFIED	5.5	448.4	
158.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	453.9	
151.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	460.9	
149.1	CARBONDALE		UNCLASSIFIED	1.9	462.9	
147.2	CARBONDALE	BRERETON	LIMESTONE	1.9	464.8	
145.3	CARBONDALE	ANNA	BLACK SHALE	1.3	466.7	
144.0	CARBONDALE	HERRIN	COAL	7.2	468.0	

MAPID: 13500133000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 15' N line, 3450' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.503992 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.071556 **DATE COLLECTED:** 9 / 25 / 1913

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 488.3 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
612.0			UNCONSOLIDATED	108.6	0.0	
503.4			ROCK	245.4	108.6	
258.0			COAL	0.8	354.0	
257.2			ROCK	95.9	354.8	
161.3			COAL	1.3	450.7	
160.1			SHALE	11.1	451.9	
149.0			LIMESTONE	3.8	463.0	
145.2			BLACK SHALE	1.3	466.8	
143.8	CARBONDALE	HERRIN	COAL	7.2	468.2	
136.7	CARBONDALE		ROCK	13.0	475.3	

MAPID: 13500133000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 15' N line, 3450' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.503992 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.071556 **DATE COLLECTED:** 0 / 0 / 1913

SURFACE ELEVATION (FT.): 612.4 **LOGGED (FT.):** 488.0 **LOG TYPE:**

SOURCE: SHOAL CKCC0001 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
144.4	CARBONDALE	HERRIN	COAL	7.2	468.0	

MAPID: 13500133000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 15' N line, 3450' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.503992 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.071556 **DATE COLLECTED:** 9 / 25 / 1913

SURFACE ELEVATION (FT.): 612.4 **LOGGED (FT.):** 488.3 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL, #1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
612.4			CLAY	14.0	0.0	
598.4			SAND	1.0	14.0	
597.4			CLAY	93.6	15.0	
503.8	BOND		SANDSTONE	1.0	108.6	DARK
502.8	BOND		SANDSTONE	1.0	109.6	GRAY
501.8	BOND		SANDY SHALE	35.4	110.6	
466.4	BOND		CALCAREOUS SHALE	11.0	146.0	
455.4	BOND	CARTHAGE	LIMESTONE	9.5	157.0	
445.9	MODESTO		SHALE	5.5	166.5	
440.4	MODESTO		SANDY SHALE	56.0	172.0	
384.4	MODESTO		DARK SHALE	3.0	228.0	
381.4	MODESTO		SHALE	29.0	231.0	
352.4	MODESTO		SANDY SHALE	17.0	260.0	
335.4	MODESTO		SHALE	16.0	277.0	
319.4	MODESTO		CALCAREOUS SHALE	2.5	293.0	
316.9	MODESTO		SHALE	58.5	295.5	
258.4	MODESTO		COAL	0.8	354.0	
257.6	MODESTO		SHALE	16.3	354.8	
241.4	MODESTO		SANDY SHALE	19.0	371.0	
222.4	MODESTO		DARK SHALE	23.0	390.0	
199.4	MODESTO		SHALE	35.5	413.0	
163.9	MODESTO		BLACK SHALE	2.2	448.5	
161.7	CARBONDALE	DANVILLE	BONE COAL	1.3	450.7	
160.5	CARBONDALE		DARK SHALE	0.7	451.9	
159.8	CARBONDALE		SHALE	10.4	452.6	
149.4	CARBONDALE	BRERETON	LIMESTONE	3.8	463.0	
145.6	CARBONDALE	ANNA	BLACK SHALE	1.3	466.8	
144.2	CARBONDALE	HERRIN	COAL	7.2	468.2	
137.1	CARBONDALE		UNDERCLAY	6.5	475.3	
130.6	CARBONDALE		CALCAREOUS SHALE	3.0	481.8	
127.6	CARBONDALE		SHALE	1.7	484.8	
125.9	CARBONDALE		BLACK SHALE	1.8	486.5	

MAPID: 13500150000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1760' N line, 25' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.49187 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.066838 **DATE COLLECTED:** 1 / 0 / 1914

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 465.9 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
195.0	MODESTO	PIASA	LIMESTONE	3.5	420.0	
191.5	MODESTO		UNCLASSIFIED	5.8	423.5	
185.7	CARBONDALE		UNCLASSIFIED	16.2	429.3	
169.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.6	445.5	
161.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.9	453.1	
160.0	CARBONDALE	BRERETON	LIMESTONE	0.7	455.0	
159.3	CARBONDALE	ANNA	BLACK SHALE	2.3	455.7	
157.0	CARBONDALE	HERRIN	COAL	7.9	458.0	

MAPID: 13500150000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1760' N line, 25' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.49187 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.066838 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 465.9 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
194.0	MODESTO	PIASA	LIMESTONE	3.5	421.0	
190.5	MODESTO		CLAYSTONE	9.0	424.5	
181.5	CARBONDALE	DANVILLE	DARK GRAY SHALE	2.5	433.5	
179.0	CARBONDALE	GALUM	CALCAREOUS SHALE	22.2	436.0	
156.8	CARBONDALE	ALLENBY	DARK GRAY SHALE	2.3	458.2	
154.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.5	460.4	
152.1	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	3.5	462.9	
148.6	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.6	466.4	
141.0	CARBONDALE	LAWSON	GRAY SHALE	1.9	474.0	
139.1	CARBONDALE	BRERETON	CALCAREOUS SHALE	0.7	475.9	
138.4	CARBONDALE	ANNA	BLACK SHALE	2.3	476.6	
157.0	CARBONDALE	HERRIN	COAL	7.9	458.0	

MAPID: 13500150000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1760' N line, 25' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.49187 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.066838 **DATE COLLECTED:** 0 / 0 / 1914

SURFACE ELEVATION (FT.): 614.9 **LOGGED (FT.):** 521.0 **LOG TYPE:**

SOURCE: SHOAL CKCC 4 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
156.9	CARBONDALE	HERRIN	COAL	7.9	458.0	
98.9	CARBONDALE	HOUCHIN CREEK	COAL	1.8	516.0	C71 CALLED THIS #5; #4 IS CORRECT (CGT)

MAPID: 13500150000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1760' N line, 25' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.49187 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.066838 **DATE COLLECTED:** 1 / 1 / 1914

SURFACE ELEVATION (FT.): 614.9 **LOGGED (FT.):** 521.0 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO., #4 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
614.9			CLAY	14.0	0.0	
600.9			SAND	3.0	14.0	
597.9			HARD PAN	33.0	17.0	
564.9			SAND	22.0	50.0	
542.9			CLAY	48.5	72.0	
494.4	BOND		SHALE	12.5	120.5	
481.9	BOND		CALCAREOUS SHALE	1.0	133.0	
480.9	BOND		SHALE	9.3	134.0	
471.6	BOND	CARTHAGE	LIMESTONE	12.0	143.3	
459.6	MODESTO		BLACK SHALE	2.0	155.3	
457.6	MODESTO		COAL	0.1	157.3	
457.5	MODESTO		SHALE	0.6	157.4	
456.9	MODESTO		SANDY SHALE	24.0	158.0	
432.9	MODESTO		SHALE	20.0	182.0	
412.9	MODESTO		CALCAREOUS SHALE	2.5	202.0	
410.4	MODESTO		BLACK SHALE	5.5	204.5	
404.9	MODESTO	WOMAC	BONE COAL	0.9	210.0	
404.0	MODESTO		UNDERCLAY	3.1	210.9	
400.9	MODESTO		SHALE	20.3	214.0	
380.6	MODESTO		SANDSTONE	0.3	234.3	
380.3	MODESTO		LIMESTONE	0.9	234.6	
379.4	MODESTO		SHALE	10.0	235.5	
369.4	MODESTO		SANDSTONE	4.5	245.5	
364.9	MODESTO		SANDY SHALE	5.0	250.0	
359.9	MODESTO		SHALE	19.0	255.0	
340.9	MODESTO		CALCAREOUS SHALE	2.2	274.0	
338.7	MODESTO		SHALE	14.0	276.2	
324.7	MODESTO		DARK SHALE	19.0	290.2	
305.7	MODESTO	CHAPEL	BONE COAL	0.2	309.2	
305.6	MODESTO		UNDERCLAY	1.7	309.3	
303.9	MODESTO		SANDY SHALE	7.0	311.0	
296.9	MODESTO		DARK SHALE	14.0	318.0	
282.9	MODESTO		SANDY SHALE	58.0	332.0	
224.9	MODESTO		DARK SHALE	30.5	390.0	
194.4	MODESTO	PIASA	LIMESTONE	3.5	420.5	
190.9	MODESTO		UNDERCLAY	9.0	424.0	
181.9	CARBONDALE		DARK SHALE	2.5	433.0	
179.4	CARBONDALE		CALCAREOUS SHALE	2.2	435.5	
177.2	CARBONDALE		DARK SHALE	2.3	437.7	

175.0	CARBONDALE		CALCAREOUS SHALE	2.5	439.9	
172.5	CARBONDALE		DARK SHALE	3.5	442.4	
169.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.6	445.9	
165.4	CARBONDALE		GRAY SHALE	0.8	449.5	
164.6	CARBONDALE		LIMESTONE	3.3	450.3	
161.4	CARBONDALE		SHALE	1.9	453.5	
159.5	CARBONDALE		CALCAREOUS SHALE	0.7	455.4	
158.8	CARBONDALE	ANNA	BLACK SHALE	2.3	456.1	
156.6	CARBONDALE	HERRIN	COAL	7.9	458.3	
148.6	CARBONDALE		UNDERCLAY	6.0	466.3	
142.6	CARBONDALE		BLACK SHALE	1.8	472.3	
140.9	CARBONDALE		GREEN SHALE	6.0	474.0	
134.9	CARBONDALE		CALCAREOUS SHALE	29.0	480.0	W/LS
105.9	CARBONDALE	EXCELLO	BLACK SHALE	7.3	509.0	
98.6	CARBONDALE	HOUCHIN CREEK	BONE COAL	1.8	516.3	
96.7	CARBONDALE		UNDERCLAY	2.8	518.2	

MAPID: 13500469000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.497607 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.063481 **DATE COLLECTED:** 8 / 0 / 1956

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 454.5 **LOG TYPE:** Electric Log

SOURCE: WAGEMANN ARTHUR P **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
200.1	CARBONDALE		UNCLASSIFIED	15.0	417.9	
185.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.5	432.9	
177.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.3	440.4	
176.3	CARBONDALE		UNCLASSIFIED	1.3	441.7	
175.0	CARBONDALE	BRERETON	LIMESTONE	3.0	443.0	
172.0	CARBONDALE	ANNA	BLACK SHALE	1.0	446.0	
171.0	CARBONDALE	HERRIN	COAL	7.5	447.0	

MAPID: 13500657000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.502271 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.061659 **DATE COLLECTED:** 9 / 0 / 1957
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: KESSLER L C **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.5		
-	MODESTO		UNCLASSIFIED	6.5		
-	CARBONDALE	DANVILLE	COAL	1.0		
-	CARBONDALE		UNCLASSIFIED	13.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0		
-	CARBONDALE	CONANT	UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	3.0		
-	CARBONDALE	BRERETON	LIMESTONE	4.5		
-	CARBONDALE	ANNA	BLACK SHALE	1.5		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13500134000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 3525' S line, 4630' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.48953 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.066857 **DATE COLLECTED:** 0 / 0 / 1913
SURFACE ELEVATION (FT.): 612.8 **LOGGED (FT.):** 531.0 **LOG TYPE:**
SOURCE: SHOAL CKCC 3 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
145.8	CARBONDALE	HERRIN	COAL	5.4	467.0	
89.8	CARBONDALE	HOUCHIN CREEK	COAL	4.0	523.0	C71 CALLED THIS #5; SHOULD BE #4(CGT)

MAPID: 13500134000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 3525' S line, 4630' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.48953 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.066857 **DATE COLLECTED:** 12 / 0 / 1913
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 472.4 **LOG TYPE:** Drillers Log
SOURCE: SHOAL CREEK COAL CO **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
146.0	CARBONDALE	HERRIN	COAL	5.4	467.0	

MAPID: 13500134000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 3525' S line, 4630' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.48953 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.066857 **DATE COLLECTED:** 12 / 4 / 1913

SURFACE ELEVATION (FT.): 612.8 **LOGGED (FT.):** 531.4 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO., HOLE #3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
612.8			CLAY	12.0	0.0	
600.8			SAND	3.0	12.0	
597.8			HARD PAN	109.0	15.0	
488.8	BOND		SANDY SHALE	15.0	124.0	
473.8	BOND		CALCAREOUS SHALE	0.7	139.0	
473.1	BOND		SHALE	13.3	139.7	
459.8	BOND	CARTHAGE	LIMESTONE	11.7	153.0	
448.1	MODESTO		BLACK SHALE	4.1	164.7	
444.0	MODESTO		COAL	0.1	168.8	
444.0	MODESTO		SANDY SHALE	28.0	168.8	
416.0	MODESTO		CALCAREOUS SHALE	2.0	196.8	
414.0	MODESTO		BLACK SHALE	5.8	198.8	
408.1	MODESTO	WOMAC	COAL	0.2	204.7	
408.0	MODESTO		UNDERCLAY	6.2	204.8	
401.8	MODESTO		SHALE	29.0	211.0	
372.8	MODESTO		LIMESTONE	0.3	240.0	
372.5	MODESTO		SANDY SHALE	0.4	240.3	
372.0	MODESTO		LIMESTONE	1.0	240.8	
371.0	MODESTO		SANDY SHALE	6.3	241.8	
364.8	MODESTO		SANDSTONE	4.0	248.0	
360.8	MODESTO		SANDY SHALE	7.0	252.0	
353.8	MODESTO		SHALE	18.0	259.0	
335.8	MODESTO		LIMESTONE	1.8	277.0	
334.0	MODESTO		BLACK SHALE	0.2	278.8	
333.8	MODESTO		SHALE	27.0	279.0	
306.8	MODESTO		BLACK SHALE	5.0	306.0	
301.8	MODESTO	CHAPEL	COAL	0.5	311.0	
301.3	MODESTO		UNDERCLAY	1.5	311.5	
299.8	MODESTO		SANDY SHALE	82.0	313.0	
217.8	MODESTO		SHALE	2.0	395.0	
215.8	MODESTO		DARK SHALE	39.0	397.0	
176.8	CARBONDALE		SHALE	9.0	436.0	
167.8	CARBONDALE	ENERGY	SHALE	4.0	445.0	W/BOULDERS
163.8	CARBONDALE	ENERGY	SHALE	17.5	449.0	
146.3	CARBONDALE	HERRIN	COAL	5.4	466.5	
140.9	CARBONDALE		UNDERCLAY	5.1	471.9	
135.8	CARBONDALE		DARK SHALE	2.5	477.0	
133.3	CARBONDALE		GREEN SHALE	3.0	479.5	
130.3	CARBONDALE		SHALE	8.5	482.5	

121.8	CARBONDALE		DARK SHALE	24.8	491.0
97.0	CARBONDALE	HANOVER	LIMESTONE	0.5	515.8
96.5	CARBONDALE	EXCELLO	BLACK SHALE	6.1	516.3
90.4	CARBONDALE	HOUCHIN CREEK	COAL	4.0	522.4
86.4	CARBONDALE		UNDERCLAY	3.0	526.4
83.4	CARBONDALE		SHALE	2.0	529.4

MAPID: 13500136000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 3430' S line, 3010' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.483793 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.066536 **DATE COLLECTED:** 0 / 0 / 1913

SURFACE ELEVATION (FT.): 578.6 **LOGGED (FT.):** 535.0 **LOG TYPE:**

SOURCE: SHOAL CKCC0002 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
63.6	CARBONDALE	HOUCHIN CREEK	COAL	3.6	515.0	

MAPID: 13500136000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 3430' S line, 3010' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.483793 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.066536 **DATE COLLECTED:** 10 / 0 / 1913

SURFACE ELEVATION (FT.): 579.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO **WELL TYPE:** Coal Test

COMMENT:

MAPID: 13500136000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 3430' S line, 3010' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.483793 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.066536 **DATE COLLECTED:** 10 / 14 / 1913

SURFACE ELEVATION (FT.): 578.6 **LOGGED (FT.):** 534.8 **LOG TYPE:** Drillers Log

SOURCE: SHOAL CREEK COAL CO., HOLE #2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
578.6			UNCONSOLIDATED	111.0	0.0	
467.6	BOND		SHALE	16.0	111.0	
451.6	BOND	CARTHAGE	LIMESTONE	11.0	127.0	
440.6	MODESTO		DARK SHALE	3.0	138.0	
437.6	MODESTO		COAL	0.2	141.0	
437.4	MODESTO		SHALE	40.8	141.2	
396.6	MODESTO		BLACK SHALE	4.0	182.0	
392.6	MODESTO		COAL	0.3	186.0	
392.3	MODESTO		SHALE	68.0	186.3	
324.3	MODESTO		CALCAREOUS SHALE	2.5	254.3	
321.8	MODESTO		SHALE	38.0	256.8	
283.8	MODESTO		COAL	0.3	294.8	
283.6	MODESTO		SHALE	30.0	295.0	
253.6	MODESTO		SANDY SHALE	5.0	325.0	
248.6	MODESTO		SHALE	50.0	330.0	
198.6	MODESTO		LIMESTONE	0.3	380.0	
198.3	MODESTO		DARK SHALE	20.8	380.3	W/LS STREAKS
177.6	MODESTO		BLACK SHALE	1.0	401.0	
176.6	MODESTO	CHAPEL	COAL	0.5	402.0	
176.1	MODESTO		DARK SHALE	1.5	402.5	
174.6	MODESTO		UNDERCLAY	2.0	404.0	
172.6	MODESTO		SHALE	15.0	406.0	
157.6	CARBONDALE		SANDY SHALE	21.0	421.0	
136.6	CARBONDALE		LIMESTONE	0.3	442.0	
136.3	CARBONDALE		SANDSTONE	0.9	442.3	
135.3	CARBONDALE		LIMESTONE	0.1	443.3	
135.3	CARBONDALE		SANDSTONE	2.0	443.3	
133.3	CARBONDALE		LIMESTONE	0.2	445.3	
133.1	CARBONDALE	ENERGY	SANDSTONE	48.5	445.5	WALSHVILLE CHANNEL
118.6	CARBONDALE	HERRIN	COAL	0.0	460.0	COAL ERODED
84.6	CARBONDALE	ENERGY	SANDY SHALE	6.0	494.0	
78.6	CARBONDALE		SHALE	5.0	500.0	
73.6	CARBONDALE	HANOVER	LIMESTONE	1.1	505.0	
72.5	CARBONDALE	EXCELLO	BLACK SHALE	8.7	506.1	
63.8	CARBONDALE	HOUCHIN CREEK	COAL	3.6	514.8	
60.3	CARBONDALE		UNDERCLAY	5.0	518.3	
55.3	CARBONDALE		SHALE	3.4	523.3	
51.8	CARBONDALE		SANDY SHALE	8.0	526.8	

MAPID: 13500137000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** NE SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.483623 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.067069 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 558.0 **LOGGED (FT.):** 543.0 **LOG TYPE:**

SOURCE: W BREASTFC0002 **WELL TYPE:** Coal Test

COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0		

MAPID: 13500137000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** NE SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.483623 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.067069 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 558.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Coal Test

COMMENT:

MAPID: 13500137000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** NE SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.483623 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.067069 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 558.1 **LOGGED (FT.):** 543.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO., #2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
558.1			UNCONSOLIDATED	117.0	0.0	CLAY, SAND, & BOULDERS
441.1	BOND	CARTHAGE	LIMESTONE	17.0	117.0	
424.1	MODESTO		BLACK SHALE	3.0	134.0	
421.1	MODESTO		COAL	0.5	137.0	
420.6	MODESTO		BLUE SHALE	10.5	137.5	
410.1	MODESTO		SANDY SHALE	0.6	148.0	
409.5	MODESTO	WOMAC	COAL	1.5	148.6	
408.0	MODESTO		BLUE SHALE	13.9	150.1	
394.1	MODESTO		LIMESTONE	5.0	164.0	
389.1	MODESTO		SHALE	4.0	169.0	BLUE/BLK
385.1	MODESTO		COAL	0.5	173.0	
384.6			SANDY SHALE	26.5	173.5	
358.1			BLUE SHALE	2.0	200.0	
356.1			SANDY SHALE	25.0	202.0	
331.1			BLACK SHALE	1.0	227.0	
330.1			LIMESTONE	2.0	228.0	
328.1			SHALE	15.0	230.0	
313.1			BLUE SHALE	14.0	245.0	
299.1			SANDY SHALE	9.0	259.0	
290.1			COAL	0.5	268.0	THICKNESS & DEPTH AS REPORTED ON LOG
288.6			UNDERCLAY	66.5	269.5	FIRECLY AND SANDY SH
222.1			BLUE SHALE	20.0	336.0	
202.1			BLACK SHALE	30.0	356.0	
172.1			SHALE	0.5	386.0	
171.6			LIMESTONE	2.5	386.5	
169.1			CALCAREOUS SHALE	8.0	389.0	
161.1			LIMESTONE	1.0	397.0	
160.1			SANDY SHALE	7.0	398.0	
153.1			LIMESTONE	1.0	405.0	
152.1			SANDY SHALE	12.0	406.0	
140.1			ROCK	1.0	418.0	
139.1	CARBONDALE	ENERGY	SANDSTONE	25.0	419.0	
114.1	CARBONDALE	HERRIN	COAL	0.0	444.0	#6 ERODED
114.1	CARBONDALE	ENERGY	SANDY SHALE	21.0	444.0	
93.1	CARBONDALE	ENERGY	SANDSTONE	7.0	465.0	
86.1	CARBONDALE	ENERGY	SANDY SHALE	17.0	472.0	
69.1	CARBONDALE	ENERGY	SANDSTONE	3.0	489.0	
66.1	CARBONDALE		BLACK SHALE	3.0	492.0	
63.1	CARBONDALE		SANDY SHALE	30.0	495.0	

33.1	CARBONDALE	SANDSTONE	8.0	525.0
25.1	CARBONDALE	SANDY SHALE	2.0	533.0
23.1	CARBONDALE	SANDSTONE	8.0	535.0

MAPID: 13500342000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE NE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.474302 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.066971 **DATE COLLECTED:** 9 / 0 / 1955

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 486.0 **LOG TYPE:** Electric Log

SOURCE: JOHNSON J D **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
168.0	MODESTO	PIASA	LIMESTONE	6.0	439.0	
162.0	MODESTO		UNCLASSIFIED	4.0	445.0	
158.0	CARBONDALE	DANVILLE	COAL	1.0	449.0	
157.0	CARBONDALE		UNCLASSIFIED	14.5	450.0	
142.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	464.5	
135.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	471.5	
133.5	CARBONDALE		UNCLASSIFIED	1.5	473.5	
132.0	CARBONDALE	BRERETON	LIMESTONE	2.5	475.0	
129.5	CARBONDALE	ANNA	BLACK SHALE	1.5	477.5	
128.0	CARBONDALE	HERRIN	COAL	7.0	479.0	

MAPID: 13501187000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.485949 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.067091 **DATE COLLECTED:** 6 / 0 / 1960

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 490.0 **LOG TYPE:** Electric Log

SOURCE: HASSIE OIL CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
134.5	MODESTO	PIASA	LIMESTONE	2.5	481.5	
132.0	CARBONDALE	HERRIN	COAL	6.0	484.0	

MAPID: 13501254000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 990' N line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.485935 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.068905 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 608.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO 92-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.4	MODESTO	PIASA	CARBONACEOUS LIMESTONE	1.5	449.6	
165.9	CARBONDALE		CLAYSTONE	0.5	451.1	
165.4	CARBONDALE		SHALE & SILTSTONE	3.2	451.6	
162.2	CARBONDALE	ALLENBY	BONE COAL	0.9	454.8	
161.3	CARBONDALE	LAWSON	CARBONACEOUS SHALE	10.9	455.7	
150.4	CARBONDALE	LAWSON	SHALE & SILTSTONE	17.3	466.6	
133.1	CARBONDALE	LAWSON	CONGLOMERATE	0.7	483.9	
132.4	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	1.2	484.6	
131.2	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	46.3	485.8	

MAPID: 13501254000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 990' N line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.485935 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.068905 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO 92-BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501254000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 990' N line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.485935 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.068905 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 550.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO 92-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal
70.0	CARBONDALE	HOUCHIN CREEK	COAL	3.8	547.0	

MAPID: 13500645000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 400' N line, 400' E line of SW NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.488579 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.052358 **DATE COLLECTED:** 3 / 0 / 1957
SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 438.0 **LOG TYPE:** Electric Log
SOURCE: ALLEN, NELSON **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
187.5	MODESTO	PIASA	LIMESTONE	3.0	390.5	
184.5	MODESTO		UNCLASSIFIED	5.5	393.5	
179.0	CARBONDALE		UNCLASSIFIED	13.5	399.0	
165.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	412.5	
158.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	419.5	
155.0	CARBONDALE		UNCLASSIFIED	3.5	423.0	
151.5	CARBONDALE	BRERETON	LIMESTONE	4.0	426.5	
147.5	CARBONDALE	ANNA	BLACK SHALE	1.5	430.5	
146.0	CARBONDALE	HERRIN	COAL	6.0	432.0	

MAPID: 13501217000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.488346 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.050735 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 577.0 **LOGGED (FT.):** 484.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO 64-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
197.1	MODESTO	PIASA	LIMESTONE	0.3	379.9	
196.8	CARBONDALE	LAWSON	GRAY SHALE	20.3	380.2	
176.5	CARBONDALE	LAWSON	SANDSTONE	25.4	400.5	
151.1	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	2.4	425.9	
148.7	CARBONDALE	LAWSON	CONGLOMERATE	3.9	428.3	

MAPID: 13501217000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.488346 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.050735 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 577.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO 64-BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13501217000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.488346 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.050735 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 577.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO 64-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

MAPID: 13500644000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.507127 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.045324 **DATE COLLECTED:** 1 / 0 / 1957
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 446.5 **LOG TYPE:** Electric Log
SOURCE: FREDERKING, W. T. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
206.5	MODESTO		UNCLASSIFIED	5.0	405.5	
201.5	CARBONDALE		UNCLASSIFIED	14.0	410.5	
187.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	424.5	
181.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	430.5	
179.0	CARBONDALE		UNCLASSIFIED	2.5	433.0	
176.5	CARBONDALE	BRERETON	LIMESTONE	3.5	435.5	
173.0	CARBONDALE	ANNA	BLACK SHALE	2.0	439.0	
171.0	CARBONDALE	HERRIN	COAL	5.5	441.0	

MAPID: 13501264000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.500029 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.050754 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 450.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 100-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
212.0	MODESTO	PIASA	LIMESTONE	4.5	403.0	
207.5	CARBONDALE		MOTTLED SHALE	11.8	407.5	
195.7	CARBONDALE	ALLENBY	BONE COAL	0.9	419.3	
194.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.8	420.2	UPPER BENCH
188.0	CARBONDALE	BANKSTON FORK	SILTY SHALE	1.3	427.0	SHALE PARTING
186.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.7	428.3	LOWER BENCH
182.1	CARBONDALE	LAWSON	MOTTLED SHALE	3.5	432.9	
178.6	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	436.4	
178.1	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.4	436.9	
177.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.0	437.3	
173.7	CARBONDALE	ANNA	BLACK SHALE	1.7	441.3	
172.0	CARBONDALE	HERRIN	COAL	7.6	443.0	

MAPID: 13501264000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.500029 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.050754 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 450.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 100-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
210.7	MODESTO	PIASA	LIMESTONE	4.3	404.3	
206.4	MODESTO		UNCLASSIFIED	4.3	408.6	
202.1	CARBONDALE		UNCLASSIFIED	13.2	412.9	
188.9	CARBONDALE	BANKSTON FORK	LIMESTONE	7.9	426.1	
181.0	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	434.0	
177.5	CARBONDALE	CONANT	LIMESTONE	0.5	437.5	
177.0	CARBONDALE		SHALE	2.4	438.0	
174.6	CARBONDALE	BRERETON	LIMESTONE	2.0	440.4	
172.6	CARBONDALE	ANNA	BLACK SHALE	0.6	442.4	
172.0	CARBONDALE	HERRIN	COAL	7.6	443.0	

MAPID: 13501264000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.500029 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.050754 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 450.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 100-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
172.0	CARBONDALE	HERRIN	COAL	7.6	443.0	

MAPID: 13500138000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.512825 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.055314 **DATE COLLECTED:** 8 / 0 / 1903
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 466.2 **LOG TYPE:** Drillers Log
SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
195.1	MODESTO	PIASA	LIMESTONE	4.0	415.9	
191.1	MODESTO		UNCLASSIFIED	5.0	419.9	
186.1	CARBONDALE		UNCLASSIFIED	16.0	424.9	
170.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	440.9	
161.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	449.9	
159.1	CARBONDALE		UNCLASSIFIED	2.0	451.9	
157.1	CARBONDALE	BRERETON	LIMESTONE	3.3	453.9	
153.8	CARBONDALE	ANNA	BLACK SHALE	0.8	457.2	
153.0	CARBONDALE	HERRIN	COAL	8.2	458.0	

MAPID: 13500138000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.512825 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.055314 **DATE COLLECTED:** 8 / 28 / 1903

SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 470.5 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
611.0			UNCONSOLIDATED	165.0	0.0	
446.0			ROCK	24.5	165.0	
421.5			COAL	2.0	189.5	
419.5			ROCK	225.5	191.5	
194.0			SHALE	24.0	417.0	
170.0			LIMESTONE	3.0	441.0	
167.0			SHALE	1.5	444.0	
165.5			LIMESTONE	4.5	445.5	
161.0			SHALE	4.0	450.0	
157.0			LIMESTONE	3.3	454.0	
153.7			SHALE	0.8	457.3	
153.0	CARBONDALE	HERRIN	COAL	8.2	458.0	
144.8			ROCK	4.3	466.2	

MAPID: 13500138000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.512825 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.055314 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 611.2 **LOGGED (FT.):** 471.0 **LOG TYPE:**

SOURCE: W BREASTFC0001 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
153.2	CARBONDALE	HERRIN	COAL	8.2	458.0	

MAPID: 13500138000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.512825 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.055314 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 611.2 **LOGGED (FT.):** 470.5 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL, HOLE #1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
611.2			UNCONSOLIDATED	165.0	0.0	
446.2	BOND	CARTHAGE	LIMESTONE	19.0	165.0	
427.2	MODESTO		BLACK SHALE	5.5	184.0	
421.7	MODESTO		COAL	2.0	189.5	
419.7	MODESTO		UNDERCLAY	2.0	191.5	
417.7	MODESTO		SHALE	16.0	193.5	
401.7	MODESTO		LIMESTONE	1.5	209.5	
400.2	MODESTO		SHALE	5.0	211.0	
395.2	MODESTO		BLACK SHALE	3.0	216.0	
392.2	MODESTO		UNDERCLAY	5.0	219.0	
387.2	MODESTO		SHALE	23.0	224.0	
364.2	MODESTO		SANDY LIMESTONE	2.0	247.0	
362.2	MODESTO		UNDERCLAY	2.0	249.0	
360.2	MODESTO		SHALE	21.5	251.0	
338.7	MODESTO		LIMESTONE	3.0	272.5	
335.7	MODESTO		SHALE	41.0	275.5	
294.7	MODESTO		LIMESTONE	1.5	316.5	
293.2	MODESTO		SHALE	98.0	318.0	
195.2	MODESTO		LIMESTONE	1.0	416.0	
194.2	CARBONDALE		SHALE	24.0	417.0	
170.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	441.0	
167.2	CARBONDALE	BANKSTON FORK	SHALE	1.5	444.0	
165.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	445.5	
161.2	CARBONDALE		SHALE	4.0	450.0	
157.2	CARBONDALE	BRERETON	LIMESTONE	3.3	454.0	
153.9	CARBONDALE		SHALE	0.8	457.3	
153.2	CARBONDALE	HERRIN	COAL	8.2	458.0	
145.0	CARBONDALE		UNDERCLAY	4.3	466.2	

MAPID: 13501263000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.516309 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.056242 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 462.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 98-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
191.0	MODESTO	PIASA	LIMESTONE	5.5	414.0	
185.5	CARBONDALE		CALCAREOUS SHALE	15.8	419.5	
169.7	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.3	435.3	UPPER BENCH
166.4	CARBONDALE	BANKSTON FORK	SILTY SHALE	2.0	438.6	SHALE PARTING
164.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.3	440.6	LOWER BENCH
158.2	CARBONDALE	LAWSON	MOTTLED SHALE	3.2	446.8	
155.0	CARBONDALE	CONANT	CALCAREOUS SHALE	0.2	450.0	
154.8	CARBONDALE	JAMESTOWN	DARK GRAY SHALE	0.4	450.2	
154.4	CARBONDALE	BRERETON	NODULAR LIMESTONE	2.3	450.6	
152.1	CARBONDALE	ANNA	BLACK SHALE	1.4	452.9	
150.0	CARBONDALE	HERRIN	COAL	7.5	455.0	

MAPID: 13501263000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.516309 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.056242 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 462.5 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 98-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
190.5	MODESTO	PIASA	LIMESTONE	5.5	414.5	
185.0	MODESTO		UNCLASSIFIED	4.0	420.0	
181.0	CARBONDALE		UNCLASSIFIED	11.7	424.0	
169.3	CARBONDALE	BANKSTON FORK	LIMESTONE	11.8	435.7	
157.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.2	447.5	
154.3	CARBONDALE	CONANT	LIMESTONE	0.2	450.7	
154.1	CARBONDALE		SHALE	0.4	450.9	
153.7	CARBONDALE	BRERETON	LIMESTONE	2.3	451.3	
151.4	CARBONDALE	ANNA	BLACK SHALE	1.4	453.6	
150.0	CARBONDALE	HERRIN	COAL	7.5	455.0	

MAPID: 13501263000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.516309 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.056242 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 462.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 98-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
150.4	CARBONDALE	HERRIN	COAL	7.5	454.6	

MAPID: 13500139000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** NE NE SE NW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.539251 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053205 **DATE COLLECTED:** 6 / 0 / 1904
SURFACE ELEVATION (FT.): 519.0 **LOGGED (FT.):** 373.5 **LOG TYPE:** Drillers Log
SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
196.5	MODESTO	PIASA	LIMESTONE	6.0	322.5	
190.5	MODESTO		UNCLASSIFIED	6.0	328.5	
184.5	CARBONDALE	DANVILLE	COAL	2.0	334.5	
182.5	CARBONDALE		UNCLASSIFIED	16.5	336.5	
166.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	353.0	
160.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	358.5	
158.5	CARBONDALE	BRERETON	LIMESTONE	2.0	360.5	
156.5	CARBONDALE	ANNA	BLACK SHALE	2.5	362.5	
154.0	CARBONDALE	HERRIN	COAL	8.5	365.0	

MAPID: 13500139000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** NE NE SE NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.539251 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.053205 **DATE COLLECTED:** 6 / 0 / 1904

SURFACE ELEVATION (FT.): 519.0 **LOGGED (FT.):** 370.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
519.0			UNCONSOLIDATED	53.0	0.0	
466.0			ROCK	19.5	53.0	
446.5			COAL	1.5	72.5	
445.0			ROCK	129.0	74.0	
316.0			COAL	1.0	203.0	
315.0			ROCK	132.0	204.0	
183.0			SHALE	12.5	336.0	
170.5			LIMESTONE	5.5	348.5	
165.0			SHALE	2.0	354.0	
163.0			LIMESTONE	2.0	356.0	
161.0			BLACK SHALE	2.5	358.0	
158.5	CARBONDALE	HERRIN	COAL	8.5	360.5	
150.0			ROCK	1.0	369.0	

MAPID: 13500139000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** NE NE SE NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.539251 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.053205 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 519.4 **LOGGED (FT.):** 370.0 **LOG TYPE:**

SOURCE: W BREASTFC M **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
158.4	CARBONDALE	HERRIN	COAL	8.5	361.0	

MAPID: 13500139000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** NE NE SE NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.539251 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.053205 **DATE COLLECTED:** 6 / 0 / 1904

SURFACE ELEVATION (FT.): 519.4 **LOGGED (FT.):** 370.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO., HOLE #M **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
519.4			UNCONSOLIDATED	22.0	0.0	
497.4			SAND & GRAVEL	4.0	22.0	
493.4			UNCONSOLIDATED	27.0	26.0	BLUE
466.4	BOND	CARTHAGE	LIMESTONE	13.5	53.0	
452.9	MODESTO		BLACK SHALE	3.0	66.5	
449.9	MODESTO		MUDSTONE	3.0	69.5	BLUE
446.9	MODESTO		COAL	1.5	72.5	
445.4	MODESTO		UNDERCLAY	24.0	74.0	
421.4	MODESTO		SHALE	39.0	98.0	
382.4	MODESTO		SANDY LIMESTONE	2.5	137.0	
379.9	MODESTO		UNDERCLAY	6.0	139.5	
373.9	MODESTO		LIMESTONE	2.0	145.5	
371.9	MODESTO		SHALE	13.0	147.5	
358.9	MODESTO		LIMESTONE	6.0	160.5	
352.9	MODESTO		UNDERCLAY	3.5	166.5	
349.4	MODESTO		SHALE	33.0	170.0	
316.4	MODESTO	CHAPEL	COAL	1.0	203.0	
315.4	MODESTO		UNDERCLAY	2.0	204.0	
313.4	MODESTO		LIMESTONE	5.0	206.0	
308.4	MODESTO		UNDERCLAY	7.0	211.0	
301.4	MODESTO		SHALE	84.0	218.0	
217.4	MODESTO		SHALE & BOULDERS	16.0	302.0	
201.4	MODESTO		BLUE SHALE	12.0	318.0	
189.4	MODESTO		BLACK SHALE	2.0	330.0	
187.4	CARBONDALE		UNDERCLAY	4.0	332.0	
183.4	CARBONDALE		BROWN SHALE	12.5	336.0	
170.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	348.5	
165.4	CARBONDALE		BLUE SHALE	2.0	354.0	
163.4	CARBONDALE	BRERETON	LIMESTONE	2.0	356.0	
161.4	CARBONDALE	ANNA	BLACK SHALE	2.5	358.0	
158.9	CARBONDALE	HERRIN	COAL	8.5	360.5	
150.4	CARBONDALE		UNDERCLAY	1.0	369.0	

MAPID: 13500139000C **VERSION:** 5 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** NE NE SE NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.539251 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.053205 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 520.0 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-11 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
159.5	CARBONDALE	HERRIN	COAL	8.5	360.5	

MAPID: 13501280000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.535071 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.05454 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 432.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 93-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
191.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.2	405.3	UPPER BENCH
189.5	CARBONDALE	BANKSTON FORK	SILTY SHALE	1.5	407.5	SHALE PARTING
188.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	9.8	409.0	LOWER BENCH
178.3	CARBONDALE	LAWSON	MOTTLED SHALE	2.1	418.7	
176.2	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	420.8	
175.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.3	421.1	
174.6	CARBONDALE	ANNA	BLACK SHALE	2.6	422.4	
172.0	CARBONDALE	HERRIN	COAL	7.5	425.0	

MAPID: 13501280000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.535071 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.05454 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 432.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 93-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
191.4	CARBONDALE		UNCLASSIFIED	3.3	405.6	
188.1	CARBONDALE	BANKSTON FORK	LIMESTONE	9.7	408.9	
178.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.1	418.6	
176.3	CARBONDALE		SHALE	0.3	420.7	
176.0	CARBONDALE	BRERETON	LIMESTONE	1.3	421.0	
174.7	CARBONDALE	ANNA	BLACK SHALE	2.7	422.3	
172.0	CARBONDALE	HERRIN	COAL	7.5	425.0	

MAPID: 13501280000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.535071 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.05454 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 432.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 93-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
171.8	CARBONDALE	HERRIN	COAL	7.5	425.2	

MAPID: 13501748000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2285' N line, 187' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.566405 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.051059 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 424.6 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO. 235BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
240.3	MODESTO	PIASA	LIMESTONE	3.5	379.7	
236.8	CARBONDALE		MOTTLED SHALE	21.9	383.2	
214.9	CARBONDALE	BANKSTON FORK	LIMESTONE	1.1	405.1	UPPER BENCH
213.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	406.2	SHALE PARTING
212.8	CARBONDALE	BANKSTON FORK	LIMESTONE AND SANDSTONE	3.2	407.2	LOWER BENCH
209.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.5	410.3	
207.1	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	412.9	
206.7	CARBONDALE	BRERETON	LIMESTONE	2.3	413.3	
204.4	CARBONDALE	ANNA	DARK GRAY SHALE	2.5	415.6	
202.0	CARBONDALE	HERRIN	COAL	6.6	418.0	

MAPID: 13501748000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2285' N line, 187' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.566405 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.051059 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 424.6 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO. 235BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
241.2	MODESTO	PIASA	LIMESTONE	3.5	379.8	
237.7	MODESTO		UNCLASSIFIED	6.4	383.3	
231.3	CARBONDALE		UNCLASSIFIED	13.5	389.7	
217.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.2	403.2	
210.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	410.4	
208.1	CARBONDALE		SHALE	0.4	412.9	
207.7	CARBONDALE	BRERETON	LIMESTONE	2.3	413.3	
205.4	CARBONDALE	ANNA	BLACK SHALE	2.4	415.6	
203.0	CARBONDALE	HERRIN	COAL	6.6	418.0	

MAPID: 13501748000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2285' N line, 187' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.566405 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.051059 **DATE COLLECTED:** 7 / 15 / 1969
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 424.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 235BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
201.7	CARBONDALE	HERRIN	COAL	6.6	418.3	

MAPID: 13500140000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2750' S line, 2650' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.576707 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.050473 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 383.0 **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
245.0	MODESTO	PIASA	LIMESTONE	4.5	336.0	
240.5	MODESTO		UNCLASSIFIED	5.5	340.5	
235.0	CARBONDALE		UNCLASSIFIED	13.0	346.0	
222.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	359.0	
213.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	368.0	
211.0	CARBONDALE		UNCLASSIFIED	2.5	370.0	
208.5	CARBONDALE	BRERETON	LIMESTONE	2.5	372.5	
206.0	CARBONDALE	ANNA	BLACK SHALE	2.0	375.0	
204.0	CARBONDALE	HERRIN	COAL	6.0	377.0	

MAPID: 13500140000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2750' S line, 2650' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.576707 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.050473 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 383.0 **LOG TYPE:** Drillers Log

SOURCE: J. E. ROOT FARM **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
581.0			UNCONSOLIDATED	68.0	0.0	
513.0			ROCK	283.3	68.0	
229.7			SHALE	7.8	351.3	
222.0			LIMESTONE	9.0	359.0	
213.0			SHALE	2.0	368.0	
211.0			LIMESTONE	5.0	370.0	
206.0			BLACK SHALE	2.0	375.0	
204.0	CARBONDALE	HERRIN	COAL	6.0	377.0	

MAPID: 13500140000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2750' S line, 2650' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.576707 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.050473 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 581.4 **LOGGED (FT.):** 383.0 **LOG TYPE:**

SOURCE: ROOT J E **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
204.4	CARBONDALE	HERRIN	COAL	6.0	377.0	

MAPID: 13500140000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2750' S line, 2650' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.576707 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.050473 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 581.3 **LOGGED (FT.):** 383.0 **LOG TYPE:** Drillers Log

SOURCE: J.E. ROOT FARM **WELL TYPE:** Coal Test

COMMENT: USED IN COOP RPT 1912

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
581.3			UNCONSOLIDATED	14.0	0.0	
567.3			SAND	16.0	14.0	
551.3			CLAY	19.0	30.0	BLUE
532.3			CLAY	15.0	49.0	YELLOW
517.3			CLAY	4.0	64.0	DARK
513.3			SAND	1.0	68.0	BROWN
512.3			CLAY	8.0	69.0	POSSIBLY CLYST; BLUE
504.3	BOND		LIMESTONE	4.0	77.0	
500.3	BOND		SANDY SHALE	5.0	81.0	
495.3	BOND		DARK SHALE	3.0	86.0	
492.3	BOND	CARTHAGE	LIMESTONE	12.0	89.0	
480.3	MODESTO		BLACK SHALE	1.5	101.0	
478.8	MODESTO		LIMESTONE	0.5	102.5	
478.3	MODESTO		BLACK SHALE	0.5	103.0	
477.8	MODESTO		DARK SHALE	13.5	103.5	
464.3	MODESTO		SANDY SHALE	17.0	117.0	
447.3	MODESTO		DARK SHALE	3.0	134.0	
444.3	MODESTO		BLUE SHALE	18.0	137.0	
426.3	MODESTO		SANDY SHALE	27.0	155.0	
399.3	MODESTO		LIMESTONE	5.5	182.0	
393.8	MODESTO		UNDERCLAY	3.5	187.5	
390.3	MODESTO		DARK SHALE	32.0	191.0	
358.3	MODESTO		BLACK SHALE	0.5	223.0	
357.8	MODESTO		SHALE	9.5	223.5	
348.3	MODESTO		DARK SHALE	77.0	233.0	
271.3	MODESTO		SHALE	9.0	310.0	YELLOW
262.3	MODESTO		BLUE SHALE	4.0	319.0	
258.3	MODESTO		SANDSTONE	3.0	323.0	BLUE
255.3	MODESTO		SHALE	7.0	326.0	WHITE
248.3	MODESTO		BLUE SHALE	1.0	333.0	
247.3	MODESTO		RED SHALE	2.0	334.0	
245.3	MODESTO		BLUE SHALE	9.0	336.0	
236.3	MODESTO		BLACK SHALE	1.0	345.0	
235.3	MODESTO		BLUE SHALE	5.3	346.0	
230.0	MODESTO		SHALE	3.0	351.3	W/LS
227.0	MODESTO		BLACK SHALE	0.8	354.3	
226.3	CARBONDALE		DARK SHALE	2.5	355.0	
223.8	CARBONDALE		SHALE	1.5	357.5	
222.3	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	359.0	

213.3	CARBONDALE		BLUE SHALE	2.0	368.0	
211.3	CARBONDALE	BRERETON	LIMESTONE	5.0	370.0	
206.3	CARBONDALE	ANNA	BLACK SHALE	2.0	375.0	
204.3	CARBONDALE	HERRIN	COAL	6.0	377.0	
198.3	CARBONDALE		UNDERCLAY	0.0	383.0	T.D

MAPID: 13501241000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582562 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.052832 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 388.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 68-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
252.0	MODESTO	PIASA	LIMESTONE	7.0	348.0	
245.0	CARBONDALE	DANVILLE	COAL	0.5	355.0	
244.5	CARBONDALE		MOTTLED SHALE	4.5	355.5	
240.0	CARBONDALE	GALUM	LIMESTONE	2.0	360.0	
238.0	CARBONDALE		MOTTLED SHALE	2.0	362.0	
236.0	CARBONDALE	LAWSON	SILTSTONE	7.1	364.0	
228.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.1	371.1	
223.8	CARBONDALE	ANNA	BLACK SHALE	4.3	376.2	
219.0	CARBONDALE	HERRIN	COAL	7.5	381.0	

MAPID: 13501241000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582562 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.052832 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 388.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 68-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
252.6	MODESTO	PIASA	LIMESTONE	3.0	347.4	
249.6	MODESTO		UNCLASSIFIED	4.0	350.4	
245.6	CARBONDALE	DANVILLE	COAL	0.5	354.4	
245.1	CARBONDALE		UNCLASSIFIED	9.5	354.9	
235.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	364.4	
230.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.1	369.4	
228.5	CARBONDALE	CONANT	LIMESTONE	0.7	371.5	
227.8	CARBONDALE		SHALE	0.3	372.2	
227.5	CARBONDALE	BRERETON	LIMESTONE	4.1	372.5	
223.4	CARBONDALE	ANNA	BLACK SHALE	4.4	376.6	
219.0	CARBONDALE	HERRIN	COAL	7.5	381.0	

MAPID: 13501241000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582562 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.052832 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 355.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 68-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
245.0	CARBONDALE	DANVILLE	COAL	0.5	355.0	
218.6	CARBONDALE	HERRIN	COAL	7.5	381.4	

MAPID: 13501158000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' S line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582672 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.034683 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 588.0 **LOGGED (FT.):** 370.6 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 45-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
264.0	MODESTO	PIASA	LIMESTONE	2.5	324.0	
261.5	MODESTO		MOTTLED SHALE	12.3	326.5	
249.2	CARBONDALE	DANVILLE	BONE COAL	2.8	338.8	
246.3	CARBONDALE		CLAYSTONE	9.5	341.7	
236.8	CARBONDALE	BANKSTON FORK	LIMESTONE	6.1	351.2	
230.8	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.0	357.2	
227.8	CARBONDALE	BRERETON	LIMESTONE	1.7	360.2	
226.1	CARBONDALE	ANNA	BLACK SHALE	1.8	361.9	
225.0	CARBONDALE	HERRIN	COAL	7.6	363.0	

MAPID: 13501158000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' S line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582672 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.034683 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 588.0 **LOGGED (FT.):** 340.6 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 45-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
295.0	MODESTO	PIASA	LIMESTONE	2.5	293.0	
292.5	MODESTO		UNCLASSIFIED	4.9	295.5	
287.6	CARBONDALE		UNCLASSIFIED	15.7	300.4	
271.9	CARBONDALE	BANKSTON FORK	LIMESTONE	9.1	316.1	
262.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	325.2	
260.0	CARBONDALE		SHALE	0.5	328.0	
259.5	CARBONDALE	BRERETON	LIMESTONE	2.7	328.5	
256.8	CARBONDALE	ANNA	BLACK SHALE	1.8	331.2	
255.0	CARBONDALE	HERRIN	COAL	7.6	333.0	

MAPID: 13501158000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' S line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582672 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.034683 **DATE COLLECTED:** 9 / 0 / 1959
SURFACE ELEVATION (FT.): 588.0 **LOGGED (FT.):** 370.4 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 45-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
225.2	CARBONDALE	HERRIN	COAL	7.6	362.8	

MAPID: 13500181000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 5050' S line, 100' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.548524 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.042299 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 510.0 **LOGGED (FT.):** **LOG TYPE:**
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
224.0	CARBONDALE	HERRIN	COAL	-	286.0	

MAPID: 13501207000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** SE SE SW NW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.563152 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.036028 **DATE COLLECTED:** 1 / 0 / 1921
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: DONK BROS. COAL & COKE **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	16.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	2.0		
-	CARBONDALE	ANNA	BLACK SHALE	1.7		
-	CARBONDALE	HERRIN	COAL	6.1		

MAPID: 13501207000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** SE SE SW NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.563152 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.036028 **DATE COLLECTED:** 0 / 0 / 1921

SURFACE ELEVATION (FT.): 582.0 **LOGGED (FT.):** 368.5 **LOG TYPE:** Drillers Log

SOURCE: DONK BROS C C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
582.0			UNCONSOLIDATED	17.5	0.0	
564.5			ROCK	38.0	17.5	
526.5			COAL	0.3	55.5	
526.2			ROCK	70.4	55.8	
455.7			COAL	1.1	126.3	
454.7			ROCK	209.8	127.3	
244.9			COAL	0.8	337.1	
244.2			SHALE	7.2	337.8	
237.0			LIMESTONE	9.0	345.0	
228.0			SHALE	2.0	354.0	
226.0			LIMESTONE	4.0	356.0	
222.0			SHALE	1.7	360.0	
220.3	CARBONDALE	HERRIN	COAL	6.1	361.7	
214.3			ROCK	0.8	367.7	

MAPID: 13501207000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** SE SE SW NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.563152 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.036028 **DATE COLLECTED:** 1 / 0 / 1921

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 368.5 **LOG TYPE:** Drillers Log

SOURCE: DONK BROTHERS COAL CO., #2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			SAND/CLAY	16.0	0.0	
-			BOULDERS & GRAVEL	1.5	16.0	
-	BOND		SANDY SHALE	14.5	17.5	
-			SHALE	22.0	32.0	
-			LIMESTONE	1.5	54.0	
-			COAL	0.3	55.5	
-			GRAY SHALE	2.2	55.8	
-			SHALE	9.0	58.0	
-			DARK SHALE	7.0	67.0	
-			SHALY LIMESTONE	1.5	74.0	
-	MODESTO		DARK SHALE	11.5	75.5	
-	MODESTO		LIMESTONE	5.0	87.0	
-	MODESTO		BLACK SHALE	4.0	92.0	
-	MODESTO		DARK SHALE	9.0	96.0	
-	MODESTO		GRAY SHALE	19.8	105.0	
-	MODESTO		BLACK SHALE	1.5	124.8	
-	MODESTO		COAL	1.1	126.3	
-	MODESTO		BLACK SHALE	0.6	127.3	
-	MODESTO		GRAY SHALE	6.1	127.9	
-	MODESTO		DARK SHALE	40.0	134.0	
-	MODESTO		SANDY SHALE	6.0	174.0	
-	MODESTO		SANDSTONE	75.0	180.0	
-	MODESTO		SANDY SHALE	6.0	255.0	
-	MODESTO		SANDSTONE	4.0	261.0	
-	MODESTO		DARK SHALE	4.0	265.0	
-	MODESTO		SANDSTONE	14.0	269.0	W/SH PARTINGS
-	MODESTO		DARK SHALE	15.0	283.0	
-	MODESTO		CALCAREOUS SHALE	10.0	298.0	
-	MODESTO		DARK SHALE	13.0	308.0	
-	MODESTO	PIASA	LIMESTONE	4.0	321.0	
-	MODESTO		DARK SHALE	12.1	325.0	
-	CARBONDALE	DANVILLE	COAL	0.8	337.1	
-	CARBONDALE		DARK SHALE	2.2	337.8	
-	CARBONDALE		CALCAREOUS SHALE	5.0	340.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	345.0	
-	CARBONDALE		CALCAREOUS SHALE	2.0	354.0	
-	CARBONDALE	BRERETON	LIMESTONE	4.0	356.0	
-	CARBONDALE		DARK SHALE	1.7	360.0	
-	CARBONDALE	HERRIN	COAL	4.7	361.7	

-	CARBONDALE	HERRIN	PYRITE & SHALE	0.1	366.3	LOG HAS SULPHUR & SH
-	CARBONDALE	HERRIN	SHALY COAL	0.2	366.4	
-	CARBONDALE	HERRIN	SHALE	0.2	366.6	
-	CARBONDALE	HERRIN	COAL	1.0	366.8	
-	CARBONDALE		UNDERCLAY	0.8	367.8	

MAPID: 13501252000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 990' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.551677 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.041936 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 541.0 **LOGGED (FT.):** 322.6 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 86-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
264.0	MODESTO	PIASA	LIMESTONE	5.0	277.0	
259.0	CARBONDALE	DANVILLE	BLACK SHALE	1.5	282.0	
257.5	CARBONDALE		MOTTLED SHALE	17.2	283.5	
240.3	CARBONDALE	GALUM	NODULAR LIMESTONE	0.3	300.7	
240.0	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.7	301.0	
239.3	CARBONDALE		GRAY SHALE	2.5	301.7	
236.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.4	304.2	UPPER BENCH
232.4	CARBONDALE	BANKSTON FORK	GRAY SHALE	1.1	308.6	SHALE PARTING
231.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.1	309.7	LOWER BENCH
229.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.9	311.8	
227.3	CARBONDALE	CONANT	CALCAREOUS SHALE	0.2	313.7	
227.1	CARBONDALE	JAMESTOWN	BONE COAL	0.3	313.9	
226.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.3	314.2	
225.5	CARBONDALE	ANNA	BLACK SHALE	3.2	315.5	
226.0	CARBONDALE	HERRIN	COAL	7.6	315.0	

MAPID: 13501252000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 990' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.551677 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.041936 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 541.0 **LOGGED (FT.):** 326.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 86-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
259.7	MODESTO	PIASA	LIMESTONE	2.5	281.3	
257.2	MODESTO		UNCLASSIFIED	4.0	283.8	
253.2	CARBONDALE		UNCLASSIFIED	16.7	287.8	
236.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.6	304.5	
228.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.9	312.1	
227.0	CARBONDALE		SHALE	0.5	314.0	
226.5	CARBONDALE	BRERETON	LIMESTONE	1.3	314.5	
225.2	CARBONDALE	ANNA	BLACK SHALE	3.2	315.8	
222.0	CARBONDALE	HERRIN	COAL	7.6	319.0	

MAPID: 13501252000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 990' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.551677 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.041936 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 541.0 **LOGGED (FT.):** 326.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 86-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
222.0	CARBONDALE	HERRIN	COAL	7.6	319.0	

MAPID: 13501745000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 318' S line, 55' W line of SW SW NW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.567124 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.036446 **DATE COLLECTED:** 6 / 27 / 1969
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 232BB **WELL TYPE:** Coal Test
COMMENT: ELEV ADDED, FROM DEM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
233.9	CARBONDALE	HERRIN	COAL	7.4	357.1	

MAPID: 13501745000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 318' S line, 55' W line of SW SW NW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.567124 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.036446 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 364.4 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO. 232BB **WELL TYPE:** Coal Test

COMMENT: ELEV CHANGED TO DEM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
273.7	MODESTO	PIASA	LIMESTONE	5.4	317.3	
268.3	MODESTO		UNCLASSIFIED	2.8	322.7	
265.5	CARBONDALE		UNCLASSIFIED	14.7	325.5	
250.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.1	340.2	
243.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	347.3	
240.8	CARBONDALE	CONANT	LIMESTONE	0.5	350.2	
240.3	CARBONDALE		SHALE	0.5	350.7	
239.8	CARBONDALE	BRERETON	LIMESTONE	3.3	351.2	
236.5	CARBONDALE	ANNA	BLACK SHALE	2.5	354.5	
234.0	CARBONDALE	HERRIN	COAL	7.4	357.0	

MAPID: 13500142000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.547095 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.034686 **DATE COLLECTED:** 7 / 0 / 1903

SURFACE ELEVATION (FT.): 515.0 **LOGGED (FT.):** 340.0 **LOG TYPE:** Drillers Log

SOURCE: A. W. CRAWFORD **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
515.0			UNCONSOLIDATED	28.0	0.0	
487.0			ROCK	242.0	28.0	
245.0			UNDERCLAY	2.0	270.0	
243.0			SHALE	5.0	272.0	
238.0			LIMESTONE	2.0	277.0	
236.0			SHALE	5.0	279.0	
231.0			LIMESTONE	3.5	284.0	
227.5			SHALE	4.0	287.5	
223.5			BLACK SHALE	2.8	291.5	
220.7			COAL	6.8	294.3	
214.0			UNDERCLAY	9.0	301.0	
205.0			SHALE	17.0	310.0	
188.0			LIMESTONE	2.0	327.0	
186.0			BLACK SHALE	1.7	329.0	
184.3	CARBONDALE	HERRIN	COAL	8.3	330.7	
176.1			ROCK	1.1	338.9	

MAPID: 13500142000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.547095 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.034686 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 515.0 **LOGGED (FT.):** 300.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
262.0	MODESTO	PIASA	LIMESTONE	3.0	253.0	
259.0	CARBONDALE		CLAYSTONE & SHALE	21.0	256.0	
238.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	277.0	
236.0	CARBONDALE	BANKSTON FORK	SHALE	5.0	279.0	
231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	284.0	
227.5	CARBONDALE	LAWSON	GRAY SHALE	4.0	287.5	
223.5	CARBONDALE	ANNA	BLACK SHALE	2.8	291.5	
221.0	CARBONDALE	HERRIN	COAL	6.8	294.0	

MAPID: 13500142000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.547095 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.034686 **DATE COLLECTED:** 7 / 0 / 1903

SURFACE ELEVATION (FT.): 514.0 **LOGGED (FT.):** 300.8 **LOG TYPE:** Drillers Log

SOURCE: CRAWFORD A W **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
261.3	MODESTO	PIASA	LIMESTONE	3.0	252.7	
258.3	MODESTO		UNCLASSIFIED	5.0	255.7	
253.3	CARBONDALE		UNCLASSIFIED	16.0	260.7	
237.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.5	276.7	
226.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	287.2	
225.3	CARBONDALE		UNCLASSIFIED	1.5	288.7	
223.8	CARBONDALE	BRERETON	LIMESTONE	1.0	290.2	
222.8	CARBONDALE	ANNA	BLACK SHALE	2.8	291.2	
220.0	CARBONDALE	HERRIN	COAL	6.8	294.0	

MAPID: 13500142000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.547095 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.034686 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 514.9 **LOGGED (FT.):** 340.0 **LOG TYPE:**

SOURCE: W BREASTFC E **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
220.9	CARBONDALE	HERRIN	COAL	6.8	294.0	

MAPID: 13500142000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.547095 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.034686 **DATE COLLECTED:** 7 / 0 / 1903

SURFACE ELEVATION (FT.): 514.9 **LOGGED (FT.):** 340.0 **LOG TYPE:** Drillers Log

SOURCE: A.W. CRAWFORD (OPTIONS) #20 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
514.9			UNCONSOLIDATED	26.0	0.0	
488.9			SAND & GRAVEL	2.0	26.0	
486.9	MODESTO		SANDY SHALE	24.0	28.0	
462.9	MODESTO		BLACK SHALE	0.5	52.0	
462.4	MODESTO		UNDERCLAY	4.0	52.5	
458.4	MODESTO		SHALE	30.5	56.5	
427.9	MODESTO		UNDERCLAY	16.0	87.0	
411.9	MODESTO		BLUE SHALE	2.0	103.0	
409.9	MODESTO		LIMESTONE	3.0	105.0	DARK
406.9	MODESTO		DARK SHALE	33.0	108.0	
373.9	MODESTO		BLACK SHALE	1.0	141.0	W/COAL STREAKS
372.9	MODESTO		UNDERCLAY	2.0	142.0	
370.9	MODESTO		SANDY SHALE	100.0	144.0	
270.9	MODESTO		CLAYSTONE & SILTSTONE	4.0	244.0	RED
266.9	MODESTO		BLUE SHALE	5.0	248.0	
261.9	MODESTO		LIMESTONE	3.0	253.0	
258.9	MODESTO		UNDERCLAY	6.0	256.0	
252.9	MODESTO		BLUE SHALE	8.0	262.0	
244.9	MODESTO		UNDERCLAY	2.0	270.0	
242.9	MODESTO		SHALE	5.0	272.0	
237.9	MODESTO		LIMESTONE	2.0	277.0	
235.9	MODESTO		SHALE	5.0	279.0	
230.9	MODESTO	PIASA	LIMESTONE	3.5	284.0	
227.4	MODESTO		BLUE SHALE	4.0	287.5	
223.4	MODESTO		BLACK SHALE	2.8	291.5	
220.6	CARBONDALE	DANVILLE	COAL	6.8	294.3	PROB. IN ERROR, TOO THICK FOR #7
213.9			UNDERCLAY	9.0	301.0	
204.9			BLUE SHALE	17.0	310.0	
187.9	CARBONDALE	BRERETON	LIMESTONE	2.0	327.0	
185.9	CARBONDALE	ANNA	BLACK SHALE	1.7	329.0	
184.2	CARBONDALE	HERRIN	COAL	8.3	330.7	
176.0			UNDERCLAY	1.1	338.9	T.D.

MAPID: 13501122000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** 270' S line, 205' E line of SW SE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.53481 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.028998 **DATE COLLECTED:** 4 / 0 / 1959
SURFACE ELEVATION (FT.): 588.0 **LOGGED (FT.):** 401.0 **LOG TYPE:** Electric Log
SOURCE: SLAGTER PRODUCING CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
196.0	CARBONDALE	HERRIN	COAL	9.0	392.0	

MAPID: 13501396000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** 960' N line, 330' E line of SW NW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.54469 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.036545 **DATE COLLECTED:** 2 / 0 / 1950
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: REED O A **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	1.5		
-	CARBONDALE	BRERETON	LIMESTONE	1.5		
-	CARBONDALE	ANNA	BLACK SHALE	2.0		
-	CARBONDALE	HERRIN	COAL	8.0		

MAPID: 135201D0001F **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** NW SW SW SE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.538243 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.029637 **DATE COLLECTED:** 0 / 0 / 1927
SURFACE ELEVATION (FT.): 510.0 **LOGGED (FT.):** 21.5 **LOG TYPE:** Measured section
SOURCE: FLD. NOTES-J. M. WELLER **WELL TYPE:** Outcrop
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
510.0			LIMESTONE	6.0	0.0	
504.0			SHALE	0.7	6.0	
503.3			BLACK SHALE	1.5	6.7	
501.8			SHALE	4.0	8.2	
497.8			COAL	1.3	12.2	
496.5			UNDERCLAY	8.0	13.5	

MAPID: 13500007601M **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** NW SW SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.518795 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.030868 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 538.0 **LOGGED (FT.):** 7.0 **LOG TYPE:** Measured section

SOURCE: MINE NOTES-COSGROVE MEEHAN C C #5 **WELL TYPE:** Underground mine

COMMENT: SEVERAL MEASURED SECTIONS IN THIS MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
538.0			UNKNOWN	381.0	0.0	
157.0	CARBONDALE	HERRIN	COAL	7.0	381.0	

MAPID: 13500007602M **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:**

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519982 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.035403 **DATE COLLECTED:** 7 / 15 / 1912

SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 7.3 **LOG TYPE:** Measured section

SOURCE: MINE NOTES-COSGROVE MEEHAN C C #5 **WELL TYPE:** Underground mine

COMMENT: #1 RM 2ND S. STUB OFF 8TH E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
594.0			UNKNOWN	380.0	0.0	
214.0	CARBONDALE	HERRIN	COAL	7.3	380.0	

MAPID: 13500143000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SW SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519371 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.028604 **DATE COLLECTED:** 8 / 10 / 1903

SURFACE ELEVATION (FT.): 531.0 **LOGGED (FT.):** 364.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL/LUMAGHI C C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
531.0			UNCONSOLIDATED	36.0	0.0	
495.0			ROCK	34.5	36.0	
460.5			COAL	1.0	70.5	
459.5			ROCK	130.5	71.5	
329.0			COAL	1.0	202.0	
328.0			UNDERCLAY	0.5	203.0	
327.5			COAL	1.5	203.5	
326.0			ROCK	117.0	205.0	
209.0			SHALE	8.0	322.0	
201.0			BLACK SHALE	1.0	330.0	
200.0			SHALE	1.5	331.0	
198.5			LIMESTONE	1.5	332.5	
197.0			SHALE	4.5	334.0	
192.5			LIMESTONE	6.0	338.5	
186.5			SHALE	3.5	344.5	
183.0			LIMESTONE	4.3	348.0	
178.7			BLACK SHALE	0.7	352.3	
178.1	CARBONDALE	HERRIN	COAL	7.8	352.9	
170.3			ROCK	3.3	360.7	

MAPID: 13500143000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SW SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519371 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.028604 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 525.0 **LOGGED (FT.):** 360.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
214.0	MODESTO	PIASA	LIMESTONE	3.5	311.0	
210.5	CARBONDALE		MOTTLED SHALE	15.5	314.5	
195.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	330.0	
194.0	CARBONDALE		DARK GRAY SHALE	1.5	331.0	
192.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	332.5	
191.0	CARBONDALE	BANKSTON FORK	SHALE	4.5	334.0	
186.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	338.5	
180.5	CARBONDALE	LAWSON	GRAY SHALE	3.5	344.5	
177.0	CARBONDALE	BRERETON	LIMESTONE	4.3	348.0	
172.7	CARBONDALE	ANNA	BLACK SHALE	0.7	352.3	
172.0	CARBONDALE	HERRIN	COAL	7.8	353.0	

MAPID: 13500143000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SW SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519371 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.028604 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 525.0 **LOGGED (FT.):** 360.8 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
214.0	MODESTO	PIASA	LIMESTONE	3.5	311.0	
210.5	MODESTO		UNCLASSIFIED	5.5	314.5	
205.0	CARBONDALE		UNCLASSIFIED	12.5	320.0	
192.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	12.0	332.5	
180.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	344.5	
177.0	CARBONDALE		UNCLASSIFIED	2.1	348.0	
174.9	CARBONDALE	BRERETON	LIMESTONE	2.2	350.1	
172.7	CARBONDALE	ANNA	BLACK SHALE	0.7	352.3	
172.0	CARBONDALE	HERRIN	COAL	7.8	353.0	

MAPID: 13500143000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SW SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519371 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.028604 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 525.2 **LOGGED (FT.):** 364.0 **LOG TYPE:**

SOURCE: W BREASTFC000F **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
172.2	CARBONDALE	HERRIN	COAL	7.8	353.0	

MAPID: 13500143000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SW SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519371 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.028604 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 525.2 **LOGGED (FT.):** 364.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO., #21 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
525.2			UNCONSOLIDATED	36.0	0.0	
489.2	BOND		BLUE SHALE	2.5	36.0	
486.7	BOND		LIMESTONE	1.5	38.5	
485.2	BOND		UNDERCLAY	10.0	40.0	
475.2	BOND	CARTHAGE	LIMESTONE	17.0	50.0	
458.2	MODESTO		CALCAREOUS SHALE	0.5	67.0	
457.7	MODESTO		BLACK SHALE	3.0	67.5	
454.7	MODESTO		COAL	1.0	70.5	
453.7	MODESTO		UNDERCLAY	3.5	71.5	
450.2	MODESTO		SHALE	30.0	75.0	
420.2	MODESTO		UNDERCLAY	6.0	105.0	
414.2	MODESTO		BLACK SHALE	4.0	111.0	
410.2	MODESTO		SHALE	21.0	115.0	
389.2	MODESTO		SANDY LIMESTONE	3.5	136.0	
385.7	MODESTO		SHALE	30.5	139.5	
355.2	MODESTO		LIMESTONE	2.0	170.0	
353.2	MODESTO		SHALE	30.0	172.0	
323.2	MODESTO		COAL	1.0	202.0	
322.2	MODESTO		UNDERCLAY	0.5	203.0	
321.7	MODESTO		COAL	1.5	203.5	
320.2	MODESTO		SHALE	84.0	205.0	
236.2	MODESTO		SANDY LIMESTONE	17.0	289.0	
219.2	MODESTO		UNDERCLAY	2.5	306.0	
216.7	MODESTO		BLUE SHALE	1.0	308.5	
215.7	MODESTO		UNDERCLAY	1.5	309.5	
214.2	MODESTO	PIASA	LIMESTONE	3.5	311.0	
210.7	MODESTO		SHALE	5.0	314.5	YELLOW
205.7	MODESTO		CLAYSTONE & SILTSTONE	2.5	319.5	YELLOW
203.2	MODESTO		SHALE	8.0	322.0	
195.2	MODESTO		BLACK SHALE	1.0	330.0	
194.2	CARBONDALE		BLUE SHALE	1.5	331.0	
192.7	CARBONDALE		LIMESTONE	1.5	332.5	
191.2	CARBONDALE		SHALE	4.5	334.0	
186.7	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	338.5	
180.7	CARBONDALE		SHALE	3.5	344.5	
177.2	CARBONDALE	BRERETON	LIMESTONE	4.3	348.0	
172.9	CARBONDALE	ANNA	BLACK SHALE	0.7	352.3	
172.3	CARBONDALE	HERRIN	COAL	7.8	352.9	
164.5	CARBONDALE		UNDERCLAY	1.0	360.7	

163.5	CARBONDALE	SHALE	0.5	361.7
163.0	CARBONDALE	LIMESTONE	1.8	362.2

MAPID: 13500160000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1000' S line, 2500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519453 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.030912 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 537.6 **LOGGED (FT.):** 381.0 **LOG TYPE:**

SOURCE: COSGROVE 5 **WELL TYPE:** Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
163.6	CARBONDALE	HERRIN	COAL	7.0	374.0	

MAPID: 13500160000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1000' S line, 2500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519453 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.030912 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 538.0 **LOGGED (FT.):** 381.0 **LOG TYPE:** Drillers Log

SOURCE: COSGROVE & MEEHAN COAL **WELL TYPE:** Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.0	CARBONDALE	HERRIN	COAL	7.0	374.0	

MAPID: 13501398000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 2145' S line, 515' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.512453 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.034032 **DATE COLLECTED:** 12 / 0 / 1951

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: SCHIERMANN, AL **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	1.5		
-	CARBONDALE	BRERETON	LIMESTONE	1.5		
-	CARBONDALE	ANNA	BLACK SHALE	2.0		
-	CARBONDALE	HERRIN	COAL	8.0		

MAPID: 13500658000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 320' N line, 330' W line of NW SW SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.509437 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.030833 **DATE COLLECTED:** 2 / 0 / 1950
SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 422.0 **LOG TYPE:** Electric Log
SOURCE: BAYER, KENNETH M. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
181.0	CARBONDALE	HERRIN	COAL	4.0	418.0	

MAPID: 13501232000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.493201 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.032351 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 493.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 69-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.1	CARBONDALE	LAWSON	SILTY SHALE	12.5	424.9	
171.6	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	15.9	437.4	
155.7	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	4.8	453.3	
150.9	CARBONDALE	LAWSON	CLAYSTONE & SHALE	13.7	458.1	
137.2	CARBONDALE	LAWSON	CONGLOMERATE	0.2	471.8	

MAPID: 13501232000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.493201 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.032351 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 69-BB **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	DANVILLE	COAL	0.5		
-	CARBONDALE		UNCLASSIFIED	14.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0		
-	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0		
-	CARBONDALE		SHALE	3.0		
-	CARBONDALE	BRERETON	LIMESTONE	3.0		
-	CARBONDALE	ANNA	BLACK SHALE	2.8		

MAPID: 13501232000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.493201 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.032351 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 69-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

MAPID: 13501401000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.504807 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.034386 **DATE COLLECTED:** 6 / 0 / 1951
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: AUBREY TENNANT OIL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13501402000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 345' S line, 650' E line of NW SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.508272 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.032652 **DATE COLLECTED:** 9 / 0 / 1949
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 429.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
213.0	MODESTO	PIASA	LIMESTONE	8.0	385.0	
205.0	MODESTO		UNCLASSIFIED	4.0	393.0	
201.0	CARBONDALE		UNCLASSIFIED	9.0	397.0	
192.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	406.0	
186.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	412.0	
183.5	CARBONDALE		UNCLASSIFIED	2.5	414.5	
181.0	CARBONDALE	BRERETON	LIMESTONE	4.0	417.0	
177.0	CARBONDALE	HERRIN	COAL	8.0	421.0	

MAPID: 13501404000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 990' N line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.509505 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.039888 **DATE COLLECTED:** 11 / 0 / 1949
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 419.0 **LOG TYPE:** Electric Log
SOURCE: BENOIST BROTHERS **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
199.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	399.0	
190.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	408.0	
188.0	CARBONDALE		UNCLASSIFIED	2.0	410.0	
186.0	CARBONDALE	BRERETON	LIMESTONE	2.0	412.0	
184.0	CARBONDALE	HERRIN	COAL	5.0	414.0	

MAPID: 13500144000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.487303 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.038814 **DATE COLLECTED:** 0 / 0 / 1904
SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 459.0 **LOG TYPE:**
SOURCE: W BREASTFC I **WELL TYPE:** Coal Test
COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.0	CARBONDALE	HERRIN	COAL	7.8	446.0	

MAPID: 13500144000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.487303 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.038814 **DATE COLLECTED:** 0 / 0 / 1904
SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 453.8 **LOG TYPE:** Drillers Log
SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
196.0	MODESTO	PIASA	LIMESTONE	6.0	406.0	
190.0	MODESTO		UNCLASSIFIED	7.0	412.0	
183.0	CARBONDALE		UNCLASSIFIED	12.0	419.0	
171.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	431.0	
161.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	441.0	
159.0	CARBONDALE	ANNA	BLACK SHALE	3.0	443.0	
156.0	CARBONDALE	HERRIN	COAL	7.8	446.0	

MAPID: 13500144000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.487303 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.038814 **DATE COLLECTED:** 0 / 0 / 1904

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 459.0 **LOG TYPE:** Drillers Log

SOURCE: WHITEBREAST FUEL CO., #1 **WELL TYPE:** Coal Test

COMMENT: ESOURCE IS WYE LEVEL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
602.0			UNCONSOLIDATED	163.0	0.0	
439.0			BLUE SHALE	1.0	163.0	
438.0	BOND		LIMESTONE	6.0	164.0	
432.0	BOND		CONGLOMERATE	17.0	170.0	
415.0	MODESTO		BLUE SHALE	0.5	187.0	
414.5	MODESTO		BLACK SHALE	0.5	187.5	
414.0	MODESTO		COAL	1.0	188.0	
413.0	MODESTO		CLAYSTONE & SILTSTONE	1.0	189.0	BROWN
412.0	MODESTO		SHALE	17.0	190.0	
395.0	MODESTO		SANDY SHALE	18.0	207.0	
377.0	MODESTO		SANDSTONE	9.0	225.0	
368.0	MODESTO		SANDY SHALE	9.0	234.0	
359.0	MODESTO		BLUE SHALE	8.0	243.0	
351.0	MODESTO		SANDSTONE	7.0	251.0	
344.0	MODESTO		BLUE SHALE	8.0	258.0	
336.0	MODESTO		LIMESTONE	4.0	266.0	
332.0	MODESTO		BLACK SHALE	5.0	270.0	
327.0	MODESTO		BLUE SHALE	14.0	275.0	
313.0	MODESTO	CHAPEL	COAL	0.3	289.0	
312.7	MODESTO		BLUE SHALE	13.7	289.3	
299.0	MODESTO		SANDY SHALE	22.0	303.0	
277.0	MODESTO		BLUE SHALE	10.0	325.0	
267.0	MODESTO		SANDY SHALE	57.0	335.0	
210.0	MODESTO		BLUE SHALE	13.0	392.0	
197.0	MODESTO		SANDSTONE	1.0	405.0	
196.0	MODESTO		CLAYSTONE & SHALE	4.0	406.0	
192.0	MODESTO		SHALE	15.0	410.0	
177.0	CARBONDALE		CALCAREOUS SHALE	3.0	425.0	
174.0	CARBONDALE		BLUE SHALE	3.0	428.0	
171.0	CARBONDALE	BRERETON	LIMESTONE	10.0	431.0	MAY INCLUDE BANKSTON FORK
161.0	CARBONDALE		BLUE SHALE	2.0	441.0	
159.0	CARBONDALE	ANNA	BLACK SHALE	3.0	443.0	
156.0	CARBONDALE	HERRIN	COAL	7.8	446.0	
147.2	CARBONDALE		SHALE	5.0	454.8	

MAPID: 13500145000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1650' S line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.486193 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.032323 **DATE COLLECTED:** 6 / 0 / 1904
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 468.5 **LOG TYPE:** Drillers Log
SOURCE: WHITEBREAST FUEL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
188.5	MODESTO	PIASA	LIMESTONE	6.0	420.5	
182.5	MODESTO		UNCLASSIFIED	5.5	426.5	
177.0	CARBONDALE		UNCLASSIFIED	11.0	432.0	
166.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	443.0	
156.0	CARBONDALE	BRERETON	LIMESTONE	5.0	453.0	
151.0	CARBONDALE	ANNA	BLACK SHALE	1.0	458.0	
150.0	CARBONDALE	HERRIN	COAL	9.5	459.0	

MAPID: 13500145000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1650' S line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.486193 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.032323 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 468.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
193.0	MODESTO	PIASA	LIMESTONE	6.0	416.0	
187.0	CARBONDALE		MOTTLED SHALE	8.0	422.0	
179.0	CARBONDALE	GALUM	LIMESTONE	0.5	430.0	
178.5	CARBONDALE		GRAY SHALE	5.0	430.5	
173.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	435.5	
171.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.0	438.0	
167.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	442.0	
163.5	CARBONDALE	LAWSON	GRAY SHALE	4.0	445.5	
159.5	CARBONDALE	BRERETON	LIMESTONE	5.0	449.5	
154.5	CARBONDALE	ANNA	BLACK SHALE	1.0	454.5	
150.0	CARBONDALE	HERRIN	COAL	9.5	459.0	

MAPID: 13500145000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1650' S line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.486193 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.032323 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.9 **LOGGED (FT.):** 469.0 **LOG TYPE:**
SOURCE: W BREASTFC L **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
149.9	CARBONDALE	HERRIN	COAL	9.5	459.0	

MAPID: 13500607000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.481487 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.037869 **DATE COLLECTED:** 1 / 0 / 1957
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 464.0 **LOG TYPE:** Electric Log
SOURCE: MCGAW & HUGHES PETRO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
201.5	MODESTO	PIASA	LIMESTONE	4.0	414.5	
197.5	MODESTO		UNCLASSIFIED	4.0	418.5	
193.5	CARBONDALE	DANVILLE	COAL	2.0	422.5	
191.5	CARBONDALE		UNCLASSIFIED	19.5	424.5	
172.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	444.0	
165.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	451.0	
163.5	CARBONDALE	CONANT	UNCLASSIFIED	2.0	452.5	
161.5	CARBONDALE		UNCLASSIFIED	3.0	454.5	
158.5	CARBONDALE	BRERETON	LIMESTONE	1.0	457.5	
157.5	CARBONDALE	ANNA	BLACK SHALE	0.5	458.5	
157.0	CARBONDALE	HERRIN	COAL	5.0	459.0	

MAPID: 13500659000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 270' S line, 330' E line of NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.483838 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.035862 **DATE COLLECTED:** 1 / 0 / 1957
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 458.0 **LOG TYPE:** Electric Log
SOURCE: MEYER, FRED W. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
205.0	MODESTO	PIASA	LIMESTONE	4.5	409.0	
200.5	MODESTO		UNCLASSIFIED	4.5	413.5	
196.0	CARBONDALE	DANVILLE	COAL	2.0	418.0	
194.0	CARBONDALE		UNCLASSIFIED	16.5	420.0	
177.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	436.5	
171.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	443.0	
170.0	CARBONDALE		UNCLASSIFIED	1.0	444.0	
169.0	CARBONDALE	BRERETON	LIMESTONE	4.0	445.0	
165.0	CARBONDALE	ANNA	BLACK SHALE	2.0	449.0	
163.0	CARBONDALE	HERRIN	COAL	7.0	451.0	

MAPID: 13500110000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1300' S line, 4750' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.621488 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.076197 **DATE COLLECTED:** 4 / 0 / 1903
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: WILMINGTON STAR MINING CO. **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13500110000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1300' S line, 4750' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.621488 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.076197 **DATE COLLECTED:** 4 / 18 / 1903
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 480.0 **LOG TYPE:** Drillers Log
SOURCE: WILMINGTON STAR COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
628.0			UNCONSOLIDATED	70.0	0.0	
558.0			ROCK	380.0	70.0	
178.0			SHALE	22.0	450.0	
156.0			COAL	8.0	472.0	

MAPID: 13500110000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1300' S line, 4750' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.621488 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.076197 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 628.1 **LOGGED (FT.):** 480.0 **LOG TYPE:**

SOURCE: OLD BEN 1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		

MAPID: 13500111000C **VERSION:** 1 **PROJECT:** NCRDS87

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 3550' S line, 3725' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61756 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.082432 **DATE COLLECTED:** 6 / 0 / 1903

SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 531.0 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
586.0			UNCONSOLIDATED	34.0	0.0	
552.0	BOND		LIMESTONE	2.0	34.0	
550.0	BOND		UNCLASSIFIED	8.0	36.0	
542.0	BOND	CARTHAGE	LIMESTONE	12.0	44.0	
530.0	MODESTO		BLACK SHALE	2.0	56.0	
528.0	MODESTO		UNCLASSIFIED	62.0	58.0	
466.0	MODESTO		SANDSTONE	25.0	120.0	
441.0	MODESTO		SHALE	10.0	145.0	
431.0	MODESTO		SANDSTONE	5.0	155.0	
426.0	MODESTO		SHALE	15.0	160.0	
411.0	MODESTO	CHAPEL	COAL	0.5	175.0	UNCERTAIN CORRELATION
410.5	MODESTO		SHALE	4.5	175.5	
406.0	MODESTO		UNCLASSIFIED	1.0	180.0	
405.0	MODESTO		SANDSTONE	29.0	181.0	
376.0	MODESTO		SHALE	15.0	210.0	
361.0	MODESTO		UNCLASSIFIED	41.0	225.0	
320.0	MODESTO		LIMESTONE	2.0	266.0	
318.0	MODESTO		UNCLASSIFIED	10.0	268.0	
308.0	MODESTO		UNDERCLAY	2.0	278.0	
306.0	MODESTO		SANDSTONE	6.0	280.0	
300.0	MODESTO		DARK SHALE	29.0	286.0	
271.0	MODESTO		SHALE & SANDSTONE	30.0	315.0	
241.0	MODESTO		UNCLASSIFIED	1.0	345.0	
240.0	MODESTO		SANDSTONE	56.0	346.0	
184.0	CARBONDALE	HERRIN	COAL	0.5	402.0	UNCERTAIN CORRELATION
183.5	CARBONDALE		SHALE & SANDSTONE	37.5	402.5	
146.0	CARBONDALE		UNCLASSIFIED	20.0	440.0	
126.0	CARBONDALE		SHALE	4.5	460.0	
121.5	CARBONDALE	SURVANT	COAL	0.5	464.5	UNCERTAIN CORRELATION
121.0	CARBONDALE		UNCLASSIFIED	47.0	465.0	
74.0	CARBONDALE	MECCA QUARRY	BLACK SHALE	3.5	512.0	
70.5	CARBONDALE		UNDERCLAY	1.0	515.5	
69.5	CARBONDALE		UNCLASSIFIED	1.5	516.5	
68.0	CARBONDALE		LIMESTONE	1.5	518.0	
66.5	CARBONDALE		SANDSTONE	2.5	519.5	
64.0	CARBONDALE		UNCLASSIFIED	5.0	522.0	
59.0	SPOON	SEELYVILLE	BONE COAL	2.0	527.0	UNCERTAIN CORRELATION
57.0	SPOON		LIMESTONE	1.0	529.0	
56.0	SPOON		UNDERCLAY	1.0	530.0	

MAPID: 13500111000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 3550' S line, 3725' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61756 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.082432 **DATE COLLECTED:** 6 / 0 / 1903
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 531.0 **LOG TYPE:** Drillers Log
SOURCE: WILMINGTON STAR COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
586.0			UNCONSOLIDATED	34.0	0.0	
552.0			ROCK	141.0	34.0	
411.0			COAL	0.5	175.0	
410.5			ROCK	226.5	175.5	
184.0			COAL	0.5	402.0	
183.5			ROCK	62.0	402.5	
121.5			COAL	0.5	464.5	
121.0			ROCK	47.0	465.0	
74.0			BLACK SHALE	3.5	512.0	
70.5			ROCK	11.5	515.5	
59.0			COAL WITH SHALE	2.0	527.0	
57.0			ROCK	2.0	529.0	

MAPID: 13500111000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 3550' S line, 3725' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61756 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.082432 **DATE COLLECTED:** 6 / 0 / 1903
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: STAR COAL CO. **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13500111000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 3550' S line, 3725' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61756 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.082432 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 531.0 **LOG TYPE:**
SOURCE: OLD BEN 2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		

MAPID: 13501313000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.624571 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.078831 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: HUNT, C. T. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	7.0		
-	CARBONDALE		UNCLASSIFIED	14.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		

MAPID: 13501349000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 990' N line, 380' E line of SW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.634623 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.077133 **DATE COLLECTED:** 2 / 0 / 1963
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: ANDERSON, L. C. **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	6.0		
-	CARBONDALE		UNCLASSIFIED	15.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		

MAPID: 13500660000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.644278 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.07923 **DATE COLLECTED:** 6 / 0 / 1947
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: REZNIK JOE **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	11.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13500660000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.644278 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.07923 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 528.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
337.0	MODESTO	PIASA	LIMESTONE	4.0	316.0	
333.0	CARBONDALE	LAWSON	SHALE	10.0	320.0	
323.0	CARBONDALE		CALCAREOUS SHALE	4.0	330.0	
319.0	CARBONDALE	BRERETON	LIMESTONE	5.0	334.0	
314.0	CARBONDALE	ANNA	BLACK SHALE	3.0	339.0	
311.0	CARBONDALE	ENERGY	SHALE	96.0	342.0	
215.0	CARBONDALE	ENERGY	SANDSTONE	10.0	438.0	
205.0	CARBONDALE	ENERGY	SHALE	12.0	448.0	
193.0	CARBONDALE	ENERGY	SANDSTONE	68.0	460.0	

MAPID: 13500112000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1200' S line, 2950' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672521 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.07634 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 423.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
656.0			UNCONSOLIDATED	138.0	0.0	
518.0			ROCK	24.0	138.0	
494.0			COAL	0.4	162.0	
493.6			ROCK	83.3	162.4	
410.2			COAL	0.5	245.8	
409.7			ROCK	109.3	246.3	
300.5			COAL	0.4	355.5	
300.1			ROCK	32.1	355.9	
268.0			LIMESTONE	21.0	388.0	
247.0			BLACK SHALE	2.3	409.0	
244.7	CARBONDALE	HERRIN	COAL	3.3	411.3	
241.5	CARBONDALE		SHALE	0.5	414.5	
241.0	CARBONDALE	HERRIN	COAL	5.9	415.0	
235.1	CARBONDALE		ROCK	2.1	420.9	

MAPID: 13500112000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1200' S line, 2950' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672521 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.07634 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 420.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.0	MODESTO	PIASA	LIMESTONE	3.0	369.0	
284.0	CARBONDALE		CLAYSTONE & SHALE	16.0	372.0	
268.0	CARBONDALE	BRERETON	LIMESTONE	21.0	388.0	
247.0	CARBONDALE	ANNA	BLACK SHALE	2.3	409.0	
245.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	9.7	411.0	

MAPID: 13500112000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1200' S line, 2950' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672521 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.07634 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 420.7 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.3	MODESTO	PIASA	LIMESTONE	3.0	368.7	
284.3	MODESTO		UNCLASSIFIED	4.0	371.7	
280.3	CARBONDALE		UNCLASSIFIED	12.0	375.7	
268.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	387.7	
261.3	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	394.7	
259.3	CARBONDALE		UNCLASSIFIED	1.0	396.7	
258.3	CARBONDALE	BRERETON	LIMESTONE	11.0	397.7	
247.3	CARBONDALE	ANNA	BLACK SHALE	2.3	408.7	
245.0	CARBONDALE	HERRIN	COAL	9.7	411.0	

MAPID: 13500112000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1200' S line, 2950' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672521 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.07634 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 656.3 **LOGGED (FT.):** 423.0 **LOG TYPE:**

SOURCE: SULLIVN MA **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
245.3	CARBONDALE	HERRIN	COAL	9.7	411.0	

MAPID: 13500112000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1200' S line, 2950' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672521 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.07634 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 656.3 **LOGGED (FT.):** 423.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
656.3			SOIL	1.0	0.0	BLACK
655.3			CLAY	14.0	1.0	YELLOW
641.3			SAND	2.0	15.0	
639.3			CLAY	28.0	17.0	W/SOME GRAVEL
611.3			SAND	5.0	45.0	
606.3			SANDY CLAY	13.0	50.0	DRILLERS LOG REPORTS SANDY SHALE
593.3			CLAY	67.0	63.0	BLUE
526.3			CLAY & GRAVEL	6.0	130.0	
520.3			GRAVEL	2.0	136.0	
518.3	MODESTO		SANDY SHALE	11.0	138.0	
507.3	MODESTO		BLUE SHALE	9.0	149.0	
498.3	MODESTO	MACOUPIN	LIMESTONE	1.0	158.0	
497.3	MODESTO		GRAY SHALE	1.0	159.0	
496.3	MODESTO		BLACK SHALE	2.0	160.0	
494.3	MODESTO	WOMAC	COAL	0.5	162.0	
493.8	MODESTO		GRAY SHALE	2.5	162.5	
491.3	MODESTO		CLAYSTONE & SHALE	2.0	165.0	
489.3	MODESTO		LIMESTONE	5.0	167.0	
484.3	MODESTO		GRAY SHALE	20.0	172.0	
464.3	MODESTO		BLUE SHALE	7.0	192.0	
457.3	MODESTO	CARLINVILLE	LIMESTONE	6.0	199.0	
451.3	MODESTO		SANDSTONE	5.0	205.0	W/SH STREAKS
446.3	MODESTO		SANDY SHALE	16.0	210.0	
430.3	MODESTO		DARK SHALE	19.0	226.0	
411.3	MODESTO		BLACK SHALE	0.8	245.0	
410.5	MODESTO	CHAPEL	COAL	0.5	245.8	
410.0	MODESTO		SHALE	5.8	246.3	
404.3	MODESTO		GRAY SHALE	7.0	252.0	
397.3	MODESTO		SANDY SHALE	4.0	259.0	
393.3	MODESTO		SANDSTONE/SHALE	19.0	263.0	
374.3	MODESTO		SANDY SHALE	7.0	282.0	
367.3	MODESTO		BLUE SHALE	18.0	289.0	
349.3	MODESTO		SANDY SHALE	18.0	307.0	
331.3	MODESTO		BLUE SHALE	28.0	325.0	
303.3	MODESTO		BLACK SHALE	2.5	353.0	
300.8	MODESTO		COAL	0.4	355.5	
300.4	MODESTO		GRAY SHALE	5.1	355.9	W/LS
295.3	MODESTO		BLACK SHALE	1.0	361.0	
294.3	MODESTO		SHALE	7.0	362.0	

287.3	MODESTO	PIASA	LIMESTONE	3.0	369.0	
284.3	MODESTO		SHALE	16.0	372.0	
268.3	CARBONDALE	BRERETON	LIMESTONE	21.0	388.0	MAY INCLUDE BANKSTON FORK
247.3	CARBONDALE	ANNA	BLACK SHALE	2.3	409.0	
245.0	CARBONDALE	HERRIN	COAL	3.3	411.3	
241.8	CARBONDALE	HERRIN	SHALE	0.5	414.5	
241.3	CARBONDALE	HERRIN	COAL	3.3	415.0	
238.0	CARBONDALE	HERRIN	SHALE	0.4	418.3	
237.5	CARBONDALE	HERRIN	COAL	2.2	418.8	
235.4	CARBONDALE		SHALE	0.3	420.9	
235.0	CARBONDALE		LIMESTONE	1.8	421.3	

MAPID: 13500103000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 338' N line, 35' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.698934 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.072389 **DATE COLLECTED:** 9 / 0 / 1923

SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 1000.0 **LOG TYPE:** Survey Core Study

SOURCE: MADISON C C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
667.0			UNCONSOLIDATED	110.0	0.0	
557.0			ROCK	262.0	110.0	
295.0			LIMESTONE	26.0	372.0	
269.0			BLACK SHALE	2.0	398.0	
267.0	CARBONDALE	HERRIN	COAL	8.0	400.0	
259.0			ROCK	86.0	408.0	
173.0			COAL	1.0	494.0	
172.0			ROCK	4.0	495.0	
168.0			SHALE	7.8	499.0	
160.2			SANDSTONE	1.7	506.8	
158.5			SHALE	4.9	508.5	
153.6			SANDSTONE	0.6	513.4	
153.0			SHALE	0.8	514.0	
152.2			COAL	3.0	514.8	
149.2			SHALE	42.3	517.8	
106.8			LIMESTONE	1.3	560.2	
105.5			SHALE	3.7	561.5	
101.8			COAL	3.0	565.2	
98.8			ROCK	431.8	568.2	

MAPID: 13500103000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 338' N line, 35' W line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.698934 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.072389 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 408.0 **LOG TYPE:** Survey Core Study
SOURCE: **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
307.0	MODESTO	PIASA	LIMESTONE	3.0	360.0	
304.0	CARBONDALE		MOTTLED SHALE	9.3	363.0	
294.7	CARBONDALE	BRERETON	LIMESTONE & SHALE	26.0	372.3	
268.7	CARBONDALE	ANNA	BLACK SHALE	2.0	398.3	
267.0	CARBONDALE	HERRIN	COAL	8.0	400.0	

MAPID: 13500103000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 338' N line, 35' W line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.698934 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.072389 **DATE COLLECTED:** 8 / 0 / 1923
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 408.0 **LOG TYPE:** Drillers Log
SOURCE: MADISON COAL CORP **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
307.2	MODESTO	PIASA	LIMESTONE	3.0	359.8	
304.2	MODESTO		UNCLASSIFIED	2.5	362.8	
301.7	CARBONDALE		UNCLASSIFIED	6.7	365.3	
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	372.0	
286.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	381.0	
282.0	CARBONDALE		UNCLASSIFIED	2.0	385.0	
280.0	CARBONDALE	BRERETON	LIMESTONE	11.0	387.0	
269.0	CARBONDALE	ANNA	BLACK SHALE	2.0	398.0	
267.0	CARBONDALE	HERRIN	COAL	8.0	400.0	

MAPID: 13500103000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 338' N line, 35' W line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.698934 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.072389 **DATE COLLECTED:** 0 / 0 / 1923
SURFACE ELEVATION (FT.): 667.3 **LOGGED (FT.):** 1000.0 **LOG TYPE:**
SOURCE: MADISON CC 17 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
267.3	CARBONDALE	HERRIN	COAL	8.0	400.0	

MAPID: 13500103000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 338' N line, 35' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.698934 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.072389 **DATE COLLECTED:** 9 / 0 / 1923

SURFACE ELEVATION (FT.): 667.3 **LOGGED (FT.):** 1000.0 **LOG TYPE:** Other Core Study

SOURCE: MADISON COAL CORP., MINE #5, #17 **WELL TYPE:** Coal Test

COMMENT: CORE #C155 & C4173

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
667.3			SOIL	55.0	0.0	
612.3			SILT & SAND	10.0	55.0	GRAY
602.3			CLAY	42.0	65.0	GRAY
560.3	BOND		CLAYSTONE & SHALE	3.0	107.0	GRAY
557.3	BOND	CARTHAGE	LIMESTONE	17.0	110.0	WHITE
540.3	MODESTO		CARBONACEOUS SHALE	3.3	127.0	
537.0	MODESTO		GRAY SHALE	31.4	130.3	
505.6	MODESTO		SHALE	7.7	161.7	GRN/GRY
498.0	MODESTO		SANDSTONE	0.3	169.3	FOSSILIF, W/LS PEBBLES; GRN/GRY
497.6	MODESTO		SHALE	0.5	169.7	GRN/GRY
497.1	MODESTO		LIMESTONE	0.5	170.2	FOSSILIF, W/SH & SS PEBBLES
496.6	MODESTO		SHALE	1.0	170.7	BLUE/GRY
495.6	MODESTO		SANDSTONE	1.5	171.7	BLUE/GRY
494.1	MODESTO		SHALE	16.8	173.2	W/SS BANDS
477.3	MODESTO		SHALE	3.3	190.0	
474.0	MODESTO	CARLINVILLE	LIMESTONE	6.1	193.3	GRAY
468.0	MODESTO		SANDSTONE	22.7	199.3	W/SH PARTINGS
445.3	MODESTO		SHALE	26.2	222.0	GRAY TO DARK GRAY
419.1	MODESTO		SANDY CLAYSTONE	4.2	248.2	W/LS & SS PEBBLES; GRAY
415.0	MODESTO		CLAYSTONE & SILTSTONE	3.7	252.3	BLUE/GRY
411.3	MODESTO		GRAY SHALE	2.0	256.0	
409.3	MODESTO		SANDSTONE	26.0	258.0	W/DARK SANDY SH BANDS
383.3	MODESTO		GRAY SHALE	35.0	284.0	
348.3	MODESTO		CLAYSTONE & SHALE	5.5	319.0	GRAY
342.8	MODESTO		SHALE	12.3	324.5	
330.5	MODESTO		CARBONACEOUS SHALE	17.2	336.8	
313.3	MODESTO		SHALE	4.2	354.0	BLUE/GRN
309.1	MODESTO		CLAYSTONE & SHALE	0.5	358.2	MULTI
308.6	MODESTO		SHALE	0.8	358.7	W/LS PEBBLES
307.8	MODESTO		CONGLOMERATE	0.3	359.5	LS PEBBLES W/SH MATRIX
307.5	MODESTO	PIASA	LIMESTONE	3.0	359.8	
304.5	MODESTO		SHALE	8.3	362.8	MULTI
296.3	CARBONDALE		CLAYSTONE & SHALE	1.0	371.0	W/LS PEBBLES
295.3	CARBONDALE		LIMESTONE W/ SHALE	26.0	372.0	
269.3	CARBONDALE	ANNA	BLACK SHALE	2.0	398.0	
267.3	CARBONDALE	HERRIN	COAL	8.0	400.0	
259.3	CARBONDALE		UNDERCLAY	3.0	408.0	
256.3	CARBONDALE		CALCAREOUS SHALE	44.0	411.0	W/LS PEBBLES

212.3	CARBONDALE		SANDSTONE	39.0	455.0	W/SH PARTINGS; GRAY
173.3	CARBONDALE	SURVANT - UPPER	COAL	1.0	494.0	
172.3	CARBONDALE		SANDSTONE	4.0	495.0	
168.3	CARBONDALE		GRAY SHALE	7.8	499.0	
160.5	CARBONDALE		SANDSTONE	1.7	506.8	
158.8	CARBONDALE		SHALE	4.9	508.5	
153.9	CARBONDALE		SANDSTONE	0.6	513.4	
153.3	CARBONDALE		SHALE	0.8	514.0	
152.5	CARBONDALE	SURVANT - LOWER	COAL	3.0	514.8	
149.5	CARBONDALE		GRAY SHALE	31.3	517.8	MED-DARK
118.1	CARBONDALE		CLAYSTONE & SHALE	11.0	549.2	BRN/GRAY
107.1	CARBONDALE		CALCAREOUS SHALE	1.3	560.2	
105.8	CARBONDALE	MECCA QUARRY	BLACK SHALE	3.0	561.5	
102.8	CARBONDALE	COLCHESTER	COAL	0.1	564.5	
102.7	SPOON		BLACK SHALE	0.6	564.6	
102.1	SPOON	DAVIS	BONE COAL	3.0	565.2	
99.1	SPOON		CLAYSTONE & SHALE	5.8	568.2	W/0.08' COAL AT 573.75; MULTI
93.3	SPOON		SHALE	21.0	574.0	
72.3	SPOON		SHALE	12.0	595.0	W/SANDY STREAKS; DRK GRAY
60.3	SPOON		SANDSTONE	3.5	607.0	GRAY
56.8	SPOON		LIMESTONE	3.5	610.5	
53.3	SPOON		SHALE	6.6	614.0	DRK GRAY
46.7	SPOON		CLAYSTONE & SHALE	7.7	620.6	GRAY
39.0	SPOON		SANDSTONE	4.9	628.3	W/THIN DARK SH PARTINGS; GRAY
34.1	SPOON		SANDSTONE/SHALE	38.3	633.2	INTERLAMINATED SS & DRK GRAY SH
-4.2	SPOON		SANDSTONE	33.0	671.5	W/A FEW SH PARTINGS; GRAY
-37.2	SPOON		SANDSTONE	0.5	704.5	DRK GRAY
-37.7	SPOON		SHALE	17.3	705.0	DRK GRAY
-55.0	SPOON		SANDSTONE/SHALE	48.1	722.3	CONGLOMERATIC IN PART
-103.0	MISSISSIPPIAN		LIMESTONE W/ SHALE	229.7	770.3	

MAPID: 13500113000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1380' S line, 2660' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.68999 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.062211 **DATE COLLECTED:** 2 / 0 / 1957
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: GRANHOLM & ASSOC. **WELL TYPE:** Structure Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	11.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0		
-	CARBONDALE		UNCLASSIFIED	0.5		
-	CARBONDALE	BRERETON	LIMESTONE	11.0		
-	CARBONDALE	ANNA	BLACK SHALE	1.2		
-	CARBONDALE	HERRIN	COAL	8.4		

MAPID: 13500113000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1380' S line, 2660' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.68999 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.062211 **DATE COLLECTED:** 0 / 0 / 1905
SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 409.0 **LOG TYPE:** Drillers Log
SOURCE: SULLIVAN MACHINERY CO **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
657.0			UNCONSOLIDATED	97.0	0.0	
560.0			ROCK	65.0	97.0	
495.0			COAL	0.3	162.0	
494.7			ROCK	80.8	162.3	
414.0			COAL	0.3	243.0	
413.7			ROCK	103.7	243.3	
310.0			COAL	0.5	347.0	
309.5			ROCK	22.5	347.5	
287.0			SHALE	8.0	370.0	
279.0			LIMESTONE	19.4	378.0	
259.6			SHALE	1.2	397.4	
258.4	CARBONDALE	HERRIN	COAL	6.8	398.6	
251.7	CARBONDALE		ROCK	1.2	405.3	
250.5	CARBONDALE		COAL	0.5	406.5	
250.0	CARBONDALE		ROCK	2.0	407.0	

MAPID: 13500113000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1380' S line, 2660' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.68999 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.062211 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 657.5 **LOGGED (FT.):** 409.0 **LOG TYPE:**

SOURCE: SULLIVN MA **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
258.5	CARBONDALE	HERRIN	COAL	8.4	399.0	

MAPID: 13500113000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1380' S line, 2660' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.68999 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.062211 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 657.3 **LOGGED (FT.):** 409.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO., HOLE #2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
657.3			CLAY	16.0	0.0	YELLOW
641.3			SAND	2.0	16.0	
639.3			CLAY	37.0	18.0	BLUE
602.3			SAND & GRAVEL	10.0	55.0	
592.3			CLAY	8.0	65.0	DRILLERS LOG REPORTS SHALE
584.3			CLAY & GRAVEL	24.0	73.0	
560.3	BOND	CARTHAGE	LIMESTONE	12.0	97.0	
548.3	MODESTO		BLACK SHALE	2.0	109.0	
546.3	MODESTO		CALCAREOUS SHALE	8.0	111.0	
538.3	MODESTO		SANDY SHALE	11.0	119.0	
527.3	MODESTO		GRAY SHALE	30.0	130.0	
497.3	MODESTO		BLACK SHALE	2.0	160.0	
495.3	MODESTO	WOMAC	COAL	0.3	162.0	
495.0	MODESTO		CLAYSTONE & SHALE	9.8	162.3	
485.3	MODESTO		SANDY SHALE	18.0	172.0	
467.3	MODESTO		DARK SHALE	5.0	190.0	
462.3	MODESTO	CARLINVILLE	LIMESTONE	6.0	195.0	
456.3	MODESTO		SANDY SHALE	29.0	201.0	
427.3	MODESTO		DARK SHALE	13.0	230.0	
414.3	MODESTO	CHAPEL	COAL	0.3	243.0	
414.0	MODESTO		CLAYSTONE & SHALE	3.7	243.3	
410.3	MODESTO		CALCAREOUS SHALE	3.0	247.0	
407.3	MODESTO		SANDY SHALE	50.0	250.0	
357.3	MODESTO		GRAY SHALE	22.0	300.0	
335.3	MODESTO		DARK SHALE	25.0	322.0	
310.3	MODESTO		COAL	0.5	347.0	
309.8	MODESTO		CLAYSTONE & SHALE	12.5	347.5	
297.3	MODESTO	PIASA	LIMESTONE	3.0	360.0	
294.3	MODESTO		DARK SHALE	2.0	363.0	
292.3	MODESTO		SHALE	5.0	365.0	RED/BLUE
287.3	CARBONDALE		CLAYSTONE & SHALE	5.0	370.0	
282.3	CARBONDALE		CALCAREOUS SHALE	3.0	375.0	
279.3	CARBONDALE	BRERETON	LIMESTONE	19.4	378.0	MAY INCLUDE BANKSTON FORK
259.9	CARBONDALE		DARK SHALE	1.2	397.4	
258.7	CARBONDALE	HERRIN	COAL	6.8	398.6	
252.0	CARBONDALE	HERRIN	GRAY SHALE	1.2	405.3	
250.8	CARBONDALE	HERRIN	COAL	0.5	406.5	
250.3	CARBONDALE		CLAYSTONE & SHALE	1.0	407.0	
249.3	CARBONDALE		LIMESTONE	1.0	408.0	

MAPID: 13501409000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 425' N line, 520' W line of SE NE
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.683688 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.068273 **DATE COLLECTED:** 2 / 0 / 1951
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 392.0 **LOG TYPE:** Electric Log
SOURCE: JENSEN CARL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
300.0	MODESTO	PIASA	LIMESTONE	3.0	345.0	
297.0	MODESTO		UNCLASSIFIED	4.0	348.0	
293.0	CARBONDALE		UNCLASSIFIED	9.0	352.0	
284.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	361.0	
275.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	370.0	
272.5	CARBONDALE		UNCLASSIFIED	1.5	372.5	
271.0	CARBONDALE	BRERETON	LIMESTONE	11.0	374.0	
260.0	CARBONDALE	ANNA	BLACK SHALE	1.0	385.0	
259.0	CARBONDALE	HERRIN	COAL	6.0	386.0	

MAPID: 13501410000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' N line, 500' E line of SE SW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.691594 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.06119 **DATE COLLECTED:** 3 / 0 / 1951
SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 401.0 **LOG TYPE:** Electric Log
SOURCE: JENSEN CARL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
308.0	MODESTO	PIASA	LIMESTONE	3.0	357.0	
305.0	MODESTO		UNCLASSIFIED	4.5	360.0	
300.5	CARBONDALE		UNCLASSIFIED	12.5	364.5	
288.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	377.0	
281.0	CARBONDALE	BRERETON	LIMESTONE	10.0	384.0	
271.0	CARBONDALE	ANNA	BLACK SHALE	1.0	394.0	
270.0	CARBONDALE	HERRIN	COAL	6.0	395.0	

MAPID: 13500080000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1240' S line, 1790' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.668133 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.061742 **DATE COLLECTED:** 6 / 0 / 1921

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 371.0 **LOG TYPE:** Survey Core Study

SOURCE: MADISON C C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
626.0			UNCONSOLIDATED	153.0	0.0	
473.0			ROCK	41.0	153.0	
432.0			COAL	0.4	194.0	
431.6			ROCK	113.7	194.4	
317.9			COAL	0.9	308.1	
317.0			ROCK	26.0	309.0	
291.0			SHALE	5.0	335.0	
286.0	CARBONDALE	BRERETON	LIMESTONE	9.0	340.0	
277.0	CARBONDALE		SHALE	8.0	349.0	
269.0	CARBONDALE		SHALE	2.5	357.0	
266.5	CARBONDALE		SHALE	0.7	359.5	
265.8	CARBONDALE	HERRIN	COAL	2.3	360.2	
263.5	CARBONDALE		SHALE	2.2	362.5	
261.3	CARBONDALE		SHALE	4.0	364.7	
257.3	CARBONDALE	HERRIN	COAL	1.5	368.7	
255.8	CARBONDALE		ROCK	0.8	370.2	

MAPID: 13500080000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1240' S line, 1790' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.668133 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.061742 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE & SHALE	0.7		
-	MODESTO		DARK GRAY SHALE	3.6		
-	CARBONDALE	DANVILLE	COAL	0.5		
-	CARBONDALE		MOTTLED SHALE	10.4		
-	CARBONDALE		CLAYSTONE & SHALE	3.8		
-	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.6		
-	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.3		
-	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.5		
-	CARBONDALE	ANNA	CARBONACEOUS SHALE	11.2		
-	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	10.0		

MAPID: 13500080000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1240' S line, 1790' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.668133 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.061742 **DATE COLLECTED:** 6 / 0 / 1921

SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 371.0 **LOG TYPE:** Drillers Log

SOURCE: MADISON COAL CORP **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
299.2	MODESTO	PIASA	LIMESTONE	1.5	327.8	
297.7	MODESTO		UNCLASSIFIED	3.0	329.3	
294.7	CARBONDALE		UNCLASSIFIED	8.5	332.3	
286.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	340.8	
277.2	CARBONDALE	ENERGY	UNCLASSIFIED	11.2	349.8	
266.0	CARBONDALE	HERRIN	COAL	10.0	361.0	

MAPID: 13500080000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1240' S line, 1790' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.668133 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.061742 **DATE COLLECTED:** 0 / 0 / 1921

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 371.0 **LOG TYPE:**

SOURCE: MADISON CC 2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.0	CARBONDALE	HERRIN	COAL	4.5	360.0	

MAPID: 13500080000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1240' S line, 1790' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.668133 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.061742 **DATE COLLECTED:** 6 / 0 / 1921

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 371.0 **LOG TYPE:** Drillers Log

SOURCE: MADISON COAL CORP., MINE #5, HOLE #2 **WELL TYPE:** Coal Test

COMMENT: CORE DESCRIP.AVAIL.BUT HAS MANY PROBLEMS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
626.0			SOIL	15.0	0.0	
611.0			CLAY	11.0	15.0	YELLOW
600.0			CLAY	22.0	26.0	BLUE
578.0			CLAY	18.0	48.0	YELLOW
560.0			CLAY	48.0	66.0	BLUE
512.0			BOULDERS & CLAY	3.0	114.0	
509.0			CLAY	11.0	117.0	BLUE
498.0			SAND/CLAY	2.0	128.0	BLUE CLAY
496.0			CLAY & GRAVEL	18.0	130.0	BLUE CLAY
478.0			BOULDERS & CLAY	3.0	148.0	BLUE CLAY
475.0			CLAY	2.0	151.0	BLUE
473.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	153.0	
468.0	MODESTO		BLUE SHALE	3.0	158.0	
465.0	MODESTO		SANDSTONE	8.0	161.0	W/SH PARTINGS
457.0	MODESTO		SANDY SHALE	17.0	169.0	
440.0	MODESTO		BLUE SHALE	7.5	186.0	
432.5	MODESTO		BLACK SHALE	0.5	193.5	
432.0	MODESTO	CHAPEL	COAL	0.4	194.0	
431.6	MODESTO		SHALE	3.6	194.4	
428.0	MODESTO		LIMESTONE	2.5	198.0	
425.5	MODESTO		SHALE	2.5	200.5	
423.0	MODESTO		SANDSTONE	13.0	203.0	
410.0	MODESTO		SANDSTONE	17.0	216.0	W/SH PARTINGS
393.0	MODESTO		SANDY SHALE	45.0	233.0	
348.0	MODESTO		BLUE SHALE	10.0	278.0	
338.0	MODESTO		SHALE	3.0	288.0	W/BROWN PARTINGS; DRK BLUE
335.0	MODESTO		SHALE	13.3	291.0	DRK BLUE
321.7	MODESTO		LIMESTONE	0.7	304.3	
321.0	MODESTO		BLACK SHALE	3.1	305.0	
317.9	MODESTO		COAL	0.9	308.1	
317.0	MODESTO		SHALE	9.0	309.0	
308.0	MODESTO		LIMESTONE	0.5	318.0	
307.5	MODESTO		RED SHALE	3.0	318.5	
304.5	MODESTO		CLAYSTONE & SHALE	5.5	321.5	SH AND FIRECLAY
299.0	MODESTO	PIASA	LIMESTONE	1.5	327.0	
297.5	MODESTO		BLUE SHALE	11.5	328.5	
286.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	340.0	
277.0	CARBONDALE	ENERGY	SHALE	8.0	349.0	W/COAL PARTINGS; DRK BLUE
269.0	CARBONDALE	ENERGY	BLUE SHALE	2.5	357.0	

266.5	CARBONDALE	ENERGY	SHALE	0.7	359.5	W/COAL PARTINGS; DRK BLUE
265.8	CARBONDALE	HERRIN	COAL	0.4	360.2	
265.4	CARBONDALE	HERRIN	SHALE	0.4	360.6	
265.0	CARBONDALE	HERRIN	COAL	1.5	361.0	
263.5	CARBONDALE	HERRIN	SHALE	2.2	362.5	W/COAL PARTINGS
261.3	CARBONDALE	HERRIN	SHALE	4.0	364.7	
257.3	CARBONDALE	HERRIN	COAL	1.5	368.7	
255.8	CARBONDALE		UNDERCLAY	0.8	370.2	

MAPID: 13500081000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2080' S line, 3875' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.675565 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.064142 **DATE COLLECTED:** 8 / 0 / 1911

SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 377.0 **LOG TYPE:** Drillers Log

SOURCE: OHIO CONSOLIDATED CO **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
262.0	CARBONDALE	HERRIN	COAL	7.0	370.0	

MAPID: 13500114000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2725' S line, 2050' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.669135 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.065852 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 380.9 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
313.5	MODESTO	PIASA	LIMESTONE	3.0	322.5	
310.5	MODESTO		UNCLASSIFIED	4.0	325.5	
306.5	CARBONDALE		UNCLASSIFIED	12.0	329.5	
294.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	341.5	
284.5	CARBONDALE	ENERGY	UNCLASSIFIED	21.5	351.5	
263.0	CARBONDALE	HERRIN	COAL	7.9	373.0	

MAPID: 13500114000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2725' S line, 2050' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.669135 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.065852 **DATE COLLECTED:** 0 / 0 / 1905
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 383.0 **LOG TYPE:** Drillers Log
SOURCE: SULLIVAN MACHINERY CO **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	80.0	0.0	
560.0			ROCK	40.0	80.0	
520.0			COAL	0.3	120.0	
519.7			ROCK	80.3	120.3	
439.5			COAL	0.3	200.5	
439.2			ROCK	102.0	200.8	
337.2			COAL	0.2	302.8	
337.0			ROCK	38.0	303.0	
299.0			LIMESTONE	10.0	341.0	
289.0			SHALE	21.5	351.0	
267.5	CARBONDALE	HERRIN	COAL	5.3	372.5	
262.2	CARBONDALE		SHALE	1.2	377.8	
261.0	CARBONDALE	HERRIN	COAL	1.4	379.0	
259.6	CARBONDALE		ROCK	2.6	380.4	

MAPID: 13500114000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2725' S line, 2050' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.669135 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.065852 **DATE COLLECTED:** 0 / 0 / 1905
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 383.0 **LOG TYPE:**
SOURCE: SULLIVN MA0001 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
263.0	CARBONDALE	HERRIN	COAL	7.9	373.0	

MAPID: 13500114000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2725' S line, 2050' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.669135 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.065852 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 383.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO., HOLE #1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
636.0			CLAY	15.0	0.0	YELLOW
621.0			SAND	2.0	15.0	
619.0			CLAY	23.0	17.0	BLUE
596.0			SAND	10.0	40.0	
586.0			CLAY	20.0	50.0	BLUE
566.0			SAND & GRAVEL	10.0	70.0	
556.0	MODESTO		LIMESTONE	1.0	80.0	
555.0	MODESTO		CALCAREOUS SHALE	3.0	81.0	
552.0	MODESTO		SANDY SHALE	13.0	84.0	
539.0	MODESTO		FOSSILIFEROUS SHALE	18.0	97.0	
521.0	MODESTO		DARK SHALE	2.0	115.0	
519.0	MODESTO		COAL	3.0	117.0	
516.0	MODESTO		CLAYSTONE & SHALE	0.3	120.0	
515.7	MODESTO		CALCAREOUS SHALE	3.8	120.3	
512.0	MODESTO		SANDY SHALE	14.0	124.0	
498.0	MODESTO	CARLINVILLE	LIMESTONE	22.0	138.0	
476.0	MODESTO		SANDY SHALE	6.0	160.0	
470.0	MODESTO		GRAY SHALE	20.0	166.0	
450.0	MODESTO		DARK SHALE	10.0	186.0	
440.0	MODESTO	CHAPEL	COAL	4.5	196.0	
435.5	MODESTO		CLAYSTONE & SHALE	0.3	200.5	
435.2	MODESTO		SANDY LIMESTONE	3.2	200.8	
432.0	MODESTO		SANDY SHALE	3.0	204.0	
429.0	MODESTO		GRAY SHALE	23.0	207.0	
406.0	MODESTO		DARK SHALE	72.8	230.0	
333.2	MODESTO		COAL	0.2	302.8	
333.0	MODESTO		CLAYSTONE & SHALE	3.0	303.0	
330.0	MODESTO		DARK SHALE	6.0	306.0	
324.0	MODESTO		SHALE	10.0	312.0	RED/BLUE
314.0	MODESTO	PIASA	LIMESTONE	3.0	322.0	
311.0	MODESTO		CALCAREOUS SHALE	4.0	325.0	
307.0	MODESTO		DARK SHALE	4.0	329.0	
303.0	MODESTO		CLAYSTONE & SHALE	3.0	333.0	
300.0	CARBONDALE		GRAY SHALE	5.0	336.0	
295.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	341.0	
285.0	CARBONDALE	ENERGY	GRAY SHALE	10.0	351.0	
275.0	CARBONDALE	ENERGY	DARK SHALE	11.5	361.0	
263.5	CARBONDALE	HERRIN	COAL	0.2	372.5	
263.3	CARBONDALE	HERRIN	GRAY SHALE	0.3	372.7	

263.0	CARBONDALE	HERRIN	COAL	3.8	373.0	
259.2	CARBONDALE	HERRIN	GRAY SHALE	0.4	376.8	
258.7	CARBONDALE	HERRIN	COAL	0.6	377.3	
258.2	CARBONDALE	HERRIN	GRAY SHALE	1.0	377.8	
257.2	CARBONDALE	HERRIN	PYRITE	0.2	378.8	SULPHUR BAND
257.0	CARBONDALE	HERRIN	COAL	1.4	379.0	
255.6	CARBONDALE		CLAYSTONE & SHALE	1.0	380.4	
254.6	CARBONDALE		LIMESTONE	1.6	381.4	

MAPID: 13501412000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.665443 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.066547 **DATE COLLECTED:** 7 / 0 / 1951

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: MAZZARINO, M. **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	2.5		
-	CARBONDALE		UNCLASSIFIED	7.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	30.0		
-	CARBONDALE	HERRIN	COAL	9.0		

MAPID: 13500661000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.6491 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.066506 **DATE COLLECTED:** 2 / 0 / 1941

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: SKILES, C. E., INC. **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	11.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	34.0		

MAPID: 13500661000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.6491 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.066506 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE & SHALE	2.0		
-	CARBONDALE		ROCK	17.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0		
-	CARBONDALE	LAWSON	MOTTLED SHALE	7.0		
-	CARBONDALE	BRERETON	LIMESTONE & SHALE	14.0		
-	CARBONDALE	HERRIN	BLACK SHALE	12.0		

MAPID: 13500082000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1190' N line, 1190' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.638996 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.069508 **DATE COLLECTED:** 6 / 0 / 1921

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Survey Core Study

SOURCE: MADISON C C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	74.8	0.0	
570.2			ROCK	15.1	74.8	
555.2			COAL	1.4	89.8	
553.7			ROCK	28.3	91.3	
525.4			COAL	0.3	119.6	
525.1			ROCK	78.4	119.9	
446.7			COAL	0.6	198.3	
446.1			ROCK	301.1	198.9	

MAPID: 13500082000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1190' N line, 1190' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.638996 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.069508 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 413.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
349.0	MODESTO	PIASA	LIMESTONE W/ SHALE	7.0	296.0	
342.0	CARBONDALE		CLAYSTONE & SHALE	9.0	303.0	
333.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.3	312.0	
331.7	CARBONDALE	ENERGY	SANDSTONE	27.2	313.3	
304.5	CARBONDALE	ENERGY	SILTY SHALE	12.5	340.5	
292.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	28.5	353.0	
263.5	CARBONDALE	ENERGY	SILTY SHALE	12.0	381.5	
251.5	CARBONDALE	ENERGY	SANDSTONE	19.8	393.5	

MAPID: 13500082000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1190' N line, 1190' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.638996 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.069508 **DATE COLLECTED:** 6 / 0 / 1921

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: MADISON COAL CORP **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.5		
-	MODESTO		UNCLASSIFIED	2.5		
-	CARBONDALE		UNCLASSIFIED	6.5		

MAPID: 13500082000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1190' N line, 1190' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.638996 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.069508 **DATE COLLECTED:** 0 / 0 / 1921

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 500.0 **LOG TYPE:**

SOURCE: MADISON CC 3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		

MAPID: 13500082000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1190' N line, 1190' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.638996 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.069508 **DATE COLLECTED:** 6 / 0 / 1921

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Drillers Log

SOURCE: MADISON COAL CORP., MINE #5, HOLE #3 **WELL TYPE:** Coal Test

COMMENT: CORE DESCRIP AVAIL BUT HAS MANY PROBLEMS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			CLAY	28.0	0.0	
617.0			SAND	16.0	28.0	
601.0			SAND & GRAVEL	4.0	44.0	
597.0			CLAY & GRAVEL	26.8	48.0	
570.2	BOND	CARTHAGE	LIMESTONE	8.3	74.8	
562.0	MODESTO		BLACK SHALE	3.0	83.0	
559.0	MODESTO		BLUE SHALE	3.8	86.0	
555.2	MODESTO		COAL	1.4	89.8	
553.7	MODESTO		SANDY SHALE	24.3	91.3	
529.5	MODESTO	MACOUPIN	LIMESTONE	1.0	115.5	
528.5	MODESTO		BLUE SHALE	0.5	116.5	
528.0	MODESTO		BLACK SHALE	2.6	117.0	
525.4	MODESTO	WOMAC	COAL	0.3	119.6	
525.1	MODESTO		SANDY SHALE	10.1	119.9	
515.0	MODESTO		SANDSTONE	2.0	130.0	
513.0	MODESTO		SANDY SHALE	22.5	132.0	
490.5	MODESTO	CARLINVILLE	LIMESTONE	5.5	154.5	
485.0	MODESTO		SANDY SHALE	6.0	160.0	
479.0	MODESTO		SANDSTONE	8.0	166.0	W/SH PARTINGS
471.0	MODESTO		SANDY SHALE	12.5	174.0	
458.5	MODESTO		BLUE SHALE	10.0	186.5	
448.5	MODESTO		BLACK SHALE	1.8	196.5	
446.7	MODESTO	CHAPEL	COAL	0.6	198.3	
446.1	MODESTO		UNDERCLAY	2.1	198.9	
444.0	MODESTO		CALCARIOUS SANDY SHALE	13.0	201.0	
431.0	MODESTO		SANDSTONE	6.0	214.0	
425.0	MODESTO		SANDY SHALE	34.0	220.0	
391.0	MODESTO		BLUE SHALE	25.0	254.0	
366.0	MODESTO		UNDERCLAY	5.0	279.0	
361.0	MODESTO		RED SHALE	2.0	284.0	
359.0	MODESTO		GRAY SHALE	5.0	286.0	
354.0	MODESTO		SHALE	4.5	291.0	MULTI
349.5	MODESTO		LIMESTONE & CONGLOMERATE	2.0	295.5	
347.5	MODESTO		SHALE	1.5	297.5	MULTI
346.0	MODESTO		LIMESTONE	3.5	299.0	
342.5	MODESTO		BLUE SHALE	4.5	302.5	
338.0	MODESTO		SHALE	4.5	307.0	
333.5	MODESTO		LIMESTONE	1.3	311.5	

332.2	CARBONDALE	ENERGY	SANDSTONE	27.2	312.8	
305.0	CARBONDALE	ENERGY	SANDY SHALE	12.5	340.0	
292.5	CARBONDALE	ENERGY	SANDSTONE	3.5	352.5	
289.0	CARBONDALE	ENERGY	SANDY SHALE	24.0	356.0	
265.0	CARBONDALE	ENERGY	COAL	0.0	380.0	HERRIN COAL ERODED
265.0	CARBONDALE	ENERGY	SANDSTONE	1.0	380.0	
264.0	CARBONDALE	ENERGY	SANDY SHALE	2.5	381.0	
261.5	CARBONDALE	ENERGY	SANDSTONE	1.0	383.5	
260.5	CARBONDALE	ENERGY	SANDY SHALE	4.0	384.5	
256.5	CARBONDALE	ENERGY	SANDSTONE	2.0	388.5	
254.5	CARBONDALE	ENERGY	SANDY SHALE	2.5	390.5	
252.0	CARBONDALE	ENERGY	SANDSTONE	4.0	393.0	
248.0	CARBONDALE	ENERGY	SANDSTONE	18.0	397.0	W/SH
230.0	CARBONDALE	ENERGY	SANDSTONE	82.0	415.0	
148.0	CARBONDALE		BLACK SHALE	0.5	497.0	
147.5	CARBONDALE		SANDY SHALE	1.0	497.5	
146.5	CARBONDALE		SANDSTONE	1.5	498.5	

MAPID: 13500115000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 3075' S line, 4500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.620718 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.066643 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.0		
-	MODESTO		UNCLASSIFIED	5.0		
-	CARBONDALE		UNCLASSIFIED	13.3		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.7		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	7.0		
-	CARBONDALE	ANNA	BLACK SHALE	2.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13500115000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 3075' S line, 4500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.620718 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.066643 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 578.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
617.0			UNCONSOLIDATED	39.0	0.0	
578.0			ROCK	155.5	39.0	
422.5			COAL	0.7	194.5	
421.8			ROCK	89.3	195.2	
332.5			COAL	0.2	284.5	
332.3			ROCK	38.8	284.7	
293.5			COAL	0.8	323.5	
292.7			SHALE	14.7	324.3	
278.0			LIMESTONE	7.0	339.0	
271.0			SHALE	5.8	346.0	
265.2	CARBONDALE	HERRIN	COAL	3.3	351.8	
262.0			SHALE	1.0	355.0	
261.0			ROCK	91.7	356.0	
169.3			COAL	1.8	447.7	
167.5			ROCK	55.2	449.5	
112.3			COAL	2.8	504.7	
109.5			ROCK	6.5	507.5	
103.0			COAL	2.6	514.0	
100.4			ROCK	4.8	516.6	
95.6			COAL	0.6	521.4	
95.0			ROCK	38.0	522.0	
57.0			COAL	1.8	560.0	
55.2			SHALE	11.5	561.8	
43.7			COAL	3.8	573.3	
39.8			ROCK	0.8	577.2	

MAPID: 13500115000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 3075' S line, 4500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.620718 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.066643 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 616.6 **LOGGED (FT.):** 579.0 **LOG TYPE:**

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
263.6	CARBONDALE	HERRIN	COAL	3.0	353.0	

MAPID: 13500115000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 3075' S line, 4500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.620718 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.066643 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.6 **LOGGED (FT.):** 578.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
616.6			SOIL	2.0	0.0	
614.6			CLAY	13.0	2.0	YELLOW
601.6			UNCONSOLIDATED	24.0	15.0	CLAY, SAND, & GRAVEL
577.6	BOND	CARTHAGE	LIMESTONE	10.0	39.0	
567.6	MODESTO		BLUE SHALE	3.0	49.0	
564.6	MODESTO		SANDSTONE	32.0	52.0	W/SH PARTINGS
532.6	MODESTO		SANDY SHALE	21.0	84.0	
511.6	MODESTO		DARK SHALE	7.0	105.0	W/COAL PARTINGS
504.6	MODESTO	MACOUPIN	FOSSILIFEROUS LIMESTONE	7.0	112.0	
497.6	MODESTO		FOSSILIFEROUS SHALE	5.0	119.0	
492.6	MODESTO		BROWN SHALE	4.0	124.0	
488.6	MODESTO		BLUE SHALE	22.0	128.0	
466.6	MODESTO	CARLINVILLE	LIMESTONE	5.0	150.0	
461.6	MODESTO		SANDY SHALE	38.0	155.0	
423.6	MODESTO		BLACK SHALE	1.5	193.0	
422.1	MODESTO	CHAPEL	COAL	0.7	194.5	
421.4	MODESTO		BLUE SHALE	1.8	195.2	
419.6	MODESTO		SANDY SHALE	13.0	197.0	
406.6	MODESTO		SANDY SHALE	59.0	210.0	W/SS STREAKS
347.6	MODESTO		BLUE SHALE	15.5	269.0	
332.1	MODESTO		COAL	0.2	284.5	
331.9	MODESTO		BLUE SHALE	16.3	284.7	
315.6	MODESTO		SHALE	5.0	301.0	
310.6	MODESTO		BLUE SHALE	1.0	306.0	
309.6	MODESTO	PIASA	LIMESTONE	2.0	307.0	
307.6	MODESTO		BLUE SHALE	14.5	309.0	
293.1	CARBONDALE	DANVILLE	COAL	0.8	323.5	
292.3	CARBONDALE		BLUE SHALE	14.7	324.3	
277.6	CARBONDALE	BRERETON	LIMESTONE	7.0	339.0	W/BLUE SH PARTINGS
270.6	CARBONDALE	ENERGY	SHALE	5.8	346.0	W/COAL PARTINGS; BLK/GRAY
264.8	CARBONDALE	HERRIN	COAL	3.3	351.8	
261.6	CARBONDALE		DARK SHALE	1.0	355.0	W/COAL PARTINGS
260.6	CARBONDALE		SHALE	2.0	356.0	
258.6	CARBONDALE		SHALE	2.0	358.0	
256.6	CARBONDALE		LIMESTONE	2.5	360.0	
254.1	CARBONDALE		SHALE	17.0	362.5	DRK BLUE
237.1	CARBONDALE		LIMESTONE	0.5	379.5	
236.6	CARBONDALE		SHALE	8.0	380.0	DRK BLUE

228.6	CARBONDALE		SANDY SHALE	55.0	388.0	
173.6	CARBONDALE		SHALE	4.7	443.0	
168.9	CARBONDALE	SURVANT	COAL	1.8	447.7	
167.1	CARBONDALE		SANDY SHALE	0.5	449.5	
166.6	CARBONDALE		SHALE	4.5	450.0	W/THIN COAL STREAKS; DRK BLUE
162.1	CARBONDALE		SHALE & SANDSTONE	23.5	454.5	
138.6	CARBONDALE		SHALE	24.5	478.0	DRK BLUE
114.1	CARBONDALE		CARBONACEOUS SHALE	2.2	502.5	
111.9	CARBONDALE	COLCHESTER	COAL	2.8	504.7	
109.1	SPOON		CALCAREOUS SHALE	3.5	507.5	
105.6	SPOON		BLUE SHALE	1.5	511.0	
104.1	SPOON		BLACK SHALE	1.5	512.5	
102.6	SPOON	DEKOVEN	COAL	2.6	514.0	
100.0	SPOON		SHALE	4.8	516.6	
95.2	SPOON	DAVIS	COAL	0.6	521.4	
94.6	SPOON		SHALE	3.0	522.0	
91.6	SPOON		BLUE SHALE	5.0	525.0	
86.6	SPOON		SANDY SHALE	30.0	530.0	
56.6	SPOON		COAL	1.8	560.0	
54.8	SPOON		SANDY SHALE	2.2	561.8	
52.6	SPOON		SHALE	6.0	564.0	
46.6	SPOON		SANDY SHALE	3.3	570.0	
43.3	SPOON		COAL	3.8	573.3	
39.4	SPOON		SANDSTONE	0.8	577.2	

MAPID: 13501159000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.601319 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.071695 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 370.0 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 46-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
280.0	MODESTO	PIASA	LIMESTONE	4.1	319.0	
275.9	MODESTO		CLAYSTONE & SHALE	7.0	323.1	
268.9	CARBONDALE	DANVILLE	COAL	2.6	330.1	
266.3	CARBONDALE		CLAYSTONE & SHALE	4.9	332.7	
261.4	CARBONDALE	GALUM	LIMESTONE	3.3	337.6	
258.1	CARBONDALE	ALLENBY	BLACK SHALE	0.9	340.9	
257.2	CARBONDALE		CLAYSTONE & SHALE	1.0	341.8	
256.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	9.6	342.8	
246.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.8	352.4	
240.8	CARBONDALE	ANNA	BLACK SHALE	2.6	358.2	
238.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	9.0	361.0	

MAPID: 13501159000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.601319 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.071695 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 370.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 46-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
279.4	MODESTO	PIASA	LIMESTONE	4.1	319.6	
275.3	MODESTO		UNCLASSIFIED	7.0	323.7	
268.3	CARBONDALE	DANVILLE	COAL	2.6	330.7	
265.7	CARBONDALE		UNCLASSIFIED	10.0	333.3	
255.7	CARBONDALE	BANKSTON FORK	LIMESTONE	9.6	343.3	
246.1	CARBONDALE	BRERETON	LIMESTONE	5.8	352.9	
240.3	CARBONDALE	ANNA	BLACK SHALE	2.3	358.7	
238.0	CARBONDALE	HERRIN	COAL	9.0	361.0	

MAPID: 13501159000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.601319 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.071695 **DATE COLLECTED:** 10 / 0 / 1959
SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 332.4 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 46-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
269.2	CARBONDALE	DANVILLE	COAL	2.6	329.8	
238.4	CARBONDALE	HERRIN	COAL	7.2	360.6	1.83 clay split 6.08 ft down in coal

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MAPID: 13500116000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1000' S line, 2225' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.612544 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.046151 **DATE COLLECTED:** 3 / 0 / 1903
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 374.8 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
277.3	MODESTO	PIASA	LIMESTONE	5.0	327.7	
272.3	MODESTO		UNCLASSIFIED	4.0	332.7	
268.3	CARBONDALE		UNCLASSIFIED	13.0	336.7	
255.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	349.7	
248.3	CARBONDALE	ENERGY	UNCLASSIFIED	17.3	356.7	
231.0	CARBONDALE	HERRIN	COAL	0.8	374.0	

MAPID: 13500116000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1000' S line, 2225' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.612544 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.046151 **DATE COLLECTED:** 4 / 30 / 1903
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 465.0 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
605.0			UNCONSOLIDATED	62.0	0.0	
543.0			ROCK	53.0	62.0	
490.0			COAL WITH SHALE	2.0	115.0	
488.0			ROCK	257.3	117.0	
230.7	CARBONDALE	HERRIN	COAL	0.8	374.3	
229.8			ROCK	89.8	375.2	

MAPID: 13500116000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1000' S line, 2225' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.612544 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.046151 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 605.4 **LOGGED (FT.):** 465.0 **LOG TYPE:**

SOURCE: LUMAGHI CC0002 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
231.4	CARBONDALE	HERRIN	COAL	0.8	374.0	

MAPID: 13500116000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1000' S line, 2225' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.612544 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.046151 **DATE COLLECTED:** 4 / 30 / 1903

SURFACE ELEVATION (FT.): 605.4 **LOGGED (FT.):** 465.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO., HOLE #2 **WELL TYPE:** Coal Test

COMMENT: SORENTO OPTIONS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
605.4			SOIL	62.0	0.0	
543.4			SHALE	21.0	62.0	
522.4			SANDSTONE/LIMESTONE	14.0	83.0	
508.4			SHALE	18.0	97.0	
490.4			SHALE/COAL	2.0	115.0	
488.4			UNDERCLAY	8.0	117.0	
480.4			SHALE	26.0	125.0	
454.4			LIMESTONE AND SANDSTONE	2.0	151.0	
452.4			UNDERCLAY	4.0	153.0	
448.4			SHALE	18.0	157.0	
430.4			LIMESTONE	3.0	175.0	
427.4			BLUE SHALE	25.0	178.0	
402.4			SHALE	30.0	203.0	
372.4			SANDSTONE	23.0	233.0	
349.4			SHALE	44.0	256.0	
305.4			LIMESTONE	1.0	300.0	
304.4			DARK SHALE	8.0	301.0	
296.4			UNDERCLAY	5.0	309.0	
291.4			SANDSTONE	12.0	314.0	DARK
279.4			RED SHALE	2.0	326.0	
277.4			LIMESTONE AND SANDSTONE	5.0	328.0	
272.4			BLUE SHALE	8.0	333.0	
264.4	CARBONDALE		SANDSTONE	3.0	341.0	
261.4	CARBONDALE		BLACK SHALE	2.0	344.0	
259.4	CARBONDALE	ENERGY	SANDY SHALE	7.0	346.0	
252.4	CARBONDALE	ENERGY	SANDSTONE/LIMESTONE	9.0	353.0	
243.4	CARBONDALE	ENERGY	BLACK SHALE	2.3	362.0	
241.1	CARBONDALE	ENERGY	BLUE SHALE	10.0	364.3	
231.1	CARBONDALE	HERRIN	COAL	0.8	374.3	CORRELATION UNCERTAIN
230.2	CARBONDALE		UNDERCLAY	3.8	375.2	
226.4	CARBONDALE		SANDY SHALE	21.0	379.0	
205.4	CARBONDALE		LIMESTONE	1.0	400.0	DARK
204.4	CARBONDALE		UNDERCLAY	25.0	401.0	
179.4	CARBONDALE		SANDSTONE	20.0	426.0	DARK
159.4	CARBONDALE		SANDY SHALE	19.0	446.0	

MAPID: 13501262000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1650' N line, 2310' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61287 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.053441 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 99-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
291.0	MODESTO	PIASA	LIMESTONE	3.0	321.0	
288.0	CARBONDALE		MOTTLED SHALE	13.0	324.0	
275.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.2	337.0	UPPER BENCH
270.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	341.2	LOWER BENCH
268.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.0	343.2	
265.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.4	346.2	
258.4	CARBONDALE	ANNA	BLACK SHALE	1.6	353.6	
256.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	8.5	356.0	

MAPID: 13501262000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1650' N line, 2310' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61287 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.053441 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 99-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
290.9	MODESTO	PIASA	LIMESTONE	3.0	321.1	
287.9	MODESTO		UNCLASSIFIED	5.0	324.1	
282.9	CARBONDALE		UNCLASSIFIED	12.2	329.1	
270.7	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	341.3	
264.9	CARBONDALE	ANVIL ROCK	SANDSTONE	0.3	347.1	
264.6	CARBONDALE	BRERETON	LIMESTONE	6.7	347.4	
257.9	CARBONDALE	ANNA	BLACK SHALE	1.9	354.1	
256.0	CARBONDALE	HERRIN	COAL	8.5	356.0	

MAPID: 13501262000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1650' N line, 2310' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61287 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.053441 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 364.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 99-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
256.4	CARBONDALE	HERRIN	COAL	8.5	355.6	

MAPID: 13500117000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 3350' S line, 1850' W line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.636729 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.052775 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.8 **LOGGED (FT.):** 1455.0 **LOG TYPE:**
SOURCE: RINAKER **WELL TYPE:** Oil and Gas Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		

MAPID: 13500117000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 3350' S line, 1850' W line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.636729 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.052775 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13500118000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1100' S line, 260' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681193 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.046605 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Drillers Log

SOURCE: CRABB FARM **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
649.0			UNCONSOLIDATED	104.0	0.0	
545.0			ROCK	30.0	104.0	
515.0			COAL	0.8	134.0	
514.2			ROCK	25.0	134.8	
489.2			COAL	0.3	159.8	
489.0			ROCK	83.3	160.0	
405.7			COAL	0.4	243.3	
405.3			ROCK	110.3	243.7	
295.0			COAL	0.8	354.0	
294.2			ROCK	8.3	354.8	
286.0			SHALE	6.0	363.0	
280.0			BLACK SHALE	1.0	369.0	
279.0			LIMESTONE	4.5	370.0	
274.5			SHALE	13.6	374.5	
260.9	CARBONDALE	HERRIN	COAL	3.3	388.1	
257.6	CARBONDALE		SHALE	0.6	391.4	
257.0	CARBONDALE	HERRIN	COAL	0.3	392.0	
256.7	CARBONDALE		ROCK	5.8	392.3	

MAPID: 13500118000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1100' S line, 260' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681193 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.046605 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 356.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
310.0	MODESTO	PIASA	LIMESTONE	2.0	307.0	
308.0	CARBONDALE		GRAY SHALE	14.5	309.0	
293.5	CARBONDALE	ALLENBY	COAL	0.8	323.5	
292.7	CARBONDALE	LAWSON	GRAY SHALE	15.7	324.3	
277.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	7.0	340.0	
271.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	10.0	346.0	

MAPID: 13500118000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1100' S line, 260' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681193 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.046605 **DATE COLLECTED:** 0 / 0 / 1905
SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 392.2 **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
290.7	MODESTO	PIASA	LIMESTONE	3.0	358.3	
287.7	MODESTO		UNCLASSIFIED	3.0	361.3	
284.7	CARBONDALE		UNCLASSIFIED	5.6	364.3	
279.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	369.9	
274.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	374.4	
273.6	CARBONDALE		UNCLASSIFIED	0.5	375.4	
273.1	CARBONDALE	BRERETON	LIMESTONE	4.0	375.9	
269.1	CARBONDALE	ENERGY	UNCLASSIFIED	8.1	379.9	
261.0	CARBONDALE	HERRIN	COAL	4.2	388.0	

MAPID: 13500118000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1100' S line, 260' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681193 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.046605 **DATE COLLECTED:** 0 / 0 / 1905
SURFACE ELEVATION (FT.): 648.6 **LOGGED (FT.):** 398.0 **LOG TYPE:**
SOURCE: SULLIVN MA **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
260.6	CARBONDALE	HERRIN	COAL	4.2	388.0	

MAPID: 13500118000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1100' S line, 260' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681193 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.046605 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.6 **LOGGED (FT.):** 398.0 **LOG TYPE:** Drillers Log

SOURCE: J.D. CRABB FRAM **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
648.6			CLAY	13.0	0.0	YELLOW
635.6			SAND	4.0	13.0	
631.6			BOULDERS & CLAY	16.0	17.0	
615.6			SAND	2.0	33.0	
613.6			BOULDERS & CLAY	9.0	35.0	
604.6			CLAY	41.0	44.0	BLUE
563.6			SAND & GRAVEL	10.0	85.0	
553.6			CLAY	8.0	95.0	BLUE
545.6			CLAY	1.0	103.0	
544.6	BOND		LIMESTONE	2.0	104.0	
542.6	BOND		CLAYSTONE & SHALE	11.0	106.0	
531.6	BOND	CARTHAGE	LIMESTONE	1.3	117.0	
530.3	BOND	CARTHAGE	SHALE	1.3	118.3	
529.1	BOND	CARTHAGE	LIMESTONE	10.5	119.5	
518.6	MODESTO		BLACK SHALE	4.0	130.0	
514.6	MODESTO		COAL	0.8	134.0	
513.8	MODESTO		GRAY SHALE	8.3	134.8	
505.6	MODESTO		LIMESTONE	1.0	143.0	
504.6	MODESTO		GRAY SHALE	11.0	144.0	
493.6	MODESTO		BLACK SHALE	1.0	155.0	
492.6	MODESTO	MACOUPIN	LIMESTONE	2.0	156.0	
490.6	MODESTO		BLACK SHALE	1.8	158.0	
488.8	MODESTO	WOMAC	COAL	0.3	159.8	
488.6	MODESTO		CLAYSTONE & SHALE	8.0	160.0	
480.6	MODESTO		LIMESTONE	2.0	168.0	
478.6	MODESTO		LIMESTONE W/ SHALE	1.0	170.0	
477.6	MODESTO		GRAY SHALE	2.0	171.0	
475.6	MODESTO		LIMESTONE W/ SHALE	2.0	173.0	
473.6	MODESTO		SANDY SHALE	8.0	175.0	
465.6	MODESTO		BLUE SHALE	15.0	183.0	
450.6	MODESTO	CARLINVILLE	LIMESTONE	6.0	198.0	
444.6	MODESTO		SANDY SHALE	17.0	204.0	
427.6	MODESTO		DARK SHALE	20.0	221.0	
407.6	MODESTO		BLUE SHALE	2.3	241.0	
405.3	MODESTO	CHAPEL	COAL	0.4	243.3	
404.9	MODESTO		CALCAREOUS SHALE	2.3	243.7	
402.6	MODESTO		CALCAREOUS SHALE	8.0	246.0	W/LS
394.6	MODESTO		SANDY SHALE	15.0	254.0	
379.6	MODESTO		SANDSTONE	7.0	269.0	

372.6	MODESTO		SANDY SHALE	21.0	276.0	
351.6	MODESTO		DARK SHALE	19.0	297.0	
332.6	MODESTO		BLUE SHALE	22.0	316.0	W/LS BANDS
310.6	MODESTO		BLUE SHALE	12.0	338.0	
298.6	MODESTO		BLACK SHALE	4.0	350.0	
294.6	CARBONDALE	DANVILLE	COAL	0.8	354.0	
293.8	CARBONDALE		GRAY SHALE	8.3	354.8	
285.6	CARBONDALE		CALCAREOUS SHALE	3.0	363.0	
282.6	CARBONDALE		CALCAREOUS SHALE	3.0	366.0	W/LS
279.6	CARBONDALE		BLACK SHALE	0.6	369.0	
279.0	CARBONDALE		SHALE	0.4	369.6	
278.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	370.0	
274.1	CARBONDALE		BLUE SHALE	1.5	374.5	
272.6	CARBONDALE		CALCAREOUS SHALE	4.0	376.0	
268.6	CARBONDALE	ENERGY	GRAY SHALE	4.0	380.0	
264.6	CARBONDALE	ENERGY	BLUE SHALE	4.1	384.0	
260.5	CARBONDALE	HERRIN	COAL	0.1	388.1	
260.4	CARBONDALE	HERRIN	SHALE	0.3	388.2	
260.1	CARBONDALE	HERRIN	COAL	0.4	388.5	
259.7	CARBONDALE	HERRIN	SHALE	0.2	388.9	
259.5	CARBONDALE	HERRIN	COAL	0.9	389.1	
258.6	CARBONDALE	HERRIN	SHALE	0.4	390.0	
258.2	CARBONDALE	HERRIN	COAL	0.3	390.4	
257.8	CARBONDALE	HERRIN	SHALE	0.3	390.8	
257.6	CARBONDALE	HERRIN	COAL	0.4	391.0	
257.2	CARBONDALE	HERRIN	SHALE	0.6	391.4	
256.6	CARBONDALE	HERRIN	COAL	0.3	392.0	
256.3	CARBONDALE		GRAY SHALE	5.8	392.3	

MAPID: 13500330000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 400' S line, 0' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.69881 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.044622 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 401.8 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATED COAL CO. 15 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
268.0	MODESTO	PIASA	NODULAR LIMESTONE	4.8	357.0	
263.2	MODESTO		CLAYSTONE & SHALE	3.9	361.8	
259.3	CARBONDALE		CLAYSTONE & SHALE	4.9	365.7	
254.5	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.4	370.5	
253.1	CARBONDALE		MOTTLED SHALE	0.1	371.9	
253.0	CARBONDALE	ALLENBY	BONE COAL	0.1	372.0	
252.9	CARBONDALE		CLAYSTONE	2.0	372.1	
250.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.0	374.1	UPPER BENCH
245.9	CARBONDALE	BANKSTON FORK	GRAY SHALE	1.1	379.1	SHALE PARTING
244.8	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	10.3	380.2	LOWER BENCH
234.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.7	390.4	
233.9	CARBONDALE	ANNA	BLACK SHALE	1.5	391.1	
232.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	8.8	393.0	

MAPID: 13500330000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 400' S line, 0' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.69881 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.044622 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 400.8 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATED COAL CO. 15 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
268.6	MODESTO	PIASA	LIMESTONE	4.8	356.4	
263.8	MODESTO		UNCLASSIFIED	3.9	361.2	
259.9	CARBONDALE		UNCLASSIFIED	8.5	365.1	
251.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	373.6	
246.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.1	378.6	
245.3	CARBONDALE	BRERETON	LIMESTONE	10.8	379.7	
234.5	CARBONDALE	ANNA	BLACK SHALE	1.5	390.5	
233.0	CARBONDALE	HERRIN	COAL	8.8	392.0	

MAPID: 13500330000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 400' S line, 0' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.69881 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.044622 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.3 **LOGGED (FT.):** 403.1 **LOG TYPE:**

SOURCE: CONSOLIDATED COAL CO. 15 **WELL TYPE:** Coal Test

COMMENT: CORE SURVEY STUDY; C-2560

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
232.8	CARBONDALE	HERRIN	COAL	5.4	392.5	CLEAN COAL, ALSO CONTAINS 2.9' PARTING

MAPID: 13500119000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2750' S line, 2700' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.689743 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.036173 **DATE COLLECTED:** 0 / 0 / 1918

SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 408.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATED COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
638.0			UNCONSOLIDATED	118.0	0.0	
520.0			ROCK	40.5	118.0	
479.5			COAL	0.3	158.5	
479.2			ROCK	85.9	158.8	
393.2			COAL	0.5	244.8	
392.7			ROCK	98.6	245.3	
294.2			COAL	0.5	343.8	
293.7			ROCK	19.7	344.3	
274.0			SHALE	21.0	364.0	
253.0			LIMESTONE	10.5	385.0	
242.5			SHALE	1.0	395.5	
241.5	CARBONDALE	HERRIN	COAL	1.8	396.5	
239.7	CARBONDALE		SHALE	1.0	398.3	
238.7	CARBONDALE	HERRIN	COAL	0.3	399.3	
238.3	CARBONDALE		SHALE	6.3	399.7	
232.0	CARBONDALE	HERRIN	COAL	0.9	406.0	
231.1	CARBONDALE		ROCK	1.1	406.9	

MAPID: 13500119000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2750' S line, 2700' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.689743 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.036173 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 407.4 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
279.0	MODESTO	PIASA	LIMESTONE	5.0	359.0	
274.0	CARBONDALE	LAWSON	MOTTLED SHALE	21.0	364.0	
253.0	CARBONDALE	BRERETON	LIMESTONE	10.5	385.0	
242.5	CARBONDALE	ANNA	DARK GRAY SHALE	1.0	395.5	
241.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	10.4	397.0	

MAPID: 13500119000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2750' S line, 2700' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.689743 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.036173 **DATE COLLECTED:** 0 / 0 / 1918

SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 407.4 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.5	MODESTO	PIASA	LIMESTONE	5.0	359.5	
273.5	MODESTO		UNCLASSIFIED	5.5	364.5	
268.0	CARBONDALE		UNCLASSIFIED	15.5	370.0	
252.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	385.5	
247.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	390.5	
246.5	CARBONDALE		UNCLASSIFIED	0.5	391.5	
246.0	CARBONDALE	BRERETON	LIMESTONE	4.0	392.0	
242.0	CARBONDALE	ANNA	BLACK SHALE	1.0	396.0	
241.0	CARBONDALE	HERRIN	COAL	10.4	397.0	

MAPID: 13500119000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2750' S line, 2700' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.689743 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.036173 **DATE COLLECTED:** 0 / 0 / 1918

SURFACE ELEVATION (FT.): 637.8 **LOGGED (FT.):** 408.0 **LOG TYPE:**

SOURCE: CONSOL STL 3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
240.8	CARBONDALE	HERRIN	COAL	3.2	397.0	

MAPID: 13500119000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2750' S line, 2700' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.689743 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.036173 **DATE COLLECTED:** 0 / 0 / 1918

SURFACE ELEVATION (FT.): 637.8 **LOGGED (FT.):** 408.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATED COAL CO., HOLE #3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
637.8			CLAY	14.0	0.0	
623.8			SAND/CLAY	12.0	14.0	
611.8			HARD PAN	9.0	26.0	
602.8			SAND	10.0	35.0	
592.8			SANDY CLAY	25.0	45.0	
567.8			SAND & GRAVEL	18.0	70.0	
549.8			SAND	11.0	88.0	
538.8			BOULDERS & GRAVEL	2.0	99.0	
536.8			GRAVEL	1.0	101.0	
535.8			CLAY	13.0	102.0	BLUE
522.8			SAND	3.0	115.0	
519.8	BOND	CARTHAGE	LIMESTONE	9.0	118.0	
510.8	MODESTO		BLACK SHALE	3.0	127.0	
507.8	MODESTO		GRAY SHALE	28.5	130.0	
479.3	MODESTO		COAL	0.3	158.5	
479.0	MODESTO		UNDERCLAY	1.2	158.8	
477.8	MODESTO	MACOUPIN	LIMESTONE	3.0	160.0	
474.8	MODESTO		SHALE	9.0	163.0	
465.8	MODESTO	BURROUGHS	LIMESTONE	3.0	172.0	
462.8	MODESTO		SHALE	3.0	175.0	
459.8	MODESTO		LIMESTONE	2.0	178.0	
457.8	MODESTO		GRAY SHALE	7.0	180.0	
450.8	MODESTO		SANDY SHALE	8.0	187.0	
442.8	MODESTO		GRAY SHALE	5.0	195.0	
437.8	MODESTO	CARLINVILLE	LIMESTONE	7.0	200.0	
430.8	MODESTO		SANDY SHALE	23.0	207.0	
407.8	MODESTO		BLUE SHALE	14.8	230.0	
393.0	MODESTO	CHAPEL	BONE COAL	0.5	244.8	
392.5	MODESTO		UNDERCLAY	1.8	245.3	
390.8	MODESTO		CALCAREOUS SHALE	9.0	247.0	
381.8	MODESTO		SANDY SHALE	39.0	256.0	
342.8	MODESTO		BLUE SHALE	48.8	295.0	
294.0	MODESTO		COAL	0.5	343.8	
293.5	MODESTO		UNDERCLAY	0.7	344.3	
292.8	MODESTO		CALCAREOUS SHALE	7.0	345.0	
285.8	MODESTO		SHALE	7.0	352.0	MULTI
278.8	MODESTO	PIASA	LIMESTONE	5.0	359.0	
273.8	MODESTO		SHALE	21.0	364.0	
252.8	CARBONDALE	BRERETON	LIMESTONE	10.5	385.0	

242.3	CARBONDALE		DARK SHALE	1.0	395.5	
241.3	CARBONDALE	HERRIN	COAL	1.3	396.5	
240.0	CARBONDALE	HERRIN	SHALE	0.2	397.8	
239.9	CARBONDALE	HERRIN	COAL	0.4	397.9	
239.5	CARBONDALE	HERRIN	SHALE	1.0	398.3	W/COAL
238.5	CARBONDALE	HERRIN	COAL	0.3	399.3	
238.1	CARBONDALE	HERRIN	SHALE	6.3	399.7	
231.8	CARBONDALE	HERRIN	COAL	0.9	406.0	
230.9	CARBONDALE		UNDERCLAY	1.1	406.9	

MAPID: 13500591000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681359 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.037047 **DATE COLLECTED:** 11 / 0 / 1956

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: CASSENS GEORGE **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0		
-	MODESTO		UNCLASSIFIED	2.5		
-	CARBONDALE		UNCLASSIFIED	7.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		

MAPID: 13500662000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' N line, 330' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681406 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.042657 **DATE COLLECTED:** 8 / 0 / 1949

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: KROHN, WM. H. **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.5		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	10.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		

MAPID: 13500774000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.669649 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.035171 **DATE COLLECTED:** 4 / 0 / 1957

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: CASSENS GEORGE **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	9.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13500120000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** NE NE NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.643631 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.042986 **DATE COLLECTED:** 4 / 0 / 1903

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 476.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
621.0			UNCONSOLIDATED	96.0	0.0	
525.0			ROCK	214.0	96.0	
311.0			COAL	2.0	310.0	
309.0			ROCK	84.0	312.0	
225.0			COAL	0.5	396.0	
224.5			ROCK	79.5	396.5	

MAPID: 13500120000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** NE NE NE NE
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.643631 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.042986 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 474.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
295.0	MODESTO	PIASA	LIMESTONE	4.0	326.0	
291.0	CARBONDALE		GRAY SHALE	24.0	330.0	
267.0	CARBONDALE	LAWSON	GRAY SHALE	10.0	354.0	
257.0	CARBONDALE	LAWSON	SILTY SHALE	17.0	364.0	
240.0	CARBONDALE	LAWSON	SANDSTONE	14.8	381.0	
226.0	CARBONDALE	LAWSON	BONE COAL	0.8	395.0	
226.0	CARBONDALE	LAWSON	GRAY SHALE	17.5	395.0	

MAPID: 13500120000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** NE NE NE NE
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.643631 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.042986 **DATE COLLECTED:** 3 / 0 / 1914
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 365.0 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
295.0	MODESTO	PIASA	LIMESTONE	4.0	326.0	
291.0	CARBONDALE	ENERGY	UNCLASSIFIED	34.0	330.0	
257.0	CARBONDALE	HERRIN	COAL	1.0	364.0	

MAPID: 13500120000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** NE NE NE NE
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.643631 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.042986 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 621.1 **LOGGED (FT.):** 476.0 **LOG TYPE:**
SOURCE: LUMAGHI CC0001 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		

MAPID: 13500121000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1750' S line, 1500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.610106 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.033498 **DATE COLLECTED:** 5 / 14 / 1903

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 437.0 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
598.0			UNCONSOLIDATED	65.0	0.0	
533.0			ROCK	48.0	65.0	
485.0			COAL WITH SHALE	2.0	113.0	
483.0			ROCK	261.5	115.0	
221.5	CARBONDALE	HERRIN	COAL	0.5	376.5	
221.0			ROCK	60.0	377.0	

MAPID: 13500121000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1750' S line, 1500' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.610106 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.033498 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 376.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
268.0	MODESTO	PIASA	LIMESTONE AND SANDSTONE	15.0	330.0	
253.0	CARBONDALE	LAWSON	GRAY SHALE	16.0	345.0	
237.0	CARBONDALE	BRERETON	LIMESTONE AND SANDSTONE	12.0	361.0	
225.0	CARBONDALE	ANNA	BLACK SHALE	3.5	373.0	
222.0	CARBONDALE	HERRIN	COAL	0.5	376.0	

MAPID: 13500121000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1750' S line, 1500' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.610106 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.033498 **DATE COLLECTED:** 4 / 0 / 1903
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 376.5 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
258.5	MODESTO	PIASA	LIMESTONE	5.0	339.5	
253.5	MODESTO		UNCLASSIFIED	4.0	344.5	
249.5	CARBONDALE		UNCLASSIFIED	12.0	348.5	
237.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	360.5	
232.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	365.5	
231.5	CARBONDALE		UNCLASSIFIED	1.0	366.5	
230.5	CARBONDALE	BRERETON	LIMESTONE	5.0	367.5	
225.5	CARBONDALE	ANNA	BLACK SHALE	3.5	372.5	
222.0	CARBONDALE	HERRIN	COAL	0.5	376.0	

MAPID: 13500121000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1750' S line, 1500' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.610106 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.033498 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 437.0 **LOG TYPE:**
SOURCE: LUMAGHI CC 5 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
222.0	CARBONDALE	HERRIN	COAL	0.5	376.0	

MAPID: 13500122000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 250' N line, 3950' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.590685 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.042296 **DATE COLLECTED:** 0 / 0 / 1914
SURFACE ELEVATION (FT.): 543.6 **LOGGED (FT.):** 750.0 **LOG TYPE:**
SOURCE: PATTERSON **WELL TYPE:** Oil and Gas Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
238.6	CARBONDALE	HERRIN	COAL	7.0	305.0	

MAPID: 13500122000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 250' N line, 3950' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.590685 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.042296 **DATE COLLECTED:** 6 / 0 / 1914

SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 312.0 **LOG TYPE:** Drillers Log

SOURCE: PATTERSON & HEYDRICK **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
239.0	CARBONDALE	HERRIN	COAL	7.0	305.0	

MAPID: 13500123000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2350' S line, 2100' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.593606 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.034986 **DATE COLLECTED:** 5 / 20 / 1903

SURFACE ELEVATION (FT.): 589.0 **LOGGED (FT.):** 500.6 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
589.0			UNCONSOLIDATED	64.0	0.0	
525.0			ROCK	309.6	64.0	
215.4			SHALE	6.4	373.6	
209.0			ROCK	120.6	380.0	

MAPID: 13500123000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2350' S line, 2100' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.593606 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.034986 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 589.0 **LOGGED (FT.):** 380.4 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
252.0	MODESTO	PIASA	LIMESTONE	3.0	337.0	
249.0	MODESTO		MOTTLED SHALE	6.0	340.0	
243.0	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.0	346.0	
242.0	CARBONDALE	GALUM	LIMESTONE	2.0	347.0	
240.0	CARBONDALE		DARK GRAY SHALE	8.0	349.0	
232.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	357.0	
228.5	CARBONDALE	LAWSON	GRAY SHALE	4.0	360.5	
224.5	CARBONDALE	BRERETON	LIMESTONE	5.5	364.5	
219.0	CARBONDALE	ANNA	DARK GRAY SHALE	3.6	370.0	
215.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	6.4	374.0	

MAPID: 13500123000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2350' S line, 2100' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.593606 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.034986 **DATE COLLECTED:** 4 / 0 / 1903

SURFACE ELEVATION (FT.): 589.0 **LOGGED (FT.):** 379.5 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
242.6	MODESTO	PIASA	LIMESTONE	2.0	346.4	
240.6	MODESTO		UNCLASSIFIED	2.0	348.4	
238.6	CARBONDALE		UNCLASSIFIED	6.0	350.4	
232.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	356.4	
229.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	359.9	
227.1	CARBONDALE		UNCLASSIFIED	2.0	361.9	
225.1	CARBONDALE	BRERETON	LIMESTONE	5.5	363.9	
219.6	CARBONDALE	ANNA	BLACK SHALE	3.6	369.4	
216.0	CARBONDALE	HERRIN	COAL	6.5	373.0	

MAPID: 13500123000C **VERSION:** 4 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2350' S line, 2100' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.593606 **GEOLOGIST:** J.N. PAYNE

CONFIDENTIAL: N **LATITUDE:** 39.034986 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 589.4 **LOGGED (FT.):** 500.0 **LOG TYPE:**

SOURCE: LUMAGHI CC 4 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
216.4	CARBONDALE	HERRIN	COAL	-	373.0	

MAPID: 13500123000C **VERSION:** 5 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2350' S line, 2100' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.593606 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.034986 **DATE COLLECTED:** 5 / 20 / 1903

SURFACE ELEVATION (FT.): 589.4 **LOGGED (FT.):** 500.6 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO., HOLE #14 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
589.4			SOIL	39.0	0.0	
550.4			CLAY	25.0	39.0	BLUE
525.4			LIMESTONE	1.0	64.0	
524.4			BLACK SHALE	1.0	65.0	
523.4			UNDERCLAY	7.0	66.0	
516.4			LIMESTONE	4.5	73.0	
511.9			UNDERCLAY	5.5	77.5	
506.4			SANDY LIMESTONE	13.0	83.0	
493.4			DARK SHALE	4.0	96.0	
489.4			SHALE	33.0	100.0	
456.4			LIMESTONE	2.0	133.0	
454.4			DARK SHALE	44.0	135.0	
410.4			LIMESTONE	6.0	179.0	
404.4			SHALE	128.0	185.0	
276.4			LIMESTONE	2.0	313.0	
274.4			DARK SHALE	22.0	315.0	
252.4			LIMESTONE	3.0	337.0	
249.4			SHALE	5.0	340.0	
244.4			RED SHALE	1.0	345.0	
243.4			DARK SHALE	1.0	346.0	
242.4			LIMESTONE	2.0	347.0	
240.4			SHALE	8.0	349.0	DRK BLUE
232.4			LIMESTONE	3.5	357.0	
228.9			BLUE SHALE	4.0	360.5	
224.9			LIMESTONE	5.5	364.5	
219.4			SHALE	3.6	370.0	BLUE/BLK
215.8			BLUE SHALE	6.4	373.6	W/COAL PARTINGS AND CGL
209.4			UNDERCLAY	3.0	380.0	
206.4			LIMESTONE	6.5	383.0	
199.9			BLUE SHALE	15.5	389.5	
184.4			LIMESTONE	5.0	405.0	
179.4			BLACK SHALE	2.0	410.0	
177.4	CARBONDALE		UNDERCLAY	6.0	412.0	
171.4	CARBONDALE		SHALE	52.0	418.0	
119.4	CARBONDALE		SHALE	6.0	470.0	" SLATE "
113.4	CARBONDALE		BLACK SHALE	1.3	476.0	W/COAL PARTINGS
112.1	CARBONDALE		UNDERCLAY	3.0	477.3	
109.1	CARBONDALE		BLUE SHALE	20.3	480.3	

MAPID: 13501086000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 70' N line, 230' W line of SW SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.594652 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.01745 **DATE COLLECTED:** 10 / 0 / 1957

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: STRIBLING, W. C. **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	13.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0		
-	CARBONDALE		UNCLASSIFIED	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	6.0		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13501096000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 132' S line, 279' W line of SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.594464 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.014385 **DATE COLLECTED:** 1 / 0 / 1958

SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 353.0 **LOG TYPE:** Electric Log

SOURCE: STRIBLING, W. C. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE	4.0	308.0	
282.0	MODESTO		UNCLASSIFIED	4.0	312.0	
278.0	CARBONDALE		UNCLASSIFIED	12.0	316.0	
266.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	328.0	
260.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	334.0	
258.0	CARBONDALE		UNCLASSIFIED	2.0	336.0	
256.0	CARBONDALE	BRERETON	LIMESTONE	6.0	338.0	
250.0	CARBONDALE	ANNA	BLACK SHALE	2.0	344.0	
248.0	CARBONDALE	HERRIN	COAL	7.0	346.0	

MAPID: 13501097000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 265' N line, 152' W line of NE SE SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.597259 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.016923 **DATE COLLECTED:** 12 / 0 / 1957
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 362.0 **LOG TYPE:** Electric Log
SOURCE: STRIBLING, W. C. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
285.0	MODESTO	PIASA	LIMESTONE	8.0	319.0	
277.0	MODESTO		UNCLASSIFIED	4.0	327.0	
273.0	CARBONDALE		UNCLASSIFIED	9.0	331.0	
264.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	340.0	
258.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	346.0	
256.0	CARBONDALE		UNCLASSIFIED	2.0	348.0	
254.0	CARBONDALE	BRERETON	LIMESTONE	6.0	350.0	
248.0	CARBONDALE	HERRIN	COAL	6.0	356.0	

MAPID: 13501183000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.587322 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.022019 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 414.8 **LOG TYPE:** Drillers Log
SOURCE: PITTS. CONS. COAL CO. 53BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
231.0	MODESTO	PIASA	LIMESTONE	5.5	381.0	
225.5	MODESTO		CLAYSTONE & SHALE	1.7	386.5	
223.8	CARBONDALE	DANVILLE	COAL	0.6	388.2	
223.2	CARBONDALE		CLAYSTONE	3.3	388.8	
220.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	392.0	UPPER BENCH
218.2	CARBONDALE	BANKSTON FORK	CLAYSTONE	1.6	393.8	SHALE PARTING
216.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.6	395.4	LOWER BENCH
212.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.5	400.0	
208.5	CARBONDALE	BRERETON	LIMESTONE	2.0	403.5	
206.5	CARBONDALE	ANNA	DARK GRAY SHALE	2.1	405.5	
204.0	CARBONDALE	HERRIN	COAL	6.8	408.0	

MAPID: 13501183000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.587322 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.022019 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 414.8 **LOG TYPE:** Drillers Log

SOURCE: PITTS. CONS. COAL CO. 53BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
230.6	MODESTO	PIASA	LIMESTONE	5.5	381.4	
225.1	MODESTO		UNCLASSIFIED	1.7	386.9	
223.4	CARBONDALE	DANVILLE	COAL	1.0	388.6	
222.4	CARBONDALE		UNCLASSIFIED	6.2	389.6	
216.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.6	395.8	
211.6	CARBONDALE	ANVIL ROCK	SANDSTONE	1.5	400.4	
210.1	CARBONDALE		SHALE	2.0	401.9	
208.1	CARBONDALE	BRERETON	LIMESTONE	2.3	403.9	
205.8	CARBONDALE	ANNA	BLACK SHALE	1.8	406.2	
204.0	CARBONDALE	HERRIN	COAL	6.8	408.0	

MAPID: 13501183000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.587322 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.022019 **DATE COLLECTED:** 1 / 0 / 1960

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 414.4 **LOG TYPE:** Survey Core Study

SOURCE: PITTS. CONS. COAL CO. 53BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
204.4	CARBONDALE	HERRIN	COAL	6.8	407.6	

MAPID: 13500124000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 4250' S line, 1725' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.610954 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.025751 **DATE COLLECTED:** 4 / 0 / 1903
SURFACE ELEVATION (FT.): 571.0 **LOGGED (FT.):** 356.8 **LOG TYPE:** Drillers Log
SOURCE: SORENTO COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
253.5	MODESTO	PIASA	LIMESTONE	4.0	317.5	
249.5	MODESTO		UNCLASSIFIED	3.5	321.5	
246.0	CARBONDALE		UNCLASSIFIED	9.5	325.0	
236.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	334.5	
228.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	342.5	
227.0	CARBONDALE		UNCLASSIFIED	1.5	344.0	
225.5	CARBONDALE	BRERETON	LIMESTONE	4.0	345.5	
221.5	CARBONDALE	ANNA	BLACK SHALE	1.5	349.5	
220.0	CARBONDALE	HERRIN	COAL	5.8	351.0	

MAPID: 13500124000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 4250' S line, 1725' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.610954 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.025751 **DATE COLLECTED:** 4 / 30 / 1903
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 480.0 **LOG TYPE:** Drillers Log
SOURCE: P. PHILLIPS, DRILLER **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
590.0			UNCONSOLIDATED	30.0	0.0	
560.0			ROCK	291.0	30.0	
269.0			SHALE	13.0	321.0	
256.0			LIMESTONE	8.0	334.0	
248.0			SHALE	8.5	342.0	
239.5	CARBONDALE	HERRIN	COAL	5.8	350.5	
233.7			ROCK	123.7	356.3	

MAPID: 13500124000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 4250' S line, 1725' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.610954 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.025751 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 571.0 **LOGGED (FT.):** 480.0 **LOG TYPE:**
SOURCE: LUMAGHI CC 22 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
220.0	CARBONDALE	HERRIN	COAL	5.8	351.0	

MAPID: 13500177000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 900' N line, 200' W line of NW SE
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.651233 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.018762 **DATE COLLECTED:** 5 / 0 / 1917
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: OHIO OIL CO., THE **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	12.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	5.0		

MAPID: 13501206000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SW NW SW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.660238 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.018441 **DATE COLLECTED:** 6 / 0 / 1961
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: BEESON OIL PROD. **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	6.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	7.0		

MAPID: 13501116000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.667267 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.027804 **DATE COLLECTED:** 12 / 0 / 1958
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: PARTLOW & COCHONOUR **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13501116000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.667267 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.027804 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.5		
-	CARBONDALE	LAWSON	SHALE	5.0		
-	CARBONDALE	ENERGY	SHALE	15.0		
-	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	7.0		

MAPID: 13500663000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.692859 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.014648 **DATE COLLECTED:** 9 / 0 / 1951
SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 394.0 **LOG TYPE:** Electric Log
SOURCE: JAHN E H **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
284.0	MODESTO	PIASA	LIMESTONE	5.0	347.0	
279.0	MODESTO		UNCLASSIFIED	3.5	352.0	
275.5	CARBONDALE	DANVILLE	COAL	1.0	355.5	
274.5	CARBONDALE		UNCLASSIFIED	15.5	356.5	
259.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	372.0	
253.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	377.5	
252.0	CARBONDALE		UNCLASSIFIED	1.0	379.0	
251.0	CARBONDALE	BRERETON	LIMESTONE	6.0	380.0	
245.0	CARBONDALE	ANNA	BLACK SHALE	5.0	386.0	
240.0	CARBONDALE	HERRIN	COAL	3.0	391.0	

MAPID: 13500663000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.692859 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.014648 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
284.0	MODESTO	PIASA	LIMESTONE	5.0	347.0	
279.0	MODESTO		DARK GRAY SHALE	1.0	352.0	
278.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	353.0	
276.0	CARBONDALE		SHALE	6.0	355.0	
270.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	361.0	
266.0	CARBONDALE	LAWSON	SHALE	9.0	365.0	
257.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	374.0	
251.0	CARBONDALE	HERRIN	COAL	6.0	380.0	

MAPID: 13500592000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.662367 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.005504 **DATE COLLECTED:** 10 / 0 / 1956

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: ALLEN, NELSON **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE	DANVILLE	COAL	1.0		
-	CARBONDALE		UNCLASSIFIED	10.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13500911000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.667085 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.00743 **DATE COLLECTED:** 9 / 0 / 1957

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 334.0 **LOG TYPE:** Electric Log

SOURCE: ALLEN, NELSON **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
323.0	MODESTO	PIASA	LIMESTONE	4.0	285.0	
319.0	MODESTO		UNCLASSIFIED	6.0	289.0	
313.0	CARBONDALE	DANVILLE	COAL	1.0	295.0	
312.0	CARBONDALE		UNCLASSIFIED	12.0	296.0	
300.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	308.0	
295.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	313.0	
292.0	CARBONDALE		UNCLASSIFIED	3.0	316.0	
289.0	CARBONDALE	BRERETON	LIMESTONE	7.0	319.0	
282.0	CARBONDALE	ANNA	BLACK SHALE	5.0	326.0	
277.0	CARBONDALE	HERRIN	COAL	3.0	331.0	

MAPID: 13501121000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.6625 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.011022 **DATE COLLECTED:** 2 / 0 / 1959

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: PARTLOW & COCHONOUR **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	12.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13500642000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.653073 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.00738 **DATE COLLECTED:** 11 / 0 / 1956

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: ALLEN, NELSON **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.5		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	6.0		

MAPID: 13500642000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.653073 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.00738 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 512.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
309.0	MODESTO	PIASA	LIMESTONE	2.5	305.0	
306.5	MODESTO		SHALE	10.0	307.5	
296.5	CARBONDALE	ENERGY	GRAY SHALE	55.0	317.5	
241.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	60.0	372.5	
181.5	CARBONDALE	ENERGY	SANDSTONE	80.0	432.5	

MAPID: 13500920000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: NEW DOUGLAS **LONGITUDE:** -89.640989 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.000019 **DATE COLLECTED:** 10 / 0 / 1957
SURFACE ELEVATION (FT.): 562.0 **LOGGED (FT.):** 299.0 **LOG TYPE:** Electric Log
SOURCE: STEWART OIL CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.0	MODESTO	PIASA	LIMESTONE	4.0	259.0	
299.0	MODESTO		UNCLASSIFIED	4.0	263.0	
295.0	CARBONDALE		UNCLASSIFIED	12.5	267.0	
282.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	279.5	
277.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	284.5	
275.5	CARBONDALE		UNCLASSIFIED	1.5	286.5	
274.0	CARBONDALE	BRERETON	LIMESTONE	4.0	288.0	
270.0	CARBONDALE	ANNA	BLACK SHALE	3.0	292.0	
267.0	CARBONDALE	HERRIN	COAL	4.0	295.0	

MAPID: 13500920000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: NEW DOUGLAS **LONGITUDE:** -89.640989 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.000019 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 299.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
338.0	MODESTO	PIASA	LIMESTONE	5.0	259.0	
333.0	CARBONDALE		SHALE	10.0	264.0	
323.0	CARBONDALE	ALLENBY	BONE COAL	1.0	274.0	
322.0	CARBONDALE	LAWSON	SHALE	20.0	275.0	
302.0	CARBONDALE	HERRIN	COAL	4.0	295.0	

MAPID: 13500125000C **VERSION:** 1 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 3400' N line, 2500' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.613595 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.00462 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 567.9 **LOGGED (FT.):** 722.0 **LOG TYPE:**
SOURCE: SHAFFERSM **WELL TYPE:** Coal Test
COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		

MAPID: 13500126000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 3175' N line, 2825' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61475 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.005237 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 342.5 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
288.5	MODESTO	PIASA	LIMESTONE	5.0	301.5	
283.5	MODESTO		UNCLASSIFIED	3.5	306.5	
280.0	CARBONDALE		UNCLASSIFIED	9.5	310.0	
270.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	319.5	
263.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	326.5	
261.5	CARBONDALE		UNCLASSIFIED	2.0	328.5	
259.5	CARBONDALE	BRERETON	LIMESTONE	7.0	330.5	
252.5	CARBONDALE	ANNA	BLACK SHALE	2.5	337.5	
250.0	CARBONDALE	HERRIN	COAL	2.5	340.0	

MAPID: 13500126000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 3175' N line, 2825' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61475 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.005237 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 392.0 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
590.0			UNCONSOLIDATED	49.0	0.0	
541.0			ROCK	291.5	49.0	
249.5	CARBONDALE	HERRIN	COAL	2.5	340.5	
247.0			ROCK	49.0	343.0	

MAPID: 13500126000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 3175' N line, 2825' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61475 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.005237 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 390.0 **LOG TYPE:**
SOURCE: LUMAGHI CC 8 **WELL TYPE:** Coal Test
COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
250.0	CARBONDALE	HERRIN	COAL	2.0	340.0	

MAPID: 13500442000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 2310' S line, 2310' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61526 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.005704 **DATE COLLECTED:** 6 / 0 / 1956

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 353.0 **LOG TYPE:** Electric Log

SOURCE: TAYLOR ETAL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
290.0	MODESTO	PIASA	LIMESTONE	6.0	310.0	
284.0	MODESTO		UNCLASSIFIED	3.0	316.0	
281.0	CARBONDALE		UNCLASSIFIED	9.0	319.0	
272.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	328.0	
267.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	332.5	
265.5	CARBONDALE		UNCLASSIFIED	1.5	334.5	
264.0	CARBONDALE	BRERETON	LIMESTONE	9.0	336.0	
255.0	CARBONDALE	ANNA	BLACK SHALE	3.0	345.0	
252.0	CARBONDALE	HERRIN	COAL	5.0	348.0	

MAPID: 13500442000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 2310' S line, 2310' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.61526 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.005704 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 345.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
290.0	MODESTO	PIASA	LIMESTONE	6.0	310.0	
284.0	CARBONDALE	LAWSON	SHALE	21.0	316.0	
263.0	CARBONDALE	BRERETON	CALCAREOUS SHALE	3.0	337.0	
260.0	CARBONDALE	HERRIN	COAL	5.0	340.0	

MAPID: 13500127000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2800' N line, 3800' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.599548 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.006301 **DATE COLLECTED:** 8 / 0 / 1903
SURFACE ELEVATION (FT.): 585.0 **LOGGED (FT.):** 342.0 **LOG TYPE:** Drillers Log
SOURCE: WILMINGTON STAR MINING CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE	5.0	299.0	
281.0	MODESTO		UNCLASSIFIED	4.5	304.0	
276.5	CARBONDALE		UNCLASSIFIED	11.5	308.5	
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	320.0	
258.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	327.0	
256.0	CARBONDALE		UNCLASSIFIED	2.0	329.0	
254.0	CARBONDALE	BRERETON	LIMESTONE	8.7	331.0	
245.3	CARBONDALE	ANNA	BLACK SHALE	0.3	339.7	
245.0	CARBONDALE	HERRIN	COAL	2.0	340.0	

MAPID: 13500127000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2800' N line, 3800' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.599548 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.006301 **DATE COLLECTED:** 8 / 10 / 1903
SURFACE ELEVATION (FT.): 585.0 **LOGGED (FT.):** 349.0 **LOG TYPE:** Drillers Log
SOURCE: WILMINGTON STAR COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
585.0			UNCONSOLIDATED	79.0	0.0	
506.0			ROCK	261.0	79.0	
245.0	CARBONDALE	HERRIN	COAL	2.0	340.0	
243.0			ROCK	7.0	342.0	

MAPID: 13500127000C **VERSION:** 3 **PROJECT:** CIRC 71

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2800' N line, 3800' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.599548 **GEOLOGIST:** J.N. PAYNE
CONFIDENTIAL: N **LATITUDE:** 39.006301 **DATE COLLECTED:** 0 / 0 / 1903
SURFACE ELEVATION (FT.): 584.9 **LOGGED (FT.):** 349.0 **LOG TYPE:**
SOURCE: WIL STARCC **WELL TYPE:** Coal Test
COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
244.9	CARBONDALE	HERRIN	COAL	2.0	340.0	

MAPID: 13500127000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2800' N line, 3800' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.599548 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.006301 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 584.9 **LOGGED (FT.):** 349.0 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
584.9			UNCONSOLIDATED	39.0	0.0	
545.9			CLAY	40.0	39.0	YEL/BLUE
505.9	MODESTO		BLUE SHALE	25.0	79.0	
480.9	MODESTO		LIMESTONE	1.0	104.0	
479.9	MODESTO		BLACK SHALE	5.0	105.0	
474.9	MODESTO		BLUE SHALE	21.0	110.0	
453.9	MODESTO		SANDSTONE & CONGLOMERATE	4.0	131.0	LOG REPORTS "SAND & GRAVEL"
449.9	MODESTO		SANDY SHALE	13.0	135.0	
436.9	MODESTO		LIMESTONE	7.0	148.0	
429.9	MODESTO		SANDSTONE	8.0	155.0	
421.9	MODESTO		BLUE SHALE	9.0	163.0	
412.9	MODESTO		SANDY SHALE	3.0	172.0	
409.9	MODESTO		BLUE SHALE	21.0	175.0	
388.9	MODESTO		SANDY LIMESTONE	7.0	196.0	
381.9	MODESTO		SANDSTONE	30.0	203.0	
351.9	MODESTO		BLUE SHALE	44.0	233.0	
307.9	MODESTO		SHALE	4.0	277.0	
303.9	MODESTO		SANDY LIMESTONE	5.0	281.0	
298.9	MODESTO		SANDSTONE	13.0	286.0	
285.9	MODESTO		ROCK	5.0	299.0	LOG HAS BLUE FLINT; BLUE
280.9	MODESTO		BLUE SHALE	9.0	304.0	
271.9	CARBONDALE		SANDSTONE	4.0	313.0	
267.9	CARBONDALE		BLUE SHALE	3.0	317.0	
264.9	CARBONDALE	BRERETON	SANDY LIMESTONE	19.7	320.0	
245.2	CARBONDALE	ANNA	BLACK SHALE	0.3	339.7	
244.9	CARBONDALE	HERRIN	COAL	2.0	340.0	
242.9	CARBONDALE	HERRIN	SHALE/COAL	5.0	342.0	SH & COAL BANDS
237.9	CARBONDALE		UNDERCLAY	1.0	347.0	
236.9	CARBONDALE		LIMESTONE	1.0	348.0	

MAPID: 13501102000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.596599 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.007598 **DATE COLLECTED:** 5 / 0 / 1958
SURFACE ELEVATION (FT.): 582.0 **LOGGED (FT.):** 330.0 **LOG TYPE:** Electric Log
SOURCE: STRIBLING, W. C. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
295.0	MODESTO	PIASA	LIMESTONE	4.0	287.0	
291.0	MODESTO		UNCLASSIFIED	5.0	291.0	
286.0	CARBONDALE		UNCLASSIFIED	14.0	296.0	
272.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	310.0	
266.0	CARBONDALE	BRERETON	LIMESTONE	6.0	316.0	
260.0	CARBONDALE	ANNA	BLACK SHALE	2.0	322.0	
258.0	CARBONDALE	HERRIN	COAL	6.0	324.0	

MAPID: 13501776000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2583' N line, 1067' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.589879 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.00688 **DATE COLLECTED:** 3 / 27 / 1972
SURFACE ELEVATION (FT.): 571.6 **LOGGED (FT.):** 327.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 244-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
251.7	CARBONDALE	HERRIN	COAL	7.2	319.9	

MAPID: 13501776000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2583' N line, 1067' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.589879 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.00688 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 572.0 **LOGGED (FT.):** 327.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 244-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE	3.5	286.0	
282.5	MODESTO		MOTTLED SHALE	3.8	289.5	
278.7	CARBONDALE	GALUM	NODULAR LIMESTONE	3.6	293.3	
275.1	CARBONDALE		DARK GRAY SHALE	1.9	296.9	
273.2	CARBONDALE	ALLENBY	BONE COAL	1.0	298.8	
272.2	CARBONDALE		CLAYSTONE	2.2	299.8	
270.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.2	301.9	UPPER BENCH
267.9	CARBONDALE	BANKSTON FORK	GRAY SHALE	5.3	304.1	SHALE PARTING
262.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	8.0	309.4	LOWER BENCH
254.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.3	317.4	
253.3	CARBONDALE	BRERETON	LIMESTONE	3.2	318.7	
250.1	CARBONDALE	ANNA	DARK GRAY SHALE	4.2	321.9	
252.0	CARBONDALE	HERRIN	COAL	7.2	320.0	

MAPID: 13501777000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 379' S line, 1458' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.59125 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.000386 **DATE COLLECTED:** 4 / 12 / 1972
SURFACE ELEVATION (FT.): 578.4 **LOGGED (FT.):** 339.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 245-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
246.4	CARBONDALE	HERRIN	COAL	7.3	332.0	

MAPID: 13501777000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 7N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 379' S line, 1458' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.59125 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.000386 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 339.3 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 245-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
285.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.0	293.0	
283.0	CARBONDALE		MOTTLED SHALE	10.6	295.0	
272.4	CARBONDALE	GALUM	NODULAR LIMESTONE	3.0	305.6	
269.4	CARBONDALE		BLACK SHALE	1.1	308.6	
268.3	CARBONDALE	ALLENBY	BONE COAL	0.7	309.7	
267.6	CARBONDALE		CLAYSTONE & SHALE	5.0	310.4	
262.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	9.0	315.4	
253.6	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	324.4	
252.6	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.2	325.4	
252.4	CARBONDALE	JAMESTOWN	BONE COAL	0.1	325.6	
252.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.5	325.7	
248.8	CARBONDALE	ANNA	BLACK SHALE	1.7	329.2	
246.0	CARBONDALE	HERRIN	COAL	7.3	332.0	

MAPID: 13523765000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** SE SE SE

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.270589 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.160073 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 633.8 **LOG TYPE:** Company map

SOURCE: CARTER OIL 19D-707 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN S,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.8	626.0	

MAPID: 13500065000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** SW SE SE

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.29183 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.159969 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 627.6 **LOGGED (FT.):** 578.9 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., #11 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
627.6			UNCONSOLIDATED	6.0	0.0	
621.6			SAND & GRAVEL	21.0	6.0	
600.6			CLAY	21.0	27.0	BLUE
579.6			CLAY	27.0	48.0	YELLOW
552.6			CLAY	64.0	75.0	BLUE
488.6	BOND		ROCK	0.5	139.0	
488.1	BOND		COAL	0.5	139.5	
487.6	BOND		SHALE	66.5	140.0	W/LS BANDS
421.1	BOND		SANDSTONE	21.0	206.5	
400.1	BOND		SHALE	2.5	227.5	
397.6	BOND		ROCK	2.0	230.0	
395.6	BOND		SHALE	9.5	232.0	
386.1	BOND	CARTHAGE	LIMESTONE	8.0	241.5	
378.1	MODESTO		SHALE	40.5	249.5	
337.6	MODESTO		CONGLOMERATE	23.0	290.0	LOG HAS GRAVEL
314.6	MODESTO		BLACK SHALE	4.5	313.0	
310.1	MODESTO		SHALE	17.5	317.5	
292.6	MODESTO		BLUE SHALE	62.0	335.0	
230.6	MODESTO		DARK SHALE	3.0	397.0	
227.6	MODESTO		SHALE	2.5	400.0	
225.1	MODESTO		CLAYSTONE & SILTSTONE	0.5	402.5	
224.6	MODESTO		SHALE	110.0	403.0	
114.6	MODESTO		SANDSTONE	3.0	513.0	
111.6	MODESTO		SANDY SHALE	4.0	516.0	
107.6	MODESTO		SANDSTONE	7.0	520.0	
100.6	MODESTO		SHALE	2.0	527.0	
98.6	MODESTO	PIASA	LIMESTONE	5.0	529.0	
93.6	MODESTO		CLAYSTONE & SHALE	13.0	534.0	
80.6	CARBONDALE		SHALE	22.0	547.0	
58.6	CARBONDALE		ROCK	1.5	569.0	
57.1	CARBONDALE		SHALE	0.5	570.5	
56.6	CARBONDALE	HERRIN	COAL	7.4	571.0	

MAPID: 13500065000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** SW SE SE
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.29183 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.159969 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 579.4 **LOG TYPE:** Drillers Log
SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
98.0	MODESTO	PIASA	LIMESTONE	5.0	530.0	
93.0	MODESTO		UNCLASSIFIED	5.0	535.0	
88.0	CARBONDALE		UNCLASSIFIED	15.0	540.0	
73.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	555.0	
64.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	564.0	
61.0	CARBONDALE		UNCLASSIFIED	3.0	567.0	
58.0	CARBONDALE	BRERETON	LIMESTONE	1.5	570.0	
56.5	CARBONDALE	ANNA	BLACK SHALE	0.5	571.5	
56.0	CARBONDALE	HERRIN	COAL	7.4	572.0	

MAPID: 13500444000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.289472 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.167261 **DATE COLLECTED:** 6 / 0 / 1956
SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** 607.0 **LOG TYPE:** Electric Log
SOURCE: SKILES OIL CORP **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
104.1	MODESTO	PIASA	LIMESTONE	5.0	554.9	
99.1	MODESTO		UNCLASSIFIED	4.0	559.9	
95.1	CARBONDALE	DANVILLE	COAL	1.0	563.9	
94.1	CARBONDALE		UNCLASSIFIED	18.0	564.9	
76.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.5	582.9	
68.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.3	590.4	
67.3	CARBONDALE		UNCLASSIFIED	1.3	591.7	
66.0	CARBONDALE	BRERETON	LIMESTONE	4.0	593.0	
62.0	CARBONDALE	ANNA	BLACK SHALE	2.0	597.0	
60.0	CARBONDALE	HERRIN	COAL	8.0	599.0	

MAPID: 13500444000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.289472 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.167261 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** 605.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
106.0	MODESTO	PIASA	LIMESTONE	7.0	553.0	
99.0	CARBONDALE		SHALE	8.0	560.0	
91.0	CARBONDALE	GALUM	LIMESTONE & SHALE	1.0	568.0	
90.0	CARBONDALE	ALLENBY	BONE COAL	1.0	569.0	
89.0	CARBONDALE	LAWSON	SHALE	28.0	570.0	
61.0	CARBONDALE	BRERETON	LIMESTONE	3.0	598.0	
58.0	CARBONDALE	ANNA	BLACK SHALE	1.0	601.0	
57.0	CARBONDALE	HERRIN	COAL	3.0	602.0	

MAPID: 13500665000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.298922 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.16722 **DATE COLLECTED:** 6 / 0 / 1956

SURFACE ELEVATION (FT.): 671.0 **LOGGED (FT.):** 599.0 **LOG TYPE:** Electric Log

SOURCE: SKILES OIL CORP **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
120.0	MODESTO	PIASA	LIMESTONE	5.0	551.0	
115.0	MODESTO		UNCLASSIFIED	4.0	556.0	
111.0	CARBONDALE	DANVILLE	COAL	0.5	560.0	
110.5	CARBONDALE		UNCLASSIFIED	14.5	560.5	
96.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	575.0	
87.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	584.0	
86.0	CARBONDALE		UNCLASSIFIED	1.0	585.0	
85.0	CARBONDALE	BRERETON	LIMESTONE	4.0	586.0	
81.0	CARBONDALE	ANNA	BLACK SHALE	3.0	590.0	
78.0	CARBONDALE	HERRIN	COAL	6.0	593.0	

MAPID: 13500246000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325134 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.159665 **DATE COLLECTED:** 12 / 0 / 1940

SURFACE ELEVATION (FT.): 668.0 **LOGGED (FT.):** 566.0 **LOG TYPE:** Electric Log

SOURCE: NATIONAL PETROLEUM CORP. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.0	MODESTO	PIASA	LIMESTONE	5.0	510.0	
153.0	MODESTO		UNCLASSIFIED	4.0	515.0	
149.0	CARBONDALE		UNCLASSIFIED	16.0	519.0	
133.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	535.0	
125.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	7.0	543.0	
118.0	CARBONDALE	CONANT	UNCLASSIFIED	1.0	550.0	
117.0	CARBONDALE		UNCLASSIFIED	3.0	551.0	
114.0	CARBONDALE	BRERETON	LIMESTONE	4.0	554.0	
110.0	CARBONDALE	ANNA	BLACK SHALE	3.0	558.0	
107.0	CARBONDALE	HERRIN	COAL	5.0	561.0	

MAPID: 13500874000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.312988 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.170796 **DATE COLLECTED:** 7 / 0 / 1957

SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 570.0 **LOG TYPE:** Electric Log

SOURCE: SMITH, HENRY P. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
146.0	MODESTO	PIASA	LIMESTONE	5.0	521.0	
141.0	MODESTO		UNCLASSIFIED	4.5	526.0	
136.5	CARBONDALE	DANVILLE	COAL	1.0	530.5	
135.5	CARBONDALE		UNCLASSIFIED	12.5	531.5	
123.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	544.0	
114.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	553.0	
112.0	CARBONDALE		UNCLASSIFIED	1.5	555.0	
110.5	CARBONDALE	BRERETON	LIMESTONE	3.5	556.5	
107.0	CARBONDALE	ANNA	BLACK SHALE	3.0	560.0	
104.0	CARBONDALE	HERRIN	COAL	7.0	563.0	

MAPID: 13500874000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.312988 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.170796 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 570.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
147.0	MODESTO	PIASA	LIMESTONE	6.0	520.0	
141.0	MODESTO		SHALE	7.0	526.0	
134.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	533.0	
133.0	CARBONDALE		CALCAREOUS SHALE	10.0	534.0	
123.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	544.0	
122.0	CARBONDALE	LAWSON	SHALE	20.0	545.0	
103.0	CARBONDALE	HERRIN	COAL	6.5	564.0	

MAPID: 13500067000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1320' S line, 1980' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.352086 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.147672 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 497.6 **LOG TYPE:** Drillers Log

SOURCE: HARGRAVE A W **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
147.6	MODESTO	PIASA	LIMESTONE	4.5	452.4	
143.1	MODESTO		UNCLASSIFIED	4.3	456.9	
138.8	CARBONDALE		UNCLASSIFIED	12.3	461.2	
126.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	473.5	
119.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	480.5	
117.0	CARBONDALE		UNCLASSIFIED	2.5	483.0	
114.5	CARBONDALE	BRERETON	LIMESTONE	2.5	485.5	
112.0	CARBONDALE	ANNA	BLACK SHALE	2.0	488.0	
110.0	CARBONDALE	HERRIN	COAL	7.6	490.0	

MAPID: 13500067000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1320' S line, 1980' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.352086 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.147672 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 478.6 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
167.0	MODESTO	PIASA	LIMESTONE	4.5	433.0	
162.5	MODESTO		MOTTLED SHALE	1.5	437.5	
161.0	CARBONDALE		DARK GRAY SHALE	7.0	439.0	
154.0	CARBONDALE	GALUM	LIMESTONE	1.0	446.0	
153.0	CARBONDALE		DARK GRAY SHALE	4.0	447.0	
149.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	451.0	
148.0	CARBONDALE		DARK GRAY SHALE	2.0	452.0	
146.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	454.0	
139.0	CARBONDALE	LAWSON	GRAY SHALE	5.0	461.0	
134.0	CARBONDALE	BRERETON	LIMESTONE	1.0	466.0	
133.0	CARBONDALE	ANNA	BLACK SHALE	3.5	467.0	
129.0	CARBONDALE	HERRIN	COAL	7.6	471.0	

MAPID: 13500067000C **VERSION:** 3 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1320' S line, 1980' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.352086 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.147672 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 580.4 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-3 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
109.9	CARBONDALE	HERRIN	COAL	7.5	470.5	

MAPID: 13500666000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 790' S line, 340' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.327485 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.146382 **DATE COLLECTED:** 8 / 0 / 1950

SURFACE ELEVATION (FT.): 676.0 **LOGGED (FT.):** 591.0 **LOG TYPE:** Electric Log

SOURCE: MAYOR DRLG CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
132.0	MODESTO	PIASA	LIMESTONE	6.0	544.0	
126.0	MODESTO		UNCLASSIFIED	4.0	550.0	
122.0	CARBONDALE	DANVILLE	COAL	1.0	554.0	
121.0	CARBONDALE		UNCLASSIFIED	12.5	555.0	
108.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.5	567.5	
101.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	575.0	
100.0	CARBONDALE		UNCLASSIFIED	1.0	576.0	
99.0	CARBONDALE	BRERETON	LIMESTONE	4.0	577.0	
95.0	CARBONDALE	ANNA	BLACK SHALE	3.0	581.0	
92.0	CARBONDALE	HERRIN	COAL	7.0	584.0	

MAPID: 13500666000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 790' S line, 340' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.327485 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.146382 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 591.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
91.0	MODESTO	PIASA	LIMESTONE	5.0	545.0	
86.0	MODESTO		MOTTLED SHALE	7.0	550.0	
79.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	557.0	
78.0	CARBONDALE		SHALE	7.0	558.0	
71.0	CARBONDALE	GALUM	LIMESTONE & SHALE	1.0	565.0	
70.0	CARBONDALE	ALLENBY	BLACK SHALE	2.0	566.0	
68.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	14.0	568.0	
54.0	CARBONDALE	ANNA	BLACK SHALE	2.0	582.0	
52.0	CARBONDALE	HERRIN	COAL	7.0	584.0	

MAPID: 13500068000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325105 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.145141 **DATE COLLECTED:** 0 / 0 / 1912
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 577.7 **LOG TYPE:** Drillers Log
SOURCE: HARGRAVE H S **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
128.1	MODESTO	PIASA	LIMESTONE	6.0	531.9	
122.1	MODESTO		UNCLASSIFIED	2.8	537.9	
119.3	CARBONDALE		UNCLASSIFIED	10.8	540.7	
108.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	551.5	
99.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	560.5	
97.0	CARBONDALE		UNCLASSIFIED	2.0	563.0	
95.0	CARBONDALE	BRERETON	LIMESTONE	2.5	565.0	
92.5	CARBONDALE	ANNA	BLACK SHALE	2.5	567.5	
90.0	CARBONDALE	HERRIN	COAL	7.7	570.0	

MAPID: 13500068000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325105 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.145141 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 581.7 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.0	MODESTO	PIASA	LIMESTONE	6.0	535.0	
119.0	CARBONDALE		MOTTLED SHALE	13.7	541.0	
105.3	CARBONDALE	GALUM	LIMESTONE	1.5	554.7	
103.8	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.8	556.2	
103.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	13.7	557.0	
89.3	CARBONDALE	LAWSON	DARK GRAY SHALE	8.0	570.7	
86.0	CARBONDALE	HERRIN	COAL	7.7	574.0	

MAPID: 13500068000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325105 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.145141 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 582.0 **LOG TYPE:** Drillers Log

SOURCE: H.S. HARGRAVE **WELL TYPE:** Coal Test

COMMENT: SULLIVAN MACHY. CO. ON LOG AS AUTH

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
660.0			SOIL	1.0	0.0	
659.0			CLAY	16.0	1.0	
643.0			SAND & GRAVEL	33.0	17.0	
610.0			CLAY & GRAVEL	34.0	50.0	BLUE
576.0			SAND & GRAVEL	10.0	84.0	
566.0			CLAY & GRAVEL	4.0	94.0	
562.0			SAND	9.0	98.0	
553.0			CLAY	10.0	107.0	BLUE
543.0	BOND		SHALE	56.0	117.0	
487.0	BOND		LIMESTONE	1.0	173.0	
486.0	BOND		SHALE	2.0	174.0	W/LS PEBBLES
484.0	BOND		SANDY SHALE	50.0	176.0	
434.0	BOND		BLUE SHALE	15.0	226.0	
419.0	BOND		ROCK	1.0	241.0	
418.0	BOND		BLUE SHALE	1.5	242.0	
416.5	BOND		COAL	0.3	243.5	
416.2	BOND		GRAY SHALE	7.3	243.8	
409.0	BOND	CARTHAGE	LIMESTONE	12.0	251.0	
397.0	MODESTO		BLACK SHALE	1.0	263.0	
396.0	MODESTO		SANDY SHALE	25.0	264.0	
371.0	MODESTO		SHALE	26.0	289.0	
345.0	MODESTO		ROCK	2.0	315.0	
343.0	MODESTO		BLACK SHALE	4.0	317.0	
339.0	MODESTO		ROCK	1.6	321.0	
337.4	MODESTO	WOMAC	COAL	0.4	322.6	
337.0	MODESTO		CALCAREOUS SHALE	8.0	323.0	
329.0	MODESTO		GRAY SHALE	18.0	331.0	
311.0	MODESTO		BLUE SHALE	28.0	349.0	
283.0	MODESTO		SANDY SHALE	17.0	377.0	
266.0	MODESTO		BLUE SHALE	1.5	394.0	
264.5	MODESTO		ROCK	0.5	395.5	
264.0	MODESTO		BLACK SHALE	0.6	396.0	
263.4	MODESTO		LIMESTONE	0.4	396.6	
263.0	MODESTO		BLUE SHALE	3.0	397.0	
260.0	MODESTO		SANDY SHALE	2.0	400.0	
258.0	MODESTO		BLUE SHALE	2.8	402.0	
255.2	MODESTO	CHAPEL	COAL	0.8	404.8	
254.5	MODESTO		CLAYSTONE & SHALE	2.5	405.5	
252.0	MODESTO		SANDY SHALE	92.0	408.0	

160.0	MODESTO		BLUE SHALE	21.5	500.0	
138.5	MODESTO		CLAYSTONE & SHALE	4.5	521.5	
134.0	MODESTO		SHALE	9.3	526.0	RED/GRAY
124.7	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	535.3	
118.7	CARBONDALE		CLAYSTONE & SHALE	4.2	541.3	
114.5	CARBONDALE		BLUE SHALE	4.5	545.5	
110.0	CARBONDALE		DARK SHALE	5.0	550.0	
105.0	CARBONDALE		LIMESTONE	1.5	555.0	
103.5	CARBONDALE		DARK SHALE	0.8	556.5	
102.7	CARBONDALE		LIMESTONE W/ SHALE	13.7	557.3	
89.0	CARBONDALE		DARK SHALE	2.5	571.0	
86.5	CARBONDALE	HERRIN	COAL	6.1	573.5	
80.4	CARBONDALE	HERRIN	SHALE	0.1	579.6	
80.3	CARBONDALE	HERRIN	COAL	1.5	579.7	
78.8	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	581.2	

MAPID: 13500069000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** NW NE NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.263571 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.158275 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 615.1 **LOGGED (FT.):** 614.5 **LOG TYPE:** Drillers Log

SOURCE: A.SETTY **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
615.1			UNCONSOLIDATED	8.0	0.0	
607.1			HARD PAN	12.0	8.0	
595.1			SAND & GRAVEL	10.0	20.0	
585.1			SANDY CLAY	63.0	30.0	
522.1	BOND		DARK SHALE	5.0	93.0	
517.1	BOND		BLUE SHALE	14.0	98.0	
503.1	BOND		SANDSTONE	26.0	112.0	
477.1	BOND		BLUE SHALE	27.0	138.0	
450.1	BOND		BLACK SHALE	2.0	165.0	
448.1	BOND		UNDERCLAY	4.0	167.0	
444.1	BOND		LIMESTONE	3.0	171.0	
441.1	BOND		SANDY SHALE	4.0	174.0	
437.1	BOND		SANDSTONE	6.0	178.0	
431.1	BOND		SANDY SHALE	36.0	184.0	
395.1	BOND		SANDSTONE	33.0	220.0	
362.1	BOND		LIMESTONE	3.0	253.0	
359.1	BOND		SHALE	6.0	256.0	
353.1	BOND		BLUE SHALE	6.0	262.0	
347.1	BOND	CARTHAGE	LIMESTONE	10.0	268.0	
337.1	MODESTO		BLACK SHALE	2.0	278.0	
335.1	MODESTO		UNDERCLAY	1.0	280.0	
334.1	MODESTO		SANDY SHALE	13.0	281.0	
321.1	MODESTO		SANDSTONE	35.0	294.0	
286.1	MODESTO		BLUE SHALE	8.0	329.0	
278.1	MODESTO		BLACK SHALE	5.0	337.0	
273.1	MODESTO	WOMAC	COAL	1.0	342.0	
272.1	MODESTO		UNDERCLAY	5.0	343.0	
267.1	MODESTO		CLAYSTONE & SHALE	5.0	348.0	
262.1	MODESTO		GRAY SHALE	12.0	353.0	
250.1	MODESTO		SANDSTONE	20.0	365.0	
230.1	MODESTO		SANDY SHALE	45.0	385.0	
185.1	MODESTO		BROWN SHALE	8.0	430.0	
177.1	MODESTO		SANDSTONE	77.0	438.0	
100.1	MODESTO		SANDY SHALE	35.0	515.0	
65.1	MODESTO		BROWN SHALE	2.0	550.0	
63.1	MODESTO		SANDY LIMESTONE	5.0	552.0	
58.1	MODESTO		SHALE	2.0	557.0	RED/YEL
56.1	MODESTO	PIASA	LIMESTONE	4.5	559.0	
51.6	MODESTO		BROWN SHALE	1.5	563.5	

50.1	MODESTO		RED SHALE	2.0	565.0
48.1	MODESTO		BROWN SHALE	6.5	567.0
41.6	MODESTO		BLACK SHALE	1.0	573.5
40.6	CARBONDALE	DANVILLE	COAL	1.5	574.5
39.1	CARBONDALE		UNDERCLAY	1.0	576.0
38.1	CARBONDALE		BLUE SHALE	4.0	577.0
34.1	CARBONDALE	ANVIL ROCK	SANDSTONE	22.0	581.0
12.1	CARBONDALE		BROWN SHALE	2.0	603.0
10.1	CARBONDALE	ANNA	BLACK SHALE	1.8	605.0
8.3	CARBONDALE	HERRIN	COAL	7.7	606.8
0.6	CARBONDALE		UNDERCLAY	0.0	614.5

MAPID: 13500069000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** NW NE NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.263571 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.158275 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 614.7 **LOG TYPE:** Drillers Log

SOURCE: GRANHOLM & ASSOC. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
55.8	MODESTO	PIASA	LIMESTONE	4.5	559.2	
51.3	MODESTO		UNCLASSIFIED	10.0	563.7	
41.3	CARBONDALE	DANVILLE	COAL	2.5	573.7	
38.8	CARBONDALE		UNCLASSIFIED	13.0	576.2	
25.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	589.2	
16.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	598.2	
14.3	CARBONDALE		UNCLASSIFIED	2.5	600.7	
11.8	CARBONDALE	BRERETON	LIMESTONE	2.0	603.2	
9.8	CARBONDALE	ANNA	BLACK SHALE	1.8	605.2	
8.0	CARBONDALE	HERRIN	COAL	7.7	607.0	

MAPID: 13500069000C **VERSION:** 3 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** NW NE NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.263571 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.158275 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 615.1 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-8 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
8.3	CARBONDALE	HERRIN	COAL	7.7	606.8	

MAPID: 13500671000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.263568 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.152812 **DATE COLLECTED:** 7 / 0 / 1952

SURFACE ELEVATION (FT.): 661.0 **LOGGED (FT.):** 659.0 **LOG TYPE:** Electric Log

SOURCE: SUPERIOR OIL COMPANY **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
46.5	MODESTO	PIASA	LIMESTONE	5.0	614.5	
41.5	MODESTO		UNCLASSIFIED	2.5	619.5	
39.0	CARBONDALE	DANVILLE	COAL	1.0	622.0	
38.0	CARBONDALE		UNCLASSIFIED	8.5	623.0	
29.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	631.5	
19.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	641.5	
18.0	CARBONDALE		UNCLASSIFIED	1.5	643.0	
16.5	CARBONDALE	BRERETON	LIMESTONE	4.0	644.5	
12.5	CARBONDALE	ANNA	BLACK SHALE	2.5	648.5	
10.0	CARBONDALE	HERRIN	COAL	8.0	651.0	

MAPID: 13500873000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1750' S line, 50' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269241 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.149411 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 641.5 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 12BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
61.3	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.0	595.7	
56.3	MODESTO		MOTTLED SHALE	2.0	600.7	
54.3	CARBONDALE	DANVILLE	BONE COAL	0.5	602.7	
53.8	CARBONDALE		CLAYSTONE	2.8	603.2	
51.1	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.8	605.9	
48.2	CARBONDALE		DARK GRAY SHALE	2.8	608.8	
45.4	CARBONDALE	ALLENBY	BLACK SHALE	0.8	611.6	
44.7	CARBONDALE		CLAYSTONE	6.1	612.3	
38.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.2	618.4	
34.4	CARBONDALE	LAWSON	SILTSTONE	2.9	622.6	
31.5	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	625.5	
30.2	CARBONDALE	LAWSON	SILTY SHALE	1.8	626.8	
28.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.4	628.7	
26.9	CARBONDALE	LAWSON	SILTSTONE	1.8	630.1	
25.1	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	631.9	
24.7	CARBONDALE	ANNA	BLACK SHALE	1.8	632.3	
23.0	CARBONDALE	HERRIN	COAL	7.5	634.0	

MAPID: 13500873000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1750' S line, 50' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269241 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.149411 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 640.5 **LOG TYPE:** Drillers Log
SOURCE: D.C. DONAN 12BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
61.1	MODESTO	PIASA	LIMESTONE	5.0	598.9	
56.1	MODESTO		UNCLASSIFIED	2.1	603.9	
54.0	CARBONDALE	DANVILLE	COAL	0.4	606.0	
53.6	CARBONDALE		UNCLASSIFIED	10.9	606.4	
42.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	617.3	
38.5	CARBONDALE	ANVIL ROCK	SANDSTONE	4.3	621.5	
34.2	CARBONDALE	CONANT	LIMESTONE	1.3	625.8	
32.9	CARBONDALE		SHALE	0.5	627.1	
32.4	CARBONDALE	BRERETON	LIMESTONE	3.3	627.6	
29.1	CARBONDALE	ANNA	BLACK SHALE	2.1	630.9	
27.0	CARBONDALE	HERRIN	COAL	7.5	633.0	

MAPID: 13500873000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1750' S line, 50' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269241 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.149411 **DATE COLLECTED:** 7 / 18 / 1957
SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 641.1 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 12BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
23.4	CARBONDALE	HERRIN	COAL	7.5	633.6	

MAPID: 13500873000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1750' S line, 50' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269241 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.149411 **DATE COLLECTED:** 7 / 18 / 1957

SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 643.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 12-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
657.0	PLEISTOCENE		UNCONSOLIDATED	94.0	0.0	
563.0			LIMESTONE	1.0	94.0	
562.0			SHALE	110.0	95.0	
452.0			BLACK SHALE	2.3	205.0	
449.7			COAL	0.7	207.3	
449.0			UNDERCLAY	-	208.0	
-			SHALE	-		
423.0			LIMESTONE	1.0	234.0	
422.0			SHALE	83.7	235.0	
338.3	BOND	CARTHAGE	LIMESTONE	10.2	318.7	
328.2	MODESTO		SHALE	137.2	328.8	
191.0	MODESTO		BLACK SHALE	1.0	466.0	WITH COAL
190.0	MODESTO		SHALE	128.3	467.0	
61.7	MODESTO	PIASA	LIMESTONE	5.0	595.3	START OF CORE
56.7	MODESTO		CLAYSTONE & SILTSTONE	1.3	600.3	
55.4	MODESTO		SHALE	0.5	601.6	
54.9	MODESTO		BLACK SHALE	0.3	602.1	
54.6	CARBONDALE	DANVILLE	COAL	0.5	602.4	
54.2	CARBONDALE		UNDERCLAY	0.2	602.8	
54.0	CARBONDALE		CLAYSTONE & SILTSTONE	1.8	603.0	
52.2	CARBONDALE		SILTSTONE	0.8	604.8	
51.4	CARBONDALE		LIMESTONE	2.2	605.6	
49.2	CARBONDALE		BLACK SHALE	3.6	607.8	
45.7	CARBONDALE		CLAYSTONE & SILTSTONE	2.2	611.3	
43.5	CARBONDALE		BLACK SHALE	3.9	613.5	
39.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	617.4	
35.4	CARBONDALE		SILTSTONE	2.9	621.6	
32.5	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	624.5	
31.7	CARBONDALE		SHALE	3.8	625.3	
27.9	CARBONDALE		SILTSTONE	1.8	629.1	
26.1	CARBONDALE	ANNA	BLACK SHALE	2.7	630.9	
23.4	CARBONDALE	HERRIN	COAL	7.6	633.6	
15.9	CARBONDALE		UNDERCLAY	1.9	641.1	

MAPID: 13500070000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** SW NE

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.257707 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.139204 **DATE COLLECTED:** 0 / 0 / 1907

SURFACE ELEVATION (FT.): 597.3 **LOGGED (FT.):** 637.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #18 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
597.3			CLAY	8.0	0.0	YELLOW
589.3			SAND & GRAVEL	16.0	8.0	
573.3			HARD PAN	9.0	24.0	
564.3			CLAY	15.0	33.0	BLUE
549.3			CLAY	11.0	48.0	YELLOW
538.3			CLAY & GRAVEL	36.0	59.0	
502.3			HARD PAN	26.0	95.0	
476.3	BOND		SANDSTONE	10.0	121.0	
466.3	BOND		CONGLOMERATE	54.0	131.0	GRAVEL IN LOG
412.3	BOND		SHALE	67.0	185.0	
345.3	BOND		LIMESTONE	2.0	252.0	
343.3	BOND		SHALE	21.0	254.0	
322.3	BOND	CARTHAGE	LIMESTONE	13.0	275.0	
309.3	MODESTO		SHALE	21.0	288.0	
288.3	MODESTO		SANDSTONE	220.0	309.0	
68.3	MODESTO		SHALE	25.0	529.0	
43.3	MODESTO		DARK SHALE	11.0	554.0	
32.3	MODESTO		BLUE SHALE	30.0	565.0	
2.3	CARBONDALE		ROCK	2.3	595.0	SOFT ROCK IN LOG
0.0	CARBONDALE	HERRIN	COAL	6.0	597.3	
-6.0	CARBONDALE		SHALE	0.7	603.3	SLATE IN LOG
-6.7	CARBONDALE		SHALE	3.0	604.0	
-9.7	CARBONDALE		ROCK	2.0	607.0	
-11.7	CARBONDALE		SHALE	4.0	609.0	
-15.7	CARBONDALE		UNDERCLAY	4.0	613.0	
-19.7	CARBONDALE		ROCK	4.0	617.0	
-23.7	CARBONDALE		SHALE	16.0	621.0	

MAPID: 13500070000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** SW NE

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.257707 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.139204 **DATE COLLECTED:** 0 / 0 / 1907

SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 602.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
3.3	CARBONDALE	ANNA	BLACK SHALE	2.3	593.7	
1.0	CARBONDALE	HERRIN	COAL	6.0	596.0	

MAPID: 13500071000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1320' S line, 1320' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.302175 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.133684 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 570.7 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.5	MODESTO	PIASA	LIMESTONE	5.5	524.5	
120.0	MODESTO		UNCLASSIFIED	1.0	530.0	
119.0	CARBONDALE	DANVILLE	COAL	2.0	531.0	
117.0	CARBONDALE		UNCLASSIFIED	15.5	533.0	
101.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.5	548.5	
93.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	557.0	
91.0	CARBONDALE		UNCLASSIFIED	2.0	559.0	
89.0	CARBONDALE	BRERETON	LIMESTONE	2.0	561.0	
87.0	CARBONDALE	HERRIN	COAL	7.7	563.0	

MAPID: 13500071000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1320' S line, 1320' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.302175 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.133684 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 567.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
128.0	MODESTO	PIASA	LIMESTONE	5.5	522.0	
122.5	MODESTO		GRAY SHALE	1.0	527.5	
121.5	CARBONDALE	DANVILLE	BLACK SHALE	2.0	528.5	
119.5	CARBONDALE		GRAY SHALE	8.0	530.5	
111.5	CARBONDALE	GALUM	LIMESTONE	1.0	538.5	
110.5	CARBONDALE	ALLENBY	BLACK SHALE	2.5	539.5	
108.0	CARBONDALE	LAWSON	GRAY SHALE	7.0	542.0	
101.0	CARBONDALE	BRERETON	LIMESTONE	11.5	549.0	
90.0	CARBONDALE	HERRIN	COAL	7.7	560.0	

MAPID: 13500071000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1320' S line, 1320' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.302175 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.133684 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 565.7 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #16 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0			SAND & GRAVEL	18.0	0.0	
632.0			HARD PAN	22.0	18.0	
610.0			UNCONSOLIDATED	25.0	40.0	
585.0			COAL	1.0	65.0	
584.0			CLAYSTONE	4.0	66.0	
580.0	BOND		BLUE SHALE	8.0	70.0	
572.0	BOND		LIMESTONE	2.0	78.0	
570.0	BOND		BLUE SHALE	18.0	80.0	
552.0	BOND		BLACK SHALE	10.0	98.0	
542.0	BOND		CLAYSTONE & SILTSTONE	2.0	108.0	
540.0	BOND		BLUE SHALE	80.0	110.0	
460.0	BOND		LIMESTONE	4.0	190.0	
456.0	BOND		BLUE SHALE	15.0	194.0	
441.0	BOND		BROWN SHALE	11.0	209.0	
430.0	BOND		BLUE SHALE	24.0	220.0	
406.0	BOND	CARTHAGE	LIMESTONE	11.0	244.0	
395.0	MODESTO		BLACK SHALE	3.0	255.0	
392.0	MODESTO		CLAYSTONE & SILTSTONE	4.0	258.0	
388.0	MODESTO		BLUE SHALE	31.0	262.0	
357.0	MODESTO		GRAY SHALE	33.0	293.0	
324.0	MODESTO		BLACK SHALE	4.0	326.0	
320.0	MODESTO		SANDY SHALE	78.0	330.0	
242.0	MODESTO		SANDSTONE	52.0	408.0	
190.0	MODESTO		SANDY SHALE	40.0	460.0	
150.0	MODESTO		BLUE SHALE	16.0	500.0	
134.0	MODESTO		BROWN SHALE	3.5	516.0	
130.5	MODESTO	PIASA	LIMESTONE	5.5	519.5	
125.0	MODESTO		BLUE SHALE	1.0	525.0	
124.0	MODESTO		BLACK SHALE	2.0	526.0	
122.0	CARBONDALE		BLUE SHALE	8.0	528.0	
114.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	536.0	
113.0	CARBONDALE		BLACK SHALE	2.5	537.0	
110.5	CARBONDALE		BLUE SHALE	7.0	539.5	
103.5	CARBONDALE	BRERETON	LIMESTONE	11.5	546.5	
92.0	CARBONDALE	HERRIN	COAL	7.7	558.0	
84.3	CARBONDALE		UNDERCLAY	0.0	565.7	

MAPID: 13500908000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 800' S line, 40' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.3631 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.131668 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 568.3 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 23BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.9	CARBONDALE		CLAYSTONE & SHALE	20.0	521.1	
127.9	CARBONDALE		CONGLOMERATE	1.9	541.1	
126.0	CARBONDALE		CLAYSTONE & SHALE	3.1	543.0	
122.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	11.7	546.1	
111.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.7	557.8	
109.6	CARBONDALE	ANNA	BLACK SHALE	1.6	559.4	
108.0	CARBONDALE	HERRIN	COAL	7.3	561.0	

MAPID: 13500908000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 800' S line, 40' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.3631 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.131668 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 567.3 **LOG TYPE:** Drillers Log

SOURCE: D.C. DONAN 23BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.8	MODESTO		UNCLASSIFIED	6.9	521.2	
140.9	CARBONDALE		UNCLASSIFIED	17.7	528.1	
123.2	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	545.8	
115.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	553.3	
113.9	CARBONDALE		SHALE	1.6	555.1	
112.3	CARBONDALE	BRERETON	LIMESTONE	1.7	556.7	
110.6	CARBONDALE	ANNA	BLACK SHALE	1.6	558.4	
109.0	CARBONDALE	HERRIN	COAL	7.3	560.0	

MAPID: 13500908000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 800' S line, 40' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.3631 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.131668 **DATE COLLECTED:** 9 / 12 / 1957
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 568.1 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 23BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
108.2	CARBONDALE	HERRIN	COAL	7.3	560.8	

MAPID: 13500908000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 800' S line, 40' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.3631 **GEOLOGIST:** MCCRACKEN
CONFIDENTIAL: N **LATITUDE:** 39.131668 **DATE COLLECTED:** 9 / 12 / 1957
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 577.0 **LOG TYPE:** Multiple log types
SOURCE: DONAN 23-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
669.0	PLEISTOCENE		UNCONSOLIDATED	76.5	0.0	
592.5	BOND		SHALE	197.5	76.5	
395.0	BOND	CARTHAGE	LIMESTONE	2.0	274.0	
393.0	MODESTO		COAL	1.0	276.0	
392.0			SHALE	250.8	277.0	
141.2			CLAYSTONE & SILTSTONE	1.2	527.8	START OF CORE
140.1			SHALE	2.0	528.9	
138.1			CLAYSTONE & SILTSTONE	10.5	530.9	
127.6			CONGLOMERATE	1.9	541.4	
125.7	CARBONDALE		SHALE	3.1	543.3	
122.6	CARBONDALE		LIMESTONE	13.0	546.4	
109.6	CARBONDALE	ANNA	BLACK SHALE	1.3	559.4	
108.2	CARBONDALE	HERRIN	COAL	7.3	560.8	
100.9	CARBONDALE		UNDERCLAY	0.7	568.1	
100.2	CARBONDALE		SHALE	1.3	568.8	
99.0	CARBONDALE		CLAYSTONE & SILTSTONE	1.3	570.0	
97.7	CARBONDALE	ST. DAVID	LIMESTONE	1.9	571.3	
95.8	CARBONDALE		SHALE	0.6	573.2	
95.2	CARBONDALE		CLAYSTONE & SILTSTONE	1.0	573.8	
94.2	CARBONDALE		SHALE	0.5	574.8	CARBONACEOUS
93.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	575.3	
93.6	CARBONDALE	SPRINGFIELD	COAL	0.1	575.4	BONE
93.5	CARBONDALE	SPRINGFIELD	BLACK SHALE	0.1	575.5	
93.4	CARBONDALE		UNDERCLAY	1.4	575.6	

MAPID: 13500670000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 990' S line, 1650' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.293776 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.118165 **DATE COLLECTED:** 7 / 0 / 1952

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 605.5 **LOG TYPE:** Electric Log

SOURCE: SUPERIOR OIL COMPANY **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
75.5	MODESTO	PIASA	LIMESTONE	5.0	561.5	
70.5	MODESTO		UNCLASSIFIED	3.0	566.5	
67.5	CARBONDALE	DANVILLE	COAL	1.0	569.5	
66.5	CARBONDALE		UNCLASSIFIED	11.0	570.5	
55.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	581.5	
48.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	588.5	
45.5	CARBONDALE	CONANT	UNCLASSIFIED	2.0	591.5	
43.5	CARBONDALE		UNCLASSIFIED	1.0	593.5	
42.5	CARBONDALE	BRERETON	LIMESTONE	2.0	594.5	
40.5	CARBONDALE	ANNA	BLACK SHALE	1.5	596.5	
39.0	CARBONDALE	HERRIN	COAL	7.5	598.0	

MAPID: 13500670000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 990' S line, 1650' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.293776 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.118165 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 604.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
76.0	MODESTO	PIASA	LIMESTONE	5.0	561.0	
71.0	MODESTO		SHALE	4.0	566.0	
67.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	570.0	
65.0	CARBONDALE		SHALE	8.0	572.0	
57.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	580.0	
56.0	CARBONDALE	LAWSON	SHALE	12.0	581.0	
44.0	CARBONDALE	ANNA	DARK GRAY SHALE	4.0	593.0	
40.0	CARBONDALE	HERRIN	COAL	7.0	597.0	

MAPID: 13500072000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1560' N line, 760' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.285273 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.125711 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 603.3 **LOG TYPE:** Drillers Log

SOURCE: HARGRAVE H S **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
50.6	MODESTO	PIASA	LIMESTONE	5.8	559.4	
44.8	MODESTO		UNCLASSIFIED	3.0	565.2	
41.8	CARBONDALE	DANVILLE	COAL	0.5	568.2	
41.3	CARBONDALE		UNCLASSIFIED	10.8	568.7	
30.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	579.5	
23.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.9	586.5	
19.6	CARBONDALE		UNCLASSIFIED	3.0	590.4	
16.6	CARBONDALE	BRERETON	LIMESTONE	2.0	593.4	
14.6	CARBONDALE	ANNA	BLACK SHALE	0.6	595.4	
14.0	CARBONDALE	HERRIN	COAL	7.3	596.0	

MAPID: 13500072000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1560' N line, 760' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.285273 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.125711 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 603.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
80.0	MODESTO	PIASA	LIMESTONE	5.8	560.0	
74.2	CARBONDALE		MOTTLED SHALE	14.3	565.8	
59.8	CARBONDALE		CALCAREOUS SHALE	3.0	580.2	
56.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	583.2	
52.8	CARBONDALE	LAWSON	SHALE	6.9	587.2	
45.9	CARBONDALE	BRERETON	LIMESTONE	2.0	594.1	
43.9	CARBONDALE	ANNA	DARK GRAY SHALE	0.6	596.1	
44.0	CARBONDALE	HERRIN	COAL	7.3	596.0	

MAPID: 13500072000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1560' N line, 760' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.285273 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.125711 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 610.5 **LOGGED (FT.):** 603.7 **LOG TYPE:** Drillers Log

SOURCE: H.S.HARGRAVE, HOLE #A-12 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
610.5			SOIL	2.0	0.0	
608.5			CLAY	15.0	2.0	
593.5			SAND	44.0	17.0	W/CLAY BANDS
549.5			GRAVEL	9.0	61.0	
540.5			SAND	2.0	70.0	
538.5			CLAY & GRAVEL	4.0	72.0	
534.5			CLAY & GRAVEL	10.0	76.0	
524.5			BOULDER	0.5	86.0	
524.0			SANDY CLAY	15.5	86.5	
508.5			SAND	12.3	102.0	
496.2	BOND		SANDY SHALE	3.7	114.3	
492.5	BOND		CLAYSTONE & SHALE	9.0	118.0	
483.5	BOND		GRAY SHALE	18.0	127.0	
465.5	BOND		BLUE SHALE	22.3	145.0	
443.2	BOND		ROCK	2.0	167.3	
441.2	BOND		DARK SHALE	1.0	169.3	
440.2	BOND		ROCK	1.3	170.3	
438.9	BOND		COAL	0.9	171.6	
438.0	BOND		CLAYSTONE & SHALE	3.5	172.5	
434.5	BOND		SANDSTONE/LIMESTONE	1.0	176.0	
433.5	BOND		CLAYSTONE & SHALE	14.0	177.0	
419.5	BOND		SHALE	60.3	191.0	SANDY & BLUE
359.2	BOND		ROCK	1.2	251.3	
358.0	BOND		BLUE SHALE	0.5	252.5	
357.5	BOND		COAL	0.3	253.0	
357.2	BOND		CLAYSTONE & SHALE	4.8	253.3	
352.5	BOND		DARK SHALE	19.0	258.0	
333.5	BOND	CARTHAGE	LIMESTONE	10.0	277.0	
323.5	MODESTO		BLACK SHALE	5.0	287.0	
318.5	MODESTO		BLUE SHALE	37.0	292.0	
281.5	MODESTO		DARK SHALE	3.0	329.0	
278.5	MODESTO	WOMAC	COAL	4.0	332.0	
274.5	MODESTO		SANDY SHALE	35.7	336.0	
238.8	MODESTO		SANDSTONE/LIMESTONE	6.5	371.7	
232.3	MODESTO		SANDY SHALE	45.5	378.2	
186.8	MODESTO		BLUE SHALE	17.3	423.7	
169.6	MODESTO		SANDY SHALE	52.8	440.9	
116.8	MODESTO		BLUE SHALE	43.0	493.7	
73.8	MODESTO		GRAY SHALE	8.8	536.7	

65.0	MODESTO		SHALE	3.3	545.5	
61.7	MODESTO		SANDY SHALE	6.8	548.8	
54.8	MODESTO		SHALE	3.8	555.7	RED/GRY
51.0	MODESTO	PIASA	LIMESTONE	5.8	559.5	
45.2	MODESTO		DARK SHALE	3.5	565.3	
41.7	MODESTO		CLAYSTONE & SHALE	1.8	568.8	
39.8	MODESTO		GRAY SHALE	3.0	570.7	
36.8	MODESTO		DARK SHALE	6.0	573.7	
30.8	CARBONDALE		CALCAREOUS SHALE	3.0	579.7	
27.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	582.7	
23.8	CARBONDALE		DARK SHALE	1.0	586.7	
22.8	CARBONDALE		CALCAREOUS SHALE	5.9	587.7	
16.9	CARBONDALE	BRERETON	LIMESTONE	2.0	593.6	
14.9	CARBONDALE		DARK SHALE	0.6	595.6	
14.3	CARBONDALE	HERRIN	COAL	5.8	596.2	
8.5	CARBONDALE	HERRIN	SHALE	0.2	602.0	BLUE BAND
8.3	CARBONDALE	HERRIN	COAL	1.3	602.2	
7.0	CARBONDALE		UNDERCLAY	0.2	603.5	

MAPID: 13500914000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.251686 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.101751 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 625.9 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 24BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
47.6	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.4	573.4	
42.2	MODESTO		MOTTLED SHALE	9.2	578.8	
33.0	CARBONDALE	DANVILLE	COAL	1.2	588.0	
31.8	CARBONDALE		CLAYSTONE	4.0	589.2	
27.8	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.3	593.2	
26.5	CARBONDALE		MOTTLED SHALE	4.8	594.5	
21.7	CARBONDALE	ALLENBY	BLACK SHALE	1.2	599.3	
20.5	CARBONDALE		CLAYSTONE & SHALE	2.8	600.5	
17.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.0	603.3	
11.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.3	609.3	
10.4	CARBONDALE	LAWSON	SILTY SHALE	1.9	610.6	
8.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.2	612.5	
7.3	CARBONDALE	CONANT	CARBONACEOUS SHALE	0.3	613.7	
7.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.8	614.0	
5.2	CARBONDALE	ANNA	BLACK SHALE	3.2	615.8	
2.0	CARBONDALE	HERRIN	COAL	6.9	619.0	

MAPID: 13500914000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.251686 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.101751 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 625.9 **LOG TYPE:** Drillers Log
SOURCE: D.C. DONAN 24BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
47.9	MODESTO	PIASA	LIMESTONE	5.4	573.1	
42.5	MODESTO		UNCLASSIFIED	9.2	578.5	
33.3	CARBONDALE	DANVILLE	COAL	1.2	587.7	
32.1	CARBONDALE		UNCLASSIFIED	14.7	588.9	
17.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	603.6	
10.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.9	610.9	
8.2	CARBONDALE	CONANT	LIMESTONE	1.2	612.8	
7.0	CARBONDALE		SHALE	0.4	614.0	
6.6	CARBONDALE	BRERETON	LIMESTONE	1.0	614.4	
5.6	CARBONDALE	ANNA	BLACK SHALE	3.6	615.4	
2.0	CARBONDALE	HERRIN	COAL	6.9	619.0	

MAPID: 13500914000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: FILLMORE **LONGITUDE:** -89.251686 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.101751 **DATE COLLECTED:** 0 / 0 / 1957
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 625.5 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 24BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
2.4	CARBONDALE	HERRIN	COAL	6.9	618.6	

MAPID: 13500914000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.251686 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.101751 **DATE COLLECTED:** 10 / 11 / 1957

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 429.5 **LOG TYPE:** Multiple log types

SOURCE: DONAN 24-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
621.0	PLEISTOCENE		UNCONSOLIDATED	118.0	0.0	
503.0			SANDSTONE	4.0	118.0	
499.0			SHALE	50.0	122.0	
449.0			BLACK SHALE	3.0	172.0	WITH COAL
446.0			UNDERCLAY	3.0	175.0	
443.0			SHALE	14.5	178.0	
428.5			LIMESTONE	4.0	192.5	
424.5	BOND	MT. CARMEL	SANDSTONE	78.5	196.5	
346.0	BOND		SHALE	33.0	275.0	
313.0	BOND	CARTHAGE	LIMESTONE	5.8	308.0	
307.2	MODESTO		BLACK SHALE	9.3	313.8	
298.0	MODESTO		SHALE	250.5	323.0	
47.5	MODESTO	PIASA	LIMESTONE	5.4	573.5	START OF CORE
42.1	MODESTO		SHALE	2.6	578.9	
39.5	MODESTO		BLACK SHALE	4.2	581.5	
35.3	MODESTO		SHALE	2.4	585.7	
32.9	CARBONDALE	DANVILLE	COAL	1.2	588.1	
31.7	CARBONDALE		UNDERCLAY	0.3	589.3	
31.5	CARBONDALE		CLAYSTONE & SILTSTONE	3.8	589.5	
27.7	CARBONDALE		LIMESTONE	0.9	593.3	
26.8	CARBONDALE		SHALE	0.5	594.2	
26.3	CARBONDALE		BLACK SHALE	4.1	594.7	
22.2	CARBONDALE		SHALE	0.3	598.8	
22.0	CARBONDALE		BLACK SHALE	1.2	599.0	
20.8	CARBONDALE		LIMESTONE	14.6	600.2	
6.2	CARBONDALE		NO RECORD	0.8	614.8	
5.4	CARBONDALE		SHALE	1.0	615.6	
4.4	CARBONDALE	ANNA	BLACK SHALE	2.0	616.6	
2.4	CARBONDALE	HERRIN	COAL	6.9	618.6	
-4.5	CARBONDALE		UNDERCLAY	1.8	625.5	
-6.3	CARBONDALE		SILTSTONE	2.3	627.3	

MAPID: 13500073000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW NE NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.292031 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.114982 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 604.3 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
69.1	MODESTO	PIASA	LIMESTONE	4.0	557.9	
65.1	MODESTO		UNCLASSIFIED	5.5	561.9	
59.6	CARBONDALE	DANVILLE	COAL	1.5	567.4	
58.1	CARBONDALE		UNCLASSIFIED	20.0	568.9	
38.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	588.9	
33.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	593.9	
30.6	CARBONDALE	CONANT	UNCLASSIFIED	2.0	596.4	
28.6	CARBONDALE		UNCLASSIFIED	1.5	598.4	
27.1	CARBONDALE	BRERETON	LIMESTONE	1.3	599.9	
25.8	CARBONDALE	ANNA	BLACK SHALE	0.8	601.2	
25.0	CARBONDALE	HERRIN	COAL	2.3	602.0	

MAPID: 13500073000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW NE NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.292031 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.114982 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 755.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
637.0			UNCONSOLIDATED	163.0	0.0	
474.0			ROCK	28.0	163.0	
446.0			COAL	2.0	191.0	
444.0			ROCK	409.0	193.0	
35.0			COAL WITH SHALE	2.3	602.0	
32.7			ROCK	65.2	604.3	
-32.5			COAL	1.5	669.5	
-34.0			ROCK	84.0	671.0	

MAPID: 13500073000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW NE NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.292031 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.114982 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 627.3 **LOGGED (FT.):** 755.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #8 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
627.3			UNCONSOLIDATED	18.0	0.0	
609.3			SAND	6.0	18.0	
603.3			HARD PAN	2.0	24.0	
601.3			SAND & GRAVEL	4.0	26.0	
597.3			HARD PAN	2.0	30.0	
595.3			SAND & GRAVEL	6.0	32.0	
589.3			HARD PAN	2.0	38.0	
587.3			SAND & GRAVEL	7.0	40.0	
580.3			HARD PAN	109.0	47.0	
471.3			SAND	7.0	156.0	
464.3	BOND		BLUE SHALE	7.0	163.0	
457.3	BOND		DARK SHALE	21.0	170.0	
436.3	BOND		COAL	2.0	191.0	
434.3	BOND		CLAYSTONE & SILTSTONE	6.0	193.0	
428.3	BOND		LIMESTONE	3.0	199.0	
425.3	BOND		SHALE	15.0	202.0	
410.3	BOND		BLUE SHALE	18.0	217.0	
392.3	BOND		DARK SHALE	41.0	235.0	
351.3	BOND		BLUE SHALE	10.0	276.0	
341.3	BOND		DARK SHALE	22.0	286.0	
319.3	BOND	CARTHAGE	LIMESTONE	12.0	308.0	
307.3	MODESTO		BLACK SHALE	3.0	320.0	
304.3	MODESTO		DARK SHALE	20.0	323.0	
284.3	MODESTO		BLUE SHALE	25.0	343.0	
259.3	MODESTO		DARK SHALE	10.0	368.0	
249.3	MODESTO		SANDY SHALE	12.0	378.0	
237.3	MODESTO		BLUE SHALE	8.0	390.0	
229.3	MODESTO		SANDY SHALE	6.0	398.0	
223.3	MODESTO		BLUE SHALE	6.0	404.0	
217.3	MODESTO		SANDY SHALE	18.0	410.0	
199.3	MODESTO		BLUE SHALE	6.0	428.0	
193.3	MODESTO		SANDY SHALE	20.0	434.0	
173.3	MODESTO		DARK SHALE	84.0	454.0	
89.3	MODESTO		SHALE	12.0	538.0	
77.3	MODESTO		BLUE SHALE	8.0	550.0	
69.3	MODESTO	PIASA	SHALY LIMESTONE	9.5	558.0	
59.8	MODESTO		BLACK SHALE	1.5	567.5	
58.3	CARBONDALE		BLUE SHALE	20.0	569.0	
38.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	589.0	

36.3	CARBONDALE	BANKSTON FORK	DARK SHALE	1.0	591.0	
35.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	592.0	
33.3	CARBONDALE		BLUE SHALE	2.5	594.0	
30.8	CARBONDALE		LIMESTONE	2.0	596.5	
28.8	CARBONDALE		BROWN SHALE	1.5	598.5	
27.3	CARBONDALE	BRERETON	LIMESTONE	1.3	600.0	
26.0	CARBONDALE	ANNA	BLACK SHALE	0.8	601.3	
25.3	CARBONDALE	HERRIN	COAL	2.3	602.0	W/SLATE
23.0	CARBONDALE		BLUE SHALE	3.3	604.3	
19.6	CARBONDALE		BROWN SHALE	6.3	607.7	
13.3	CARBONDALE		BLUE SHALE	7.0	614.0	
6.3	CARBONDALE		SHALY LIMESTONE	9.0	621.0	
-2.7	CARBONDALE		BLUE SHALE	34.0	630.0	
-36.7	CARBONDALE	EXCELLO	BLACK SHALE	5.5	664.0	
-42.2	CARBONDALE	HOUCHIN CREEK	COAL	1.5	669.5	
-43.7	CARBONDALE		CLAYSTONE & SILTSTONE	5.0	671.0	
-48.7	CARBONDALE		SHALE	24.0	676.0	
-72.7	CARBONDALE		BLUE SHALE	19.0	700.0	
-91.7	CARBONDALE		SANDSTONE	13.0	719.0	
-104.7	CARBONDALE		BLUE SHALE	8.0	732.0	
-112.7	CARBONDALE		DARK SHALE	4.0	740.0	
-116.7	CARBONDALE		SANDY SHALE	11.0	744.0	

MAPID: 13500074000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW SE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.296199 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.107262 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 555.1 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
598.0			UNCONSOLIDATED	58.0	0.0	
540.0			ROCK	74.0	58.0	
466.0			COAL	1.0	132.0	
465.0			ROCK	127.0	133.0	
338.0			COAL WITH SHALE	9.0	260.0	
329.0			ROCK	252.0	269.0	
77.0			COAL	1.0	521.0	
76.0			SHALE	5.0	522.0	
71.0			BLACK SHALE	4.0	527.0	
67.0			SHALE	4.0	531.0	
63.0			LIMESTONE	9.0	535.0	
54.0			BLACK SHALE	4.0	544.0	
50.0	CARBONDALE	HERRIN	COAL	7.1	548.0	

MAPID: 13500074000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.296199 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.107262 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 555.1 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
90.0	MODESTO	PIASA	LIMESTONE	6.0	510.0	
84.0	MODESTO		DARK GRAY SHALE	5.0	516.0	
79.0	CARBONDALE	DANVILLE	COAL	1.0	521.0	
78.0	CARBONDALE		GRAY SHALE	5.0	522.0	
73.0	CARBONDALE	ALLENBY	BLACK SHALE	4.0	527.0	
69.0	CARBONDALE		GRAY SHALE	4.0	531.0	
65.0	CARBONDALE	BRERETON	LIMESTONE	9.0	535.0	
56.0	CARBONDALE	ANNA	BLACK SHALE	4.0	544.0	
52.0	CARBONDALE	HERRIN	COAL	7.1	548.0	

MAPID: 13500074000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW SE
QUADRANGLE: FILLMORE **LONGITUDE:** -89.296199 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.107262 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 579.1 **LOG TYPE:** Drillers Log
SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
64.0	MODESTO	PIASA	LIMESTONE	6.0	534.0	
58.0	MODESTO		UNCLASSIFIED	5.0	540.0	
53.0	CARBONDALE	DANVILLE	COAL	1.0	545.0	
52.0	CARBONDALE		UNCLASSIFIED	13.0	546.0	
39.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	559.0	
34.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	564.0	
32.5	CARBONDALE		UNCLASSIFIED	1.5	565.5	
31.0	CARBONDALE	BRERETON	LIMESTONE	1.0	567.0	
30.0	CARBONDALE	ANNA	BLACK SHALE	4.0	568.0	
26.0	CARBONDALE	HERRIN	COAL	7.1	572.0	

MAPID: 13500074000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW SE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.296199 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.107262 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.2 **LOGGED (FT.):** 555.1 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #14 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
598.2			UNCONSOLIDATED	8.0	0.0	
590.2			HARD PAN	50.0	8.0	
540.2			BLACK SHALE	7.0	58.0	
533.2			SANDY SHALE	27.0	65.0	
506.2			BLUE SHALE	36.0	92.0	
470.2			BLACK SHALE	4.0	128.0	
466.2			COAL	1.0	132.0	
465.2			CLAYSTONE & SILTSTONE	3.0	133.0	
462.2	BOND		SHALE	17.0	136.0	
445.2	BOND		BLUE SHALE	7.0	153.0	
438.2	BOND		SANDSTONE	4.0	160.0	
434.2	BOND		BROWN SHALE	12.0	164.0	
422.2	BOND		UNKNOWN	39.0	176.0	LOG HAS COAL?
383.2	BOND		CLAYSTONE & SILTSTONE	1.0	215.0	
382.2	BOND		BLUE SHALE	3.0	216.0	
379.2	BOND		DARK SHALE	10.0	219.0	
369.2	BOND		BLUE SHALE	12.0	229.0	
357.2	BOND	CARTHAGE	LIMESTONE	12.0	241.0	
345.2	MODESTO		BLACK SHALE	7.0	253.0	
338.2	MODESTO		COAL WITH SHALE	9.0	260.0	COAL & SLATE
329.2	MODESTO		CLAYSTONE & SILTSTONE	1.0	269.0	
328.2	MODESTO		BLUE SHALE	3.0	270.0	
325.2	MODESTO		SANDSTONE	64.0	273.0	
261.2	MODESTO		DARK SHALE	7.0	337.0	
254.2	MODESTO		BLUE SHALE	3.0	344.0	
251.2	MODESTO		SANDSTONE	36.0	347.0	
215.2	MODESTO		BLUE SHALE	39.0	383.0	
176.2	MODESTO		SANDSTONE	9.0	422.0	
167.2	MODESTO		SANDY SHALE	11.0	431.0	
156.2	MODESTO		SANDSTONE	15.0	442.0	
141.2	MODESTO		BLUE SHALE	7.0	457.0	
134.2	MODESTO		SANDSTONE	43.0	464.0	
91.2	MODESTO		BROWN SHALE	3.0	507.0	
88.2	MODESTO	PIASA	LIMESTONE	6.0	510.0	
82.2	MODESTO		DARK SHALE	2.0	516.0	
80.2	MODESTO		BLUE SHALE	3.0	518.0	
77.2	CARBONDALE	DANVILLE	COAL	1.0	521.0	
76.2	CARBONDALE		BLUE SHALE	5.0	522.0	
71.2	CARBONDALE		BLACK SHALE	4.0	527.0	

67.2	CARBONDALE		BLUE SHALE	4.0	531.0
63.2	CARBONDALE	BRERETON	LIMESTONE	9.0	535.0
54.2	CARBONDALE	ANNA	BLACK SHALE	4.0	544.0
50.2	CARBONDALE	HERRIN	COAL	7.1	548.0

MAPID: 13500075000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.294984 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.113615 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 609.1 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
68.6	MODESTO	PIASA	LIMESTONE	5.0	562.4	
63.6	MODESTO		UNCLASSIFIED	5.6	567.4	
58.0	CARBONDALE	DANVILLE	COAL	0.4	573.0	
57.6	CARBONDALE		UNCLASSIFIED	10.5	573.4	
47.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	583.9	
38.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	592.9	
35.6	CARBONDALE		UNCLASSIFIED	2.5	595.4	
33.1	CARBONDALE	BRERETON	LIMESTONE	1.8	597.9	
31.3	CARBONDALE	ANNA	BLACK SHALE	2.3	599.7	
29.0	CARBONDALE	HERRIN	COAL	7.1	602.0	

MAPID: 13500075000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.294984 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.113615 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 609.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MCHY. CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
631.0			UNCONSOLIDATED	161.0	0.0	
470.0			ROCK	118.6	161.0	
351.4			COAL	0.4	279.6	
351.0			ROCK	61.5	280.0	
289.5			COAL	2.5	341.5	
287.0			SHALE	7.5	344.0	
279.5			COAL	1.5	351.5	
278.0			ROCK	78.0	353.0	
200.0			COAL	0.5	431.0	
199.5			ROCK	141.1	431.5	
58.4			COAL	0.4	572.6	
58.0			SHALE	24.5	573.0	
33.5			LIMESTONE	1.8	597.5	
31.7			SHALE	2.3	599.3	
29.4	CARBONDALE	HERRIN	COAL	7.1	601.6	
22.3			ROCK	0.3	608.7	

MAPID: 13500075000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: FILLMORE **LONGITUDE:** -89.294984 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.113615 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 630.8 **LOGGED (FT.):** 609.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHY. CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.8			SOIL	1.0	0.0	
629.8			CLAY	11.0	1.0	
618.8			SANDY CLAY	6.0	12.0	
612.8			CLAY	6.0	18.0	BLUE
606.8			CLAY & GRAVEL	4.0	24.0	
602.8			SAND & GRAVEL	30.0	28.0	
572.8			CLAY & GRAVEL	12.0	58.0	BLUE
560.8			SANDY CLAY	85.0	70.0	
475.8			SAND	6.0	155.0	
469.8	BOND		BLUE SHALE	28.5	161.0	
441.3	BOND		FOSSILIFEROUS SHALE	2.0	189.5	
439.3	BOND		BLACK SHALE	1.8	191.5	
437.5	BOND		COAL	0.8	193.3	" FULL OF PEBBLES "
436.8	BOND		CLAYSTONE & SHALE	6.0	194.0	
430.8	BOND	MILLERSVILLE	SHALY LIMESTONE	7.0	200.0	
423.8	BOND	MILLERSVILLE	LIMESTONE	0.5	207.0	
423.3	BOND	MILLERSVILLE	SHALY LIMESTONE	10.5	207.5	
412.8	BOND		DARK SHALE	5.0	218.0	W/BROWN BANDS
407.8	BOND		SANDY SHALE	40.0	223.0	
367.8	BOND		BLUE SHALE	14.0	263.0	
353.8	BOND		FOSSILIFEROUS SHALE	1.0	277.0	
352.8	BOND		DARK SHALE	1.6	278.0	
351.2	BOND		COAL	0.4	279.6	
350.8	BOND		CLAYSTONE & SHALE	7.0	280.0	
343.8	BOND		CALCAREOUS SHALE	5.0	287.0	
338.8	BOND		DARK SHALE	10.0	292.0	
328.8	BOND		FOSSILIFEROUS SHALE	2.0	302.0	
326.8	BOND		DARK SHALE	4.0	304.0	
322.8	BOND		BLUE SHALE	1.8	308.0	
321.0	BOND	CARTHAGE	LIMESTONE	11.7	309.8	
309.3	MODESTO		BLACK SHALE	3.5	321.5	
305.8	MODESTO		BLUE SHALE	16.5	325.0	
289.3	MODESTO		BONE COAL	2.5	341.5	
286.8	MODESTO		BLUE SHALE	7.5	344.0	
279.3	MODESTO	WOMAC	COAL	1.5	351.5	
277.8	MODESTO		BLUE SHALE	13.3	353.0	
264.5	MODESTO		BLUE SHALE	1.0	366.3	W/COAL PARTINGS
263.5	MODESTO		GRAY SHALE	22.7	367.3	
240.8	MODESTO		SANDSTONE	12.0	390.0	W/SH PARTING

228.8	MODESTO		SANDY SHALE	29.0	402.0	
199.8	MODESTO	CHAPEL	COAL	0.5	431.0	
199.3	MODESTO		CLAYSTONE & SILTSTONE	2.0	431.5	
197.3	MODESTO		CALCAREOUS SHALE	2.5	433.5	
194.8	MODESTO		SANDSTONE	12.0	436.0	
182.8	MODESTO		SANDY SHALE	45.0	448.0	
137.8	MODESTO		BLUE SHALE	50.0	493.0	
87.8	MODESTO		GRAY SHALE	7.0	543.0	
80.8	MODESTO		SHALE	1.0	550.0	RED/BLUE
79.8	MODESTO		CALCAREOUS SHALE	6.5	551.0	
73.3	MODESTO	PIASA	LIMESTONE	1.5	557.5	
71.8	MODESTO	PIASA	SHALE	3.0	559.0	
68.8	MODESTO	PIASA	LIMESTONE	5.0	562.0	
63.8	MODESTO		DARK SHALE	5.6	567.0	
58.2	CARBONDALE	DANVILLE	BONE COAL	0.4	572.6	
57.8	CARBONDALE		GRAY SHALE	6.0	573.0	
51.8	CARBONDALE		DARK SHALE	4.5	579.0	
47.3	CARBONDALE		SHALE	14.0	583.5	GRAY
33.3	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	1.8	597.5	
31.5	CARBONDALE	ANNA	DARK SHALE	2.3	599.3	
29.2	CARBONDALE	HERRIN	COAL	5.7	601.6	
23.5	CARBONDALE	HERRIN	SHALE	0.1	607.3	BLUE BAND
23.4	CARBONDALE	HERRIN	COAL	1.3	607.4	
22.1	CARBONDALE		CLAYSTONE & SILTSTONE	0.3	608.7	

MAPID: 13501220000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.35937 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.110503 **DATE COLLECTED:** 11 / 0 / 1971

SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 498.5 **LOG TYPE:** Electric Log

SOURCE: HORTON, LEO V., ETAL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.0	MODESTO	PIASA	LIMESTONE	5.0	456.0	
120.0	MODESTO		UNCLASSIFIED	2.0	461.0	
118.0	CARBONDALE	DANVILLE	COAL	1.0	463.0	
117.0	CARBONDALE		UNCLASSIFIED	11.5	464.0	
105.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	475.5	
100.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	481.0	
98.0	CARBONDALE	CONANT	UNCLASSIFIED	3.0	483.0	
95.0	CARBONDALE		UNCLASSIFIED	2.5	486.0	
92.5	CARBONDALE	BRERETON	LIMESTONE	2.5	488.5	
90.0	CARBONDALE	ANNA	BLACK SHALE	1.0	491.0	
89.0	CARBONDALE	HERRIN	COAL	6.5	492.0	

MAPID: 13501220000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.35937 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.110503 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 499.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.0	MODESTO	PIASA	LIMESTONE	4.0	456.0	
121.0	CARBONDALE		SHALE	15.0	460.0	
106.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	475.0	
105.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	10.0	476.0	
95.0	CARBONDALE	LAWSON	SHALE	4.0	486.0	
91.0	CARBONDALE	ANNA	BLACK SHALE	2.0	490.0	
90.0	CARBONDALE	HERRIN	COAL	8.0	491.0	

MAPID: 13500349000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.345122 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.09229 **DATE COLLECTED:** 11 / 0 / 1955

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 543.5 **LOG TYPE:** Electric Log

SOURCE: TROPP & LARSEN **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
124.5	MODESTO	PIASA	LIMESTONE	4.0	500.5	
120.5	MODESTO		UNCLASSIFIED	4.0	504.5	
116.5	CARBONDALE	DANVILLE	COAL	0.5	508.5	
116.0	CARBONDALE		UNCLASSIFIED	10.5	509.0	
105.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	519.5	
99.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	525.5	
96.5	CARBONDALE	CONANT	UNCLASSIFIED	3.0	528.5	
93.5	CARBONDALE		UNCLASSIFIED	3.0	531.5	
90.5	CARBONDALE	BRERETON	LIMESTONE	2.0	534.5	
88.5	CARBONDALE	ANNA	BLACK SHALE	0.5	536.5	
88.0	CARBONDALE	HERRIN	COAL	6.5	537.0	

MAPID: 13500349000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.345122 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.09229 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 545.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.0	MODESTO	PIASA	LIMESTONE	5.0	500.0	
120.0	CARBONDALE		SHALE	15.0	505.0	
105.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	14.0	520.0	
91.0	CARBONDALE	BRERETON	LIMESTONE	2.0	534.0	
89.0	CARBONDALE	ANNA	BLACK SHALE	1.0	536.0	
88.0	CARBONDALE	HERRIN	COAL	8.0	537.0	

MAPID: 13500346000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 990' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.340341 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.08687 **DATE COLLECTED:** 9 / 0 / 1955

SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 536.0 **LOG TYPE:** Electric Log

SOURCE: TROOP & LARSEN **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
130.0	MODESTO	PIASA	LIMESTONE	5.0	494.0	
125.0	MODESTO		UNCLASSIFIED	5.5	499.0	
119.5	CARBONDALE	DANVILLE	COAL	1.0	504.5	
118.5	CARBONDALE		UNCLASSIFIED	8.5	505.5	
110.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	514.0	
103.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	521.0	
101.0	CARBONDALE		UNCLASSIFIED	2.0	523.0	
99.0	CARBONDALE	BRERETON	LIMESTONE	2.0	525.0	
97.0	CARBONDALE	ANNA	BLACK SHALE	2.0	527.0	
95.0	CARBONDALE	HERRIN	COAL	7.0	529.0	

MAPID: 13500346000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 990' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.340341 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.08687 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 537.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
128.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	495.0	
123.0	CARBONDALE		SHALE	13.0	500.0	
110.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	513.0	
109.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	514.0	
103.0	CARBONDALE	LAWSON	SHALE	8.0	520.0	
95.0	CARBONDALE	HERRIN	COAL	9.0	528.0	

MAPID: 13500352000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW

QUADRANGLE: FILLMORE **LONGITUDE:** -89.335865 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.092398 **DATE COLLECTED:** 2 / 0 / 1956

SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 533.5 **LOG TYPE:** Electric Log

SOURCE: TROOP & LARSEN **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
137.5	MODESTO	PIASA	LIMESTONE	4.0	490.5	
133.5	MODESTO		UNCLASSIFIED	5.0	494.5	
128.5	CARBONDALE	DANVILLE	COAL	0.5	499.5	
128.0	CARBONDALE		UNCLASSIFIED	10.5	500.0	
117.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	510.5	
110.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	517.5	
108.5	CARBONDALE		UNCLASSIFIED	2.0	519.5	
106.5	CARBONDALE	BRERETON	LIMESTONE	4.5	521.5	
102.0	CARBONDALE	ANNA	BLACK SHALE	2.0	526.0	
100.0	CARBONDALE	HERRIN	COAL	5.5	528.0	

MAPID: 13500915000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 45' S line, 2150' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.299061 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.086438 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 596.2 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 20BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
93.7	CARBONDALE		CLAYSTONE & SHALE	30.0	539.3	
63.7	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.3	569.3	
63.5	CARBONDALE		DARK GRAY SHALE	4.6	569.5	
58.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.9	574.1	
52.0	CARBONDALE	LAWSON	MOTTLED SHALE	5.3	581.0	
46.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	586.3	
46.2	CARBONDALE	JAMESTOWN	COAL	0.4	586.8	
45.7	CARBONDALE		CLAYSTONE	0.5	587.3	
45.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.3	587.8	
45.0	CARBONDALE	ANNA	BLACK SHALE	1.0	588.0	
44.0	CARBONDALE	HERRIN	COAL	7.2	589.0	

MAPID: 13500915000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 45' S line, 2150' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.299061 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.086438 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 595.2 **LOG TYPE:** Drillers Log

SOURCE: D.C. DONAN 20BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
82.6	MODESTO	PIASA	LIMESTONE	4.5	550.4	
78.1	MODESTO		UNCLASSIFIED	5.0	554.9	
73.1	CARBONDALE		UNCLASSIFIED	12.3	559.9	
60.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.9	572.2	
52.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	580.1	
50.4	CARBONDALE		SHALE	2.8	582.6	
47.6	CARBONDALE	BRERETON	LIMESTONE	0.3	585.4	
47.3	CARBONDALE	ANNA	BLACK SHALE	2.3	585.7	
45.0	CARBONDALE	HERRIN	COAL	7.2	588.0	

MAPID: 13500915000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 45' S line, 2150' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.299061 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.086438 **DATE COLLECTED:** 9 / 29 / 1957

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 595.9 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 20BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
44.3	CARBONDALE	HERRIN	COAL	7.2	588.7	

MAPID: 13500915000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 8N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 45' S line, 2150' W line

QUADRANGLE: FILLMORE **LONGITUDE:** -89.299061 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.086438 **DATE COLLECTED:** 9 / 29 / 1957

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 606.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 20-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
633.0	PLEISTOCENE		UNCONSOLIDATED	85.0	0.0	
548.0	BOND		COAL	1.5	85.0	
546.5	BOND		UNDERCLAY	1.0	86.5	
545.5	BOND		SHALE	14.0	87.5	
531.5	BOND		COAL	0.4	101.5	
531.1	BOND		SHALE	12.1	101.9	
519.0	BOND		SANDSTONE	6.0	114.0	
513.0	BOND		SHALE	32.0	120.0	
481.0	BOND		LIMESTONE	2.0	152.0	
479.0	BOND		SHALE	8.0	154.0	WITH LIMESTONE
471.0	BOND		COAL	1.5	162.0	
469.5	BOND		UNDERCLAY	2.5	163.5	
467.0	BOND		LIMESTONE	1.0	166.0	
466.0	BOND		CLAYSTONE & SILTSTONE	0.5	167.0	
465.5	BOND		LIMESTONE	3.5	167.5	
462.0	BOND		CLAYSTONE & SILTSTONE	1.0	171.0	
461.0	BOND		LIMESTONE	2.0	172.0	
459.0	BOND		SHALE	36.0	174.0	
423.0	BOND		CLAYSTONE & SILTSTONE	2.0	210.0	
421.0	BOND		SANDSTONE	3.5	212.0	
417.5	BOND		SHALE	31.3	215.5	
386.2	BOND	CARTHAGE	LIMESTONE	4.8	246.8	
381.5			SHALE	12.5	251.5	
369.0			SANDSTONE	12.0	264.0	
357.0			SHALE	51.0	276.0	
306.0			COAL	0.8	327.0	
305.2			SHALE/COAL	0.3	327.8	
304.8			SHALE	0.6	328.2	
304.2			SANDSTONE	0.3	328.8	
304.0			SHALE	27.0	329.0	
277.0			CLAYSTONE & SILTSTONE	1.2	356.0	
275.8			SHALE	9.6	357.2	
266.2			SANDSTONE	1.0	366.8	
265.2			CLAYSTONE & SILTSTONE	12.1	367.8	
253.2			SANDSTONE	0.5	379.8	
252.7			CLAYSTONE & SILTSTONE	1.5	380.3	
251.2			SANDSTONE	1.1	381.8	
250.1			SHALE	1.1	382.9	
249.0			CLAYSTONE & SILTSTONE	2.0	384.0	

247.0			SANDSTONE	110.3	386.0	
136.7			SHALE	4.0	496.3	
132.7			CLAYSTONE & SILTSTONE	2.0	500.3	
130.7			SANDSTONE	2.0	502.3	
128.7			SANDY SHALE	4.0	504.3	
124.7			SANDSTONE	1.0	508.3	
123.7			SANDSTONE & CONGLOMERATE	3.0	509.3	
120.7			CLAYSTONE & SILTSTONE	5.8	512.3	
115.0			SHALE	24.0	518.0	
91.0			CLAYSTONE & SILTSTONE	27.0	542.0	
64.0			LIMESTONE	0.3	569.0	
63.7			SHALE	4.6	569.3	
59.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.9	573.8	START OF CORE STUDY
52.2	CARBONDALE		SHALE	5.3	580.8	
46.9	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	586.1	
46.6	CARBONDALE		SHALE	0.2	586.4	
46.4	CARBONDALE	JAMESTOWN	COAL	0.4	586.6	BURNED, SHALEY,BONY
46.0	CARBONDALE		UNDERCLAY	0.5	587.0	BLACK,BURNED
45.5	CARBONDALE		LIMESTONE	0.3	587.5	
45.2	CARBONDALE	ANNA	BLACK SHALE	0.9	587.8	BURNED
44.3	CARBONDALE	HERRIN	COAL	7.2	588.7	
37.2	CARBONDALE		UNDERCLAY	1.2	595.8	
36.0	CARBONDALE		CLAYSTONE & SILTSTONE	1.0	597.0	
35.0	CARBONDALE		SHALE	5.7	598.0	
29.3	CARBONDALE		CLAYSTONE & SILTSTONE	2.3	603.7	

MAPID: 13500295000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** SW NW

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.379879 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.167722 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 489.0 **LOG TYPE:** Drillers Log

SOURCE: HOWETT W E **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.0	CARBONDALE	HERRIN	COAL	9.0	480.0	

MAPID: 13500905000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 800' N line, 1650' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.406983 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.171054 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 493.6 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 13BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
194.0	MODESTO	PIASA	NODULAR LIMESTONE	3.0	453.0	
191.0	MODESTO		CLAYSTONE	5.1	456.0	
185.9	CARBONDALE	DANVILLE	BONE COAL	0.3	461.1	
185.6	CARBONDALE		CLAYSTONE & SHALE	2.3	461.4	
183.3	CARBONDALE	GALUM	NODULAR LIMESTONE	0.8	463.7	
182.6	CARBONDALE		DARK GRAY SHALE	1.6	464.4	
181.0	CARBONDALE	ALLENBY	BLACK SHALE	1.2	466.0	
179.8	CARBONDALE		CLAYSTONE	1.6	467.2	
178.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.8	468.7	UPPER BENCH
175.4	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	2.5	471.6	SHALE PARTING
172.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.8	474.1	LOWER BENCH
170.1	CARBONDALE	LAWSON	CLAYSTONE	0.8	476.9	
169.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.1	477.7	
166.3	CARBONDALE	ANNA	BLACK SHALE	2.5	480.7	
161.0	CARBONDALE	HERRIN	COAL	7.6	486.0	

MAPID: 13500905000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 800' N line, 1650' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.406983 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.171054 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 460.0 **LOG TYPE:** Drillers Log

SOURCE: D.C. DONAN 13BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
224.1	MODESTO	PIASA	LIMESTONE	5.0	417.9	
219.1	MODESTO		UNCLASSIFIED	2.5	422.9	
216.6	CARBONDALE		UNCLASSIFIED	10.5	425.4	
206.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	435.9	
201.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	440.9	
199.3	CARBONDALE		SHALE	1.8	442.7	
197.5	CARBONDALE	BRERETON	LIMESTONE	3.0	444.5	
194.5	CARBONDALE	ANNA	BLACK SHALE	3.5	447.5	
191.0	CARBONDALE	HERRIN	COAL	9.0	451.0	

MAPID: 13500905000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 800' N line, 1650' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.406983 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.171054 **DATE COLLECTED:** 8 / 27 / 1957

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 493.5 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 13BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
161.1	CARBONDALE	HERRIN	COAL	7.6	485.9	

MAPID: 13500905000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 800' N line, 1650' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.406983 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.171054 **DATE COLLECTED:** 8 / 24 / 1957

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 497.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 13-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
647.0	PLEISTOCENE		UNCONSOLIDATED	130.0	0.0	
517.0	BOND		SANDSTONE	34.8	130.0	
482.2	BOND		CLAYSTONE & SILTSTONE	3.0	164.8	
479.2	BOND	CARTHAGE	LIMESTONE	7.2	167.8	
472.0			SHALE	0.5	175.0	
471.5			CLAYSTONE & SILTSTONE	59.5	175.5	
412.0			SHALE	3.2	235.0	
408.8			BLACK SHALE	4.5	238.2	COAL STREAKS
404.3			CLAYSTONE & SILTSTONE	52.3	242.7	
352.0			SHALE	30.0	295.0	
322.0			SHALY SANDSTONE	14.7	325.0	
307.3			SHALE	103.2	339.7	
204.2			CLAYSTONE & SILTSTONE	3.2	442.8	START OF CORE STUDY
201.0			SILTSTONE	1.5	446.0	
199.5			SHALE	5.3	447.5	
194.2			LIMESTONE	3.0	452.8	
191.2			CLAYSTONE & SILTSTONE	5.0	455.8	
186.2			CLAYSTONE & SILTSTONE	0.1	460.8	MAY BE INVERTED WITH UNIT #19
186.1			BLACK SHALE	0.3	460.9	MAY BE INVERTED WITH UNIT #18
185.7			CLAYSTONE & SILTSTONE	3.7	461.3	
181.9			CLAYSTONE & SILTSTONE	1.3	465.1	
180.6			SHALE	2.3	466.4	
178.2	CARBONDALE		BLACK SHALE	1.2	468.8	
177.1	CARBONDALE		CLAYSTONE & SILTSTONE	1.6	469.9	
175.5	CARBONDALE		LIMESTONE	12.7	471.5	
162.8	CARBONDALE	ANNA	BLACK SHALE	1.7	484.2	
161.1	CARBONDALE	HERRIN	COAL	7.6	485.9	
153.5	CARBONDALE		UNDERCLAY	3.0	493.5	
150.5	CARBONDALE		CLAYSTONE & SILTSTONE	0.5	496.5	

MAPID: 13500078000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 660' N line, 1320' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.451934 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.171601 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: IN & IL COAL CO. **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.5		
-	MODESTO		UNCLASSIFIED	7.8		
-	CARBONDALE		UNCLASSIFIED	13.3		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	1.5		
-	CARBONDALE	BRERETON	LIMESTONE	1.5		
-	CARBONDALE	ANNA	BLACK SHALE	1.9		
-	CARBONDALE	HERRIN	COAL	8.0		

MAPID: 13500078000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 660' N line, 1320' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.451934 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.171601 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 417.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
273.0	MODESTO	PIASA	LIMESTONE	5.0	377.0	
268.0	CARBONDALE		MOTTLED SHALE	7.0	382.0	
261.0	CARBONDALE	GALUM	LIMESTONE	0.5	389.0	
260.5	CARBONDALE		SHALE	3.0	389.5	
257.5	CARBONDALE	ALLENBY	BLACK SHALE	1.3	392.5	
256.2	CARBONDALE		CALCAREOUS SHALE	1.5	393.8	
254.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	395.3	
250.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.3	399.5	
250.2	CARBONDALE	BRERETON	LIMESTONE	6.5	399.8	
243.7	CARBONDALE	ANNA	BLACK SHALE	1.9	406.3	
241.0	CARBONDALE	HERRIN	COAL	8.0	409.0	

MAPID: 13500078000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 660' N line, 1320' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.451934 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.171601 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 416.6 **LOG TYPE:** Drillers Log

SOURCE: INDIANA & ILLINOIS COAL CORP., MINE #11 **WELL TYPE:** Coal Test

COMMENT: REC. QUESTIONABLE-SEE ABND. MINE NOTES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNCONSOLIDATED	15.0	0.0	DIRT IN LOG
-			GRAVEL	17.0	15.0	
-			SAND	3.5	32.0	" QUICK SAND "
-			HARD PAN	100.0	35.5	
-	BOND		SANDSTONE	12.0	135.5	
-	BOND	CARTHAGE	LIMESTONE	7.5	147.5	
-	MODESTO		UNDERCLAY	5.0	155.0	
-	MODESTO		CLAYSTONE & SHALE	21.7	160.0	
-	MODESTO		SANDY SHALE	51.0	181.7	
-	MODESTO		SANDY SHALE	8.0	232.7	W/LS BANDS
-	MODESTO		SANDSTONE	2.0	240.7	
-	MODESTO		CALCAREOUS SHALE	4.0	242.7	
-	MODESTO		SANDSTONE	1.0	246.7	
-	MODESTO	CHAPEL	COAL	0.8	247.7	
-	MODESTO		UNDERCLAY	3.5	248.5	
-	MODESTO		LIMESTONE	3.8	252.0	
-	MODESTO		SANDSTONE	1.7	255.8	
-	MODESTO		CLAYSTONE & SHALE	3.0	257.5	
-	MODESTO		SANDSTONE	24.0	260.5	
-	MODESTO		SHALE	72.0	284.5	
-	MODESTO		CONGLOMERATE	7.0	356.5	CGL SH
-	MODESTO		CLAYSTONE & SHALE	4.5	363.5	
-	MODESTO	PIASA	LIMESTONE	6.5	368.0	
-	MODESTO		CLAYSTONE & SHALE	2.8	374.5	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	377.3	
-	CARBONDALE		CONGLOMERATE	7.0	382.3	CGL SH
-	CARBONDALE		LIMESTONE	0.5	389.3	
-	CARBONDALE		SHALE	3.0	389.8	
-	CARBONDALE		BLACK SHALE	1.3	392.8	
-	CARBONDALE		SHALE	1.5	394.2	" CLOD "
-	CARBONDALE	BRERETON	LIMESTONE	4.2	395.7	
-	CARBONDALE	BRERETON	CLAYSTONE & SHALE	0.3	399.8	
-	CARBONDALE	BRERETON	LIMESTONE	6.5	400.2	
-	CARBONDALE	BRERETON	SHALE	0.3	406.7	" CLOD "
-	CARBONDALE	ANNA	BLACK SHALE	1.6	407.0	
-	CARBONDALE	HERRIN	COAL	8.0	408.6	

MAPID: 13500391000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.453048 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.160023 **DATE COLLECTED:** 4 / 0 / 1956
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 460.0 **LOG TYPE:** Electric Log
SOURCE: UNGER JOHN **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
224.1	MODESTO	PIASA	LIMESTONE	5.0	417.9	
219.1	MODESTO		UNCLASSIFIED	2.5	422.9	
216.6	CARBONDALE		UNCLASSIFIED	10.5	425.4	
206.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	435.9	
201.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.8	440.9	
199.3	CARBONDALE		UNCLASSIFIED	1.8	442.7	
197.5	CARBONDALE	BRERETON	LIMESTONE	3.0	444.5	
194.5	CARBONDALE	ANNA	BLACK SHALE	3.5	447.5	
191.0	CARBONDALE	HERRIN	COAL	9.0	451.0	

MAPID: 13500077000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 100' S line, 4200' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.434123 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.14483 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 488.0 **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
195.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	462.0	
190.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	467.0	
187.0	CARBONDALE		UNCLASSIFIED	4.0	470.0	
183.0	CARBONDALE	BRERETON	LIMESTONE	4.0	474.0	
179.0	CARBONDALE	ANNA	BLACK SHALE	4.0	478.0	
175.0	CARBONDALE	HERRIN	COAL	6.0	482.0	

MAPID: 13501143000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.415743 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.152617 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 527.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 35-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
195.1	MODESTO	PIASA	LIMESTONE	3.5	479.9	
191.6	CARBONDALE		MOTTLED SHALE	9.5	483.4	
182.1	CARBONDALE	GALUM	NODULAR LIMESTONE	3.0	492.9	
179.1	CARBONDALE		CLAYSTONE & SHALE	5.8	495.9	
173.2	CARBONDALE	ALLENBY	BLACK SHALE	1.6	501.8	
171.7	CARBONDALE		DARK GRAY SHALE	2.0	503.3	
169.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.8	505.3	
161.8	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	2.2	513.2	
159.7	CARBONDALE	LAWSON	GRAY SHALE	0.2	515.3	
159.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.6	515.5	
157.9	CARBONDALE	ANNA	BLACK SHALE	2.9	517.1	
155.0	CARBONDALE	HERRIN	COAL	7.5	520.0	

MAPID: 13501143000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.415743 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.152617 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 527.5 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 35-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
190.8	MODESTO	PIASA	LIMESTONE	4.5	484.2	
186.3	MODESTO		UNCLASSIFIED	4.3	488.7	
182.0	CARBONDALE		UNCLASSIFIED	12.7	493.0	
169.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	505.7	
160.8	CARBONDALE	ANVIL ROCK	SANDSTONE	1.7	514.2	
159.1	CARBONDALE		SHALE	0.8	515.9	
158.3	CARBONDALE	BRERETON	LIMESTONE	0.8	516.7	
157.5	CARBONDALE	ANNA	BLACK SHALE	2.5	517.5	
155.0	CARBONDALE	HERRIN	COAL	7.5	520.0	

MAPID: 13501143000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.415743 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.152617 **DATE COLLECTED:** 7 / 0 / 1959
SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 527.6 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 35-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
154.9	CARBONDALE	HERRIN	COAL	7.5	520.1	

MAPID: 13501137000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 990' N line, 990' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.378502 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.155932 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 524.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 30-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
170.0	MODESTO	PIASA	LIMESTONE	3.3	481.0	
166.7	MODESTO		CLAYSTONE & SHALE	5.8	484.3	
160.9	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.0	490.1	
159.9	CARBONDALE		CALCAREOUS SHALE	9.0	491.1	
150.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.9	500.1	
150.0	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.6	501.0	
149.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.7	501.6	UPPER BENCH
141.7	CARBONDALE	BANKSTON FORK	GRAY SHALE	0.9	509.3	SHALE PARTING
140.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.3	510.2	LOWER BENCH
139.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	511.5	
138.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	512.2	
138.0	CARBONDALE	JAMESTOWN	BLACK SHALE	0.5	513.0	
137.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.8	513.5	
136.7	CARBONDALE	ANNA	BLACK SHALE	1.6	514.3	
134.0	CARBONDALE	HERRIN	COAL	7.5	517.0	

MAPID: 13501137000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 990' N line, 990' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.378502 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.155932 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 524.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 30-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.9	MODESTO	PIASA	LIMESTONE	4.7	483.1	
163.2	MODESTO		UNCLASSIFIED	4.4	487.8	
158.8	CARBONDALE		UNCLASSIFIED	11.6	492.2	
147.2	CARBONDALE	BANKSTON FORK	LIMESTONE	8.9	503.8	
138.3	CARBONDALE	ANVIL ROCK	SANDSTONE	0.7	512.7	
137.6	CARBONDALE	CONANT	LIMESTONE	0.8	513.4	
136.8	CARBONDALE		SHALE	0.6	514.2	
136.2	CARBONDALE	BRERETON	LIMESTONE	0.8	514.8	
135.4	CARBONDALE	ANNA	BLACK SHALE	1.4	515.6	
134.0	CARBONDALE	HERRIN	COAL	7.5	517.0	

MAPID: 13501137000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 990' N line, 990' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.378502 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.155932 **DATE COLLECTED:** 5 / 13 / 1959
SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 524.8 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 30-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
133.7	CARBONDALE	HERRIN	COAL	7.5	517.3	

MAPID: 13500308000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1900' N line, 65' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.400846 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.13886 **DATE COLLECTED:** 0 / 0 / 1906
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 543.0 **LOG TYPE:** Drillers Log
SOURCE: DONK E C **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
168.5	MODESTO	PIASA	LIMESTONE	4.0	498.5	
164.5	MODESTO		UNCLASSIFIED	6.0	502.5	
158.5	CARBONDALE		UNCLASSIFIED	9.0	508.5	
149.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	517.5	
142.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	524.5	
139.0	CARBONDALE		UNCLASSIFIED	3.5	528.0	
135.5	CARBONDALE	BRERETON	LIMESTONE	3.0	531.5	
132.5	CARBONDALE	ANNA	BLACK SHALE	1.5	534.5	
131.0	CARBONDALE	HERRIN	COAL	7.0	536.0	

MAPID: 13501231000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2310' S line, 2310' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.410966 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.135989 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 530.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 73-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
159.7	MODESTO	PIASA	LIMESTONE	0.7	493.3	
159.1	CARBONDALE		MOTTLED SHALE	8.5	493.9	
150.6	CARBONDALE	ALLENBY	COAL	0.8	502.4	
149.8	CARBONDALE		CLAYSTONE & SHALE	11.6	503.2	
138.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.1	514.8	UPPER BENCH
135.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.4	517.8	SHALE PARTING
134.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.5	518.3	LOWER BENCH
134.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.5	518.8	
133.7	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	519.3	
132.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.6	520.3	
132.2	CARBONDALE	ANNA	BLACK SHALE	1.2	520.8	
131.0	CARBONDALE	HERRIN	COAL	8.8	522.0	

MAPID: 13501231000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2310' S line, 2310' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.410966 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.135989 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 530.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 73-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
167.3	MODESTO	PIASA	LIMESTONE	3.0	485.7	
164.3	MODESTO		UNCLASSIFIED	4.0	488.7	
160.3	CARBONDALE		UNCLASSIFIED	16.0	492.7	
144.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.8	508.7	
135.5	CARBONDALE	ANVIL ROCK	SANDSTONE	0.5	517.5	
135.0	CARBONDALE	CONANT	LIMESTONE	0.3	518.0	
134.7	CARBONDALE		SHALE	1.3	518.3	
133.4	CARBONDALE	BRERETON	LIMESTONE	0.8	519.6	
132.6	CARBONDALE	ANNA	BLACK SHALE	1.6	520.4	
131.0	CARBONDALE	HERRIN	COAL	8.8	522.0	

MAPID: 13501231000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2310' S line, 2310' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.410966 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.135989 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 531.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 73-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
130.7	CARBONDALE	HERRIN	COAL	8.8	522.3	

MAPID: 13501144000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.424956 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.130618 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 469.8 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 36-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
199.0	MODESTO	PIASA	LIMESTONE W/ SHALE	1.7	427.0	
197.3	CARBONDALE	DANVILLE	DARK GRAY SHALE	3.0	428.7	
194.3	CARBONDALE		CLAYSTONE & SHALE	11.0	431.7	
183.3	CARBONDALE	GALUM	LIMESTONE W/ SHALE	2.0	442.7	
181.3	CARBONDALE		DARK GRAY SHALE	1.3	444.7	
180.0	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.8	446.0	
179.2	CARBONDALE		CALCAREOUS SHALE	1.9	446.8	
177.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.3	448.7	
172.0	CARBONDALE	LAWSON	MOTTLED SHALE	6.7	454.0	
165.3	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	460.7	
165.0	CARBONDALE	BRERETON	CARBONACEOUS LIMESTONE	1.1	461.0	
163.9	CARBONDALE	ANNA	BLACK SHALE	1.2	462.1	
164.0	CARBONDALE	HERRIN	COAL	7.8	462.0	

MAPID: 13501144000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.424956 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.130618 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 468.8 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 36-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
199.8	MODESTO	PIASA	LIMESTONE	1.7	426.2	
198.1	MODESTO		UNCLASSIFIED	4.3	427.9	
193.8	CARBONDALE		UNCLASSIFIED	12.2	432.2	
181.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	444.4	
174.6	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	451.4	
170.6	CARBONDALE	CONANT	LIMESTONE	2.0	455.4	
168.6	CARBONDALE		SHALE	1.3	457.4	
167.3	CARBONDALE	BRERETON	LIMESTONE	1.1	458.7	
166.2	CARBONDALE	ANNA	BLACK SHALE	1.2	459.8	
165.0	CARBONDALE	HERRIN	COAL	7.8	461.0	

MAPID: 13501144000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.424956 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.130618 **DATE COLLECTED:** 7 / 0 / 1959
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 468.7 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 36-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.4	CARBONDALE	HERRIN	COAL	7.1	461.6	

MAPID: 13500668000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.445981 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.136146 **DATE COLLECTED:** 7 / 0 / 1952
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 451.5 **LOG TYPE:** Electric Log
SOURCE: SUPERIOR OIL COMPANY **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
231.0	MODESTO	PIASA	LIMESTONE	3.5	409.0	
227.5	MODESTO		UNCLASSIFIED	3.0	412.5	
224.5	CARBONDALE	DANVILLE	COAL	1.0	415.5	
223.5	CARBONDALE		UNCLASSIFIED	11.0	416.5	
212.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	427.5	
207.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	432.5	
204.0	CARBONDALE		UNCLASSIFIED	3.0	436.0	
201.0	CARBONDALE	BRERETON	LIMESTONE	3.0	439.0	
198.0	CARBONDALE	ANNA	BLACK SHALE	2.0	442.0	
196.0	CARBONDALE	HERRIN	COAL	7.5	444.0	

MAPID: 13500668000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.445981 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.136146 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 448.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
233.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	407.0	
230.0	CARBONDALE		MOTTLED SHALE	13.0	410.0	
217.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	423.0	
216.0	CARBONDALE		SHALE	1.0	424.0	
215.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	425.0	
211.0	CARBONDALE	LAWSON	SHALE	4.0	429.0	
207.0	CARBONDALE	BRERETON	LIMESTONE	4.0	433.0	
203.0	CARBONDALE	ANNA	BLACK SHALE	4.0	437.0	
199.0	CARBONDALE	HERRIN	COAL	7.0	441.0	

MAPID: 13500669000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 17 **QUARTERS/FOOTAGES:** 330' N line, 990' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.453034 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.143572 **DATE COLLECTED:** 7 / 0 / 1950
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 435.0 **LOG TYPE:** Electric Log
SOURCE: DUNCAN, WALTER **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
235.1	MODESTO	PIASA	LIMESTONE	4.0	394.9	
231.1	MODESTO		UNCLASSIFIED	2.5	398.9	
228.6	CARBONDALE		UNCLASSIFIED	10.5	401.4	
218.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	411.9	
211.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	418.9	
208.1	CARBONDALE		UNCLASSIFIED	2.8	421.9	
205.3	CARBONDALE	BRERETON	LIMESTONE	2.8	424.7	
202.5	CARBONDALE	ANNA	BLACK SHALE	1.5	427.5	
201.0	CARBONDALE	HERRIN	COAL	6.0	429.0	

MAPID: 13500351000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' N line, 990' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.459858 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.123372 **DATE COLLECTED:** 1 / 0 / 1956

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 467.5 **LOG TYPE:** Electric Log

SOURCE: TROPP & LARSEN **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
206.1	MODESTO	PIASA	LIMESTONE	4.5	423.9	
201.6	MODESTO		UNCLASSIFIED	2.5	428.4	
199.1	CARBONDALE	DANVILLE	COAL	0.5	430.9	
198.6	CARBONDALE		UNCLASSIFIED	11.5	431.4	
187.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.5	442.9	
178.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.3	451.4	
177.3	CARBONDALE		UNCLASSIFIED	1.3	452.7	
176.0	CARBONDALE	BRERETON	LIMESTONE	2.5	454.0	
173.5	CARBONDALE	ANNA	BLACK SHALE	3.5	456.5	
170.0	CARBONDALE	HERRIN	COAL	7.5	460.0	

MAPID: 13500351000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' N line, 990' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.459858 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.123372 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 468.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
205.0	MODESTO	PIASA	LIMESTONE	5.0	425.0	
200.0	CARBONDALE		SHALE	14.0	430.0	
186.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	444.0	
183.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	447.0	
180.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	450.0	
175.0	CARBONDALE	BRERETON	LIMESTONE	2.0	455.0	
173.0	CARBONDALE	ANNA	BLACK SHALE	3.0	457.0	
170.0	CARBONDALE	HERRIN	COAL	8.5	460.0	

MAPID: 13501127000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.450468 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.12156 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 461.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 31-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
214.0	MODESTO	PIASA	LIMESTONE	4.5	414.0	
209.5	CARBONDALE		CALCAREOUS SHALE	19.5	418.5	
190.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	15.0	438.0	
175.0	CARBONDALE	BRERETON	LIMESTONE	1.0	453.0	
174.0	CARBONDALE	ANNA	CALCAREOUS SHALE	1.0	454.0	
173.0	CARBONDALE	HERRIN	COAL	6.5	455.0	

MAPID: 13501127000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.450468 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.12156 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 461.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 31-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
214.0	MODESTO	PIASA	LIMESTONE	4.5	414.0	
209.5	MODESTO		UNCLASSIFIED	5.0	418.5	
204.5	CARBONDALE		UNCLASSIFIED	14.5	423.5	
190.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	438.0	
181.0	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	447.0	
178.0	CARBONDALE		SHALE	3.0	450.0	
175.0	CARBONDALE	BRERETON	LIMESTONE	1.0	453.0	
174.0	CARBONDALE	ANNA	BLACK SHALE	1.0	454.0	
173.0	CARBONDALE	HERRIN	COAL	6.5	455.0	

MAPID: 13501127000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.450468 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.12156 **DATE COLLECTED:** 5 / 12 / 1959
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 461.8 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 31-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
173.0	CARBONDALE	HERRIN	COAL	6.8	455.0	

MAPID: 13500909000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 730' N line, 850' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.403474 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.127521 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 521.1 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 14BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
184.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	58.7	465.0	
125.3	CARBONDALE	LAWSON	SHALE & SANDSTONE	2.9	523.7	
122.4	CARBONDALE	LAWSON	CLAYSTONE & SHALE	38.4	526.6	

MAPID: 13500909000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 730' N line, 850' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.403474 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.127521 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: D.C. DONAN 14BB **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13500909000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 730' N line, 850' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.403474 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.127521 **DATE COLLECTED:** 9 / 0 / 1957
SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 14BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Anvil Rock, coal eroded-no coal

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MAPID: 13500909000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 730' N line, 850' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.403474 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.127521 **DATE COLLECTED:** 9 / 18 / 1957

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 594.5 **LOG TYPE:** Multiple log types

SOURCE: DONAN 14-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
649.0	PLEISTOCENE		UNCONSOLIDATED	143.0	0.0	
506.0			SHALE	81.0	143.0	
425.0			SANDSTONE	27.8	224.0	
397.2			LIMESTONE	1.2	251.8	
396.0			SHALE	38.8	253.0	
357.2			LIMESTONE	2.2	291.8	
355.0			SHALE	161.0	294.0	
194.0			SANDSTONE	10.0	455.0	
184.0			SHALE & SANDSTONE	57.9	465.0	
126.2	CARBONDALE	HERRIN	COAL	0.0	522.8	ERODED BY ANVIL ROCK CHANNEL
126.2	CARBONDALE		SHALE	38.5	522.8	START OF CORE STUDY
87.7	CARBONDALE	HANOVER	LIMESTONE	0.2	561.3	
87.5	CARBONDALE	EXCELLO	BLACK SHALE	4.3	561.5	
83.2	CARBONDALE	HOUCHIN CREEK	COAL	0.4	565.8	
82.7	CARBONDALE		UNDERCLAY	1.0	566.3	
81.7	CARBONDALE		CLAYSTONE & SILTSTONE	7.0	567.3	
74.7	CARBONDALE		SANDSTONE	20.3	574.3	

MAPID: 13501139000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.380374 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.11591 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 547.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 34-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.6	MODESTO	PIASA	LIMESTONE	5.8	502.4	
136.8	CARBONDALE		MOTTLED SHALE	6.0	508.2	
130.8	CARBONDALE	GALUM	NODULAR LIMESTONE	1.3	514.2	
129.5	CARBONDALE		MOTTLED SHALE	11.7	515.5	
117.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	527.2	
114.8	CARBONDALE	LAWSON	GRAY SHALE	4.5	530.2	
110.3	CARBONDALE	LAWSON	BLACK SHALE	3.3	534.7	
107.1	CARBONDALE	CONANT	LIMESTONE	1.5	537.9	
105.6	CARBONDALE	JAMESTOWN	COAL	0.3	539.4	
105.3	CARBONDALE	BRERETON	CALCAREOUS SHALE	0.7	539.7	
104.7	CARBONDALE	ANNA	DARK GRAY SHALE	0.7	540.3	
104.0	CARBONDALE	HERRIN	COAL	6.6	541.0	

MAPID: 13501139000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.380374 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.11591 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 546.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 34-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.8	MODESTO	PIASA	LIMESTONE	5.8	502.2	
137.0	MODESTO		UNCLASSIFIED	3.0	508.0	
134.0	CARBONDALE		UNCLASSIFIED	15.0	511.0	
119.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	526.0	
111.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	533.5	
108.2	CARBONDALE	CONANT	LIMESTONE	1.3	536.8	
106.9	CARBONDALE	JAMESTOWN	COAL	0.3	538.1	
106.6	CARBONDALE		SHALE	0.2	538.4	
106.4	CARBONDALE	BRERETON	LIMESTONE	0.7	538.6	
105.7	CARBONDALE	ANNA	BLACK SHALE	0.7	539.3	
105.0	CARBONDALE	HERRIN	COAL	6.6	540.0	

MAPID: 13501139000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.380374 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.11591 **DATE COLLECTED:** 6 / 29 / 1959
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 547.4 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 34-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
104.2	CARBONDALE	HERRIN	COAL	6.6	540.8	

MAPID: 13501229000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 27 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.408325 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.108675 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 530.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 72-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
150.5	MODESTO	PIASA	LIMESTONE	2.0	482.5	
148.5	CARBONDALE		MOTTLED SHALE	12.0	484.5	
136.5	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	3.5	496.5	
133.0	CARBONDALE	ALLENBY	BLACK SHALE	1.5	500.0	
131.5	CARBONDALE		CALCAREOUS SHALE	1.7	501.5	
129.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	503.2	UPPER BENCH
126.5	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.0	506.5	SHALE PARTING
124.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	508.5	LOWER BENCH
122.5	CARBONDALE	LAWSON	MOTTLED SHALE	2.5	510.5	
120.0	CARBONDALE	LAWSON	MOTTLED SHALE	3.0	513.0	
117.0	CARBONDALE	LAWSON	BLACK SHALE	2.7	516.0	
114.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.7	518.7	
113.6	CARBONDALE	JAMESTOWN	BONE COAL	0.2	519.4	
113.5	CARBONDALE		CLAYSTONE	0.3	519.5	
113.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.0	519.8	
112.2	CARBONDALE	ANNA	BLACK SHALE	2.3	520.8	
110.0	CARBONDALE	HERRIN	COAL	7.7	523.0	

MAPID: 13501229000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 27 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.408325 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.108675 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 530.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 72-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.3	MODESTO	PIASA	LIMESTONE	2.0	482.7	
148.3	MODESTO		UNCLASSIFIED	6.0	484.7	
142.3	CARBONDALE		UNCLASSIFIED	12.6	490.7	
129.7	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	503.3	
122.4	CARBONDALE	ANVIL ROCK	SANDSTONE	4.5	510.6	
117.9	CARBONDALE		SHALE	2.5	515.1	
115.4	CARBONDALE	BRERETON	LIMESTONE	2.1	517.6	
113.3	CARBONDALE	ANNA	BLACK SHALE	3.3	519.7	
110.0	CARBONDALE	HERRIN	COAL	7.8	523.0	

MAPID: 13501138000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.424778 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.106909 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 515.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 32-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
160.0	MODESTO	PIASA	LIMESTONE	1.5	470.0	
158.5	CARBONDALE		MOTTLED SHALE	10.5	471.5	
148.0	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	3.0	482.0	
145.0	CARBONDALE	ALLENBY	BLACK SHALE	3.9	485.0	
141.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.5	488.9	
134.6	CARBONDALE	LAWSON	MOTTLED SHALE	3.6	495.4	
131.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	499.0	
130.4	CARBONDALE		CLAYSTONE	0.1	499.6	
130.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.0	499.7	
128.3	CARBONDALE	ANNA	BLACK SHALE	1.3	501.7	
123.0	CARBONDALE	HERRIN	COAL	8.3	507.0	

MAPID: 13501138000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.424778 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.106909 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 514.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 32-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
159.9	MODESTO	PIASA	LIMESTONE	1.5	470.1	
158.4	MODESTO		UNCLASSIFIED	5.2	471.6	
153.2	CARBONDALE		UNCLASSIFIED	12.3	476.8	
140.9	CARBONDALE	BANKSTON FORK	LIMESTONE	9.1	489.1	
131.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	498.2	
128.2	CARBONDALE	CONANT	LIMESTONE	0.6	501.8	
127.6	CARBONDALE		SHALE	0.3	502.4	
127.3	CARBONDALE	BRERETON	LIMESTONE	2.0	502.7	
125.3	CARBONDALE	ANNA	BLACK SHALE	1.3	504.7	
124.0	CARBONDALE	HERRIN	COAL	8.3	506.0	

MAPID: 13501138000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.424778 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.106909 **DATE COLLECTED:** 5 / 18 / 1959
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 514.8 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 32-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
123.5	CARBONDALE	HERRIN	COAL	8.3	506.5	

MAPID: 13500162000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** 100' S line, 280' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.455127 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.100863 **DATE COLLECTED:** 11 / 0 / 1906
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 489.9 **LOG TYPE:** Drillers Log
SOURCE: DONK BROS. COAL & COKE **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
169.1	MODESTO	PIASA	LIMESTONE	5.0	442.9	
164.1	MODESTO		UNCLASSIFIED	5.0	447.9	
159.1	CARBONDALE		UNCLASSIFIED	12.3	452.9	
146.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.6	465.2	
138.2	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.8	473.8	
136.4	CARBONDALE		UNCLASSIFIED	1.8	475.6	
134.6	CARBONDALE	BRERETON	LIMESTONE	1.8	477.4	
132.8	CARBONDALE	ANNA	BLACK SHALE	2.8	479.2	
130.0	CARBONDALE	HERRIN	COAL	7.9	482.0	

MAPID: 13500162000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** 100' S line, 280' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.455127 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.100863 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 490.8 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.0	MODESTO	PIASA	LIMESTONE W/ SHALE	7.5	434.0	
171.5	MODESTO		SILTY SHALE	2.3	441.5	
169.2	CARBONDALE	DANVILLE	BLACK SHALE	0.7	443.8	
168.5	CARBONDALE		MOTTLED SHALE	19.0	444.5	
149.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.1	463.5	
145.4	CARBONDALE	BANKSTON FORK	GRAY SHALE	2.8	467.6	
142.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.9	470.4	
137.7	CARBONDALE	LAWSON	GRAY SHALE	5.5	475.3	
132.2	CARBONDALE	ANNA	BLACK SHALE	2.8	480.8	
130.0	CARBONDALE	HERRIN	COAL	7.8	483.0	

MAPID: 13500162000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** 100' S line, 280' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.455127 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.100863 **DATE COLLECTED:** 11 / 0 / 1906

SURFACE ELEVATION (FT.): 612.8 **LOGGED (FT.):** 502.0 **LOG TYPE:** Drillers Log

SOURCE: DONK BROTHERS, #5 **WELL TYPE:** Coal Test

COMMENT: A.M.CRAWFORD AUTH.,DONK BROS MAYBE FARM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
612.8			SOIL	3.0	0.0	BLACK SH IN LOG
609.8			CLAY & GRAVEL	29.5	3.0	
580.3			SAND	2.0	32.5	
578.3			SANDY CLAY	15.5	34.5	
562.8			CLAY & GRAVEL	108.0	50.0	
454.8			SAND & GRAVEL	9.0	158.0	
445.8	BOND		BLUE SHALE	3.0	167.0	
442.8	BOND		BLUE SHALE	2.0	170.0	W/LS STREAKS
440.8	BOND	CARTHAGE	LIMESTONE	19.5	172.0	
421.3	MODESTO		BLACK SHALE	1.5	191.5	
419.8	MODESTO		BLUE SHALE	15.5	193.0	
404.3	MODESTO		SHALY COAL	1.5	208.5	
402.8	MODESTO		BROWN SHALE	6.5	210.0	
396.3	MODESTO		CLAYSTONE & SHALE	7.5	216.5	
388.8	MODESTO		DARK SHALE	3.7	224.0	
385.1	MODESTO	WOMAC	COAL	0.3	227.7	
384.8	MODESTO		CLAYSTONE & SHALE	8.0	228.0	
376.8	MODESTO		BLUE SHALE	32.0	236.0	
344.8	MODESTO		SHALE	9.0	268.0	W/SS BANDS
335.8	MODESTO		SANDY SHALE	10.7	277.0	
325.1	MODESTO		BLUE SHALE	11.3	287.7	
313.8	MODESTO		LIMESTONE	0.7	299.0	
313.1	MODESTO		BLACK SHALE	1.0	299.7	
312.1	MODESTO		LIMESTONE	1.0	300.7	
311.1	MODESTO		BLUE SHALE	12.3	301.7	
298.8	MODESTO		BLUE SHALE	9.0	314.0	W/BROWN BANDS
289.8	MODESTO		BLACK SHALE	7.0	323.0	
282.8	MODESTO		GRAY SHALE	2.0	330.0	W/LS BANDS
280.8	MODESTO		SANDY SHALE	7.0	332.0	
273.8	MODESTO		BLUE SHALE	21.0	339.0	
252.8	MODESTO		SANDY SHALE	23.0	360.0	
229.8	MODESTO		BLUE SHALE	48.0	383.0	
181.8	MODESTO		LIMESTONE	0.5	431.0	
181.3	MODESTO		CLAYSTONE & SHALE	2.0	431.5	
179.3	MODESTO		CALCAREOUS SHALE	7.5	433.5	
171.8	MODESTO		SANDY SHALE	2.3	441.0	
169.5	MODESTO		DARK SHALE	0.7	443.3	
168.8	MODESTO		SHALE	11.2	444.0	BLUE/YEL
157.6	MODESTO		BLUE SHALE	7.8	455.2	

149.8	CARBONDALE		LIMESTONE	2.0	463.0	
147.8	CARBONDALE		BLUE SHALE	1.3	465.0	
146.5	CARBONDALE		LIMESTONE	0.8	466.3	
145.7	CARBONDALE		BLUE SHALE	2.8	467.1	
142.9	CARBONDALE		LIMESTONE	4.9	469.9	
138.0	CARBONDALE		BLUE SHALE	5.5	474.8	
132.5	CARBONDALE	ANNA	BLACK SHALE	2.8	480.3	
129.7	CARBONDALE	HERRIN	COAL	6.1	483.1	
123.6	CARBONDALE	HERRIN	SHALE	0.1	489.2	BLUE BAND
123.5	CARBONDALE	HERRIN	COAL	1.8	489.3	
121.8	CARBONDALE		UNDERCLAY	5.0	491.0	
116.8	CARBONDALE		SHALE	2.0	496.0	W/LS STREAKS
114.8	CARBONDALE		BLACK SHALE	4.0	498.0	

MAPID: 13501178000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.46505 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.10879 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 481.8 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 51-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
197.7	MODESTO	PIASA	LIMESTONE	4.5	434.3	
193.2	CARBONDALE		MOTTLED SHALE	6.0	438.8	
187.2	CARBONDALE	GALUM	NODULAR LIMESTONE	2.5	444.8	
184.7	CARBONDALE		CLAYSTONE & SHALE	4.0	447.3	
180.7	CARBONDALE	ALLENBY	BLACK SHALE	1.3	451.3	
179.4	CARBONDALE		CLAYSTONE	1.2	452.6	
178.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.4	453.8	UPPER BENCH
172.8	CARBONDALE	BANKSTON FORK	SILTSTONE	1.8	459.2	SHALE PARTING
171.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.6	460.9	LOWER BENCH
166.5	CARBONDALE	LAWSON	SILTY SHALE	0.6	465.5	
165.9	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	466.1	
163.3	CARBONDALE	CONANT	CALCAREOUS SHALE	0.4	468.7	
162.9	CARBONDALE	JAMESTOWN	BLACK SHALE	0.8	469.1	
162.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.7	469.8	
160.5	CARBONDALE	ANNA	BLACK SHALE	2.5	471.5	
158.0	CARBONDALE	HERRIN	COAL	7.8	474.0	

MAPID: 13501178000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.46505 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.10879 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 481.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 51-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
197.6	MODESTO	PIASA	LIMESTONE	4.5	434.4	
193.1	MODESTO		UNCLASSIFIED	4.3	438.9	
188.8	CARBONDALE		UNCLASSIFIED	14.7	443.2	
174.1	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	457.9	
166.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	465.7	
162.7	CARBONDALE	CONANT	LIMESTONE	0.3	469.3	
162.4	CARBONDALE		SHALE	0.4	469.6	
162.0	CARBONDALE	BRERETON	LIMESTONE	1.7	470.0	
160.3	CARBONDALE	ANNA	BLACK SHALE	2.3	471.7	
158.0	CARBONDALE	HERRIN	COAL	7.8	474.0	

MAPID: 13501178000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.46505 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.10879 **DATE COLLECTED:** 1 / 0 / 1960
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 481.3 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 51-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.5	CARBONDALE	HERRIN	COAL	7.8	473.5	

MAPID: 13501146000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.465004 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.086958 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 521.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 38-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
146.0	MODESTO	PIASA	LIMESTONE	6.0	470.0	
140.0	MODESTO		GRAY SHALE	2.0	476.0	
138.0	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.7	478.0	
136.3	CARBONDALE		CALCAREOUS SHALE	7.0	479.7	
129.3	CARBONDALE	GALUM	LIMESTONE	3.5	486.7	
125.8	CARBONDALE	ALLENBY	BLACK SHALE	1.2	490.2	
124.7	CARBONDALE		CALCAREOUS SHALE	12.4	491.3	
112.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.8	503.8	
108.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	507.6	
106.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	509.8	
105.9	CARBONDALE	JAMESTOWN	BONE COAL	0.2	510.1	
105.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.4	510.3	
104.3	CARBONDALE	ANNA	BLACK SHALE	3.5	511.7	
101.0	CARBONDALE	HERRIN	COAL	6.9	515.0	

MAPID: 13501146000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.465004 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.086958 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 520.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 38-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
147.0	MODESTO	PIASA	LIMESTONE	6.0	469.0	
141.0	MODESTO		UNCLASSIFIED	5.3	475.0	
135.7	CARBONDALE		UNCLASSIFIED	17.3	480.3	
118.4	CARBONDALE	BANKSTON FORK	LIMESTONE	8.9	497.6	
109.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	506.5	
107.2	CARBONDALE	CONANT	LIMESTONE	0.3	508.8	
106.9	CARBONDALE		SHALE	0.3	509.1	
106.6	CARBONDALE	BRERETON	LIMESTONE	1.3	509.4	
105.3	CARBONDALE	ANNA	BLACK SHALE	3.3	510.7	
102.0	CARBONDALE	HERRIN	COAL	6.9	514.0	

MAPID: 13501146000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.465004 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.086958 **DATE COLLECTED:** 7 / 0 / 1959
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 521.7 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 38-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
101.2	CARBONDALE	HERRIN	COAL	6.9	514.8	

MAPID: 13501145000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.42458 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.086823 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 509.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 37-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
181.8	CARBONDALE		SILTY SHALE	30.0	447.2	
151.8	CARBONDALE	GALUM	LIMESTONE W/ SHALE	5.0	477.2	
146.8	CARBONDALE	ALLENBY	BLACK SHALE	0.4	482.2	
146.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.4	482.6	
144.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	8.8	485.0	
135.2	CARBONDALE	LAWSON	MOTTLED SHALE	6.3	493.8	
128.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.8	500.2	
128.0	CARBONDALE	ANNA	BLACK SHALE	1.0	501.0	
127.0	CARBONDALE	HERRIN	COAL	7.7	502.0	

MAPID: 13501145000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.42458 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.086823 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 509.7 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 37-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
153.4	CARBONDALE		UNCLASSIFIED	7.5	475.6	
145.9	CARBONDALE	BANKSTON FORK	LIMESTONE	10.6	483.1	
135.3	CARBONDALE	ANVIL ROCK	SANDSTONE	4.2	493.7	
131.1	CARBONDALE	CONANT	LIMESTONE	0.2	497.9	
130.9	CARBONDALE		SHALE	2.0	498.1	
128.9	CARBONDALE	BRERETON	LIMESTONE	0.8	500.1	
128.1	CARBONDALE	ANNA	BLACK SHALE	1.1	500.9	
127.0	CARBONDALE	HERRIN	COAL	7.7	502.0	

MAPID: 13501145000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.42458 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.086823 **DATE COLLECTED:** 7 / 0 / 1959
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 510.1 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 37-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
126.6	CARBONDALE	HERRIN	COAL	7.7	502.4	

MAPID: 13500164000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 3W **SECTION:** 35 **QUARTERS/FOOTAGES:** 400' S line, 1900' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.393241 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.086958 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 536.0 **LOG TYPE:** Drillers Log
SOURCE: CLOVERLEAF **WELL TYPE:** Plugged and/or Abandoned
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
106.0	CARBONDALE	HERRIN	COAL	8.0	528.0	

MAPID: 13501237000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: BUTLER **LONGITUDE:** -89.509646 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.170625 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 440.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 79-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
239.2	MODESTO	PIASA	LIMESTONE	4.5	399.8	
234.7	CARBONDALE		MOTTLED SHALE	7.4	404.3	
227.2	CARBONDALE	ALLENBY	BLACK SHALE	1.4	411.8	
225.8	CARBONDALE		MOTTLED SHALE	7.4	413.2	
218.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.3	420.6	
217.1	CARBONDALE	LAWSON	MOTTLED SHALE	1.8	421.9	
215.3	CARBONDALE	LAWSON	SILTSTONE	1.7	423.7	
213.7	CARBONDALE	CONANT	CALCAREOUS SHALE	0.3	425.3	
213.3	CARBONDALE		CALCAREOUS SHALE	0.4	425.7	
213.0	CARBONDALE	BRERETON	LIMESTONE	4.2	426.0	
208.8	CARBONDALE	ANNA	BLACK SHALE	1.8	430.2	
207.0	CARBONDALE	HERRIN	COAL	8.2	432.0	

MAPID: 13501237000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: BUTLER **LONGITUDE:** -89.509646 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.170625 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 440.2 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 79-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
238.9	MODESTO	PIASA	LIMESTONE	4.5	400.1	
234.4	MODESTO		UNCLASSIFIED	2.2	404.6	
232.2	CARBONDALE		UNCLASSIFIED	7.6	406.8	
224.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	414.4	
216.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	422.2	
213.7	CARBONDALE	CONANT	LIMESTONE	0.3	425.3	
213.4	CARBONDALE		SHALE	0.4	425.6	
213.0	CARBONDALE	BRERETON	LIMESTONE	4.2	426.0	
208.8	CARBONDALE	ANNA	BLACK SHALE	1.8	430.2	
207.0	CARBONDALE	HERRIN	COAL	8.2	432.0	

MAPID: 13501237000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: BUTLER **LONGITUDE:** -89.509646 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.170625 **DATE COLLECTED:** 0 / 0 / 1961

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 79-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
207.2	CARBONDALE	HERRIN	COAL	8.2	431.8	

MAPID: 13524109000C **VERSION:** 1 **PROJECT:** NCRDS 2013

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 1461' N line, 1462' W line

QUADRANGLE: BUTLER **LONGITUDE:** -89.52403 **GEOLOGIST:** LOUCHIOS

CONFIDENTIAL: N **LATITUDE:** 39.169419 **DATE COLLECTED:** 4 / 15 / 2008

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 676.4 **LOG TYPE:** Other Core Study

SOURCE: BPI INDUSTRIES 200 **WELL TYPE:** Coal Test

COMMENT: FOUR DISCONNECTED CORE RUNS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
641.0			UNCLASSIFIED	447.0	0.0	
194.0	SHELBURN	BANKSTON FORK	LIMESTONE	2.4	447.0	
191.6	SHELBURN		CLAYSTONE & SILTSTONE	1.0	449.4	
190.6	SHELBURN		SHALE	1.9	450.4	GRADES TO CLAYSTONE
188.7	SHELBURN		DARK SHALE	1.0	452.3	
187.7	CARBONDALE	HERRIN	COAL	8.2	453.3	
179.5	CARBONDALE		MUDSTONE	5.6	461.5	
173.9	CARBONDALE		UNCLASSIFIED	22.8	467.1	
151.1	CARBONDALE		CLAYSTONE & SILTSTONE	2.8	489.9	
148.3	CARBONDALE	EXCELLO	BLACK SHALE	3.2	492.7	
145.1	CARBONDALE	HOUCHIN CREEK	COAL	1.7	495.9	COAL REMOVED
143.5	CARBONDALE		MUDSTONE	3.0	497.5	
140.5	CARBONDALE		SILTSTONE	3.0	500.5	
137.5	CARBONDALE		UNCLASSIFIED	87.7	503.5	
49.8	CARBONDALE		DARK SHALE	3.6	591.2	
46.2	CARBONDALE		LIMESTONE	0.7	594.8	
45.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	1.8	595.5	
43.7	CARBONDALE	COLCHESTER	COAL	2.8	597.3	
41.0	CARBONDALE		CLAYSTONE & SILTSTONE	2.4	600.0	
38.6	CARBONDALE		LIMESTONE	0.4	602.4	
38.2	CARBONDALE		LIMESTONE & CLAY	1.6	602.8	
36.6	CARBONDALE		CLAYSTONE & SILTSTONE	1.6	604.4	
35.0			COAL	1.4	606.0	COAL REMOVED
33.6			CLAYSTONE & SILTSTONE	0.3	607.4	
33.3			COAL	1.0	607.7	COAL REMOVED
32.3			COAL	0.7	608.7	BRIGHT-BANDED UPPER PART
31.6			CLAYSTONE & SILTSTONE	1.0	609.4	
30.6			UNCLASSIFIED	54.0	610.4	
-23.4			GRAY & BLACK SHALE	2.0	664.4	
-25.4			SANDSTONE	10.0	666.4	

MAPID: 13501233000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: BUTLER **LONGITUDE:** -89.562715 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.167464 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 421.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 75-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
232.0	MODESTO	PIASA	LIMESTONE	3.7	375.0	
228.3	MODESTO		MOTTLED SHALE	10.0	378.7	
218.3	CARBONDALE	DANVILLE	COAL	1.5	388.7	
216.8	CARBONDALE		CLAYSTONE & SHALE	4.1	390.2	
212.7	CARBONDALE	GALUM	LIMESTONE	0.4	394.3	
212.3	CARBONDALE		BLACK SHALE	3.1	394.7	
209.2	CARBONDALE	ALLENBY	BONE COAL	2.3	397.8	
207.0	CARBONDALE		CALCAREOUS SHALE	6.0	400.0	
201.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	7.3	406.0	
193.7	CARBONDALE	LAWSON	MOTTLED SHALE	1.9	413.3	
191.8	CARBONDALE	ANNA	BLACK SHALE	2.1	415.2	
194.0	CARBONDALE	HERRIN	COAL	8.5	413.0	

MAPID: 13501233000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: BUTLER **LONGITUDE:** -89.562715 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.167464 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 421.5 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 75-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
232.3	MODESTO	PIASA	LIMESTONE	3.7	374.7	
228.6	MODESTO		UNCLASSIFIED	6.0	378.4	
222.6	CARBONDALE		UNCLASSIFIED	11.3	384.4	
211.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	395.7	
204.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	403.0	
202.0	CARBONDALE		SHALE	2.0	405.0	
200.0	CARBONDALE	BRERETON	LIMESTONE	2.0	407.0	
198.0	CARBONDALE	ANNA	BLACK SHALE	4.0	409.0	
194.0	CARBONDALE	HERRIN	COAL	8.5	413.0	

MAPID: 13501233000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.562715 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.167464 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 421.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 75-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
193.7	CARBONDALE	HERRIN	COAL	8.5	413.3	

MAPID: 13501234000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1650' N line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.579211 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.154739 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 452.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 76-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
214.0	MODESTO	PIASA	LIMESTONE	5.0	407.0	
209.0	MODESTO		MOTTLED SHALE	11.0	412.0	
198.0	CARBONDALE	DANVILLE	COAL	1.5	423.0	
196.5	CARBONDALE		GRAY SHALE	8.5	424.5	
188.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	7.2	433.0	
180.8	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	440.2	
178.5	CARBONDALE	ANNA	BLACK SHALE	1.8	442.5	
177.0	CARBONDALE	HERRIN	COAL	8.3	444.0	

MAPID: 13501234000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1650' N line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.579211 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.154739 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 451.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 76-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
214.9	MODESTO	PIASA	LIMESTONE	5.0	406.1	
209.9	MODESTO		UNCLASSIFIED	4.0	411.1	
205.9	CARBONDALE		UNCLASSIFIED	7.5	415.1	
198.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	422.6	
190.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	430.4	
187.6	CARBONDALE		SHALE	3.0	433.4	
184.6	CARBONDALE	BRERETON	LIMESTONE	2.0	436.4	
182.6	CARBONDALE	ANNA	BLACK SHALE	4.6	438.4	
178.0	CARBONDALE	HERRIN	COAL	8.3	443.0	

MAPID: 13501234000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1650' N line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.579211 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.154739 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 452.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 76-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
177.2	CARBONDALE	HERRIN	COAL	8.3	443.8	

MAPID: 13501214000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 990' S line, 330' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.548859 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.147186 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 437.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 59-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
216.1	MODESTO	PIASA	LIMESTONE	3.3	393.9	
212.8	MODESTO		DARK GRAY SHALE	3.2	397.2	
209.6	CARBONDALE	DANVILLE	COAL	1.5	400.4	
208.1	CARBONDALE		CLAYSTONE & SHALE	4.5	401.9	
203.6	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.3	406.4	
203.4	CARBONDALE	ALLENBY	BLACK SHALE	2.3	406.6	
201.1	CARBONDALE		CLAYSTONE	0.9	408.9	
200.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.3	409.8	
194.9	CARBONDALE	LAWSON	SILTY SHALE	3.3	415.1	
191.6	CARBONDALE	LAWSON	GRAY SHALE	2.5	418.4	
189.1	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	420.9	
188.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.3	421.6	
184.1	CARBONDALE	ANNA	BLACK SHALE	3.1	425.9	
181.0	CARBONDALE	HERRIN	COAL	8.0	429.0	

MAPID: 13501214000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 990' S line, 330' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.548859 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.147186 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 436.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 59-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
217.4	MODESTO	PIASA	LIMESTONE	3.3	392.6	
214.1	MODESTO		UNCLASSIFIED	3.2	395.9	
210.9	CARBONDALE	DANVILLE	COAL	1.5	399.1	
209.4	CARBONDALE		UNCLASSIFIED	8.0	400.6	
201.4	CARBONDALE	BANKSTON FORK	LIMESTONE	6.4	408.6	
195.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.2	415.0	
192.8	CARBONDALE		SHALE	3.2	417.2	
189.6	CARBONDALE	BRERETON	LIMESTONE	4.3	420.4	
185.3	CARBONDALE	ANNA	BLACK SHALE	3.3	424.7	
182.0	CARBONDALE	HERRIN	COAL	8.0	428.0	

MAPID: 13501214000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 990' S line, 330' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.548859 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.147186 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 436.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 59-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
181.4	CARBONDALE	HERRIN	COAL	8.0	428.6	

MAPID: 13501215000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 990' N line, 990' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.525705 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.156168 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 452.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 60-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
225.0	MODESTO	PIASA	LIMESTONE	5.3	411.0	
219.7	CARBONDALE		CLAYSTONE	7.9	416.3	
211.8	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.5	424.2	
209.3	CARBONDALE	ALLENBY	BLACK SHALE	1.5	426.7	
207.8	CARBONDALE		DARK GRAY SHALE	3.0	428.2	
204.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.7	431.2	
201.2	CARBONDALE	LAWSON	SILTSTONE	1.2	434.8	
200.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.4	436.0	
193.6	CARBONDALE	ANNA	BLACK SHALE	2.3	442.4	
191.0	CARBONDALE	HERRIN	COAL	7.6	445.0	

MAPID: 13501215000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 990' N line, 990' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.525705 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.156168 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 451.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 60-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
225.8	MODESTO	PIASA	LIMESTONE	5.3	410.2	
220.5	MODESTO		UNCLASSIFIED	4.0	415.5	
216.5	CARBONDALE		UNCLASSIFIED	7.9	419.5	
208.6	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	427.4	
201.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	434.1	
200.7	CARBONDALE		SHALE	3.4	435.3	
197.3	CARBONDALE	BRERETON	LIMESTONE	3.0	438.7	
194.3	CARBONDALE	ANNA	BLACK SHALE	2.3	441.7	
192.0	CARBONDALE	HERRIN	COAL	7.6	444.0	

MAPID: 13501215000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 990' N line, 990' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.525705 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.156168 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 452.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 60-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
191.4	CARBONDALE	HERRIN	COAL	7.6	444.6	

MAPID: 13500079000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.482864 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.15157 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 440.2 **LOG TYPE:** Drillers Log
SOURCE: HILLSBORO MINE **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
231.5	MODESTO	PIASA	LIMESTONE	5.0	400.5	
226.5	MODESTO		UNCLASSIFIED	5.5	405.5	
221.0	CARBONDALE		UNCLASSIFIED	8.5	411.0	
212.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	419.5	
207.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	424.5	
206.5	CARBONDALE		UNCLASSIFIED	3.5	425.5	
203.0	CARBONDALE	BRERETON	LIMESTONE	3.5	429.0	
199.5	CARBONDALE	ANNA	BLACK SHALE	0.5	432.5	
199.0	CARBONDALE	HERRIN	COAL	7.2	433.0	

MAPID: 13500079000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.482864 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.15157 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 441.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
236.0	MODESTO	PIASA	LIMESTONE	5.0	400.0	
231.0	CARBONDALE		CLAYSTONE & SHALE	11.0	405.0	
220.0	CARBONDALE	GALUM	LIMESTONE	0.5	416.0	
219.5	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	3.0	416.5	
216.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	419.5	
211.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.0	424.5	
210.5	CARBONDALE	BRERETON	LIMESTONE	7.0	425.5	
203.5	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.5	432.5	
200.0	CARBONDALE	HERRIN	COAL	5.0	436.0	

MAPID: 13500079000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.482864 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.15157 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 632.2 **LOGGED (FT.):** 438.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATED COAL CO., HILLSBORO MINE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
632.2			UNCONSOLIDATED	14.0	0.0	CLAY SAND, YELLOW & PEBBLES
618.2			HARD PAN	23.0	14.0	
595.2			SAND	1.0	37.0	
594.2			CLAY	23.0	38.0	W/PAN (16') AT TOP; YELLOW
571.2			SAND & GRAVEL	21.0	61.0	
550.2			CLAY	26.0	82.0	BLUE
524.2			SAND	3.0	108.0	
521.2			SAND & GRAVEL	13.0	111.0	
508.2	BOND	CARTHAGE	LIMESTONE	8.0	124.0	
500.2	MODESTO		CLAYSTONE & SHALE	52.0	132.0	
448.2	MODESTO	MACOUPIN	LIMESTONE	0.7	184.0	
447.5	MODESTO		CARBONACEOUS SHALE	1.3	184.7	
446.2	MODESTO	WOMAC	COAL	1.0	186.0	
445.2	MODESTO		CLAYSTONE & SHALE	29.0	187.0	
416.2	MODESTO		SANDY SHALE	55.0	216.0	
361.2	MODESTO		SANDY SHALE	8.0	271.0	W/LS BANDS
353.2	MODESTO		SANDSTONE	2.0	279.0	
351.2	MODESTO		UNDERCLAY	8.0	281.0	
343.2	MODESTO		SANDY SHALE	24.0	289.0	
319.2	MODESTO		SHALE	78.0	313.0	
241.2	MODESTO		CONGLOMERATE	5.0	391.0	SH CONGLOMERATE
236.2	MODESTO		CLAYSTONE & SHALE	4.0	396.0	
232.2	MODESTO	PIASA	LIMESTONE	5.0	400.0	
227.2	MODESTO		CLAYSTONE & SHALE	11.0	405.0	
216.2	CARBONDALE		LIMESTONE	1.0	416.0	
215.2	CARBONDALE		CARBONACEOUS SHALE	2.0	417.0	
213.2	CARBONDALE		LIMESTONE	5.0	419.0	
208.2	CARBONDALE		CLAYSTONE & SHALE	1.0	424.0	
207.2	CARBONDALE	BRERETON	LIMESTONE	7.0	425.0	
200.2	CARBONDALE		CARBONACEOUS SHALE	1.0	432.0	
199.2	CARBONDALE	HERRIN	COAL	5.0	433.0	HAND WRITTEN IN LOG 7.17' THICK

MAPID: 13500152000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 850' N line, 2860' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.481881 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.156509 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 447.5 **LOG TYPE:** Drillers Log

SOURCE: HILLSBORO MINE **WELL TYPE:** Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
188.5	CARBONDALE		UNCLASSIFIED	2.5	433.5	
186.0	CARBONDALE	BRERETON	LIMESTONE	2.5	436.0	
183.5	CARBONDALE	ANNA	BLACK SHALE	1.5	438.5	
182.0	CARBONDALE	HERRIN	COAL	7.5	440.0	

MAPID: 13500241000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1630' N line, 250' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.511474 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.139858 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 547.0 **LOGGED (FT.):** 422.0 **LOG TYPE:** Drillers Log

SOURCE: DIAMOND PROSPECTING **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
165.6	MODESTO	PIASA	LIMESTONE	5.5	381.4	
160.1	MODESTO		UNCLASSIFIED	5.5	386.9	
154.6	CARBONDALE		UNCLASSIFIED	9.0	392.4	
145.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.7	401.4	
139.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.8	407.1	
138.1	CARBONDALE		UNCLASSIFIED	3.8	408.9	
134.3	CARBONDALE	BRERETON	LIMESTONE	3.8	412.7	
130.5	CARBONDALE	ANNA	BLACK SHALE	0.5	416.5	
130.0	CARBONDALE	HERRIN	COAL	5.0	417.0	

MAPID: 13500241000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1630' N line, 250' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.511474 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.139858 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 547.0 **LOGGED (FT.):** 423.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
165.0	MODESTO	PIASA	LIMESTONE & SHALE	5.5	382.0	
159.5	CARBONDALE		MOTTLED SHALE	11.5	387.5	
148.0	CARBONDALE	GALUM	LIMESTONE	0.5	399.0	
147.5	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	3.0	399.5	
144.5	CARBONDALE	BANKSTON FORK	CARBONACEOUS LIMESTONE	5.7	402.5	
138.8	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.8	408.2	
137.0	CARBONDALE	BRERETON	LIMESTONE	7.5	410.0	
129.5	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.5	417.5	
129.0	CARBONDALE	HERRIN	COAL	5.0	418.0	

MAPID: 13500241000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1630' N line, 250' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.511474 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.139858 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 547.4 **LOGGED (FT.):** 756.7 **LOG TYPE:** Drillers Log

SOURCE: DIAMOND PROSPECT **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
547.4			CLAY	14.0	0.0	W/PEBBLES; BROWN
533.4			HARD PAN	23.0	14.0	
510.4			SAND	1.0	37.0	QUICK
509.4			HARD PAN	16.0	38.0	
493.4			CLAY	7.0	54.0	YELLOW
486.4			SAND & GRAVEL	20.0	61.0	
466.4			CLAY	26.0	81.0	W/PEBBLES; BLUE
440.4			SAND & GRAVEL	16.5	107.0	
423.9	BOND	CARTHAGE	LIMESTONE	8.0	123.5	
415.9	MODESTO		CLAYSTONE & SHALE	52.5	131.5	
363.4	MODESTO	MACOUPIN	LIMESTONE	0.7	184.0	
362.7	MODESTO		SHALE	2.3	184.7	
360.4	MODESTO	WOMAC	COAL	0.7	187.0	
359.7	MODESTO		UNDERCLAY	9.0	187.7	
350.7	MODESTO		CLAYSTONE & SHALE	20.0	196.7	
330.7	MODESTO		SANDY SHALE	63.0	216.7	
267.7	MODESTO		SANDSTONE	2.0	279.7	W/LS BANDS
265.7	MODESTO		UNDERCLAY	8.0	281.7	
257.7	MODESTO		SANDY SHALE	24.0	289.7	
233.7	MODESTO		SHALE	59.0	313.7	
174.7	MODESTO		SHALE	9.0	372.7	MULTI
165.7	MODESTO	PIASA	SHALY LIMESTONE	5.5	381.7	
160.2	MODESTO		SHALE	11.5	387.2	MULTI
148.7	MODESTO		LIMESTONE	0.5	398.7	
148.2	MODESTO		CARBONACEOUS SHALE	3.0	399.2	
145.2	CARBONDALE	BANKSTON FORK	LIMESTONE	5.7	402.2	
139.6	CARBONDALE		CLAYSTONE & SHALE	1.8	407.8	
137.7	CARBONDALE	BRERETON	LIMESTONE	7.5	409.7	
130.2	CARBONDALE		CARBONACEOUS SHALE	0.5	417.2	
129.7	CARBONDALE	HERRIN	COAL	5.0	417.7	
124.7	CARBONDALE		CALCAREOUS SANDSTONE	8.0	422.7	
116.7	CARBONDALE		LIMESTONE	11.0	430.7	
105.7	CARBONDALE		CLAYSTONE & SHALE	9.0	441.7	
96.7	CARBONDALE		LIMESTONE	10.0	450.7	
86.7	CARBONDALE		SHALE	19.0	460.7	
67.7	CARBONDALE		SANDY SHALE	33.0	479.7	
34.7	CARBONDALE	COLCHESTER	COAL	1.0	512.7	
33.7	CARBONDALE	COLCHESTER	SHALE	0.5	513.7	

33.2	CARBONDALE	COLCHESTER	COAL	1.5	514.2	
31.7	CARBONDALE		SHALE	2.5	515.7	
29.2	CARBONDALE		SANDSTONE	8.5	518.2	
20.7	CARBONDALE		SHALE	33.0	526.7	W/SS BANDS
-12.3	CARBONDALE		SANDSTONE	5.0	559.7	
-17.3	CARBONDALE		LIMESTONE	1.0	564.7	
-18.3	CARBONDALE		CARBONACEOUS SHALE	2.0	565.7	
-20.3	CARBONDALE	COLCHESTER	COAL	3.5	567.7	W/FIRECLY BANDS
-23.8	SPOON		UNDERCLAY	4.5	571.2	W/LS BANDS
-28.3	SPOON		CARBONACEOUS SHALE	2.0	575.7	W/COAL & FIRECLY BANDS
-30.3	SPOON		UNDERCLAY	5.0	577.7	
-35.3	SPOON		SHALE	10.0	582.7	W/FIRECLY
-45.3	SPOON	DAVIS	COAL	1.0	592.7	
-46.3	SPOON		UNDERCLAY	12.0	593.7	
-58.3	SPOON		SANDSTONE	8.0	605.7	
-66.3	SPOON		UNDERCLAY	1.0	613.7	
-67.3	SPOON		CARBONACEOUS SHALE	1.0	614.7	
-68.3	SPOON		SANDSTONE	131.0	615.7	
-199.3	SPOON		LIMESTONE	10.0	746.7	

MAPID: 13501177000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.53735 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.138027 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 453.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 50-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
208.2	MODESTO	PIASA	LIMESTONE	3.6	407.8	
204.7	MODESTO		MOTTLED SHALE	6.9	411.3	
197.7	CARBONDALE	DANVILLE	BONE COAL	0.8	418.3	
196.9	CARBONDALE		MOTTLED SHALE	5.7	419.1	
191.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.5	424.8	
190.7	CARBONDALE	ALLENBY	BLACK SHALE	1.5	425.3	
189.2	CARBONDALE		DARK GRAY SHALE	1.1	426.8	
188.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	11.1	427.8	
177.1	CARBONDALE	LAWSON	CLAYSTONE	0.6	438.9	
176.5	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	439.5	
175.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.2	440.8	
173.0	CARBONDALE	ANNA	BLACK SHALE	3.0	443.0	
170.0	CARBONDALE	HERRIN	COAL	7.2	446.0	

MAPID: 13501177000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.53735 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.138027 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 7.2 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 50-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.6		
-	MODESTO		UNCLASSIFIED	6.9		
-	CARBONDALE	DANVILLE	COAL	0.8		
-	CARBONDALE		UNCLASSIFIED	13.3		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3		
-	CARBONDALE	ANVIL ROCK	SANDSTONE	1.1		
-	CARBONDALE		SHALE	0.8		
-	CARBONDALE	BRERETON	LIMESTONE	2.2		
-	CARBONDALE	ANNA	BLACK SHALE	3.0		
-	CARBONDALE	HERRIN	COAL	7.2		

MAPID: 13501177000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.53735 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.138027 **DATE COLLECTED:** 12 / 0 / 1959

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 453.6 **LOG TYPE:**

SOURCE: CONSOLIDATION C.C. 50-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
170.2	CARBONDALE	HERRIN	COAL	7.8	445.8	

MAPID: 13501205000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: BUTLER **LONGITUDE:** -89.546528 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.143529 **DATE COLLECTED:** 5 / 0 / 1961

SURFACE ELEVATION (FT.): 588.0 **LOGGED (FT.):** 429.5 **LOG TYPE:** Electric Log

SOURCE: MAIER, PAUL H. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
203.0	MODESTO	PIASA	LIMESTONE	5.0	385.0	
198.0	MODESTO		UNCLASSIFIED	5.0	390.0	
193.0	CARBONDALE	DANVILLE	COAL	1.0	395.0	
192.0	CARBONDALE		UNCLASSIFIED	8.0	396.0	
184.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	404.0	
179.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	409.0	
176.0	CARBONDALE	CONANT	UNCLASSIFIED	0.5	412.0	
175.5	CARBONDALE		UNCLASSIFIED	3.5	412.5	
172.0	CARBONDALE	BRERETON	LIMESTONE	4.0	416.0	
168.0	CARBONDALE	ANNA	BLACK SHALE	3.0	420.0	
165.0	CARBONDALE	HERRIN	COAL	6.5	423.0	

MAPID: 13500084000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 360' S line, 2420' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.556387 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.130997 **DATE COLLECTED:** 0 / 0 / 1907

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 472.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
210.5	MODESTO	PIASA	LIMESTONE	4.5	424.5	
206.0	MODESTO		UNCLASSIFIED	6.0	429.0	
200.0	CARBONDALE		UNCLASSIFIED	16.0	435.0	
184.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	451.0	
179.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	456.0	
178.0	CARBONDALE		UNCLASSIFIED	1.5	457.0	
176.5	CARBONDALE	BRERETON	LIMESTONE	1.5	458.5	
175.0	CARBONDALE	ANNA	BLACK SHALE	4.0	460.0	
171.0	CARBONDALE	HERRIN	COAL	8.0	464.0	

MAPID: 13501259000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.555997 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.130911 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 429.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 96-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
178.0	MODESTO	PIASA	LIMESTONE	4.0	455.0	
174.0	MODESTO		MOTTLED SHALE	9.3	459.0	
164.7	CARBONDALE	DANVILLE	BLACK SHALE	1.4	468.3	
163.3	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.2	469.7	
162.2	CARBONDALE	ALLENBY	BLACK SHALE	1.3	470.8	
160.8	CARBONDALE		CLAYSTONE & SHALE	1.5	472.2	
159.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	473.7	UPPER BENCH
157.3	CARBONDALE	BANKSTON FORK	SILTY SHALE	0.6	475.7	SHALE PARTING
156.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.8	476.3	LOWER BENCH
154.9	CARBONDALE	LAWSON	SILTSTONE	1.7	478.1	
153.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.1	479.8	
147.2	CARBONDALE	ANNA	BLACK SHALE	2.9	485.8	
211.0	CARBONDALE	HERRIN	COAL	7.8	422.0	

MAPID: 13501259000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.555997 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.130911 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 469.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 96-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
204.6	MODESTO	PIASA	LIMESTONE	4.0	428.4	
200.6	MODESTO		UNCLASSIFIED	4.5	432.4	
196.1	CARBONDALE		UNCLASSIFIED	10.2	436.9	
185.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.4	447.1	
181.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.7	451.5	
179.8	CARBONDALE	CONANT	LIMESTONE	1.3	453.2	
178.5	CARBONDALE		SHALE	0.3	454.5	
178.2	CARBONDALE	BRERETON	LIMESTONE	4.4	454.8	
173.8	CARBONDALE	ANNA	BLACK SHALE	2.8	459.2	
171.0	CARBONDALE	HERRIN	COAL	7.8	462.0	

MAPID: 13501259000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.555997 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.130911 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 463.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 96-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
177.7	CARBONDALE	HERRIN	COAL	7.8	455.3	

MAPID: 13501257000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.572229 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.136523 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 466.0 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 95-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
200.0	MODESTO	PIASA	LIMESTONE	2.0	422.0	
198.0	MODESTO		MOTTLED SHALE	6.3	424.0	
191.7	CARBONDALE	DANVILLE	BONE COAL	0.1	430.3	
191.5	CARBONDALE		CLAYSTONE & SHALE	4.0	430.5	
187.6	CARBONDALE	GALUM	CALCAREOUS SHALE	2.9	434.4	
184.7	CARBONDALE	ALLENBY	BLACK SHALE	0.9	437.3	
183.7	CARBONDALE		CLAYSTONE & SHALE	4.8	438.3	
178.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	11.7	443.1	
167.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	454.8	
166.2	CARBONDALE	ANNA	BLACK SHALE	3.5	455.8	
164.0	CARBONDALE	HERRIN	COAL	8.0	458.0	

MAPID: 13501257000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.572229 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.136523 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 466.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 95-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
200.2	MODESTO	PIASA	LIMESTONE	2.0	421.8	
198.2	MODESTO		UNCLASSIFIED	6.6	423.8	
191.6	CARBONDALE	DANVILLE	COAL	0.2	430.4	
191.4	CARBONDALE		UNCLASSIFIED	11.9	430.6	
179.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	442.5	
175.5	CARBONDALE	ANVIL ROCK	SANDSTONE	0.9	446.5	
174.6	CARBONDALE		SHALE	3.1	447.4	
171.5	CARBONDALE	BRERETON	LIMESTONE	3.0	450.5	
168.5	CARBONDALE	ANNA	BLACK SHALE	4.5	453.5	
164.0	CARBONDALE	HERRIN	COAL	8.1	458.0	

MAPID: 13501257000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.572229 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.136523 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 465.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 95-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
164.1	CARBONDALE	HERRIN	COAL	8.0	457.9	

MAPID: 13501222000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.579617 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.121961 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** 358.1 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 78-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
253.3	CARBONDALE		GRAY SHALE	25.0	295.7	
228.3	CARBONDALE	ALLENBY	DARK GRAY SHALE	4.0	320.7	
224.3	CARBONDALE		SILTY SHALE	9.4	324.7	
214.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.8	334.1	UPPER BENCH
209.1	CARBONDALE	BANKSTON FORK	GRAY SHALE	1.0	339.9	SHALE PARTING
208.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.6	340.9	LOWER BENCH
203.5	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	345.5	
201.2	CARBONDALE	ANNA	BLACK SHALE	2.2	347.8	
199.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	8.1	350.0	

MAPID: 13501222000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.579617 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.121961 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** 358.1 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 78-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
228.5	MODESTO		UNCLASSIFIED	4.0	320.5	
224.5	CARBONDALE		UNCLASSIFIED	9.4	324.5	
215.1	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	333.9	
209.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	339.9	
208.1	CARBONDALE	CONANT	LIMESTONE	0.4	340.9	
207.7	CARBONDALE		SHALE	0.7	341.3	
207.0	CARBONDALE	BRERETON	LIMESTONE	4.3	342.0	
202.7	CARBONDALE	ANNA	BLACK SHALE	3.7	346.3	
199.0	CARBONDALE	HERRIN	COAL	8.1	350.0	

MAPID: 13501222000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.579617 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.121961 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** 356.5 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 78-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
199.0	CARBONDALE	HERRIN	COAL	6.5	350.0	Split coal with 1.58 ft thick shale par

MAPID: 13501212000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565142 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.116416 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 415.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 57-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
238.0	MODESTO	PIASA	LIMESTONE	3.3	373.0	
234.7	CARBONDALE		MOTTLED SHALE	8.4	376.3	
226.2	CARBONDALE	GALUM	LIMESTONE W/ SHALE	3.1	384.8	
223.2	CARBONDALE		CLAYSTONE & SHALE	1.5	387.8	
221.7	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.9	389.3	
220.7	CARBONDALE		SILTY SHALE	4.7	390.3	
216.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	394.9	
210.2	CARBONDALE	BRERETON	LIMESTONE	6.0	400.8	
204.2	CARBONDALE	ANNA	BLACK SHALE	1.9	406.8	
202.0	CARBONDALE	HERRIN	COAL	6.9	409.0	

MAPID: 13501212000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565142 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.116416 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 415.9 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 57-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
237.6	MODESTO	PIASA	LIMESTONE	3.3	373.4	
234.3	MODESTO		UNCLASSIFIED	4.8	376.7	
229.5	CARBONDALE		UNCLASSIFIED	13.7	381.5	
215.8	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	395.2	
209.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	401.5	
208.5	CARBONDALE	CONANT	LIMESTONE	1.0	402.5	
207.5	CARBONDALE		SHALE	1.0	403.5	
206.5	CARBONDALE	BRERETON	LIMESTONE	2.0	404.5	
204.5	CARBONDALE	ANNA	BLACK SHALE	2.5	406.5	
202.0	CARBONDALE	HERRIN	COAL	6.9	409.0	

MAPID: 13501212000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565142 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.116416 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 415.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 57-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
202.1	CARBONDALE	HERRIN	COAL	6.9	408.9	

MAPID: 13501153000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.530175 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.119856 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 470.9 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 42-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
198.0	MODESTO	PIASA	LIMESTONE	5.0	420.0	
193.0	MODESTO		MOTTLED SHALE	4.5	425.0	
188.5	CARBONDALE	DANVILLE	COAL	0.4	429.5	
188.1	CARBONDALE		CALCAREOUS SHALE	6.5	429.9	
181.6	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.0	436.4	
179.6	CARBONDALE	ALLENBY	BLACK SHALE	2.0	438.4	
177.6	CARBONDALE		CLAYSTONE & SHALE	2.0	440.4	
175.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	8.5	442.4	
167.1	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	450.9	
166.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.7	451.4	
162.9	CARBONDALE	ANNA	BLACK SHALE	5.7	455.1	
156.0	CARBONDALE	HERRIN	COAL	8.9	462.0	

MAPID: 13501153000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.530175 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.119856 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 469.9 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 42-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
198.6	MODESTO	PIASA	LIMESTONE	5.0	419.4	
193.6	MODESTO		UNCLASSIFIED	4.5	424.4	
189.1	CARBONDALE	DANVILLE	COAL	0.4	428.9	
188.7	CARBONDALE		UNCLASSIFIED	12.6	429.3	
176.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	441.9	
167.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.6	450.5	
165.9	CARBONDALE	CONANT	LIMESTONE	0.7	452.1	
165.2	CARBONDALE		SHALE	1.0	452.8	
164.2	CARBONDALE	BRERETON	LIMESTONE	2.0	453.8	
162.2	CARBONDALE	ANNA	BLACK SHALE	5.2	455.8	
157.0	CARBONDALE	HERRIN	COAL	8.9	461.0	

MAPID: 13501153000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.530175 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.119856 **DATE COLLECTED:** 9 / 0 / 1959
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 470.5 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 42-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
156.4	CARBONDALE	HERRIN	COAL	8.9	461.6	

MAPID: 13500085000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW NE SE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.514631 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.119506 **DATE COLLECTED:** 0 / 0 / 1906
SURFACE ELEVATION (FT.): 539.0 **LOGGED (FT.):** 387.2 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
539.0			UNCONSOLIDATED	49.0	0.0	
490.0			ROCK	23.0	49.0	
467.0			COAL	0.3	72.0	
466.7			ROCK	51.0	72.3	
415.7			COAL	0.8	123.3	
414.9			ROCK	88.8	124.1	
326.1			COAL	1.0	212.9	
325.1			ROCK	129.2	213.9	
195.9			COAL	0.4	343.1	
195.5			UNDERCLAY	2.0	343.5	
193.5			SHALE	10.5	345.5	
183.0			BLACK SHALE	4.5	356.0	
178.5			SHALE	6.8	360.5	
171.7			LIMESTONE	1.8	367.3	
169.9			UNDERCLAY	0.3	369.1	
169.6			LIMESTONE	0.8	369.4	
168.7			UNDERCLAY	1.5	370.3	
167.2			LIMESTONE	3.6	371.8	
163.7			BLACK SHALE	3.0	375.3	
160.7	CARBONDALE	HERRIN	COAL	7.7	378.3	
153.0			ROCK	1.2	386.0	

MAPID: 13500085000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW NE SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.514631 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.119506 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 539.0 **LOGGED (FT.):** 385.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
206.0	MODESTO	PIASA	LIMESTONE	6.4	333.0	
199.6	MODESTO		DARK GRAY SHALE	3.4	339.4	
196.2	CARBONDALE	DANVILLE	COAL	0.4	342.8	
195.7	CARBONDALE		GRAY SHALE	12.5	343.3	
183.2	CARBONDALE	ALLENBY	BLACK SHALE	4.5	355.8	
178.7	CARBONDALE		GRAY SHALE	6.8	360.3	
171.9	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	367.1	
170.2	CARBONDALE	BANKSTON FORK	CLAYSTONE	0.3	368.8	
169.8	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	369.2	
169.0	CARBONDALE	LAWSON	CLAYSTONE	1.5	370.0	
167.5	CARBONDALE	BRERETON	LIMESTONE	3.6	371.5	
163.9	CARBONDALE	ANNA	BLACK SHALE	3.0	375.1	
161.0	CARBONDALE	HERRIN	COAL	7.7	378.0	

MAPID: 13500085000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW NE SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.514631 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.119506 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 539.0 **LOGGED (FT.):** 386.7 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
205.1	MODESTO	PIASA	LIMESTONE	6.4	333.9	
198.7	MODESTO		UNCLASSIFIED	3.4	340.3	
195.3	CARBONDALE	DANVILLE	COAL	0.4	343.7	
194.9	CARBONDALE		UNCLASSIFIED	17.0	344.1	
177.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.8	361.1	
168.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	370.9	
166.6	CARBONDALE	BRERETON	LIMESTONE	3.6	372.4	
163.0	CARBONDALE	ANNA	BLACK SHALE	3.0	376.0	
160.0	CARBONDALE	HERRIN	COAL	7.7	379.0	

MAPID: 13500085000C **VERSION:** 4 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW NE SE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.514631 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.119506 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 538.8 **LOGGED (FT.):** 387.2 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO., HOLE #3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
538.8			UNCONSOLIDATED	17.0	0.0	
521.8			GRAVEL	6.0	17.0	
515.8			SAND	5.0	23.0	QUICK SAND
510.8			CLAY	14.0	28.0	BLUE
496.8			SAND/CLAY	7.0	42.0	
489.8	BOND	CARTHAGE	LIMESTONE	5.0	49.0	
484.8	MODESTO		SHALE	1.0	54.0	
483.8	MODESTO		UNDERCLAY	17.0	55.0	
466.8	MODESTO		COAL	0.3	72.0	
466.5	MODESTO		UNDERCLAY	48.0	72.3	
418.5	MODESTO		BLACK SHALE	3.0	120.3	
415.5	MODESTO	WOMAC	COAL	0.8	123.3	
414.7	MODESTO		UNDERCLAY	3.0	124.1	
411.7	MODESTO		SANDY SHALE	1.0	127.1	
410.7	MODESTO		UNDERCLAY	14.2	128.1	
396.5	MODESTO		LIMESTONE	0.3	142.3	
396.2	MODESTO		BLUE SHALE	10.0	142.6	
386.2	MODESTO		UNDERCLAY	14.3	152.6	
371.9	MODESTO		SANDY SHALE	6.0	166.9	
365.9	MODESTO	CARLINVILLE	LIMESTONE	3.0	172.9	
362.9	MODESTO		BLUE SHALE	9.0	175.9	
353.9	MODESTO		UNDERCLAY	13.0	184.9	
340.9	MODESTO		BLUE SHALE	15.0	197.9	
325.9	MODESTO	CHAPEL	COAL	1.0	212.9	
324.9	MODESTO		UNDERCLAY	3.0	213.9	
321.9	MODESTO		SANDY SHALE	6.0	216.9	
315.9	MODESTO		UNDERCLAY	10.0	222.9	
305.9	MODESTO		BLUE SHALE	3.0	232.9	
302.9	MODESTO		UNDERCLAY	11.0	235.9	
291.9	MODESTO		SANDY SHALE	11.5	246.9	
280.5	MODESTO		BLUE SHALE	8.0	258.3	
272.5	MODESTO		SHALE	6.0	266.3	
266.5	MODESTO		SANDY SHALE	6.2	272.3	
260.3	MODESTO		UNDERCLAY	18.8	278.5	
241.5	MODESTO		SANDY SHALE	32.0	297.3	
209.5	MODESTO		UNDERCLAY	4.0	329.3	
205.5	MODESTO	PIASA	LIMESTONE	6.4	333.3	
199.1	MODESTO		DARK SHALE	2.0	339.7	
197.1	MODESTO		BLACK SHALE	1.4	341.7	

195.7	CARBONDALE	DANVILLE	COAL	0.4	343.1
195.3	CARBONDALE		UNDERCLAY	2.0	343.5
193.3	CARBONDALE		BLUE SHALE	10.5	345.5
182.8	CARBONDALE		BLACK SHALE	4.5	356.0
178.3	CARBONDALE		BLUE SHALE	6.8	360.5
171.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	367.3
169.7	CARBONDALE	BANKSTON FORK	UNDERCLAY	0.3	369.1
169.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	369.4
168.5	CARBONDALE		UNDERCLAY	1.5	370.3
167.0	CARBONDALE	BRERETON	LIMESTONE	3.6	371.8
163.5	CARBONDALE	ANNA	BLACK SHALE	3.0	375.3
160.5	CARBONDALE	HERRIN	COAL	7.7	378.3
152.8	CARBONDALE		UNDERCLAY	1.2	386.0

MAPID: 13500087000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 660' N line, 0' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.492137 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.127979 **DATE COLLECTED:** 6 / 0 / 1906

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 486.2 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
184.9	MODESTO	PIASA	LIMESTONE	3.8	437.1	
181.1	MODESTO		UNCLASSIFIED	6.0	440.9	
175.1	CARBONDALE	DANVILLE	COAL	0.1	446.9	
175.0	CARBONDALE		UNCLASSIFIED	14.4	447.0	
160.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.7	461.4	
151.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.6	470.1	
151.3	CARBONDALE	JAMESTOWN	COAL	0.5	470.7	
150.8	CARBONDALE		UNCLASSIFIED	0.8	471.2	
150.0	CARBONDALE	BRERETON	LIMESTONE	2.7	472.0	
147.3	CARBONDALE	ANNA	BLACK SHALE	3.3	474.7	
144.0	CARBONDALE	HERRIN	COAL	8.2	478.0	

MAPID: 13500087000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 660' N line, 0' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.492137 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.127979 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 486.2 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.0	MODESTO	PIASA	LIMESTONE	3.8	438.0	
180.2	MODESTO		MOTTLED SHALE	6.0	441.8	
174.2	CARBONDALE		MOTTLED SHALE	6.1	447.8	
168.2	CARBONDALE	GALUM	LIMESTONE	0.3	453.8	
167.8	CARBONDALE	ALLENBY	DARK GRAY SHALE	4.0	454.2	
163.8	CARBONDALE		GRAY SHALE	4.0	458.2	
159.8	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.5	462.2	
155.3	CARBONDALE	BANKSTON FORK	GRAY SHALE	2.7	466.7	
152.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	469.3	
151.2	CARBONDALE	LAWSON	GRAY SHALE	0.6	470.8	
150.6	CARBONDALE	JAMESTOWN	COAL	0.5	471.4	
150.1	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.4	471.9	
146.7	CARBONDALE	ANNA	BLACK SHALE	3.3	475.3	
144.0	CARBONDALE	HERRIN	COAL	8.2	478.0	

MAPID: 13500087000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 660' N line, 0' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.492137 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.127979 **DATE COLLECTED:** 6 / 0 / 1906

SURFACE ELEVATION (FT.): 622.3 **LOGGED (FT.):** 487.5 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
622.3			UNCONSOLIDATED	28.0	0.0	
594.3			SAND	8.0	28.0	QUICK SAND
586.3			SAND & GRAVEL	17.0	36.0	
569.3			SAND	6.0	53.0	QUICK SAND
563.3			GRAVEL	4.0	59.0	
559.3			CLAY & GRAVEL	29.0	63.0	
530.3			SAND & GRAVEL	6.0	92.0	
524.3			SAND/CLAY	24.0	98.0	
500.3			CLAY	24.0	122.0	BLUE
476.3	BOND	CARTHAGE	LIMESTONE	4.0	146.0	
472.3	MODESTO		UNDERCLAY	8.0	150.0	
464.3	MODESTO		SHALE	12.0	158.0	
452.3	MODESTO		UNDERCLAY	31.0	170.0	MULTI
421.3	MODESTO		LIMESTONE	2.0	201.0	
419.3	MODESTO		BLUE SHALE	7.0	203.0	
412.3	MODESTO		UNDERCLAY	91.0	210.0	
321.3	MODESTO		SANDY SHALE	3.0	301.0	
318.3	MODESTO	CHAPEL	COAL	0.3	304.0	
318.0	MODESTO		UNDERCLAY	5.0	304.3	
313.0	MODESTO		SANDY SHALE	3.7	309.3	
309.3	MODESTO		UNDERCLAY	21.0	313.0	
288.3	MODESTO		BLUE SHALE	9.0	334.0	
279.3	MODESTO		SHALE	4.0	343.0	
275.3	MODESTO		ROCK	2.5	347.0	BOULDER, BLACK LIKE CINDER & SULPHUR
272.8	MODESTO		DARK SHALE	6.0	349.5	
266.8	MODESTO		UNDERCLAY	12.0	355.5	
254.8	MODESTO		SHALE	8.0	367.5	
246.8	MODESTO		BLUE SHALE	14.5	375.5	
232.3	MODESTO		DARK SHALE	27.0	390.0	
205.3	MODESTO		CLAYSTONE	1.0	417.0	'
204.3	MODESTO		LIMESTONE	1.0	418.0	
203.3	MODESTO		BROWN SHALE	10.0	419.0	
193.3	MODESTO		DARK SHALE	4.0	429.0	
189.3	MODESTO		LIMESTONE	0.5	433.0	
188.8	MODESTO		DARK SHALE	4.0	433.5	
184.8	MODESTO	PIASA	LIMESTONE	3.8	437.5	
181.0	MODESTO		SHALE/UNDERCLAY	6.0	441.3	GREEN SH AND FIRE CLAY
175.0	MODESTO		SHALE	0.1	447.3	DRK BRN
175.0	CARBONDALE		SHALE/UNDERCLAY	1.9	447.3	GREEN SH AND FIRE CLAY

173.0	CARBONDALE		GREEN SHALE	0.5	449.3	
172.5	CARBONDALE		BLUE SHALE	3.7	449.8	
168.9	CARBONDALE		LIMESTONE	0.3	453.4	
168.5	CARBONDALE		SHALE	4.0	453.8	BLUE/BLK
164.5	CARBONDALE		BLUE SHALE	4.0	457.8	
160.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.3	461.8	
159.2	CARBONDALE	BANKSTON FORK	BLUE SHALE	2.8	463.1	
156.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	465.9	
156.0	CARBONDALE		BLUE SHALE	2.7	466.3	
153.4	CARBONDALE	CONANT	LIMESTONE	1.5	468.9	
151.9	CARBONDALE		BLUE SHALE	0.6	470.4	
151.3	CARBONDALE	JAMESTOWN	COAL	0.5	471.0	
150.8	CARBONDALE		LIMESTONE	0.4	471.5	
150.4	CARBONDALE		BLUE SHALE	0.3	471.9	
150.0	CARBONDALE	BRERETON	LIMESTONE	2.7	472.3	
147.4	CARBONDALE	ANNA	BLACK SHALE	3.3	474.9	
144.0	CARBONDALE	HERRIN	COAL	8.2	478.3	
135.9	CARBONDALE		UNDERCLAY	1.1	486.4	
134.8	CARBONDALE		LIMESTONE	0.0	487.5	T.D.

MAPID: 13500158000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** NW SE NE

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.495579 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.12529 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 467.0 **LOG TYPE:** Drillers Log

SOURCE: IN & IL COAL CO. **WELL TYPE:** Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
162.0	CARBONDALE	HERRIN	COAL	7.0	460.0	

MAPID: 13500088000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** SW SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.486248 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.123456 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 548.0 **LOG TYPE:** Drillers Log

SOURCE: MONTGOMERY COAL, HOLE #1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
611.0			CLAY	15.0	0.0	BLUE
596.0			SOIL	63.0	15.0	
533.0			SAND	15.0	78.0	QUICK SAND
518.0			CLAY	14.0	93.0	BLUE
504.0			SOIL	24.0	107.0	
480.0			HARD PAN	16.0	131.0	
464.0			LIMESTONE	0.4	147.0	
463.6			CLAYSTONE & SHALE	20.6	147.4	
443.0			GRAY SHALE	15.5	168.0	
427.5			DARK SHALE	3.0	183.5	
424.5			COAL	0.4	186.5	
424.1			GRAY SHALE	98.1	186.9	
326.0			COAL	1.0	285.0	
325.0			UNDERCLAY	5.0	286.0	
320.0			SANDY SHALE	28.0	291.0	
292.0			GRAY SHALE	42.0	319.0	
250.0			BLUE SHALE	48.0	361.0	
202.0			DARK SHALE	3.0	409.0	
199.0			GRAY SHALE	53.0	412.0	
146.0			CALCAREOUS SHALE	3.0	465.0	
143.0			SANDY SHALE	37.0	468.0	
-	CARBONDALE	HERRIN	COAL	0.0		ANVIL ROCK CHANNEL, HERRIN COAL ERODED
106.0			GRAY SHALE	27.0	505.0	
79.0			SANDY SHALE	0.5	532.0	
78.5			DARK SHALE	8.5	532.5	
70.0			COAL	3.3	541.0	
66.7			UNDERCLAY	3.8	544.3	

MAPID: 13500088000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** SW SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.486248 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.123456 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: MONTGOMERY COAL **WELL TYPE:** Coal Test

COMMENT:

MAPID: 13500089000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** SE SE NW

QUADRANGLE: COFFEEN **LONGITUDE:** -89.483909 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.12345 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 612.7 **LOGGED (FT.):** 500.0 **LOG TYPE:** Drillers Log

SOURCE: MONTGOMERY COAL, HOLE #2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
612.7			CLAY	14.0	0.0	
598.7			SAND/CLAY	16.0	14.0	
582.7			SAND & GRAVEL	29.0	30.0	
553.7			UNCONSOLIDATED	30.0	59.0	SAND GRAVEL & CLAY
523.7			CLAY & GRAVEL	12.0	89.0	
511.7			SAND & GRAVEL	22.0	101.0	
489.7			BOULDER	2.0	123.0	
487.7			CLAY	27.0	125.0	BLUE
460.7			CLAYSTONE & SHALE	2.0	152.0	
458.7			GRAY SHALE	36.0	154.0	
422.7			BLACK SHALE	3.0	190.0	
419.7			COAL	0.3	193.0	
419.4			UNDERCLAY	5.8	193.3	
413.7			GRAY SHALE	71.0	199.0	
342.7			BLUE SHALE	18.0	270.0	
324.7			DARK SHALE	4.0	288.0	
320.7			GRAY SHALE	34.0	292.0	
286.7			BLUE SHALE	35.0	326.0	
251.7			GRAY SHALE	27.0	361.0	
224.7			BLUE SHALE	18.0	388.0	
206.7			GRAY SHALE	14.0	406.0	
192.7			DARK SHALE	2.0	420.0	
190.7			COAL	0.3	422.0	
190.4			UNDERCLAY	1.7	422.3	
188.7			GRAY SHALE	6.0	424.0	
182.7			BLUE SHALE	15.0	430.0	
167.7			GRAY SHALE	35.0	445.0	
-	CARBONDALE	HERRIN	COAL	0.0		ANVIL ROCK CHANNEL, HERRIN COAL ERODED
132.7			COAL	0.3	480.0	
132.4			GRAY SHALE	19.7	480.3	

MAPID: 13500089000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** SE SE NW
QUADRANGLE: COFFEEN **LONGITUDE:** -89.483909 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.12345 **DATE COLLECTED:** 0 / 0 / 1912
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: MONTGOMERY COAL **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	DANVILLE	COAL	0.3		
-	CARBONDALE		UNCLASSIFIED	7.7		

MAPID: 13500090000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.479227 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.12343 **DATE COLLECTED:** 0 / 0 / 1912
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 477.7 **LOG TYPE:** Drillers Log
SOURCE: MONTGOMERY COAL **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
176.1	CARBONDALE	DANVILLE	COAL	0.2	446.9	
175.9	CARBONDALE		UNCLASSIFIED	7.8	447.1	
168.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	454.9	
161.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	461.9	
159.1	CARBONDALE		UNCLASSIFIED	2.0	463.9	
157.1	CARBONDALE	BRERETON	LIMESTONE	2.0	465.9	
155.1	CARBONDALE	ANNA	BLACK SHALE	2.1	467.9	
153.0	CARBONDALE	HERRIN	COAL	7.7	470.0	

MAPID: 13500090000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.479227 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.12343 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 477.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
203.1	MODESTO		GRAY SHALE	25.0	419.9	
178.1	CARBONDALE	DANVILLE	COAL	0.2	444.9	
177.9	CARBONDALE		CLAYSTONE & SHALE	7.8	445.1	
170.1	CARBONDALE	ALLENBY	DARK GRAY SHALE	2.0	452.9	
168.1	CARBONDALE	LAWSON	GRAY SHALE	9.0	454.9	
159.1	CARBONDALE	BRERETON	LIMESTONE	4.0	463.9	
155.1	CARBONDALE	ANNA	DARK GRAY SHALE	2.1	467.9	
153.0	CARBONDALE	HERRIN	COAL	7.7	470.0	

MAPID: 13500090000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.479227 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.12343 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 480.0 **LOG TYPE:** Drillers Log

SOURCE: MONTGOMERY COAL, HOLE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
623.0			CLAY	26.0	0.0	
597.0			HARD PAN	33.0	26.0	
564.0			SAND	10.0	59.0	QUICK
554.0			CLAY	67.0	69.0	BLUE
487.0			SAND/CLAY	19.0	136.0	
468.0			CLAYSTONE & SHALE	9.0	155.0	
459.0			GRAY SHALE	48.0	164.0	
411.0			BLACK SHALE	3.0	212.0	
408.0			SHALE	3.0	215.0	
405.0			BLACK SHALE	0.3	218.0	
404.7			UNDERCLAY	4.7	218.3	
400.0			GRAY SHALE	89.0	223.0	
311.0			COAL	0.3	312.0	
310.7			UNDERCLAY	3.8	312.3	
307.0			GRAY SHALE	8.0	316.0	
299.0			SANDY SHALE	15.0	324.0	
284.0			GRAY SHALE	47.0	339.0	
237.0			BLUE SHALE	18.0	386.0	
219.0			GRAY SHALE	6.0	404.0	
213.0			BLUE SHALE	18.0	410.0	
195.0			GRAY SHALE	17.0	428.0	
178.0	CARBONDALE		COAL	0.2	445.0	
177.8	CARBONDALE		UNDERCLAY	5.8	445.2	
172.0	CARBONDALE		GRAY SHALE	2.0	451.0	
170.0	CARBONDALE		DARK SHALE	2.0	453.0	
168.0	CARBONDALE		GRAY SHALE	9.0	455.0	
159.0	CARBONDALE	BRERETON	LIMESTONE	4.0	464.0	
155.0	CARBONDALE		DARK SHALE	2.1	468.0	
152.9	CARBONDALE	HERRIN	COAL	7.7	470.1	
145.2	CARBONDALE		UNDERCLAY	2.3	477.8	

MAPID: 13500091000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** NW SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.480245 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.106179 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 621.4 **LOGGED (FT.):** 500.0 **LOG TYPE:** Drillers Log

SOURCE: MONTGOMERY COAL, HOLE #4 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
621.4			SOIL	2.0	0.0	
619.4			CLAY	18.0	2.0	YELLOW
601.4			UNCONSOLIDATED	119.0	20.0	CLAY SAND & GRAVEL
482.4			CLAYSTONE & SHALE	4.0	139.0	
478.4			GRAY SHALE	39.0	143.0	
439.4			BLACK SHALE	4.0	182.0	
435.4			GRAY SHALE	26.0	186.0	
409.4			LIMESTONE	2.0	212.0	
407.4			GRAY SHALE	33.0	214.0	
374.4			LIMESTONE W/ SHALE	2.0	247.0	
372.4			BLACK SHALE	0.3	249.0	
372.1			GRAY SHALE	20.7	249.3	
351.4			BLUE SHALE	9.5	270.0	
341.9			COAL	0.5	279.5	
341.4			GRAY SHALE	153.0	280.0	
188.4			SANDY SHALE	67.0	433.0	

MAPID: 13500091000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** NW SE

QUADRANGLE: COFFEEN **LONGITUDE:** -89.480245 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.106179 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: MONTGOMERY COAL **WELL TYPE:** Coal Test

COMMENT:

MAPID: 13501123000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 1650' S line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.488462 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.105299 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 470.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 27-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
207.0	CARBONDALE		SHALE & SANDSTONE	30.0	416.0	
177.0	CARBONDALE		CALCAREOUS SHALE	4.3	446.0	
172.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.4	450.3	
169.3	CARBONDALE	LAWSON	SILTSTONE	2.0	453.7	
167.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	455.7	
166.8	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	456.2	
166.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.1	456.5	
163.4	CARBONDALE	ANNA	BLACK SHALE	3.4	459.6	
160.0	CARBONDALE	HERRIN	COAL	7.6	463.0	

MAPID: 13501123000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 1650' S line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.488462 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.105299 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 469.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 27-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
177.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.7	445.2	
170.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	452.9	
168.1	CARBONDALE	CONANT	LIMESTONE	0.5	454.9	
167.6	CARBONDALE		SHALE	0.3	455.4	
167.3	CARBONDALE	BRERETON	LIMESTONE	3.1	455.7	
164.2	CARBONDALE	ANNA	BLACK SHALE	3.2	458.8	
161.0	CARBONDALE	HERRIN	COAL	7.6	462.0	

MAPID: 13501123000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 1650' S line, 990' W line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.488462 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.105299 **DATE COLLECTED:** 4 / 17 / 1959
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 470.4 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 27-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
160.2	CARBONDALE	HERRIN	COAL	7.6	462.8	

MAPID: 13501420000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.474405 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.10888 **DATE COLLECTED:** 10 / 0 / 1952
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500766000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW SE
QUADRANGLE: COFFEEN **LONGITUDE:** -89.497777 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.103517 **DATE COLLECTED:** 3 / 0 / 1957
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 458.0 **LOG TYPE:** Electric Log
SOURCE: REISS & WAGEMANN **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
180.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	434.0	
171.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	443.0	
169.0	CARBONDALE		UNCLASSIFIED	2.0	445.0	
167.0	CARBONDALE	BRERETON	LIMESTONE	3.0	447.0	
164.0	CARBONDALE	ANNA	BLACK SHALE	3.0	450.0	
161.0	CARBONDALE	HERRIN	COAL	5.0	453.0	

MAPID: 13501260000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.507092 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.109123 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 441.8 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 97-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
210.6	MODESTO	PIASA	LIMESTONE	4.0	396.4	
206.6	CARBONDALE		MOTTLED SHALE	11.8	400.4	
194.8	CARBONDALE	GALUM	LIMESTONE W/ SHALE	2.0	412.2	
192.8	CARBONDALE	ALLENBY	BLACK SHALE	2.3	414.2	
190.5	CARBONDALE		DARK GRAY SHALE	0.6	416.5	
189.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.4	417.1	UPPER BENCH
187.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.7	419.5	SHALE PARTING
183.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.5	423.2	LOWER BENCH
179.3	CARBONDALE	LAWSON	CLAYSTONE	0.2	427.7	
179.2	CARBONDALE	LAWSON	MOTTLED SHALE	0.9	427.8	
178.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.2	428.8	
178.0	CARBONDALE		CLAYSTONE	0.4	429.0	
177.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.2	429.3	
175.5	CARBONDALE	ANNA	BLACK SHALE	2.5	431.5	
173.0	CARBONDALE	HERRIN	COAL	7.8	434.0	

MAPID: 13501260000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.507092 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.109123 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 440.8 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 97-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
212.2	MODESTO	PIASA	LIMESTONE	4.0	394.8	
208.2	MODESTO		UNCLASSIFIED	5.0	398.8	
203.2	CARBONDALE		UNCLASSIFIED	11.7	403.8	
191.5	CARBONDALE	BANKSTON FORK	LIMESTONE	10.6	415.5	
180.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	426.1	
179.7	CARBONDALE	CONANT	LIMESTONE	0.3	427.3	
179.4	CARBONDALE		SHALE	0.4	427.6	
179.0	CARBONDALE	BRERETON	LIMESTONE	2.2	428.0	
176.8	CARBONDALE	ANNA	BLACK SHALE	2.8	430.2	
174.0	CARBONDALE	HERRIN	COAL	7.8	433.0	

MAPID: 13501260000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.507092 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.109123 **DATE COLLECTED:** 0 / 0 / 1962

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 441.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 97-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
173.3	CARBONDALE	HERRIN	COAL	7.8	433.7	

MAPID: 13500092000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:**

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519855 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.108128 **DATE COLLECTED:** 5 / 0 / 1976

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: BEASLEY **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0		
-	MODESTO		UNCLASSIFIED	5.5		
-	CARBONDALE		UNCLASSIFIED	10.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.2		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.4		
-	CARBONDALE	CONANT	UNCLASSIFIED	0.4		
-	CARBONDALE		UNCLASSIFIED	3.0		
-	CARBONDALE	BRERETON	LIMESTONE	2.9		
-	CARBONDALE	ANNA	BLACK SHALE	2.8		
-	CARBONDALE	HERRIN	COAL	7.4		

MAPID: 13500092000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:**

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519855 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.108128 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 536.0 **LOGGED (FT.):** 404.1 **LOG TYPE:** Drillers Log

SOURCE: AMERICAN ZINC, LEAD & SMELTERING **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
536.0			UNCONSOLIDATED	21.0	0.0	
515.0			ROCK	120.0	21.0	
395.0			COAL	0.5	141.0	
394.5			ROCK	90.5	141.5	
304.0			COAL	1.7	232.0	
302.3			ROCK	143.3	233.7	
159.0			SHALE	7.0	377.0	
152.0			LIMESTONE	3.2	384.0	
148.8			SHALE	0.4	387.2	
148.4			LIMESTONE	0.4	387.6	
148.0			SHALE	3.0	388.0	
145.0			LIMESTONE	2.9	391.0	
142.1			BLACK SHALE	2.8	393.9	
139.3	CARBONDALE	HERRIN	COAL	7.4	396.7	

MAPID: 13500092000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:**

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519855 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.108128 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 536.0 **LOGGED (FT.):** 404.1 **LOG TYPE:** Drillers Log

SOURCE: AMERICAN ZINC, LEAD & SMELTERING CENTER **WELL TYPE:** Diamond Drill

COMMENT: LOCATION AND DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
536.0			SAND	21.0	0.0	GRAY & YELLOW
515.0	BOND		SANDY SHALE	35.0	21.0	DARK
480.0	BOND		LIMESTONE	1.0	56.0	
479.0	BOND		BLUE SHALE	7.0	57.0	
472.0	BOND	CARTHAGE	WHITE LIMESTONE	8.5	64.0	
463.5	MODESTO		SLATY SHALE	1.5	72.5	SOFT
462.0	MODESTO		BLUE SHALE	15.0	74.0	
447.0	MODESTO		SANDSTONE/SHALE	31.0	89.0	
416.0	MODESTO		DARK SHALE	17.0	120.0	
399.0	MODESTO		BLACK SHALE	4.0	137.0	
395.0	MODESTO		COAL	0.5	141.0	
394.5	MODESTO		LIGHT SHALE	3.5	141.5	
391.0	MODESTO		LIMESTONE	1.0	145.0	
390.0	MODESTO		BLUE SHALE	21.0	146.0	WITH LS BANDS
369.0	MODESTO		DARK SHALE	19.0	167.0	
350.0	MODESTO		LIMESTONE AND SANDSTONE	2.0	186.0	
348.0	MODESTO		DARK SHALE	3.0	188.0	
345.0	MODESTO		LIMESTONE	5.0	191.0	
340.0	MODESTO		DARK SHALE	36.0	196.0	LOG GIVES THICKNESS AS 38.00
304.0	MODESTO	CHAPEL	COAL	1.7	232.0	
302.3	MODESTO		UNDERCLAY	2.3	233.7	
300.0	MODESTO		GRAY SHALE	8.0	236.0	
292.0	MODESTO		DARK SHALE	16.0	244.0	
276.0	MODESTO		LIMESTONE	2.0	260.0	
274.0	MODESTO		DARK SHALE	74.0	262.0	
200.0	MODESTO		CLAYSTONE	2.0	336.0	
198.0	MODESTO		BLUE SHALE	3.0	338.0	
195.0	MODESTO		DARK SHALE	4.0	341.0	
191.0	MODESTO		LIGHT SHALE	2.0	345.0	
189.0	MODESTO		SHALE	8.0	347.0	RED & YELLOW
181.0	MODESTO	PIASA	WHITE LIMESTONE	6.0	355.0	
175.0	MODESTO		SHALE	11.0	361.0	MANY-COLORED
164.0	MODESTO		SHALE WITH LIMESTONE	2.0	372.0	
162.0	MODESTO		BLACK SHALE	1.5	374.0	
160.5	MODESTO		DARK SHALE	1.5	375.5	
159.0	CARBONDALE		SHALE WITH LIMESTONE	7.0	377.0	
152.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	384.0	
148.8	CARBONDALE	BANKSTON FORK	SHALE	0.4	387.2	

148.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.4	387.6	
148.0	CARBONDALE		BLUE SHALE	3.0	388.0	
145.0	CARBONDALE	BRERETON	LIMESTONE	2.9	391.0	
142.1	CARBONDALE	ANNA	BLACK SHALE	2.5	393.9	
139.6	CARBONDALE	HERRIN	UNCLASSIFIED	0.3	396.4	SULPHUR KIDNEY
139.3	CARBONDALE	HERRIN	COAL	7.4	396.7	

MAPID: 13501230000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.527896 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.110749 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 490.8 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 70-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
159.0	MODESTO	PIASA	LIMESTONE	3.7	444.0	
155.3	CARBONDALE		MOTTLED SHALE	20.8	447.7	
134.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.3	468.5	UPPER BENCH
133.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.2	469.8	SHALE PARTING
131.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.6	472.0	LOWER BENCH
127.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	475.6	
125.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	477.9	
124.8	CARBONDALE		DARK GRAY SHALE	0.5	478.2	
124.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.0	478.7	
121.3	CARBONDALE	ANNA	BLACK SHALE	2.0	481.7	
120.0	CARBONDALE	HERRIN	COAL	7.8	483.0	

MAPID: 13501230000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.527896 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.110749 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 490.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 70-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
161.9	MODESTO	PIASA	LIMESTONE	3.7	443.1	
158.2	MODESTO		UNCLASSIFIED	4.7	446.8	
153.5	CARBONDALE		UNCLASSIFIED	16.5	451.5	
137.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.1	468.0	
129.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	475.1	
127.6	CARBONDALE	CONANT	LIMESTONE	0.3	477.4	
127.3	CARBONDALE		SHALE	0.5	477.7	
126.8	CARBONDALE	BRERETON	LIMESTONE	3.0	478.2	
123.8	CARBONDALE	ANNA	BLACK SHALE	1.8	481.2	
122.0	CARBONDALE	HERRIN	COAL	7.8	483.0	

MAPID: 13501230000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.527896 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.110749 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 490.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 70-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
122.0	CARBONDALE	HERRIN	COAL	7.8	483.0	

MAPID: 13501740000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 315' N line, 92' W line of NW SW SE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519559 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.103617 **DATE COLLECTED:** 6 / 20 / 1969
SURFACE ELEVATION (FT.): 570.0 **LOGGED (FT.):** 411.8 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 227BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
166.1	CARBONDALE	HERRIN	COAL	7.9	403.9	

MAPID: 13501740000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 315' N line, 92' W line of NW SW SE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.519559 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.103617 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 570.0 **LOGGED (FT.):** 411.9 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 227BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
208.1	MODESTO	PIASA	LIMESTONE	7.3	361.9	
200.8	MODESTO		UNCLASSIFIED	4.3	369.2	
196.5	CARBONDALE		UNCLASSIFIED	12.3	373.5	
184.2	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	385.8	
175.7	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	394.3	
172.2	CARBONDALE		SHALE	0.6	397.8	
171.6	CARBONDALE	BRERETON	LIMESTONE	3.6	398.4	
168.0	CARBONDALE	ANNA	BLACK SHALE	2.0	402.0	
166.0	CARBONDALE	HERRIN	COAL	7.9	404.0	

MAPID: 13500093000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** SE SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.540959 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.10272 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 477.6 **LOG TYPE:** Drillers Log
SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
604.0			UNCONSOLIDATED	24.0	0.0	
580.0			ROCK	129.0	24.0	
451.0			COAL	0.7	153.0	
450.3			ROCK	82.3	153.7	
368.0			COAL	1.0	236.0	
367.0			ROCK	204.0	237.0	
163.0			SHALE	31.0	441.0	
132.0	CARBONDALE	HERRIN	COAL	4.6	472.0	
127.4			ROCK	1.0	476.6	

MAPID: 13500093000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** SE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.540959 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.10272 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 523.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
220.0	MODESTO	PIASA	LIMESTONE	4.0	384.0	
216.0	CARBONDALE		SILTY SHALE	7.0	388.0	
209.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	26.0	395.0	
183.0	CARBONDALE	LAWSON	GRAY SHALE	12.0	421.0	
171.0	CARBONDALE	LAWSON	SILTY SHALE	39.0	433.0	

MAPID: 13500093000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** SE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.540959 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.10272 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	4.6		

MAPID: 13500093000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** SE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.540959 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.10272 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 477.6 **LOG TYPE:** Drillers Log

SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
604.0	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
584.0	PLEISTOCENE		SAND	4.0	20.0	
580.0	BOND		SANDSTONE	6.0	24.0	
574.0	BOND		SANDY SHALE	10.0	30.0	
564.0	BOND		LIGHT SHALE	10.0	40.0	
554.0	BOND		SANDSTONE	19.0	50.0	
535.0	BOND		SANDSTONE	1.0	69.0	
534.0	BOND		SANDSTONE	4.0	70.0	
530.0	BOND		SANDSTONE	2.0	74.0	
528.0	BOND		BLUE SHALE	8.0	76.0	LOG GIVES THICKNESS AS 9.00
520.0	BOND	CARTHAGE	LIMESTONE	6.0	84.0	
514.0	MODESTO		SHALE WITH LIMESTONE	16.0	90.0	
498.0	MODESTO		BLUE SHALE	25.0	106.0	
473.0	MODESTO		LIGHT SHALE	10.0	131.0	
463.0	MODESTO		BLUE SHALE	10.0	141.0	
453.0	MODESTO		BLACK SHALE	2.0	151.0	
451.0	MODESTO		COAL	0.7	153.0	
450.3	MODESTO		UNDERCLAY	1.3	153.7	
449.0	MODESTO		LIGHT SHALE	40.0	155.0	
409.0	MODESTO		SHALE WITH LIMESTONE	2.0	195.0	
407.0	MODESTO		LIMESTONE	3.0	197.0	
404.0	MODESTO		LIMESTONE	3.0	200.0	
401.0	MODESTO		SANDY SHALE	18.0	203.0	
383.0	MODESTO		LIGHT SHALE	10.0	221.0	
373.0	MODESTO		BLUE SHALE	5.0	231.0	
368.0	MODESTO	CHAPEL	COAL	1.0	236.0	
367.0	MODESTO		UNDERCLAY	1.0	237.0	
366.0	MODESTO		SANDY SHALE	8.0	238.0	
358.0	MODESTO		SANDSTONE	8.0	246.0	
350.0	MODESTO		SANDY SHALE	83.0	254.0	
267.0	MODESTO		LIMESTONE	2.0	337.0	
265.0	MODESTO		SANDY SHALE	45.0	339.0	
220.0	MODESTO	PIASA	LIMESTONE	4.0	384.0	
216.0	MODESTO		SANDY SHALE	7.0	388.0	
209.0			LIMESTONE W/ SHALE	26.0	395.0	
183.0	CARBONDALE	ENERGY	LIGHT SHALE	12.0	421.0	
171.0	CARBONDALE	ENERGY	SANDY SHALE	8.0	433.0	
163.0	CARBONDALE	ENERGY	SANDY SHALE	13.0	441.0	
150.0	CARBONDALE	ENERGY	SANDY SHALE	18.0	454.0	

132.0	CARBONDALE	HERRIN	COAL	3.4	472.0	
128.6	CARBONDALE	HERRIN	ROCK	0.2	475.4	HARD BAND
128.4	CARBONDALE	HERRIN	COAL	1.0	475.6	
127.4	CARBONDALE		LIGHT SHALE	1.0	476.6	

MAPID: 13501211000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.549093 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.107308 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 406.6 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 56-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
237.0	MODESTO	PIASA	LIMESTONE	3.4	367.0	
233.6	CARBONDALE		MOTTLED SHALE	19.6	370.4	
214.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.8	390.0	
213.2	CARBONDALE	LAWSON	SILTSTONE	0.8	390.8	
212.4	CARBONDALE	BRERETON	LIMESTONE	6.3	391.6	
206.2	CARBONDALE	ANNA	BLACK SHALE	1.3	397.8	
205.0	CARBONDALE	HERRIN	COAL	7.6	399.0	

MAPID: 13501211000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.549093 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.107308 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 405.6 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 56-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
238.2	MODESTO	PIASA	LIMESTONE	3.4	365.8	
234.8	MODESTO		UNCLASSIFIED	4.0	369.2	
230.8	CARBONDALE		UNCLASSIFIED	8.6	373.2	
222.2	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	381.8	
214.4	CARBONDALE	ANVIL ROCK	SANDSTONE	0.8	389.6	
213.6	CARBONDALE	CONANT	LIMESTONE	1.3	390.4	
212.3	CARBONDALE		SHALE	0.5	391.7	
211.8	CARBONDALE	BRERETON	LIMESTONE	4.5	392.2	
207.3	CARBONDALE	ANNA	BLACK SHALE	1.3	396.7	
206.0	CARBONDALE	HERRIN	COAL	7.6	398.0	

MAPID: 13501211000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.549093 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.107308 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 405.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 56-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
205.9	CARBONDALE	HERRIN	COAL	7.6	398.1	

MAPID: 13501737000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 97' N line, 35' E line of NE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.547915 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.115182 **DATE COLLECTED:** 6 / 2 / 1969
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 469.4 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO. 224BB **WELL TYPE:** Coal Test
COMMENT: ELEV ADDED, FROM DEM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
158.1	CARBONDALE	HERRIN	COAL	8.5	460.9	

MAPID: 13501739000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 126' N line, 238' W line of SW NW SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565444 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.10603 **DATE COLLECTED:** 6 / 5 / 1969
SURFACE ELEVATION (FT.): 560.0 **LOGGED (FT.):** 364.2 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER COAL CO. 226BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
202.3	CARBONDALE	HERRIN	COAL	6.5	357.7	

MAPID: 13501739000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 126' N line, 238' W line of SW NW SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.565444 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.10603 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 560.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER COAL CO. 226BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
236.2	MODESTO	PIASA	LIMESTONE	3.5	323.8	
232.7	MODESTO		UNCLASSIFIED	4.8	327.3	
227.9	CARBONDALE		UNCLASSIFIED	9.0	332.1	
218.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	341.1	
212.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.8	347.6	
208.6	CARBONDALE	CONANT	LIMESTONE	0.7	351.4	
207.9	CARBONDALE		SHALE	1.6	352.1	
206.3	CARBONDALE	BRERETON	LIMESTONE	2.3	353.7	
204.0	CARBONDALE	ANNA	BLACK SHALE	2.0	356.0	
202.0	CARBONDALE	HERRIN	COAL	6.5	358.0	

MAPID: 13501223000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.577487 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.109195 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 538.0 **LOGGED (FT.):** 364.7 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 74-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
222.0	MODESTO	PIASA	LIMESTONE	2.0	316.0	
220.0	CARBONDALE		DARK GRAY SHALE	18.0	318.0	
202.0	CARBONDALE	GALUM	LIMESTONE	3.0	336.0	
199.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	339.0	
198.0	CARBONDALE		MOTTLED SHALE	5.6	340.0	
192.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.2	345.6	UPPER BENCH
189.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	0.1	348.8	SHALE PARTING
189.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.4	348.8	LOWER BENCH
183.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	354.3	
181.7	CARBONDALE	ANNA	BLACK SHALE	1.3	356.3	
180.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	6.7	358.0	

MAPID: 13501223000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.577487 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.109195 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 538.0 **LOGGED (FT.):** 363.7 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 74-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
222.7	MODESTO	PIASA	LIMESTONE	2.0	315.3	
220.7	MODESTO		UNCLASSIFIED	7.0	317.3	
213.7	CARBONDALE		UNCLASSIFIED	15.0	324.3	
198.7	CARBONDALE	BANKSTON FORK	LIMESTONE	8.8	339.3	
189.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	348.1	
187.4	CARBONDALE	CONANT	LIMESTONE	1.0	350.6	
186.4	CARBONDALE		SHALE	0.3	351.6	
186.1	CARBONDALE	BRERETON	LIMESTONE	1.8	351.9	
184.3	CARBONDALE	ANNA	BLACK SHALE	3.3	353.7	
181.0	CARBONDALE	HERRIN	COAL	6.7	357.0	

MAPID: 13501223000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.577487 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.109195 **DATE COLLECTED:** 0 / 0 / 1961

SURFACE ELEVATION (FT.): 538.0 **LOGGED (FT.):** 363.7 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 74-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
180.4	CARBONDALE	HERRIN	COAL	6.1	357.6	Split coal with total of .58 split of s

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MAPID: 13501154000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582308 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.098339 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 551.0 **LOGGED (FT.):** 378.4 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION C.C. 43-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
219.0	MODESTO	PIASA	LIMESTONE	4.4	332.0	
214.6	MODESTO		MOTTLED SHALE	3.2	336.4	
211.4	CARBONDALE	DANVILLE	BLACK SHALE	1.3	339.6	
210.2	CARBONDALE		MOTTLED SHALE	3.0	340.8	
207.2	CARBONDALE	GALUM	NODULAR LIMESTONE	3.2	343.8	
204.0	CARBONDALE	ALLENBY	BLACK SHALE	1.1	347.0	
202.9	CARBONDALE		CLAYSTONE	1.8	348.1	
201.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.7	349.8	UPPER BENCH
199.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.1	351.5	SHALE PARTING
196.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	9.3	354.6	LOWER BENCH
187.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.3	363.9	
184.7	CARBONDALE	ANNA	BLACK SHALE	1.5	366.3	
183.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	10.4	368.0	

MAPID: 13501154000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582308 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.098339 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 551.0 **LOGGED (FT.):** 377.4 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION C.C. 43-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
219.5	MODESTO	PIASA	LIMESTONE	4.4	331.5	
215.1	MODESTO		UNCLASSIFIED	3.2	335.9	
211.9	CARBONDALE		UNCLASSIFIED	10.2	339.1	
201.7	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	349.3	
193.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	357.1	
191.9	CARBONDALE	CONANT	LIMESTONE	0.8	359.1	
191.1	CARBONDALE		SHALE	0.8	359.9	
190.3	CARBONDALE	BRERETON	LIMESTONE	5.0	360.7	
185.3	CARBONDALE	ANNA	BLACK SHALE	1.3	365.7	
184.0	CARBONDALE	HERRIN	COAL	10.4	367.0	

MAPID: 13501154000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.582308 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.098339 **DATE COLLECTED:** 9 / 0 / 1959

SURFACE ELEVATION (FT.): 551.0 **LOGGED (FT.):** 374.1 **LOG TYPE:**

SOURCE: CONSOLIDATION C.C. 43-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
183.2	CARBONDALE	HERRIN	COAL	6.3	367.8	Split coal with 4.17 ft thick shale par

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MAPID: 13500094000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** NE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.55948 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.091898 **DATE COLLECTED:** 9 / 0 / 1909

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: HARGRAVE H L **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.5		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	12.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	1.5		
-	CARBONDALE	BRERETON	LIMESTONE	3.6		
-	CARBONDALE	ANNA	BLACK SHALE	1.7		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13500094000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** NE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.55948 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.091898 **DATE COLLECTED:** 9 / 4 / 1909

SURFACE ELEVATION (FT.): 528.0 **LOGGED (FT.):** 375.3 **LOG TYPE:** Drillers Log

SOURCE: H. HARGRAVE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
528.0			UNCONSOLIDATED	15.0	0.0	
513.0			ROCK	109.0	15.0	
404.0			COAL	0.5	124.0	
403.5			ROCK	220.0	124.5	
183.5			LIMESTONE	1.0	344.5	
182.5			SHALE	9.5	345.5	
173.0			LIMESTONE	3.8	355.0	
169.2			SHALE	5.3	358.8	
164.0			LIMESTONE	3.6	364.0	
160.4			BLACK SHALE	1.7	367.6	
158.7	CARBONDALE	HERRIN	COAL	6.0	369.3	

MAPID: 13500094000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** NE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.55948 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.091898 **DATE COLLECTED:** 9 / 4 / 1909

SURFACE ELEVATION (FT.): 528.0 **LOGGED (FT.):** 375.3 **LOG TYPE:** Drillers Log

SOURCE: H. HARGRAVE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
528.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
520.0	PLEISTOCENE		SANDY CLAY	7.0	8.0	WET
513.0	BOND		GRAY SANDSTONE	23.0	15.0	
490.0	BOND	CARTHAGE	LIMESTONE	17.5	38.0	
472.5	MODESTO		BLUE SHALE	1.0	55.5	LOG GIVES THICKNESS AS 4.00
471.5	MODESTO		BLACK SHALE	0.5	56.5	
471.0	MODESTO		BLUE SHALE	5.0	57.0	
466.0	MODESTO		WHITE SANDSTONE	10.0	62.0	
456.0	MODESTO		GRAY SHALE	28.0	72.0	LOG GIVES THICKNESS AS 27.00
428.0	MODESTO		DARK SHALE	20.0	100.0	
408.0	MODESTO		BLACK SHALE	4.0	120.0	
404.0	MODESTO		COAL	0.5	124.0	
403.5	MODESTO		LIGHT SHALE	6.5	124.5	
397.0	MODESTO		BLUE SHALE	4.0	131.0	
393.0	MODESTO		SHALE	6.0	135.0	
387.0	MODESTO		BLUE SHALE	18.0	141.0	
369.0	MODESTO		DARK SHALE	8.5	159.0	
360.5	MODESTO		LIMESTONE	5.0	167.5	
355.5	MODESTO		DARK SHALE	37.5	172.5	
318.0	MODESTO		BROWN SHALE	1.5	210.0	W/ TRACES OF COAL
316.5	MODESTO		BLUE SHALE	2.5	211.5	
314.0	MODESTO		LIGHT SHALE	16.0	214.0	
298.0	MODESTO		DARK SHALE	79.0	230.0	
219.0	MODESTO		SHALE WITH LIMESTONE	3.0	309.0	
216.0	MODESTO		BLACK SHALE	1.0	312.0	
215.0	MODESTO		LIGHT SHALE	11.0	313.0	
204.0	MODESTO		RED SHALE	1.0	324.0	
203.0	MODESTO		BLUE SHALE	4.0	325.0	
199.0	MODESTO		DARK SHALE	1.0	329.0	
198.0	MODESTO		SHALE	1.0	330.0	
197.0	MODESTO		UNDERCLAY	1.0	331.0	
196.0	MODESTO		CHERT	4.5	332.0	
191.5	MODESTO		SHALE	8.0	336.5	MANY-COLORED
183.5	MODESTO	PIASA	LIMESTONE	1.0	344.5	
182.5	MODESTO		DARK SHALE	7.5	345.5	
175.0	CARBONDALE		BLUE SHALE	2.0	353.0	
173.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	355.0	
169.2	CARBONDALE		SHALE	5.3	358.8	
164.0	CARBONDALE	BRERETON	LIMESTONE	3.6	364.0	

160.4	CARBONDALE	ANNA	BLACK SHALE	1.7	367.6	
158.7	CARBONDALE	HERRIN	COAL	6.0	369.3	WT UCLY BELOW

MAPID: 13501268000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.563064 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.087419 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 452.0 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 102-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
201.0	MODESTO	PIASA	LIMESTONE	4.0	408.0	
197.0	CARBONDALE		MOTTLED SHALE	7.8	412.0	
189.2	CARBONDALE	GALUM	NODULAR LIMESTONE	2.5	419.8	
186.7	CARBONDALE	ALLENBY	BLACK SHALE	1.0	422.3	
185.7	CARBONDALE		CALCAREOUS SHALE	11.0	423.3	
174.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	434.3	
173.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.3	435.3	
173.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.4	435.5	
169.1	CARBONDALE	ANNA	BLACK SHALE	1.3	439.9	
164.0	CARBONDALE	HERRIN	COAL	7.0	445.0	

MAPID: 13501268000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.563064 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.087419 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 451.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 102-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
201.3	MODESTO	PIASA	LIMESTONE	4.0	407.7	
197.3	MODESTO		UNCLASSIFIED	4.0	411.7	
193.3	CARBONDALE		UNCLASSIFIED	14.2	415.7	
179.1	CARBONDALE	BANKSTON FORK	LIMESTONE	6.2	429.9	
172.9	CARBONDALE	ANVIL ROCK	SANDSTONE	0.3	436.1	
172.6	CARBONDALE		SHALE	0.4	436.4	
172.2	CARBONDALE	BRERETON	LIMESTONE	4.0	436.8	
168.2	CARBONDALE	ANNA	BLACK SHALE	3.2	440.8	
165.0	CARBONDALE	HERRIN	COAL	7.0	444.0	

MAPID: 13501268000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 990' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.563064 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.087419 **DATE COLLECTED:** 3 / 0 / 1962
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 451.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 102-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.2	CARBONDALE	HERRIN	COAL	7.0	444.8	

MAPID: 13501184000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 1650' S line, 1650' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.534976 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.090972 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 523.0 **LOGGED (FT.):** 384.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION C.C. 52-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
185.0	MODESTO	PIASA	LIMESTONE	1.8	338.0	
183.3	MODESTO		MOTTLED SHALE	14.3	339.7	
169.0	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.7	354.0	
167.3	CARBONDALE		CLAYSTONE & SHALE	1.3	355.7	
166.0	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.6	357.0	
165.4	CARBONDALE		MOTTLED SHALE	4.2	357.6	
161.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.4	361.7	
156.8	CARBONDALE	LAWSON	GRAY SHALE	0.8	366.2	
156.0	CARBONDALE	LAWSON	MOTTLED SHALE	4.8	367.0	
151.3	CARBONDALE	LAWSON	DARK GRAY SHALE	1.2	371.7	
150.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.9	372.9	
149.2	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.7	373.8	
148.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.8	374.5	
146.7	CARBONDALE	ANNA	BLACK SHALE	0.8	376.3	
146.0	CARBONDALE	HERRIN	COAL	7.8	377.0	

MAPID: 13501184000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 1650' S line, 1650' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.534976 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.090972 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 523.0 **LOGGED (FT.):** 383.8 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION C.C. 52-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
186.3	MODESTO	PIASA	LIMESTONE	1.8	336.7	
184.5	MODESTO		UNCLASSIFIED	4.3	338.5	
180.2	CARBONDALE		UNCLASSIFIED	15.0	342.8	
165.2	CARBONDALE	BANKSTON FORK	LIMESTONE	7.2	357.8	
158.0	CARBONDALE	ANVIL ROCK	SANDSTONE	5.6	365.0	
152.4	CARBONDALE		SHALE	1.2	370.6	
151.2	CARBONDALE	BRERETON	LIMESTONE	3.3	371.8	
147.9	CARBONDALE	ANNA	BLACK SHALE	0.9	375.1	
147.0	CARBONDALE	HERRIN	COAL	7.8	376.0	

MAPID: 13501184000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 1650' S line, 1650' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.534976 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.090972 **DATE COLLECTED:** 1 / 0 / 1960
SURFACE ELEVATION (FT.): 523.0 **LOGGED (FT.):** 384.5 **LOG TYPE:**
SOURCE: CONSOLIDATION C.C. 52-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
146.3	CARBONDALE	HERRIN	COAL	7.8	376.7	

MAPID: 13501738000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 80' N line, 330' E line of NE SW NE
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.535064 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.097051 **DATE COLLECTED:** 6 / 4 / 1969
SURFACE ELEVATION (FT.): 530.0 **LOGGED (FT.):** 363.5 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 225BB **WELL TYPE:** Coal Test
COMMENT: ELEV ADDED, FROM DEM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
174.0	CARBONDALE	HERRIN	COAL	7.5	356.0	

MAPID: 13501738000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 80' N line, 330' E line of NE SW NE

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.535064 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.097051 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 530.0 **LOGGED (FT.):** 413.5 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO. 225BB **WELL TYPE:** Coal Test

COMMENT: ELEV ADDED, FROM DEM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
136.5	CARBONDALE	BANKSTON FORK	LIMESTONE	8.1	393.5	
128.4	CARBONDALE	CONANT	LIMESTONE	0.7	401.6	
127.7	CARBONDALE	BRERETON	LIMESTONE	2.4	402.3	
125.3	CARBONDALE	ANNA	BLACK SHALE	1.3	404.7	
124.0	CARBONDALE	HERRIN	COAL	7.5	406.0	

MAPID: 13500095000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 925' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.525719 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.09831 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 548.0 **LOGGED (FT.):** 405.8 **LOG TYPE:** Drillers Log

SOURCE: ALLEN & GARCIA **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
186.0	MODESTO	PIASA	LIMESTONE	4.0	362.0	
182.0	MODESTO		UNCLASSIFIED	2.0	366.0	
180.0	CARBONDALE	DANVILLE	COAL	1.0	368.0	
179.0	CARBONDALE		UNCLASSIFIED	12.0	369.0	
167.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	381.0	
158.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	390.0	
155.0	CARBONDALE		UNCLASSIFIED	1.0	393.0	
154.0	CARBONDALE	BRERETON	LIMESTONE	2.0	394.0	
152.0	CARBONDALE	ANNA	BLACK SHALE	2.0	396.0	
150.0	CARBONDALE	HERRIN	COAL	7.8	398.0	

MAPID: 13500095000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 925' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.525719 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.09831 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** 473.0 **LOG TYPE:** Drillers Log

SOURCE: ALLEN & GARCIA **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
549.0			UNCONSOLIDATED	35.0	0.0	
514.0			ROCK	111.0	35.0	
403.0			COAL	0.8	146.0	
402.2			ROCK	224.2	146.8	
178.0			SHALE	9.0	371.0	
169.0			LIMESTONE	11.0	380.0	
158.0			SHALE	4.0	391.0	
154.0			LIMESTONE	2.0	395.0	
152.0			BLACK SHALE	2.0	397.0	
150.0	CARBONDALE	HERRIN	COAL	7.8	399.0	
142.2			ROCK	45.2	406.8	
97.0			COAL	2.5	452.0	
94.5			ROCK	18.5	454.5	

MAPID: 13500095000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 925' N line, 990' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.525719 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.09831 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 548.7 **LOGGED (FT.):** 473.0 **LOG TYPE:** Drillers Log

SOURCE: ALLEN & GARCIA **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
548.7	PLEISTOCENE		CLAY	11.0	0.0	
537.7	PLEISTOCENE		CLAY	24.0	11.0	
513.7	BOND		BLUE SHALE	5.0	35.0	
508.7	BOND		SANDSTONE	6.5	40.0	
502.2	BOND		SANDY SHALE	15.0	46.5	
487.2	BOND		LIGHT SHALE	8.5	61.5	
478.7	BOND		GREEN SHALE	1.5	70.0	
477.2	BOND		LIMESTONE	6.5	71.5	
470.7	BOND		LIGHT SHALE	2.0	78.0	
468.7	BOND	CARTHAGE	LIMESTONE	10.0	80.0	
458.7	MODESTO		LIGHT SHALE	5.0	90.0	
453.7	MODESTO		BLUE SHALE	5.0	95.0	
448.7	MODESTO		LIGHT SHALE	10.0	100.0	
438.7	MODESTO		LIMESTONE	1.0	110.0	
437.7	MODESTO		BLUE SHALE	24.0	111.0	
413.7	MODESTO		LIGHT SHALE	3.0	135.0	
410.7	MODESTO		BLUE SHALE	6.0	138.0	
404.7	MODESTO		BLACK SHALE	2.0	144.0	
402.7	MODESTO		COAL	0.8	146.0	
401.9	MODESTO		UNDERCLAY	1.2	146.8	
400.7	MODESTO		LIGHT SHALE	3.0	148.0	
397.7	MODESTO		LIMESTONE	1.0	151.0	
396.7	MODESTO		LIGHT SHALE	6.0	152.0	
390.7	MODESTO		DARK SHALE	7.0	158.0	
383.7	MODESTO		SANDSTONE	5.0	165.0	
378.7	MODESTO		BLUE SHALE	5.0	170.0	
373.7	MODESTO		SHALE	31.0	175.0	W/LS BANDS
342.7	MODESTO		LIGHT SHALE	34.0	206.0	
308.7	MODESTO		BLUE SHALE	5.0	240.0	
303.7	MODESTO		SANDSTONE	4.0	245.0	
299.7	MODESTO		SANDSTONE	52.0	249.0	
247.7	MODESTO		BLUE SHALE	26.0	301.0	
221.7	MODESTO		BLUE SHALE	19.0	327.0	
202.7	MODESTO		LIMESTONE	1.0	346.0	
201.7	MODESTO		GREEN SHALE	4.0	347.0	
197.7	MODESTO		BLUE SHALE	10.0	351.0	
187.7	MODESTO		RED SHALE	1.0	361.0	
186.7	MODESTO		BLACK SHALE	1.0	362.0	
185.7	MODESTO	PIASA	LIMESTONE	4.0	363.0	

181.7	MODESTO		GREEN SHALE	1.0	367.0	
180.7	MODESTO		SHALE	1.0	368.0	MANY-COLORED
179.7	MODESTO		BLACK SHALE	2.0	369.0	
177.7	CARBONDALE		LIGHT SHALE	6.0	371.0	
171.7	CARBONDALE		SANDY SHALE	3.0	377.0	
168.7	CARBONDALE		LIMESTONE W/ SHALE	10.0	380.0	
158.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	390.0	
157.7	CARBONDALE		GREEN SHALE	1.0	391.0	
156.7	CARBONDALE		LIGHT SHALE	2.0	392.0	
154.7	CARBONDALE		DARK SHALE	1.0	394.0	
153.7	CARBONDALE	BRERETON	LIMESTONE	2.0	395.0	
151.7	CARBONDALE	ANNA	BLACK SHALE	2.0	397.0	
149.7	CARBONDALE	HERRIN	COAL	7.8	399.0	
141.9	CARBONDALE		UNDERCLAY	1.7	406.8	
140.2	CARBONDALE		SANDY SHALE	2.0	408.5	
138.2	CARBONDALE		BLACK SHALE	4.5	410.5	
133.7	CARBONDALE		LIGHT SHALE	5.0	415.0	
128.7	CARBONDALE		LIMESTONE	1.0	420.0	
127.7	CARBONDALE		GREEN SHALE	2.0	421.0	
125.7	CARBONDALE		SANDY SHALE	20.0	423.0	
105.7	CARBONDALE		LIGHT SHALE	1.0	443.0	
104.7	CARBONDALE		BLACK SHALE	4.0	444.0	
100.7	CARBONDALE		LIMESTONE	3.0	448.0	
97.7	CARBONDALE	EXCELLO	BLACK SHALE	1.0	451.0	
96.7	CARBONDALE	HOUCHIN CREEK	COAL	2.5	452.0	
94.2	CARBONDALE		UNDERCLAY	6.5	454.5	
87.7	CARBONDALE		LIMESTONE	1.0	461.0	
86.7	CARBONDALE		LIGHT SHALE	11.0	462.0	

MAPID: 13500096000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 50' N line, 1450' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.515683 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.100691 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 550.0 **LOGGED (FT.):** 420.6 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
173.0	MODESTO	PIASA	LIMESTONE	2.5	377.0	
170.5	MODESTO		UNCLASSIFIED	4.0	379.5	
166.5	CARBONDALE		UNCLASSIFIED	11.5	383.5	
155.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	395.0	
147.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	403.0	
145.0	CARBONDALE		UNCLASSIFIED	2.0	405.0	
143.0	CARBONDALE	BRERETON	LIMESTONE	4.0	407.0	
139.0	CARBONDALE	ANNA	BLACK SHALE	3.0	411.0	
136.0	CARBONDALE	HERRIN	COAL	6.6	414.0	

MAPID: 13500096000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 50' N line, 1450' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.515683 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.100691 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 550.0 **LOGGED (FT.):** 420.6 **LOG TYPE:** Drillers Log

SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
550.0			UNCONSOLIDATED	90.0	0.0	
460.0			ROCK	75.0	90.0	
385.0			COAL	0.8	165.0	
384.2			ROCK	80.2	165.8	
304.0			COAL	1.2	246.0	
302.8			ROCK	132.3	247.2	
170.5			SHALE	12.5	379.5	
158.0			UNDERCLAY	1.0	392.0	
157.0			SHALE	2.0	393.0	
155.0			LIMESTONE	4.5	395.0	
150.5			SHALE	7.5	399.5	
143.0			LIMESTONE	4.0	407.0	
139.0			BLACK SHALE	3.0	411.0	
136.0	CARBONDALE	HERRIN	COAL	6.6	414.0	

MAPID: 13500096000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 50' N line, 1450' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.515683 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.100691 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 550.2 **LOGGED (FT.):** 420.6 **LOG TYPE:** Drillers Log

SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
550.2	PLEISTOCENE		SOIL	4.0	0.0	
546.2	PLEISTOCENE		SAND & GRAVEL	4.0	4.0	
542.2	PLEISTOCENE		CLAY	12.0	8.0	
530.2	PLEISTOCENE		CLAY	61.0	20.0	
469.2	PLEISTOCENE		SAND & GRAVEL	9.0	81.0	
460.2	BOND		LIMESTONE	12.0	90.0	
448.2	BOND		LIGHT SHALE	52.0	102.0	
396.2	BOND	CARTHAGE	LIMESTONE	8.0	154.0	
388.2	MODESTO		BLACK SHALE	3.0	162.0	
385.2	MODESTO		COAL	0.8	165.0	
384.4	MODESTO		UNDERCLAY	1.2	165.8	
383.2	MODESTO		SANDSTONE	3.0	167.0	
380.2	MODESTO		LIGHT SHALE	17.0	170.0	
363.2	MODESTO		SANDY SHALE	8.0	187.0	
355.2	MODESTO		SANDY SHALE	16.0	195.0	
339.2	MODESTO		LIMESTONE	3.0	211.0	
336.2	MODESTO		LIGHT SHALE	6.0	214.0	
330.2	MODESTO		DARK SHALE	15.0	220.0	
315.2	MODESTO		BLUE SHALE	11.0	235.0	
304.2	MODESTO	CHAPEL	COAL	1.2	246.0	
303.0	MODESTO		UNDERCLAY	0.8	247.2	
302.2	MODESTO		SANDY SHALE	73.0	248.0	
229.2	MODESTO		LIGHT SHALE	24.0	321.0	
205.2	MODESTO		LIMESTONE	1.0	345.0	
204.2	MODESTO		LIGHT SHALE	9.0	346.0	
195.2	MODESTO		SANDY SHALE	20.0	355.0	LOG GIVES THICKNESS AS 10.00
175.2	MODESTO		UNCLASSIFIED	2.0	375.0	S. VANON COLLER/DEPTH IS 10',355-375
173.2	MODESTO	PIASA	LIMESTONE	2.5	377.0	
170.7	MODESTO		DARK SHALE	12.5	379.5	
158.2	CARBONDALE		UNDERCLAY	1.0	392.0	
157.2	CARBONDALE		DARK SHALE	2.0	393.0	
155.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	395.0	
150.7	CARBONDALE		LIGHT SHALE	7.5	399.5	
143.2	CARBONDALE	BRERETON	LIMESTONE	4.0	407.0	
139.2	CARBONDALE	ANNA	BLACK SHALE	3.0	411.0	
136.2	CARBONDALE	HERRIN	COAL	5.0	414.0	
131.2	CARBONDALE	HERRIN	ROCK	0.2	419.0	BLUE BAND
131.0	CARBONDALE	HERRIN	COAL	1.4	419.2	UCLY BELOW

MAPID: 13501242000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.518731 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.09274 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 494.5 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 71-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.7	CARBONDALE		CALCAREOUS SHALE	14.0	449.3	
140.7	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.5	463.3	
139.2	CARBONDALE	ALLENBY	BLACK SHALE	1.0	464.8	
138.2	CARBONDALE		CLAYSTONE & SHALE	3.8	465.8	
134.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.7	469.6	UPPER BENCH
133.7	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	3.9	470.3	SHALE PARTING
129.8	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.9	474.2	LOWER BENCH
125.9	CARBONDALE	LAWSON	CLAYSTONE	0.8	478.1	
125.1	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	478.9	
123.9	CARBONDALE	LAWSON	CLAYSTONE	1.2	480.1	
122.7	CARBONDALE	CONANT	CALCAREOUS SHALE	0.3	481.3	
122.4	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	481.6	
122.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.8	481.9	
118.2	CARBONDALE	ANNA	BLACK SHALE	1.3	485.8	
117.0	CARBONDALE	HERRIN	COAL	7.5	487.0	

MAPID: 13501242000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.518731 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.09274 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 493.5 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 71-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
155.4	MODESTO	PIASA	LIMESTONE	3.0	448.6	
152.4	MODESTO		UNCLASSIFIED	4.0	451.6	
148.4	CARBONDALE		UNCLASSIFIED	12.8	455.6	
135.6	CARBONDALE	BANKSTON FORK	LIMESTONE	8.7	468.4	
126.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.2	477.1	
123.7	CARBONDALE	CONANT	LIMESTONE	0.3	480.3	
123.4	CARBONDALE		SHALE	0.3	480.6	
123.1	CARBONDALE	BRERETON	LIMESTONE	3.8	480.9	
119.3	CARBONDALE	ANNA	BLACK SHALE	1.3	484.7	
118.0	CARBONDALE	HERRIN	COAL	7.5	486.0	

MAPID: 13501242000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.518731 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.09274 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 494.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 71-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
117.2	CARBONDALE	HERRIN	COAL	7.5	486.8	

MAPID: 13501743000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 41' S line, 26' W line of SE SE SW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.522034 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.086492 **DATE COLLECTED:** 6 / 19 / 1969
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 467.4 **LOG TYPE:** Drillers Log
SOURCE: TRUAX-TRAER CONS. COAL CO. 230BB **WELL TYPE:** Coal Test
COMMENT: NULL ELEV CHANGED TO V2 ELEV

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
141.6	CARBONDALE	HERRIN	COAL	6.0	461.4	

MAPID: 13501743000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 41' S line, 26' W line of SE SE SW

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.522034 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.086492 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 467.0 **LOG TYPE:** Drillers Log

SOURCE: TRUAX-TRAER CONS. COAL CO. 230BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
181.2	MODESTO	PIASA	LIMESTONE	2.9	421.8	
178.3	MODESTO		UNCLASSIFIED	6.5	424.7	
171.8	CARBONDALE		UNCLASSIFIED	9.3	431.2	
162.5	CARBONDALE	BANKSTON FORK	LIMESTONE	10.6	440.5	
151.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.7	451.1	
149.2	CARBONDALE		SHALE	0.9	453.8	
148.3	CARBONDALE	BRERETON	LIMESTONE	4.5	454.7	
143.8	CARBONDALE	ANNA	BLACK SHALE	1.8	459.2	
142.0	CARBONDALE	HERRIN	COAL	6.0	461.0	

MAPID: 13501224000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: COFFEEN **LONGITUDE:** -89.476693 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.087052 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 498.7 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 67-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
186.9	MODESTO		GRAY SHALE	27.0	431.1	
159.9	CARBONDALE	DANVILLE	COAL	0.3	458.1	
159.6	CARBONDALE		CLAYSTONE & SHALE	7.3	458.4	
152.3	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.4	465.7	
151.9	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.7	466.1	
151.2	CARBONDALE		CALCAREOUS SHALE	1.1	466.8	
150.1	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	467.9	UPPER BENCH
148.3	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	12.3	469.7	SHALE PARTING
136.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.9	482.0	LOWER BENCH
132.1	CARBONDALE	LAWSON	GRAY SHALE	0.3	485.9	
131.9	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	486.1	
129.3	CARBONDALE	LAWSON	LIMESTONE/UNDERCLAY	0.5	488.7	
128.8	CARBONDALE	LAWSON	DARK GRAY SHALE	0.4	489.2	
128.4	CARBONDALE	LAWSON	MOTTLED SHALE	1.1	489.6	
127.3	CARBONDALE	ANNA	BLACK SHALE	2.3	490.7	
125.0	CARBONDALE	HERRIN	COAL	5.7	493.0	

MAPID: 13501224000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.476693 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.087052 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 497.7 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 67-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
161.3	CARBONDALE	DANVILLE	COAL	0.3	456.7	
161.0	CARBONDALE		UNCLASSIFIED	17.5	457.0	
143.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	474.5	
134.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	484.0	
131.2	CARBONDALE	CONANT	LIMESTONE	0.5	486.8	
130.7	CARBONDALE		SHALE	0.4	487.3	
130.3	CARBONDALE	ANNA	BLACK SHALE	4.3	487.7	
126.0	CARBONDALE	HERRIN	COAL	5.7	492.0	

MAPID: 13501224000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' E line
QUADRANGLE: COFFEEN **LONGITUDE:** -89.476693 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.087052 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 498.6 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 67-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.1	CARBONDALE	HERRIN	COAL	5.7	492.9	

MAPID: 13501240000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.590618 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.171548 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 436.1 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 82-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
244.0	MODESTO	PIASA	LIMESTONE	6.0	391.0	
238.0	CARBONDALE		CALCAREOUS SHALE	8.0	397.0	
230.0	CARBONDALE	ALLENBY	BONE COAL	1.0	405.0	
229.0	CARBONDALE		GRAY SHALE	2.3	406.0	
226.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	13.9	408.3	
212.8	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	422.2	
211.3	CARBONDALE	ANNA	BLACK SHALE	2.0	423.7	
209.0	CARBONDALE	HERRIN	COAL	10.1	426.0	

MAPID: 13501240000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.590618 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.171548 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 436.1 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 82-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
243.7	MODESTO	PIASA	LIMESTONE	6.0	391.3	
237.7	MODESTO		UNCLASSIFIED	3.0	397.3	
234.7	CARBONDALE		UNCLASSIFIED	8.3	400.3	
226.4	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	408.6	
222.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	412.6	
220.4	CARBONDALE		SHALE	1.0	414.6	
219.4	CARBONDALE	BRERETON	LIMESTONE	6.9	415.6	
212.5	CARBONDALE	ANNA	BLACK SHALE	3.5	422.5	
209.0	CARBONDALE	HERRIN	COAL	10.1	426.0	

MAPID: 13501240000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.590618 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.171548 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 435.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 82-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
209.3	CARBONDALE	HERRIN	COAL	10.1	425.7	

MAPID: 13500097000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 800' S line, 1625' W line of SW
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.6364 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.162915 **DATE COLLECTED:** 0 / 0 / 1922
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: GRIFFIN WILLIAM D **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0		
-	MODESTO		UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	3.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13500170000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** NW NW

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.639747 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.173286 **DATE COLLECTED:** 0 / 0 / 1872

SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 535.3 **LOG TYPE:** Drillers Log

SOURCE: LITCHFIELD MINING CO. **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
675.0	PLEISTOCENE		CLAY	35.0	0.0	CLAY AND HARD-PAN
640.0	MATTOON		SANDSTONE	18.0	35.0	IN THIN LAYERS
622.0	MATTOON		BLUE SHALE	16.0	53.0	
606.0	MATTOON		CALCAREOUS BLACK SHALE	3.0	69.0	
603.0	MATTOON		BLUE LIMESTONE	4.5	72.0	
598.5	MATTOON		GRAY LIMESTONE	4.0	76.5	
594.5	MATTOON		BLACK SHALE	1.0	80.5	PROBABLY COAL
593.5	BOND	MILLERSVILLE	FOSSILIFEROUS LIMESTONE	22.5	81.5	
571.0	BOND		SHALY COAL	3.0	104.0	BLACK
568.0	BOND		UNDERCLAY	3.0	107.0	
565.0	BOND		SHALE	1.0	110.0	
564.0	BOND		LIMESTONE	4.0	111.0	
560.0	BOND		SHALY SANDSTONE	30.0	115.0	SOFT
530.0	BOND		BLUE SHALE	12.0	145.0	
518.0	BOND		SANDSTONE	4.0	157.0	
514.0	BOND		LIMESTONE & SHALE	2.0	161.0	BLACK SLATE AND BITUMINOUS LIMESTONE
512.0	BOND		COAL	0.5	163.0	
511.5	BOND		UNDERCLAY	6.0	163.5	
505.5	BOND	CARTHAGE	LIMESTONE	12.0	169.5	DARK ASH COLOR,LOG STATES HARD & SOFT
493.5	MODESTO		SANDSTONE	6.0	181.5	
487.5	MODESTO		BLACK SHALE	5.0	187.5	
482.5	MODESTO		SANDSTONE	7.0	192.5	HARD
475.5	MODESTO		SHALY COAL	1.0	199.5	BLACK SLATE
474.5	MODESTO		SANDSTONE	2.0	200.5	
472.5	MODESTO		SHALY SANDSTONE	38.0	202.5	
434.5	MODESTO		SHALE	10.0	240.5	
424.5	MODESTO		SHALY COAL	1.0	250.5	BLACK SLATE
423.5	MODESTO		UNDERCLAY	6.0	251.5	
417.5	MODESTO		LIMESTONE	5.0	257.5	(CARLINVILLE BED?)
412.5	MODESTO		SANDSTONE	18.0	262.5	
394.5	MODESTO		COAL	0.3	280.5	IMPURE
394.2	MODESTO		SANDSTONE	23.0	280.8	
371.2	MODESTO		CARBONACEOUS SHALE	1.0	303.8	
370.2	MODESTO	CHAPEL	COAL	0.3	304.8	
369.8	MODESTO		BLUE SHALE	3.0	305.2	
366.8	MODESTO		LIMESTONE	0.5	308.2	
366.3	MODESTO		SHALE	21.0	308.7	

345.3	MODESTO		SHALE	42.7	329.7	WITH NUMEROUS IRON BANDS
302.7	MODESTO		BLACK SHALE	4.5	372.3	
298.2	MODESTO		SHALE	1.0	376.8	
297.2	MODESTO		LIMESTONE	3.0	377.8	
294.2	MODESTO		SHALE	8.5	380.8	WITH IRON BANDS
285.7	MODESTO		LIMESTONE	4.5	389.3	SOLID
281.2	MODESTO		SHALE	2.0	393.8	
279.2	MODESTO		NODULAR LIMESTONE	1.5	395.8	
277.7	MODESTO		SHALE	4.0	397.3	WITH NODS OF BK LS
273.7	MODESTO		FOSSILIFEROUS BLACK SHALE	12.0	401.3	WITH FOSSIL SHELLS
261.7	MODESTO		UNDERCLAY	3.0	413.3	
258.7	MODESTO		GRAY SHALE	19.0	416.3	
239.7	CARBONDALE	DANVILLE	COAL	3.0	435.3	
236.7	CARBONDALE		UNDERCLAY	1.5	438.3	
235.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.0	439.8	
231.2	CARBONDALE	ENERGY	SHALE & SANDSTONE	40.0	443.8	
191.2	CARBONDALE	HERRIN	COAL	1.5	483.8	
189.7	CARBONDALE		SANDSTONE/SHALE	45.0	485.3	SOME SH
144.7	CARBONDALE	SPRINGFIELD	COAL	5.0	530.3	W/ SHALY PARTING

MAPID: 13500243000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 445' N line, 100' W line of NE SW

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.636943 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.166633 **DATE COLLECTED:** 10 / 0 / 1939

SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: ROBB L L **WELL TYPE:** Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	8.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	5.0		

MAPID: 13500098000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1480' N line, 2240' W line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.672526 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.171172 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 692.0 **LOGGED (FT.):** 412.8 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR MINING CO. **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
319.0	MODESTO	PIASA	LIMESTONE	7.0	373.0	
312.0	MODESTO		UNCLASSIFIED	2.5	380.0	
309.5	CARBONDALE		UNCLASSIFIED	3.5	382.5	
306.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	386.0	
302.0	CARBONDALE	ENERGY	UNCLASSIFIED	17.0	390.0	
285.0	CARBONDALE	HERRIN	SHALE/COAL	5.8	407.0	UPPER SPLIT #6-MAIN BENCH@443'-CGT

MAPID: 13500098000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1480' N line, 2240' W line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.672526 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.171172 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 692.0 **LOGGED (FT.):** 412.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
319.0	MODESTO	PIASA	LIMESTONE	7.0	373.0	
312.0	CARBONDALE		CONGLOMERATE	4.5	380.0	
307.5	CARBONDALE	ALLENBY	BLACK SHALE	0.5	384.5	
307.0	CARBONDALE		GRAY SHALE	1.0	385.0	
306.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	386.0	
302.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	390.0	
294.0	CARBONDALE	LAWSON	SILTY SHALE	2.0	398.0	
292.0	CARBONDALE	LAWSON	GRAY SHALE	3.0	400.0	
289.0	CARBONDALE	ANNA	BLACK SHALE	4.0	403.0	
285.0	CARBONDALE	HERRIN	SHALE/COAL	5.8	407.0	UPPER SPLIT #6-MAIN BENCH@443'-CGT

MAPID: 13500098000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1480' N line, 2240' W line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.672526 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.171172 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 691.7 **LOGGED (FT.):** 601.0 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR COAL CO. **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
691.7	PLEISTOCENE		CORE LOSS	1.0	0.0	
690.7	PLEISTOCENE		CLAY	12.0	1.0	
678.7	PLEISTOCENE		HARD PAN	21.0	13.0	
657.7	PLEISTOCENE		CLAY	12.0	34.0	
645.7	PLEISTOCENE		SAND	22.0	46.0	
623.7	PLEISTOCENE		CLAY	26.0	68.0	
597.7	PLEISTOCENE		GRAVEL	2.0	94.0	
595.7	MATTOON		SANDY SHALE	20.0	96.0	
575.7	BOND	MILLERSVILLE	LIMESTONE	17.0	116.0	
558.7	BOND		BLACK SHALE	1.0	133.0	
557.7	BOND		GRAY SHALE	7.0	134.0	
550.7	BOND		DARK SHALE	5.0	141.0	
545.7	BOND		SANDY SHALE	34.0	146.0	
511.7	BOND		SHALE WITH LIMESTONE	2.0	180.0	
509.7	BOND		DARK SHALE	1.0	182.0	
508.7	BOND		BLACK SHALE	0.6	183.0	
508.1	BOND		SHALY COAL	0.3	183.6	
507.8	BOND		SHALE	1.1	183.9	
506.7	BOND		DARK SHALE	6.0	185.0	
500.7	BOND	CARTHAGE	LIMESTONE	4.0	191.0	LOG READS BASTARD LIME ROCK
496.7	MODESTO		SANDY SHALE	24.0	195.0	
472.7	MODESTO	CARLINVILLE	LIMESTONE	6.0	219.0	
466.7	MODESTO		SANDSTONE	0.5	225.0	
466.2	MODESTO		ARGILACEOUS SHALE	1.0	225.5	
465.2	MODESTO		LIMESTONE	0.5	226.5	
464.7	MODESTO		SANDY SHALE	30.0	227.0	
434.7	MODESTO		GRAY SHALE	7.0	257.0	
427.7	MODESTO		BLACK SHALE	0.8	264.0	
426.9	MODESTO		CARBONACEOUS SHALE	0.4	264.8	
426.4	MODESTO		DARK SHALE	6.8	265.3	
419.7	MODESTO		SANDY SHALE	59.0	272.0	
360.7	MODESTO		DARK SHALE	12.0	331.0	
348.7	MODESTO		RED SHALE	5.0	343.0	
343.7	MODESTO		SANDSTONE	19.0	348.0	
324.7	MODESTO		SANDY SHALE	3.0	367.0	
321.7	MODESTO		GRAY SHALE	3.0	370.0	
318.7	MODESTO	PIASA	LIMESTONE	7.0	373.0	
311.7	MODESTO		CONGLOMERATE	4.5	380.0	
307.2	MODESTO		BLACK SHALE	0.5	384.5	

306.7	CARBONDALE		BLUE SHALE	1.0	385.0	
305.7	CARBONDALE		LIMESTONE	4.0	386.0	
301.7	CARBONDALE	ENERGY	GRAY SHALE	8.0	390.0	
293.7	CARBONDALE	ENERGY	SANDY SHALE	2.0	398.0	
291.7	CARBONDALE	ENERGY	GRAY SHALE	3.0	400.0	
288.7	CARBONDALE	ENERGY	DARK SHALE	4.0	403.0	
284.7	CARBONDALE	ENERGY	CARBONACEOUS SHALE	0.9	407.0	
283.8	CARBONDALE	ENERGY	DARK SHALE	2.7	407.9	
281.1	CARBONDALE	ENERGY	BLACK SHALE	0.4	410.6	AND MIXED COAL
280.7	CARBONDALE	ENERGY	BLACK SHALE	0.6	411.0	
280.1	CARBONDALE	ENERGY	CARBONACEOUS SHALE	0.4	411.6	
279.7	CARBONDALE	HERRIN	SHALY COAL	0.8	412.0	LOG READS '(BENDED)' ??
278.9	CARBONDALE	ENERGY	BLUE SHALE	3.3	412.8	SANDY
275.7	CARBONDALE	ENERGY	ARGILACEOUS SHALE	27.0	416.0	DARK
248.7	CARBONDALE	ENERGY	BLACK SHALE	0.7	443.0	
248.0	CARBONDALE	HERRIN	COAL	3.2	443.7	
244.9	CARBONDALE		DARK SHALE	4.2	446.8	
240.7	CARBONDALE		LIMESTONE	8.0	451.0	LOG READS BASTARD LIME ROCK
232.7	CARBONDALE		SANDSTONE	6.0	459.0	HARD
226.7	CARBONDALE		BLUE SHALE	3.0	465.0	SANDY
223.7	CARBONDALE		LIMESTONE	1.0	468.0	
222.7	CARBONDALE	EXCELLO	BLACK SHALE	2.0	469.0	
220.7	CARBONDALE	HOUCHIN CREEK	COAL	0.7	471.0	MT. OLIVE VEIN
220.0	CARBONDALE		BLACK SHALE	0.2	471.7	
219.9	CARBONDALE		UNDERCLAY	1.2	471.8	
218.7	CARBONDALE		SANDSTONE	65.5	473.0	
153.2	CARBONDALE	SURVANT	COAL	2.8	538.5	LITCHFIELD
150.4	CARBONDALE		DARK SHALE	4.1	541.3	
146.4	CARBONDALE	SURVANT	COAL	0.9	545.3	
145.4	CARBONDALE		SANDY SHALE	0.8	546.3	
144.7	CARBONDALE		BLACK SHALE	4.0	547.0	
140.7	CARBONDALE		SANDY SHALE	19.0	551.0	
121.7	CARBONDALE		DARK SHALE	4.7	570.0	
117.0	CARBONDALE		BLACK SHALE	2.5	574.7	TRACES OF GRAY
114.5	CARBONDALE	COLCHESTER	COAL	2.8	577.2	ALTON
111.8	SPOON		BLACK SHALE	0.3	579.9	
111.5	SPOON		LIMESTONE	1.8	580.2	LOG READS BASTARD LIME ROCK
109.7	SPOON		LIMESTONE	1.5	582.0	
108.2	SPOON		DARK SHALE	0.8	583.5	
107.4	SPOON		BLACK SHALE	0.3	584.3	
107.2	SPOON		DARK SHALE	0.5	584.5	
106.7	SPOON		GRAY SHALE	0.7	585.0	
106.0	SPOON	SEELYVILLE	COAL	0.8	585.7	
105.3	SPOON	SEELYVILLE	SHALE	0.1	586.4	
105.2	SPOON	SEELYVILLE	COAL	0.5	586.5	
104.7	SPOON	SEELYVILLE	HARD SHALE	0.3	587.0	
104.4	SPOON	SEELYVILLE	SHALY COAL	1.7	587.3	

102.7	SPOON	SEELYVILLE	DARK SHALE	1.0	589.0	
101.7	SPOON	SEELYVILLE	GRAY SHALE	2.5	590.0	
99.2	SPOON	SEELYVILLE	NO RECORD	0.5	592.5	NO RECORD 592.5 TO 593 FEET
98.7	SPOON	SEELYVILLE	COAL	1.0	593.0	
97.7	SPOON		UNDERCLAY	0.3	594.0	
97.4	SPOON		SANDSTONE	2.8	594.3	
94.7	SPOON		UNDERCLAY	4.0	597.0	

MAPID: 13500882000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 291' N line, 330' E line of SW NW

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.638508 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.156323 **DATE COLLECTED:** 4 / 0 / 1950

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: LONG CHARLES P **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	8.0		
-	MODESTO		UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	3.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		

MAPID: 13500906000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 380' S line, 330' W line of NE SE

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.626577 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.150597 **DATE COLLECTED:** 7 / 0 / 1957

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: RIDGEWAY EDWARD S **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	6.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0		

MAPID: 13500337000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW
QUADRANGLE: BUTLER **LONGITUDE:** -89.621736 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.15216 **DATE COLLECTED:** 10 / 0 / 1955
SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: BASSETT, CLYDE **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	2.3		
-	CARBONDALE		UNCLASSIFIED	6.3		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		

MAPID: 13500702000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.617117 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.148402 **DATE COLLECTED:** 11 / 0 / 1952
SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: CALIFORNIA CO. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.5		
-	MODESTO		UNCLASSIFIED	2.5		
-	CARBONDALE		UNCLASSIFIED	6.5		

MAPID: 13500702000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.617117 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.148402 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 461.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
357.0	MODESTO	PIASA	LIMESTONE	4.0	298.0	
353.0	CARBONDALE	ENERGY	GRAY SHALE	9.0	302.0	
344.0	CARBONDALE	ENERGY	SANDSTONE	80.0	311.0	
264.0	CARBONDALE	ENERGY	SANDSTONE	70.0	391.0	

MAPID: 13500702000C **VERSION:** 3 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.617117 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.148402 **DATE COLLECTED:** 11 / 0 / 1952
SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** 538.0 **LOG TYPE:** Electric Log
SOURCE: CALIFORNIA CO. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
357.0	MODESTO	PIASA	UNCLASSIFIED	-	297.0	
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		WALSHVILLE CHANNEL - COAL MISSING
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0		WALSHVILLE CHANNEL - COAL MISSING
116.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	538.0	
116.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	538.0	

MAPID: 13501247000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.593419 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.138791 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 448.4 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 84-BB **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
213.0	MODESTO	PIASA	LIMESTONE	6.6	413.0	
206.4	MODESTO		GRAY SHALE	2.2	419.6	
204.2	CARBONDALE	DANVILLE	DARK GRAY SHALE	0.8	421.8	
203.4	CARBONDALE		CLAYSTONE	1.2	422.6	
202.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.0	423.8	
201.2	CARBONDALE	ALLENBY	BLACK SHALE	0.3	424.8	
200.9	CARBONDALE		CLAYSTONE & SHALE	2.1	425.1	
198.8	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.5	427.2	
197.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	8.0	428.7	
189.3	CARBONDALE	ANNA	BLACK SHALE	1.9	436.7	
187.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	9.4	439.0	

MAPID: 13501247000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.593419 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.138791 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 447.4 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 84-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
213.1	MODESTO	PIASA	LIMESTONE	5.8	412.9	
207.3	MODESTO		UNCLASSIFIED	2.2	418.7	
205.1	CARBONDALE	DANVILLE	COAL	0.8	420.9	
204.3	CARBONDALE		UNCLASSIFIED	4.7	421.7	
199.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	426.4	
196.7	CARBONDALE	BRERETON	LIMESTONE	6.8	429.3	
189.9	CARBONDALE	ANNA	BLACK SHALE	1.9	436.1	
188.0	CARBONDALE	HERRIN	COAL	9.4	438.0	

MAPID: 13501247000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.593419 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.138791 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 447.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 84-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
187.5	CARBONDALE	HERRIN	COAL	9.4	438.5	

MAPID: 13500883000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.617143 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.144758 **DATE COLLECTED:** 4 / 0 / 1950
SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: LONG CHARLES P **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	5.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13501266000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 990' E line
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.626538 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.144991 **DATE COLLECTED:** 4 / 0 / 1962
SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: MORRIS, RONALD E. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0		

MAPID: 13501266000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 990' E line
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.626538 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.144991 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
370.0	MODESTO	PIASA	LIMESTONE	7.0	292.0	
363.0	CARBONDALE	ENERGY	SILTY SHALE	60.0	299.0	
303.0	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	39.0	359.0	

MAPID: 13501266000C **VERSION:** 3 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 990' E line
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.626538 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.144991 **DATE COLLECTED:** 4 / 0 / 1962
SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 9999.9 **LOG TYPE:** Electric Log
SOURCE: MORRIS, RONALD E. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
369.0	MODESTO	PIASA	UNCLASSIFIED	-	293.0	
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.0		WALSHVILLE CHANNEL - COAL MISSING
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0		WALSHVILLE CHANNEL - COAL MISSING
-	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	0.0		WALSHVILLE CHANNEL - COAL MISSING
-	CARBONDALE	SURVANT	UNCLASSIFIED	0.0		WALSHVILLE CHANNEL - COAL MISSING
-			UNCLASSIFIED	0.0		WALSHVILLE CHANNEL - COAL MISSING

MAPID: 13500099000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 50' S line, 3925' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.694602 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.117023 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 678.0 **LOGGED (FT.):** 401.8 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
283.0	CARBONDALE	HERRIN	COAL	6.8	395.0	

MAPID: 13500099000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 50' S line, 3925' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.694602 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.117023 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 678.0 **LOGGED (FT.):** 6.8 **LOG TYPE:** Drillers Log
SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
678.0			UNKNOWN	395.0	0.0	
283.0	CARBONDALE	HERRIN	COAL	6.8	395.0	

MAPID: 13500099000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 50' S line, 3925' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.694602 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.117023 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 677.5 **LOGGED (FT.):** 401.8 **LOG TYPE:** Drillers Log
SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test
COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
677.5			UNCLASSIFIED	368.0	0.0	INTERVAL NOT LOGGED
309.5			LIMESTONE	7.0	368.0	
302.5			CARBONACEOUS SHALE	20.0	375.0	LOG READS 'SHALE AND CLOD'
282.5	CARBONDALE	HERRIN	COAL	6.8	395.0	

MAPID: 13522333000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2610' S line, 63' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.680877 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.124037 **DATE COLLECTED:** 6 / 23 / 1978

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 450.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL MOS-77-34 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
253.0	CARBONDALE	HERRIN	COAL	6.5	424.0	CLEAN COAL, ALSO CONTAINS 1' PARTING

MAPID: 13522333000C **VERSION:** 2 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2610' S line, 63' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.680877 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.124037 **DATE COLLECTED:** 6 / 23 / 1978

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 450.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL MOS-77-34 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
677.0			UNCONSOLIDATED	92.0	0.0	
585.0	BOND		SANDY LIMESTONE	4.0	92.0	
581.0	BOND	CARTHAGE	LIMESTONE	13.0	96.0	
568.0	MODESTO		BLACK SHALE	2.0	109.0	
566.0	MODESTO		GRAY SHALE	55.0	111.0	
511.0	MODESTO		BLACK SHALE	3.0	166.0	
508.0	MODESTO		GRAY SHALE	7.0	169.0	
501.0	MODESTO	MACOUPIN	LIMESTONE	2.5	176.0	
498.5	MODESTO		GRAY SHALE	23.5	178.5	
475.0	MODESTO	CARLINVILLE	LIMESTONE	6.0	202.0	
469.0	MODESTO		SANDY SHALE	7.0	208.0	
462.0	MODESTO		SANDSTONE	15.0	215.0	
447.0	MODESTO		GRAY SHALE	38.0	230.0	
409.0	MODESTO		SANDY SHALE	8.0	268.0	
401.0	MODESTO		GRAY SHALE	84.0	276.0	
317.0	MODESTO		BLACK SHALE	2.5	360.0	
314.5	MODESTO		GRAY SHALE	10.0	362.5	
304.5	MODESTO		SHALE	6.5	372.5	
298.0	MODESTO	PIASA	LIMESTONE	3.0	379.0	
295.0	MODESTO		SHALE	6.0	382.0	
289.0	CARBONDALE		GRAY SHALE	7.0	388.0	
282.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	395.0	
277.0	CARBONDALE		BLACK SHALE	1.0	400.0	
276.0	CARBONDALE	ENERGY	GRAY SHALE	23.0	401.0	
253.0	CARBONDALE	HERRIN	COAL	7.7	424.0	
245.3	CARBONDALE		UNDERCLAY	1.2	431.7	
244.2	CARBONDALE		LIMESTONE	14.7	432.8	
229.5	CARBONDALE		GRAY SHALE	2.5	447.5	

MAPID: 13500100000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1630' S line, 430' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.663112 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.121361 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 397.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
277.0	CARBONDALE	HERRIN	COAL	7.5	390.0	

MAPID: 13500100000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1630' S line, 430' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.663112 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.121361 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 471.0 **LOG TYPE:** Drillers Log
SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
667.0			UNKNOWN	230.0	0.0	
437.0			COAL	0.3	230.0	
436.7			UNKNOWN	159.7	230.3	
277.0	CARBONDALE	HERRIN	COAL	7.5	390.0	
269.5			UNKNOWN	72.5	397.5	

MAPID: 13500100000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1630' S line, 430' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.663112 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.121361 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 666.9 **LOGGED (FT.):** 471.0 **LOG TYPE:** Drillers Log
SOURCE: PEOPLE'S COAL CO. **WELL TYPE:** Coal Test
COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
666.9			UNCLASSIFIED	230.0	0.0	INTERVAL NOT LOGGED-ONLY LOGGED COAL
436.9			COAL	0.3	230.0	
436.6			UNCLASSIFIED	159.7	230.3	INTERVAL NOT LOGGED - ONLY LOGGED COAL
276.9	CARBONDALE	HERRIN	COAL	7.5	390.0	
269.4			UNCLASSIFIED	73.5	397.5	INTERVAL NOT LOGGED - ONLY LOGGED COAL

MAPID: 13500101000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 3640' S line, 40' E line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.661774 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.126912 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 672.0 **LOGGED (FT.):** 407.0 **LOG TYPE:** Drillers Log

SOURCE: CORNELL DAVID **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
271.0	CARBONDALE	HERRIN	COAL	6.0	401.0	

MAPID: 13500102000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** SW SE SW

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.674709 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.117777 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 384.4 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
338.6	MODESTO	PIASA	LIMESTONE	4.0	338.4	
334.6	MODESTO		UNCLASSIFIED	4.0	342.4	
330.6	CARBONDALE		UNCLASSIFIED	11.0	346.4	
319.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	357.4	
313.6	CARBONDALE	ENERGY	UNCLASSIFIED	12.6	363.4	
301.0	CARBONDALE	HERRIN	COAL	8.4	376.0	

MAPID: 13500102000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** SW SE SW

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.674709 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.117777 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 387.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
677.0			UNCONSOLIDATED	66.0	0.0	
611.0			ROCK	71.0	66.0	
540.0			COAL	0.3	137.0	
539.7			ROCK	75.4	137.3	
464.2			COAL	0.3	212.8	
464.0			ROCK	100.0	213.0	
364.0			COAL	0.2	313.0	
363.8			ROCK	28.8	313.2	
335.0			SHALE	15.0	342.0	
320.0			LIMESTONE	6.0	357.0	
314.0			SHALE	12.6	363.0	
301.4	CARBONDALE	HERRIN	COAL	8.4	375.6	
293.0	CARBONDALE		ROCK	3.0	384.0	

MAPID: 13500102000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** SW SE SW

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.674709 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.117777 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 676.8 **LOGGED (FT.):** 387.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO. **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
676.8	PLEISTOCENE		CLAY	7.0	0.0	
669.8	PLEISTOCENE		SAND	3.0	7.0	
666.8	PLEISTOCENE		CLAY	5.0	10.0	
661.8	PLEISTOCENE		SAND	11.0	15.0	
650.8	PLEISTOCENE		CLAY	13.0	26.0	
637.8	PLEISTOCENE		SAND	3.0	39.0	
634.8	PLEISTOCENE		CLAY & GRAVEL	15.0	42.0	CLAY & GRAVEL MIXED
619.8	PLEISTOCENE		GRAVEL	9.0	57.0	AND BOULDERS
610.8	BOND	CARTHAGE	LIMESTONE	7.0	66.0	
603.8	BOND	CARTHAGE	LIMESTONE	4.0	73.0	
599.8	MODESTO		BLACK SHALE	1.0	77.0	
598.8	MODESTO		SHALE	3.0	78.0	BROKEN LIME
595.8	MODESTO		SHALE WITH LIMESTONE	8.0	81.0	
587.8	MODESTO		GRAY SHALE	6.0	89.0	W/ LS BANDS
581.8	MODESTO		SANDY SHALE	29.0	95.0	
552.8	MODESTO		SANDY SHALE	8.0	124.0	
544.8	MODESTO		FOSSILIFEROUS SHALE	2.0	132.0	
542.8	MODESTO		BLACK SHALE	3.0	134.0	
539.8	MODESTO		COAL	0.3	137.0	
539.5	MODESTO		ARGILACEOUS SHALE	5.7	137.3	
533.8	MODESTO		SHALE WITH LIMESTONE	3.0	143.0	
530.8	MODESTO		LIMESTONE	3.0	146.0	
527.8	MODESTO		SANDY SHALE	12.0	149.0	
515.8	MODESTO		DARK SHALE	7.0	161.0	
508.8	MODESTO		LIMESTONE	6.0	168.0	
502.8	MODESTO		SANDY SHALE	24.0	174.0	
478.8	MODESTO		GRAY SHALE	14.0	198.0	
464.8	MODESTO		BLACK SHALE	0.8	212.0	
464.0	MODESTO	CHAPEL	COAL	0.3	212.8	
463.8	MODESTO		ARGILACEOUS SHALE	3.0	213.0	
460.8	MODESTO		SHALE WITH LIMESTONE	4.0	216.0	
456.8	MODESTO		SANDSTONE	2.0	220.0	
454.8	MODESTO		SANDY SHALE	4.0	222.0	
450.8	MODESTO		SANDY SHALE	31.0	226.0	
419.8	MODESTO		SANDY SHALE	20.0	257.0	
399.8	MODESTO		GRAY SHALE	10.0	277.0	
389.8	MODESTO		GRAY SHALE	17.0	287.0	
372.8	MODESTO		DARK SHALE	7.0	304.0	
365.8	MODESTO		DARK SHALE	2.0	311.0	

363.8	MODESTO		COAL	0.2	313.0
363.6	MODESTO		LIGHT SHALE	5.8	313.2
357.8	MODESTO		ARGILACEOUS SHALE	5.0	319.0
352.8	MODESTO		BLACK SHALE	2.0	324.0
350.8	MODESTO		ARGILACEOUS SHALE	1.0	326.0
349.8	MODESTO		ARGILACEOUS SHALE	6.0	327.0
343.8	MODESTO		SHALE	3.0	333.0
340.8	MODESTO		ARGILACEOUS SHALE	2.0	336.0
338.8	MODESTO	PIASA	LIMESTONE	4.0	338.0
334.8	MODESTO		DARK SHALE	15.0	342.0
319.8	CARBONDALE	BRERETON	LIMESTONE	6.0	357.0
313.8	CARBONDALE	ANNA	DARK SHALE	12.6	363.0
301.2	CARBONDALE	HERRIN	COAL	8.4	375.6
292.8	CARBONDALE		UNDERCLAY	3.0	384.0

MAPID: 13500244000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.66996 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.123424 **DATE COLLECTED:** 10 / 0 / 1940

SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 412.5 **LOG TYPE:** Electric Log

SOURCE: SEABOARD OIL OF DE **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
313.1	MODESTO	PIASA	LIMESTONE	4.5	359.9	
308.6	MODESTO		UNCLASSIFIED	3.3	364.4	
305.3	CARBONDALE		UNCLASSIFIED	9.3	367.7	
296.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	377.0	
291.0	CARBONDALE	ENERGY	UNCLASSIFIED	25.0	382.0	
266.0	CARBONDALE	HERRIN	COAL	5.5	407.0	

MAPID: 13501423000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW SW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.677068 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.121498 **DATE COLLECTED:** 8 / 0 / 1955
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: WHITE EDGAR **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	12.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	3.0		
-	CARBONDALE	BRERETON	LIMESTONE	4.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13500105000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1140' S line, 2390' W line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.633754 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.119728 **DATE COLLECTED:** 1 / 0 / 1927
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: PRODUCERS OIL CO **WELL TYPE:** Dry Hole
COMMENT:

MAPID: 13500106000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** NE NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.597187 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.128794 **DATE COLLECTED:** 0 / 0 / 1909
SURFACE ELEVATION (FT.): 571.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: PRODUCERS OIL CO **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

MAPID: 13501597000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' N line, 920' E line of SE NW
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.617106 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.111895 **DATE COLLECTED:** 11 / 0 / 1967
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: GNAS, ARTHUR F. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		

MAPID: 13500188000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE SW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.655587 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.104691 **DATE COLLECTED:** 6 / 0 / 1943
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 393.0 **LOG TYPE:** Electric Log
SOURCE: HOLMES, W. RALPH, ETAL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
314.0	MODESTO	PIASA	LIMESTONE	5.0	346.0	
309.0	MODESTO		UNCLASSIFIED	3.0	351.0	
306.0	CARBONDALE		UNCLASSIFIED	9.0	354.0	
297.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	363.0	
290.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	370.0	
287.5	CARBONDALE		UNCLASSIFIED	1.5	372.5	
286.0	CARBONDALE	BRERETON	LIMESTONE	8.0	374.0	
278.0	CARBONDALE	ANNA	BLACK SHALE	3.0	382.0	
275.0	CARBONDALE	HERRIN	COAL	8.0	385.0	

MAPID: 13501673000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.660407 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.110303 **DATE COLLECTED:** 9 / 0 / 1969
SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Electric Log
SOURCE: LAY, ROSS R. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
309.0	MODESTO	PIASA	LIMESTONE	4.0	355.0	
305.0	MODESTO		UNCLASSIFIED	3.5	359.0	
301.5	CARBONDALE		UNCLASSIFIED	9.5	362.5	
292.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	372.0	
285.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	379.0	
283.0	CARBONDALE		UNCLASSIFIED	1.0	381.0	
282.0	CARBONDALE	BRERETON	LIMESTONE	6.0	382.0	
276.0	CARBONDALE	ANNA	BLACK SHALE	3.0	388.0	
273.0	CARBONDALE	HERRIN	COAL	7.0	391.0	

MAPID: 13500107000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 75' S line, 4850' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.678791 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.102231 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 668.0 **LOGGED (FT.):** 398.5 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
313.0	MODESTO	PIASA	LIMESTONE	4.0	355.0	
309.0	MODESTO		UNCLASSIFIED	3.0	359.0	
306.0	CARBONDALE		UNCLASSIFIED	8.0	362.0	
298.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	370.0	
291.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	377.0	
289.0	CARBONDALE		UNCLASSIFIED	1.5	379.0	
287.5	CARBONDALE	BRERETON	LIMESTONE	7.0	380.5	
280.5	CARBONDALE	ANNA	BLACK SHALE	3.5	387.5	
277.0	CARBONDALE	HERRIN	COAL	7.5	391.0	

MAPID: 13500107000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 75' S line, 4850' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.678791 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.102231 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 668.0 **LOGGED (FT.):** 402.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
668.0			UNCONSOLIDATED	86.0	0.0	
582.0			ROCK	59.0	86.0	
523.0			COAL	0.2	145.0	
522.8			ROCK	81.5	145.2	
441.3			COAL	0.3	226.7	
441.0			ROCK	102.0	227.0	
339.0			COAL	0.3	329.0	
338.7			ROCK	40.7	329.3	
298.0			LIMESTONE	17.5	370.0	
280.5			BLACK SHALE	3.5	387.5	
277.0	CARBONDALE	HERRIN	COAL	7.5	391.0	
269.5	CARBONDALE		ROCK	3.5	398.5	

MAPID: 13500107000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 75' S line, 4850' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.678791 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.102231 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 668.1 **LOGGED (FT.):** 402.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
668.1	PLEISTOCENE		CLAY	6.0	0.0	
662.1	PLEISTOCENE		SAND	9.0	6.0	
653.1	PLEISTOCENE		CLAY	10.0	15.0	
643.1	PLEISTOCENE		SAND	10.0	25.0	
633.1	PLEISTOCENE		SAND	30.0	35.0	AND ROTTEN WOOD, MIXED
603.1	PLEISTOCENE		SAND & GRAVEL	10.0	65.0	
593.1	PLEISTOCENE		CLAY & GRAVEL	7.0	75.0	
586.1	PLEISTOCENE		GRAVEL	4.0	82.0	
582.1	BOND	CARTHAGE	LIMESTONE	2.0	86.0	
580.1	MODESTO		BLACK SHALE	2.0	88.0	
578.1	MODESTO		SHALE WITH LIMESTONE	9.0	90.0	
569.1	MODESTO		SANDY SHALE	40.0	99.0	
529.1	MODESTO		FOSSILIFEROUS SHALE	3.0	139.0	
526.1	MODESTO		BLACK SHALE	3.0	142.0	
523.1	MODESTO		COAL	0.2	145.0	
522.9	MODESTO		ARGILACEOUS SHALE	0.8	145.2	
522.1	MODESTO		SHALE WITH LIMESTONE	10.0	146.0	
512.1	MODESTO		LIMESTONE	2.0	156.0	
510.1	MODESTO		SANDY SHALE	21.0	158.0	
489.1	MODESTO		DARK SHALE	2.0	179.0	
487.1	MODESTO	CARLINVILLE	LIMESTONE	6.0	181.0	
481.1	MODESTO		SANDY SHALE	36.0	187.0	
445.1	MODESTO		DARK SHALE	3.7	223.0	
441.4	MODESTO		COAL	0.3	226.7	
441.1	MODESTO		ARGILACEOUS SHALE	7.0	227.0	
434.1	MODESTO		DARK SHALE	2.0	234.0	
432.1	MODESTO		SANDY SHALE	23.0	236.0	
409.1	MODESTO		SANDY SHALE	18.0	259.0	
391.1	MODESTO		SANDY SHALE	19.0	277.0	
372.1	MODESTO		GRAY SHALE	29.0	296.0	
343.1	MODESTO		DARK SHALE	4.0	325.0	
339.1	MODESTO		COAL	0.3	329.0	
338.8	MODESTO		ARGILACEOUS SHALE	6.7	329.3	
332.1	MODESTO		DARK SHALE	8.0	336.0	
324.1	MODESTO		SHALE	6.0	344.0	MIXED
318.1	MODESTO		SHALE WITH LIMESTONE	5.0	350.0	
313.1	MODESTO	PIASA	LIMESTONE	4.0	355.0	
309.1	MODESTO		DARK SHALE	5.0	359.0	
304.1	CARBONDALE		ARGILACEOUS SHALE	2.0	364.0	

302.1	CARBONDALE		SHALE WITH LIMESTONE	4.0	366.0	
298.1	CARBONDALE	BRERETON	LIMESTONE	17.5	370.0	
280.6	CARBONDALE	ANNA	BLACK SHALE	3.5	387.5	
277.1	CARBONDALE	HERRIN	COAL	7.5	391.0	
269.6	CARBONDALE		ARGILACEOUS SHALE	0.5	398.5	
269.1	CARBONDALE		LIMESTONE W/ SHALE	3.0	399.0	LS MIXED WITH LMY SH

MAPID: 13500180000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 310' S line, 1825' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.668072 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.102833 **DATE COLLECTED:** 0 / 0 / 1938

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 374.5 **LOG TYPE:** Drillers Log

SOURCE: MEYERS ETAL **WELL TYPE:** Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
301.0	MODESTO	PIASA	LIMESTONE	5.0	330.0	
296.0	MODESTO		UNCLASSIFIED	4.0	335.0	
292.0	CARBONDALE		UNCLASSIFIED	11.0	339.0	
281.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	350.0	
274.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	357.0	
273.0	CARBONDALE		UNCLASSIFIED	1.0	358.0	
272.0	CARBONDALE	BRERETON	LIMESTONE	7.0	359.0	
265.0	CARBONDALE	ANNA	BLACK SHALE	1.0	366.0	
264.0	CARBONDALE	HERRIN	COAL	7.5	367.0	

MAPID: 13500191000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 925' S line, 3450' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.673823 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.104555 **DATE COLLECTED:** 0 / 0 / 1938

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 384.0 **LOG TYPE:** Drillers Log

SOURCE: CASSEDAY BILL **WELL TYPE:** Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
309.0	MODESTO	PIASA	LIMESTONE	4.0	339.0	
305.0	MODESTO		UNCLASSIFIED	3.0	343.0	
302.0	CARBONDALE		UNCLASSIFIED	7.0	346.0	
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	353.0	
289.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	359.0	
288.0	CARBONDALE	BRERETON	LIMESTONE	8.0	360.0	
280.0	CARBONDALE	ENERGY	UNCLASSIFIED	9.0	368.0	
271.0	CARBONDALE	HERRIN	COAL	7.0	377.0	

MAPID: 13501117000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.662775 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.102862 **DATE COLLECTED:** 12 / 0 / 1958
SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 404.5 **LOG TYPE:** Electric Log
SOURCE: COVINGTON, JAMES R. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.0	MODESTO	PIASA	LIMESTONE	4.0	370.0	
283.0	MODESTO		UNCLASSIFIED	4.0	374.0	
279.0	CARBONDALE		UNCLASSIFIED	10.0	378.0	
269.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	388.0	
264.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	393.0	
263.0	CARBONDALE		UNCLASSIFIED	1.0	394.0	
262.0	CARBONDALE	BRERETON	LIMESTONE	4.0	395.0	
258.0	CARBONDALE	ANNA	BLACK SHALE	1.0	399.0	
257.0	CARBONDALE	HERRIN	COAL	4.5	400.0	

MAPID: 13501189000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.679535 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.110341 **DATE COLLECTED:** 1 / 0 / 1961
SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 540.0 **LOG TYPE:** Electric Log
SOURCE: COVINGTON & COOPER **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
360.0	MODESTO	PIASA	UNCLASSIFIED	-	313.0	
267.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	406.0	
259.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	414.0	THIN OR ABSENT
245.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	428.0	
176.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	497.0	
133.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	540.0	

MAPID: 13501189000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.679535 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.110341 **DATE COLLECTED:** 1 / 0 / 1961
SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 411.5 **LOG TYPE:** Electric Log
SOURCE: COVINGTON & COOPER **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
310.0	MODESTO	PIASA	LIMESTONE	4.5	363.0	
305.5	MODESTO		UNCLASSIFIED	3.0	367.5	
302.5	CARBONDALE		UNCLASSIFIED	9.0	370.5	
293.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	379.5	
287.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	385.5	
284.5	CARBONDALE		UNCLASSIFIED	2.5	388.5	
282.0	CARBONDALE	BRERETON	LIMESTONE	9.5	391.0	
272.5	CARBONDALE	ANNA	BLACK SHALE	3.5	400.5	
269.0	CARBONDALE	HERRIN	COAL	7.5	404.0	

MAPID: 13501424000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE NE
QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.665181 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.112223 **DATE COLLECTED:** 4 / 0 / 1943
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: HOLMES, W. RALPH, ETAL **WELL TYPE:** Producer-Oil
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	8.0		
-	MODESTO		UNCLASSIFIED	3.5		
-	CARBONDALE		UNCLASSIFIED	9.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	17.0		
-	CARBONDALE	HERRIN	COAL	3.0		

MAPID: 13501429000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE NW

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.674755 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.110335 **DATE COLLECTED:** 6 / 0 / 1943

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 421.0 **LOG TYPE:** Electric Log

SOURCE: HOLMES, W. RALPH, ETAL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
295.0	MODESTO	PIASA	LIMESTONE	6.0	370.0	
289.0	MODESTO		UNCLASSIFIED	3.0	376.0	
286.0	CARBONDALE		UNCLASSIFIED	9.0	379.0	
277.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	388.0	
269.0	CARBONDALE	ENERGY	UNCLASSIFIED	19.0	396.0	
250.0	CARBONDALE	HERRIN	COAL	6.0	415.0	

MAPID: 13522334000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 68' S line, 77' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.680446 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.102221 **DATE COLLECTED:** 6 / 22 / 1978

SURFACE ELEVATION (FT.): 671.0 **LOGGED (FT.):** 483.5 **LOG TYPE:** Multiple log types

SOURCE: **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.0	CARBONDALE	HERRIN	COAL	8.3	389.0	
191.0	CARBONDALE	HOUCHIN CREEK	COAL	3.5	480.0	

MAPID: 13522334000C **VERSION:** 2 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 68' S line, 77' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.680446 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.102221 **DATE COLLECTED:** 6 / 22 / 1978

SURFACE ELEVATION (FT.): 671.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL MOS-77-33 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
671.0			UNCONSOLIDATED	95.0	0.0	
576.0	MODESTO		GRAY SHALE	46.0	95.0	
530.0	MODESTO		BLACK SHALE	3.0	141.0	
527.0	MODESTO		GRAY SHALE	9.0	144.0	
518.0	MODESTO	MACOUPIN	LIMESTONE	2.0	153.0	
516.0	MODESTO		GRAY SHALE	24.0	155.0	
492.0	MODESTO	CARLINVILLE	SHALY LIMESTONE	5.0	179.0	
487.0	MODESTO		GRAY SHALE	26.0	184.0	
461.0	MODESTO		SANDY SHALE	30.0	210.0	
431.0	MODESTO		GRAY SHALE	9.0	240.0	
422.0	MODESTO		SANDY SHALE	9.0	249.0	
413.0	MODESTO		GRAY SHALE	70.0	258.0	
343.0	MODESTO		COAL	2.0	328.0	
341.0	MODESTO		GRAY SHALE	6.5	330.0	
334.5	MODESTO		BLACK SHALE	1.5	336.5	
333.0	MODESTO		GRAY SHALE	4.0	338.0	
329.0	MODESTO		SHALE	11.0	342.0	
318.0	MODESTO	PIASA	LIMESTONE	5.0	353.0	
313.0	MODESTO		SHALE	4.5	358.0	
308.5	CARBONDALE	DANVILLE	COAL	1.5	362.5	
307.0	CARBONDALE		SHALE	3.0	364.0	
304.0	CARBONDALE		GRAY SHALE	6.0	367.0	
298.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	373.0	
293.0	CARBONDALE	ENERGY	SHALE	4.0	378.0	
289.0	CARBONDALE	ENERGY	GRAY SHALE	7.4	382.0	
281.6	CARBONDALE	HERRIN	COAL	7.9	389.4	
273.7	CARBONDALE		UNDERCLAY	0.9	397.3	
272.8	CARBONDALE		GRAY SHALE	1.1	398.2	
271.7	CARBONDALE		CORE LOSS	0.2	399.3	
271.6	CARBONDALE		CALCAREOUS SHALE	12.6	399.4	
259.0	CARBONDALE		GRAY SHALE	5.0	412.0	
254.0	CARBONDALE	ST. DAVID	LIMESTONE	1.0	417.0	
253.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	418.0	
251.0	CARBONDALE		GRAY SHALE	11.0	420.0	
240.0	CARBONDALE		SANDY SHALE	2.0	431.0	
238.0	CARBONDALE		CALCAREOUS SANDSTONE	22.0	433.0	
216.0	CARBONDALE		CALCAREOUS SHALE	7.0	455.0	
209.0	CARBONDALE		SANDY SHALE	20.0	462.0	

189.0	CARBONDALE	SURVANT	COAL	3.0	482.0
186.0	CARBONDALE		SHALE	15.0	485.0

MAPID: 13500205000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 378' S line, 120' E line of NE SE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681134 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.106777 **DATE COLLECTED:** 11 / 0 / 1940

SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 405.0 **LOG TYPE:** Electric Log

SOURCE: TOPF ETAL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
314.0	MODESTO	PIASA	LIMESTONE	8.0	350.0	
306.0	MODESTO		UNCLASSIFIED	3.0	358.0	
303.0	CARBONDALE		UNCLASSIFIED	9.0	361.0	
294.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	370.0	
284.0	CARBONDALE	ENERGY	UNCLASSIFIED	17.0	380.0	
267.0	CARBONDALE	HERRIN	COAL	8.0	397.0	

MAPID: 13501219000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681873 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.110349 **DATE COLLECTED:** 2 / 0 / 1962

SURFACE ELEVATION (FT.): 672.0 **LOGGED (FT.):** 419.0 **LOG TYPE:** Electric Log

SOURCE: FRANK'S PETROLEUM **WELL TYPE:** Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
299.0	MODESTO	PIASA	LIMESTONE	4.0	373.0	
295.0	MODESTO		UNCLASSIFIED	3.5	377.0	
291.5	CARBONDALE		UNCLASSIFIED	9.5	380.5	
282.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	390.0	
275.0	CARBONDALE	ENERGY	UNCLASSIFIED	13.0	397.0	
262.0	CARBONDALE	HERRIN	COAL	9.0	410.0	

MAPID: 13501221000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.684205 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.115932 **DATE COLLECTED:** 11 / 0 / 1961

SURFACE ELEVATION (FT.): 676.0 **LOGGED (FT.):** 422.0 **LOG TYPE:** Electric Log

SOURCE: FRANK'S PETROLEUM **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.0	MODESTO	PIASA	LIMESTONE	5.0	372.0	
299.0	MODESTO		UNCLASSIFIED	3.0	377.0	
296.0	CARBONDALE		UNCLASSIFIED	9.0	380.0	
287.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	389.0	
282.0	CARBONDALE	ENERGY	UNCLASSIFIED	21.0	394.0	
261.0	CARBONDALE	HERRIN	COAL	7.0	415.0	

MAPID: 13500590000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.686617 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.093846 **DATE COLLECTED:** 9 / 0 / 1956

SURFACE ELEVATION (FT.): 674.0 **LOGGED (FT.):** 404.0 **LOG TYPE:** Electric Log

SOURCE: ABNER, RAYMOND **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
316.5	MODESTO	PIASA	LIMESTONE	4.5	357.5	
312.0	MODESTO		UNCLASSIFIED	4.0	362.0	
308.0	CARBONDALE		UNCLASSIFIED	12.5	366.0	
295.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	378.5	
289.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	384.5	
288.5	CARBONDALE		UNCLASSIFIED	0.5	385.5	
288.0	CARBONDALE	BRERETON	LIMESTONE	5.0	386.0	
283.0	CARBONDALE	ANNA	BLACK SHALE	3.0	391.0	
280.0	CARBONDALE	ENERGY	UNCLASSIFIED	3.0	394.0	
277.0	CARBONDALE	HERRIN	COAL	7.0	397.0	

MAPID: 13500590000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.686617 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.093846 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 674.0 **LOGGED (FT.):** 405.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
314.0	MODESTO	PIASA	LIMESTONE	4.0	360.0	
310.0	CARBONDALE		SHALE	12.0	364.0	
298.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	376.0	
297.0	CARBONDALE		SHALE	3.0	377.0	
294.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	380.0	
286.0	CARBONDALE	BRERETON	LIMESTONE	5.0	388.0	
281.0	CARBONDALE	ANNA	BLACK SHALE	3.0	393.0	
277.0	CARBONDALE	HERRIN	COAL	8.0	397.0	

MAPID: 13500917000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.681918 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.097498 **DATE COLLECTED:** 7 / 0 / 1957

SURFACE ELEVATION (FT.): 674.0 **LOGGED (FT.):** 389.0 **LOG TYPE:** Electric Log

SOURCE: BUSHNELL ENT. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
333.0	MODESTO	PIASA	LIMESTONE	9.0	341.0	
324.0	MODESTO		UNCLASSIFIED	4.0	350.0	
320.0	CARBONDALE		UNCLASSIFIED	11.0	354.0	
309.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	365.0	
303.0	CARBONDALE	ENERGY	UNCLASSIFIED	10.0	371.0	
293.0	CARBONDALE	HERRIN	COAL	8.0	381.0	

MAPID: 13501430000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE NW

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.693567 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.097515 **DATE COLLECTED:** 5 / 0 / 1943

SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 407.0 **LOG TYPE:** Electric Log

SOURCE: HOLMES, W. RALPH, ETAL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
308.0	MODESTO	PIASA	LIMESTONE	4.0	362.0	
304.0	MODESTO		UNCLASSIFIED	3.0	366.0	
301.0	CARBONDALE		UNCLASSIFIED	7.0	369.0	
294.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	376.0	
288.0	CARBONDALE	BRERETON	LIMESTONE	6.0	382.0	
282.0	CARBONDALE	ANNA	BLACK SHALE	6.0	388.0	
276.0	CARBONDALE	ENERGY	UNCLASSIFIED	6.0	394.0	
270.0	CARBONDALE	HERRIN	COAL	7.0	400.0	

MAPID: 13501619000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 350' S line, 330' W line of NW SE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.688901 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.092075 **DATE COLLECTED:** 7 / 0 / 1968

SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 406.0 **LOG TYPE:** Electric Log

SOURCE: MARBURGER, LEO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.0	MODESTO	PIASA	LIMESTONE	4.0	362.0	
307.0	MODESTO		UNCLASSIFIED	4.0	366.0	
303.0	CARBONDALE		UNCLASSIFIED	12.0	370.0	
291.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	382.0	
285.0	CARBONDALE	BRERETON	LIMESTONE	6.0	388.0	
279.0	CARBONDALE	ANNA	BLACK SHALE	3.0	394.0	
276.0	CARBONDALE	ENERGY	UNCLASSIFIED	3.0	397.0	
273.0	CARBONDALE	HERRIN	COAL	6.0	400.0	

MAPID: 13501632000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' N line, 300' E line of SW NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.686474 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.097501 **DATE COLLECTED:** 3 / 0 / 1969

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 388.0 **LOG TYPE:** Electric Log

SOURCE: SCHAEFER OIL COMPANY **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
331.0	MODESTO	PIASA	LIMESTONE	4.0	346.0	
327.0	MODESTO		UNCLASSIFIED	4.0	350.0	
323.0	CARBONDALE		UNCLASSIFIED	10.5	354.0	
312.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	364.5	
309.5	CARBONDALE	ENERGY	UNCLASSIFIED	13.5	367.5	
296.0	CARBONDALE	HERRIN	COAL	7.0	381.0	

MAPID: 13500108000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2810' S line, 3020' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672266 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.095171 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 416.8 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
299.0	MODESTO	PIASA	LIMESTONE	6.0	366.0	
293.0	MODESTO		UNCLASSIFIED	5.0	372.0	
288.0	CARBONDALE	DANVILLE	COAL	1.5	377.0	
286.5	CARBONDALE		UNCLASSIFIED	9.5	378.5	
277.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	388.0	
271.0	CARBONDALE	ENERGY	UNCLASSIFIED	14.0	394.0	
257.0	CARBONDALE	HERRIN	COAL	8.8	408.0	

MAPID: 13500108000C **VERSION:** 2 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2810' S line, 3020' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672266 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.095171 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 420.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
665.0			UNCONSOLIDATED	83.0	0.0	
582.0			ROCK	66.0	83.0	
516.0			COAL	0.3	149.0	
515.7			ROCK	3.8	149.3	
512.0			COAL	0.3	153.0	
511.7			ROCK	85.8	153.3	
426.0			COAL	0.5	239.0	
425.5			ROCK	103.3	239.5	
322.2			COAL	0.3	342.8	
322.0			ROCK	34.0	343.0	
288.0			COAL	1.5	377.0	
286.5			ROCK	9.5	378.5	
277.0			LIMESTONE	6.0	388.0	
271.0			SHALE	14.0	394.0	
257.0	CARBONDALE	HERRIN	COAL	8.8	408.0	
248.2	CARBONDALE		ROCK	3.3	416.8	

MAPID: 13500108000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2810' S line, 3020' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.672266 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.095171 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 665.1 **LOGGED (FT.):** 420.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO. **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
665.1	PLEISTOCENE		CLAY	4.0	0.0	
661.1	PLEISTOCENE		SAND	6.0	4.0	
655.1	PLEISTOCENE		CLAY	25.0	10.0	
630.1	PLEISTOCENE		SAND	7.0	35.0	
623.1	PLEISTOCENE		CLAY	33.0	42.0	
590.1	PLEISTOCENE		SAND & GRAVEL	8.0	75.0	
582.1	BOND		SHALE WITH LIMESTONE	13.0	83.0	
569.1	BOND	CARTHAGE	LIMESTONE	16.0	96.0	
553.1	MODESTO		DARK SHALE	5.0	112.0	
548.1	MODESTO		DARK SHALE	32.0	117.0	
516.1	MODESTO		COAL	0.3	149.0	
515.8	MODESTO		ARGILACEOUS SHALE	0.8	149.3	
515.1	MODESTO		BLACK SHALE	3.0	150.0	
512.1	MODESTO		COAL	0.3	153.0	
511.8	MODESTO		ARGILACEOUS SHALE	5.8	153.3	
506.1	MODESTO		SHALE WITH LIMESTONE	2.0	159.0	
504.1	MODESTO		LIMESTONE	4.0	161.0	
500.1	MODESTO		SANDY SHALE	10.0	165.0	
490.1	MODESTO		DARK SHALE	15.0	175.0	
475.1	MODESTO		LIMESTONE	6.0	190.0	
469.1	MODESTO		SANDY SHALE	23.0	196.0	
446.1	MODESTO		GRAY SHALE	20.0	219.0	
426.1	MODESTO	CHAPEL	COAL	0.5	239.0	
425.6	MODESTO		ARGILACEOUS SHALE	2.5	239.5	
423.1	MODESTO		SHALE WITH LIMESTONE	9.0	242.0	
414.1	MODESTO		SANDY SHALE	32.0	251.0	
382.1	MODESTO		GRAY SHALE	48.0	283.0	
334.1	MODESTO		BLUE SHALE	11.8	331.0	
322.3	MODESTO		COAL	0.3	342.8	
322.1	MODESTO		ARGILACEOUS SHALE	6.0	343.0	
316.1	MODESTO		DARK SHALE	5.0	349.0	
311.1	MODESTO		ARGILACEOUS SHALE	2.0	354.0	
309.1	MODESTO		RED SHALE	8.0	356.0	LOG READS SHALE, RED AND LIME MIXED
301.1	MODESTO		SHALE WITH LIMESTONE	2.0	364.0	
299.1	MODESTO	PIASA	LIMESTONE	6.0	366.0	
293.1	MODESTO		ARGILACEOUS SHALE	4.0	372.0	
289.1	MODESTO		BLACK SHALE	1.0	376.0	
288.1	CARBONDALE	DANVILLE	COAL	1.5	377.0	
286.6	CARBONDALE		GRAY SHALE	9.5	378.5	

277.1	CARBONDALE		LIMESTONE	6.0	388.0
271.1	CARBONDALE		GRAY SHALE	10.0	394.0
261.1	CARBONDALE	ANNA	DARK SHALE	4.0	404.0
257.1	CARBONDALE	HERRIN	COAL	8.8	408.0
248.3	CARBONDALE		ARGILACEOUS SHALE	3.3	416.8

MAPID: 13500109000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 100' S line, 100' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.661868 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.08758 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 411.2 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
662.0			UNCONSOLIDATED	114.0	0.0	
548.0			ROCK	18.0	114.0	
530.0			COAL	0.3	132.0	
529.7			ROCK	106.8	132.3	
423.0			COAL	0.3	239.0	
422.7			ROCK	97.7	239.3	
325.0			COAL	0.3	337.0	
324.2			ROCK	37.3	337.8	
287.0			LIMESTONE	2.0	375.0	
285.0			SHALE	3.0	377.0	
282.0			LIMESTONE	17.0	380.0	
265.0			BLACK SHALE	3.5	397.0	
261.5	CARBONDALE	HERRIN	COAL	8.7	400.5	
252.8	CARBONDALE		ROCK	2.0	409.2	

MAPID: 13500109000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 100' S line, 100' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.661868 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.08758 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 409.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
300.0	MODESTO	PIASA	LIMESTONE	4.0	362.0	
296.0	CARBONDALE		CLAYSTONE & SHALE	9.0	366.0	
287.0	CARBONDALE	GALUM	LIMESTONE	2.0	375.0	
285.0	CARBONDALE		GRAY SHALE	3.0	377.0	
282.0	CARBONDALE	BANKSTON FORK	LIMESTONE	17.0	380.0	
265.0	CARBONDALE	ANNA	BLACK SHALE	3.5	397.0	
261.0	CARBONDALE	HERRIN	COAL	8.7	401.0	

MAPID: 13500109000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 100' S line, 100' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.661868 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.08758 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 408.7 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
300.5	MODESTO	PIASA	LIMESTONE	4.0	361.5	
296.5	MODESTO		UNCLASSIFIED	3.0	365.5	
293.5	CARBONDALE		UNCLASSIFIED	11.0	368.5	
282.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	379.5	
275.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	386.5	
273.5	CARBONDALE		UNCLASSIFIED	1.0	388.5	
272.5	CARBONDALE	BRERETON	LIMESTONE	7.0	389.5	
265.5	CARBONDALE	ANNA	BLACK SHALE	3.5	396.5	
262.0	CARBONDALE	HERRIN	COAL	8.7	400.0	

MAPID: 13500109000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 100' S line, 100' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.661868 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.08758 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 662.3 **LOGGED (FT.):** 411.2 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO. **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
662.3	PLEISTOCENE		CLAY	15.0	0.0	
647.3	PLEISTOCENE		SAND	2.0	15.0	
645.3	PLEISTOCENE		CLAY	23.0	17.0	MIXED WITH GRAVEL
622.3	PLEISTOCENE		SAND	12.0	40.0	
610.3	PLEISTOCENE		CLAY	23.0	52.0	
587.3	PLEISTOCENE		SAND	8.0	75.0	
579.3	PLEISTOCENE		CLAY	23.0	83.0	
556.3	PLEISTOCENE		SAND & GRAVEL	8.0	106.0	
548.3	BOND	CARTHAGE	LIMESTONE	4.0	114.0	
544.3	MODESTO		BLACK SHALE	2.0	118.0	
542.3	MODESTO		DARK SHALE	12.0	120.0	
530.3	MODESTO		COAL	0.3	132.0	
530.0	MODESTO		ARGILACEOUS SHALE	5.8	132.3	
524.3	MODESTO		GRAY SHALE	31.0	138.0	
493.3	MODESTO		SANDY SHALE	2.0	169.0	
491.3	MODESTO		GRAY SHALE	21.0	171.0	
470.3	MODESTO	CARLINVILLE	LIMESTONE	6.0	192.0	
464.3	MODESTO		GRAY SHALE	9.0	198.0	
455.3	MODESTO		SANDY SHALE	20.0	207.0	
435.3	MODESTO		GRAY SHALE	11.0	227.0	
424.3	MODESTO		BLACK SHALE	1.0	238.0	
423.3	MODESTO	CHAPEL	COAL	0.3	239.0	
423.0	MODESTO		ARGILACEOUS SHALE	1.7	239.3	
421.3	MODESTO		SHALE	5.0	241.0	
416.3	MODESTO		GRAY SHALE	12.0	246.0	
404.3	MODESTO		SANDY SHALE	46.0	258.0	
358.3	MODESTO		GRAY SHALE	16.0	304.0	
342.3	MODESTO		DARK SHALE	12.0	320.0	
330.3	MODESTO		GRAY SHALE	1.0	332.0	
329.3	MODESTO		DARK SHALE	4.0	333.0	
325.3	MODESTO		COAL	0.3	337.0	
325.0	MODESTO		ARGILACEOUS SHALE	0.8	337.3	
324.3	MODESTO		SHALE WITH LIMESTONE	3.0	338.0	
321.3	MODESTO		DARK SHALE	3.0	341.0	
318.3	MODESTO		ARGILACEOUS SHALE	7.0	344.0	
311.3	MODESTO		SHALE	8.0	351.0	
303.3	MODESTO		ARGILACEOUS SHALE	3.0	359.0	YELLOW
300.3	MODESTO	PIASA	LIMESTONE	4.0	362.0	
296.3	MODESTO		DARK SHALE	3.0	366.0	

293.3	CARBONDALE		ARGILACEOUS SHALE	6.0	369.0
287.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	375.0
285.3	CARBONDALE		GRAY SHALE	3.0	377.0
282.3	CARBONDALE	BRERETON	LIMESTONE	17.0	380.0
265.3	CARBONDALE	ANNA	BLACK SHALE	3.5	397.0
261.8	CARBONDALE	HERRIN	COAL	8.8	400.5
253.0	CARBONDALE		ARGILACEOUS SHALE	1.0	409.3
252.0	CARBONDALE		LIMESTONE	0.8	410.3

MAPID: 13500193000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.663991 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.100127 **DATE COLLECTED:** 12 / 0 / 1938

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: MEYERS & GRAHAM **WELL TYPE:** Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	5.0		

MAPID: 13500201000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE NW

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.674774 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.101095 **DATE COLLECTED:** 5 / 0 / 1943

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Electric Log

SOURCE: HOLMES, W. RALPH, ETAL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
311.0	MODESTO	PIASA	LIMESTONE	6.0	354.0	
305.0	MODESTO		UNCLASSIFIED	2.5	360.0	
302.5	CARBONDALE		UNCLASSIFIED	7.5	362.5	
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	370.0	
287.0	CARBONDALE	ENERGY	UNCLASSIFIED	15.0	378.0	
272.0	CARBONDALE	HERRIN	COAL	7.0	393.0	

MAPID: 13501109000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.667529 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.093756 **DATE COLLECTED:** 10 / 0 / 1958

SURFACE ELEVATION (FT.): 661.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Electric Log

SOURCE: COVINGTON, JAMES R. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.5	MODESTO	PIASA	LIMESTONE	4.0	349.5	
307.5	MODESTO		UNCLASSIFIED	4.5	353.5	
303.0	CARBONDALE		UNCLASSIFIED	12.5	358.0	
290.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.5	370.5	
283.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	378.0	
281.5	CARBONDALE		UNCLASSIFIED	1.0	379.5	
280.5	CARBONDALE	BRERETON	LIMESTONE	4.0	380.5	
276.5	CARBONDALE	ANNA	BLACK SHALE	3.5	384.5	
273.0	CARBONDALE	HERRIN	COAL	8.0	388.0	

MAPID: 13522335000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2070' N line, 1353' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.675964 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.096297 **DATE COLLECTED:** 6 / 22 / 1978

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 395.1 **LOG TYPE:** Multiple log types

SOURCE: **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
276.7	CARBONDALE	HERRIN	COAL	6.8	388.3	

MAPID: 13522335000C **VERSION:** 2 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2070' N line, 1353' W line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.675964 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.096297 **DATE COLLECTED:** 6 / 22 / 1978

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL MOS-77-32 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
665.0			UNCONSOLIDATED	83.0	0.0	
582.0	BOND	CARTHAGE	LIMESTONE	7.0	83.0	
575.0	MODESTO		BLACK SHALE	2.0	90.0	
573.0	MODESTO		GRAY SHALE	49.0	92.0	
524.0	MODESTO		BLACK SHALE	6.0	141.0	
518.0	MODESTO		COAL	1.0	147.0	
517.0	MODESTO		SANDY SHALE	4.0	148.0	
513.0	MODESTO		SANDSTONE	8.0	152.0	
505.0	MODESTO		GRAY SHALE	23.0	160.0	
482.0	MODESTO	CARLINVILLE	LIMESTONE	6.0	183.0	
476.0	MODESTO		GRAY SHALE	40.0	189.0	
436.0	MODESTO	CHAPEL	COAL	1.0	229.0	
435.0	MODESTO		GRAY SHALE	29.0	230.0	
406.0	MODESTO		GRAY SHALE	80.0	259.0	
326.0	MODESTO		BLACK SHALE	3.0	339.0	
323.0	MODESTO		GRAY SHALE	13.0	342.0	
310.0	MODESTO	PIASA	LIMESTONE	4.0	355.0	
306.0	MODESTO		SHALE	9.0	359.0	
297.0	MODESTO		BLACK SHALE	1.0	368.0	
296.0	CARBONDALE		GRAY SHALE	6.0	369.0	
290.0	CARBONDALE		LIMESTONE	11.5	375.0	
278.5	CARBONDALE	ANNA	BLACK SHALE	1.8	386.5	
276.7	CARBONDALE	HERRIN	COAL	6.8	388.3	
270.0	CARBONDALE		SHALE	0.1	395.0	
269.9	CARBONDALE		CORE LOSS	0.9	395.1	
269.0	CARBONDALE		GRAY SHALE	6.0	396.0	
263.0	CARBONDALE		LIMESTONE	2.0	402.0	
261.0	CARBONDALE		GRAY SHALE	4.5	404.0	
256.5	CARBONDALE		LIMESTONE	0.5	408.5	
256.0	CARBONDALE		GRAY SHALE	1.0	409.0	

MAPID: 13500104000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** SW NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.64587 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.09902 **DATE COLLECTED:** 7 / 0 / 1921

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Survey Core Study

SOURCE: MADISON C C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	93.0	0.0	
552.0			ROCK	17.5	93.0	
534.5			COAL	0.8	110.5	
533.7			ROCK	21.3	111.3	
512.5			COAL	0.5	132.5	
512.0			ROCK	73.7	133.0	
438.3			COAL	0.3	206.7	
438.0			ROCK	100.5	207.0	
337.5			COAL	1.0	307.5	
336.5			ROCK	35.2	308.5	
301.3			COAL	0.3	343.7	
301.0			SHALE	3.0	344.0	
298.0			LIMESTONE	14.0	347.0	
284.0			BLACK SHALE	1.7	361.0	
282.3	CARBONDALE	HERRIN	COAL	0.4	362.7	
281.9	CARBONDALE		BLACK SHALE	2.4	363.1	
279.5	CARBONDALE	HERRIN	COAL	1.1	365.5	
278.4	CARBONDALE		BLACK SHALE	0.6	366.6	
277.8	CARBONDALE	HERRIN	COAL	1.8	367.2	
276.0			ROCK	31.0	369.0	

MAPID: 13500104000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** SW NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.64587 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.09902 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 369.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
320.0	MODESTO	PIASA	LIMESTONE	2.5	325.0	
317.5	MODESTO		MOTTLED SHALE	2.8	327.5	
314.7	CARBONDALE	DANVILLE	BLACK SHALE	2.4	330.3	
312.3	CARBONDALE		MOTTLED SHALE	1.8	332.7	
310.6	CARBONDALE	GALUM	LIMESTONE & SHALE	1.2	334.4	
309.4	CARBONDALE		CLAYSTONE & SHALE	9.2	335.6	
300.2	CARBONDALE	ALLENBY	BONE COAL	0.3	344.8	
299.9	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.0	345.1	
297.9	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	0.6	347.1	
297.4	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.3	347.6	
294.0	CARBONDALE	LAWSON	DARK GRAY SHALE	0.4	351.0	
293.6	CARBONDALE	BRERETON	LIMESTONE & SHALE	6.8	351.4	
286.9	CARBONDALE	ANNA	BLACK SHALE	1.7	358.1	
282.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	6.3	363.0	

MAPID: 13500104000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** SW NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.64587 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.09902 **DATE COLLECTED:** 7 / 0 / 1921

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 369.3 **LOG TYPE:** Drillers Log

SOURCE: MADISON COAL CORP **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
319.7	MODESTO	PIASA	LIMESTONE	4.5	325.3	
315.2	MODESTO		UNCLASSIFIED	5.5	329.8	
309.7	CARBONDALE		UNCLASSIFIED	12.0	335.3	
297.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.8	347.3	
292.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	352.1	
290.9	CARBONDALE		UNCLASSIFIED	0.4	354.1	
290.5	CARBONDALE	BRERETON	LIMESTONE	6.8	354.5	
283.7	CARBONDALE	ANNA	BLACK SHALE	1.7	361.3	
282.0	CARBONDALE	HERRIN	COAL	6.3	363.0	

MAPID: 13500104000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** SW NE NE

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.64587 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.09902 **DATE COLLECTED:** 7 / 0 / 1921

SURFACE ELEVATION (FT.): 645.1 **LOGGED (FT.):** 400.0 **LOG TYPE:** Drillers Log

SOURCE: MADISON COAL CORP. **WELL TYPE:** Coal Test

COMMENT: DETAILED LOG ALSO FILED(SEE LOG BOOK #2)

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.1	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
638.1	PLEISTOCENE		SAND & GRAVEL	4.0	7.0	
634.1	PLEISTOCENE		CLAY	28.0	11.0	
606.1	PLEISTOCENE		CLAY	2.0	39.0	AND BOULDERS
604.1	PLEISTOCENE		SAND	10.0	41.0	
594.1	PLEISTOCENE		SAND/CLAY	42.0	51.0	
552.1	BOND	CARTHAGE	LIMESTONE	11.0	93.0	
541.1	MODESTO		UNCLASSIFIED	6.5	104.0	
534.6	MODESTO		COAL	0.8	110.5	
533.8	MODESTO		SANDY SHALE	5.8	111.3	BLUE
528.1	MODESTO		SANDSTONE	11.0	117.0	BLUE
517.1	MODESTO		LIMESTONE	1.0	128.0	
516.1	MODESTO		BLACK SHALE	3.5	129.0	
512.6	MODESTO		COAL	0.5	132.5	
512.1	MODESTO		UNDERCLAY	1.0	133.0	
511.1	MODESTO		SANDSTONE	4.0	134.0	BLUE
507.1	MODESTO		LIMESTONE	2.0	138.0	
505.1	MODESTO		SANDSTONE	7.0	140.0	GRAY
498.1	MODESTO		BLUE SHALE	16.5	147.0	
481.6	MODESTO		LIMESTONE	6.0	163.5	
475.6	MODESTO		SANDSTONE	2.5	169.5	
473.1	MODESTO		SANDY SHALE	5.0	172.0	
468.1	MODESTO		BLUE SHALE	29.7	177.0	
438.4	MODESTO	CHAPEL	COAL	0.3	206.7	
438.1	MODESTO		UNDERCLAY	2.5	207.0	
435.6	MODESTO		SANDSTONE	9.5	209.5	BLU
426.1	MODESTO		SANDY SHALE	8.0	219.0	LIMY
418.1	MODESTO		SANDY SHALE	39.0	227.0	BLUE
379.1	MODESTO		BLUE SHALE	38.0	266.0	
341.1	MODESTO		LIMESTONE	0.5	304.0	
340.6	MODESTO		BLUE SHALE	3.0	304.5	
337.6	MODESTO		COAL	1.0	307.5	
336.6	MODESTO		SANDSTONE	5.5	308.5	
331.1	MODESTO		SHALE WITH LIMESTONE	10.0	314.0	
321.1	MODESTO		SANDSTONE	1.0	324.0	GRAY
320.1	MODESTO	PIASA	LIMESTONE	4.5	325.0	
315.6	MODESTO		BLUE SHALE	2.5	329.5	
313.1	MODESTO		BLACK SHALE	3.0	332.0	
310.1	MODESTO		UNDERCLAY	2.5	335.0	

307.6	MODESTO		SANDSTONE	5.5	337.5	
302.1	MODESTO		BLUE SHALE	0.7	343.0	
301.4	CARBONDALE	DANVILLE	COAL	0.3	343.7	
301.1	CARBONDALE		SHALE/UNDERCLAY	2.0	344.0	BLU SH AND UCLY, MIXED
299.1	CARBONDALE		SHALE WITH LIMESTONE	1.0	346.0	SANDY
298.1	CARBONDALE	BRERETON	LIMESTONE	14.0	347.0	
284.1	CARBONDALE	ANNA	BLACK SHALE	1.7	361.0	
282.4	CARBONDALE	HERRIN	COAL	0.4	362.7	
282.0	CARBONDALE	HERRIN	BLACK SHALE	1.7	363.1	WITH COAL PARTINGS
280.3	CARBONDALE	HERRIN	BLACK SHALE	0.8	364.8	
279.6	CARBONDALE	HERRIN	COAL	1.1	365.5	
278.5	CARBONDALE	HERRIN	BLACK SHALE	0.6	366.6	
277.9	CARBONDALE	HERRIN	COAL	0.8	367.2	
277.1	CARBONDALE	HERRIN	ROCK	0.2	368.0	LOG READS 'BLUE BAND'
276.9	CARBONDALE	HERRIN	COAL	0.8	368.2	
276.1	CARBONDALE		UNDERCLAY	1.5	369.0	
274.6	CARBONDALE		SANDSTONE	1.5	370.5	GRAY
273.1	CARBONDALE		LIMESTONE	6.5	372.0	
266.6	CARBONDALE		SANDSTONE	4.5	378.5	GRAY
262.1	CARBONDALE		SHALE WITH LIMESTONE	9.0	383.0	SANDY
253.1	CARBONDALE		BLACK SHALE	0.5	392.0	
252.6	CARBONDALE		UNDERCLAY	6.5	392.5	
246.1	CARBONDALE		LIMESTONE	1.0	399.0	

MAPID: 13501150000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 650' N line, 330' W line of SW

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.660378 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.092814 **DATE COLLECTED:** 9 / 0 / 1959

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 417.0 **LOG TYPE:** Electric Log

SOURCE: COVINGTON, JAMES R. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.5	MODESTO	PIASA	LIMESTONE	3.5	371.5	
275.0	MODESTO		UNCLASSIFIED	4.0	375.0	
271.0	CARBONDALE		UNCLASSIFIED	12.0	379.0	
259.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	391.0	
251.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	399.0	
250.0	CARBONDALE		UNCLASSIFIED	1.0	400.0	
249.0	CARBONDALE	BRERETON	LIMESTONE	5.0	401.0	
244.0	CARBONDALE	ANNA	BLACK SHALE	3.0	406.0	
241.0	CARBONDALE	HERRIN	COAL	8.0	409.0	

MAPID: 13500703000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.631572 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.100881 **DATE COLLECTED:** 1 / 0 / 1953

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 351.0 **LOG TYPE:** Electric Log

SOURCE: CALIFORNIA CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
338.0	MODESTO	PIASA	LIMESTONE	3.0	308.0	
335.0	MODESTO		UNCLASSIFIED	6.0	311.0	
329.0	CARBONDALE	DANVILLE	COAL	1.0	317.0	
328.0	CARBONDALE		UNCLASSIFIED	10.5	318.0	
317.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	328.5	
312.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	334.0	
310.0	CARBONDALE		UNCLASSIFIED	1.0	336.0	
309.0	CARBONDALE	BRERETON	LIMESTONE	5.0	337.0	
304.0	CARBONDALE	ANNA	BLACK SHALE	2.0	342.0	
302.0	CARBONDALE	HERRIN	COAL	7.0	344.0	

MAPID: 13500703000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: MOUNT OLIVE **LONGITUDE:** -89.631572 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.100881 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 353.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
337.0	MODESTO	PIASA	LIMESTONE	4.0	309.0	
333.0	MODESTO		SHALE	5.0	313.0	
328.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	318.0	
326.0	CARBONDALE		SHALE	10.0	320.0	
316.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	330.0	
311.0	CARBONDALE	LAWSON	SHALE	7.0	335.0	
304.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	342.0	
302.0	CARBONDALE	ANNA	BLACK SHALE	1.0	344.0	
301.0	CARBONDALE	HERRIN	COAL	8.0	345.0	

MAPID: 13524194000C **VERSION:** 1 **PROJECT:** NCRDS 2013

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 2000' N line, 1950' E line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.611382 **GEOLOGIST:** LOUCHIOS

CONFIDENTIAL: N **LATITUDE:** 39.096133 **DATE COLLECTED:** 3 / 26 / 2012

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 428.0 **LOG TYPE:** Survey Core Study

SOURCE: ISGS **WELL TYPE:** Coal Test

COMMENT: WALSHVILLE CHANNEL CORING PROJECT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
616.0	PLEISTOCENE		SOIL	1.0	0.0	
615.0	PLEISTOCENE		SILTY CLAY	7.0	1.0	
608.0	PLEISTOCENE		SILT & SAND	3.0	8.0	
605.0	PLEISTOCENE		SILTY SANDSTONE	4.0	11.0	
601.0	PLEISTOCENE		SILTY SANDSTONE	2.5	15.0	COARSER LITHIC FRAGMENTS
598.5	PLEISTOCENE		SANDSTONE	22.0	17.5	
576.5	PLEISTOCENE		CLAY	0.5	39.5	
576.0	BOND		CLAYSTONE	10.7	40.0	
565.3	BOND		LIMESTONE	0.7	50.7	
564.6	BOND		CLAYSTONE & SILTSTONE	3.3	51.4	
561.3	BOND		LIMESTONE	4.1	54.7	
557.2	BOND		CALCAREOUS SHALE	1.2	58.8	
556.0	BOND	CARTHAGE	LIMESTONE	12.7	60.0	CARTHAGE MAIN BENCH
543.3	BOND		BLACK SHALE	0.4	72.7	INTERLAMINATED BK SH & GRN-GRAY CALC SH
542.9	PATOKA		CALCAREOUS BLACK SHALE	0.6	73.1	STARK SHALE
542.3	PATOKA	NEW HAVEN	COAL	0.3	73.7	
542.0	PATOKA		CLAYSTONE & SILTSTONE	3.5	74.0	
538.5	PATOKA		GREEN SHALE	1.5	77.5	
537.0	PATOKA		LIMESTONE & SHALE	2.5	79.0	
534.5	PATOKA		SILTSTONE	14.6	81.5	
519.9	PATOKA		SILTY SHALE	20.4	96.1	
499.5	PATOKA	MACOUPIN	LIMESTONE	1.6	116.5	
497.9	PATOKA		BLACK SHALE	3.4	118.1	HUSHPUCKNEY SHALE
494.5	PATOKA	WOMAC	COAL	0.2	121.5	
494.3	PATOKA		CLAYSTONE & SILTSTONE	4.9	121.7	
489.4	PATOKA		SHALY LIMESTONE	4.9	126.6	
484.5	PATOKA		SILTY SHALE	3.5	131.5	
481.0	PATOKA		SANDSTONE	4.5	135.0	
476.5	PATOKA		SILTSTONE	15.5	139.5	
461.0	PATOKA		GRAY SHALE	5.6	155.0	
455.4	PATOKA	CARLINVILLE	LIMESTONE	6.0	160.6	
449.4	PATOKA		SILTY SANDSTONE	4.9	166.6	SAND AND SILT INTERLAMINATED
444.5	PATOKA		SANDSTONE	3.0	171.5	
441.5	PATOKA		SILTSTONE	15.5	174.5	
426.0	PATOKA		GRAY SHALE	11.9	190.0	
414.1	PATOKA	CHAPEL	COAL	0.4	201.9	
413.7	PATOKA		CLAYSTONE & SILTSTONE	1.9	202.3	
411.8	PATOKA		SILTY CLAYSTONE	5.8	204.2	

406.0	PATOKA		SILTSTONE	3.2	210.0	
402.8	PATOKA		CLAYSTONE & SILTSTONE	1.9	213.2	
401.0	PATOKA		SANDSTONE/SILTSTONE	6.3	215.0	
394.7	PATOKA		SHALY SANDSTONE	3.1	221.3	
391.6			SILTSTONE	62.6	224.4	
329.0	SHELBURN		FOSSILIFEROUS SHALE	0.2	287.0	
328.8	SHELBURN	LONSDALE	FOSSILIFEROUS LIMESTONE	0.3	287.2	
328.5	SHELBURN		GREEN SHALE	0.9	287.5	
327.6	SHELBURN		SILTSTONE	1.5	288.4	
326.1	SHELBURN		SANDY SILTSTONE	1.8	289.9	STRUCTURELESS, ROOTED W/ BLACK REMNANTS
324.3	SHELBURN		SILTSTONE	6.3	291.7	
318.1	SHELBURN		SANDSTONE	3.1	297.9	
315.0	SHELBURN		SANDSTONE	9.9	301.0	MICACEOUS FINE TO MED, RIPPLE BEDDED
305.2	SHELBURN		CLAYSTONE & SILTSTONE	1.5	310.8	
303.7	SHELBURN		SILTSTONE	2.1	312.3	
301.7	SHELBURN	PIASA	LIMESTONE	5.1	314.3	
296.6	SHELBURN		BLACK SHALE	0.9	319.4	
295.7	SHELBURN		BLACK SHALE	2.1	320.3	SIDERITE BLEBS
293.6	SHELBURN		COAL	1.1	322.4	CORE WAS SHORT. POSSIBLE COAL LOSS
292.5	SHELBURN		CLAYSTONE & SILTSTONE	2.0	323.5	
290.5	SHELBURN	BANKSTON FORK	LIMESTONE	2.5	325.5	FOSS AT TOP AND BASE
288.0	SHELBURN		GREEN SHALE	1.0	328.0	
287.0	SHELBURN	JAMESTOWN	SHALY COAL	0.1	329.0	UNCERTAIN CORRELATION; WEAK CLEAT
286.9	SHELBURN		SHALE/UNDERCLAY	1.0	329.1	
285.9	SHELBURN		CLAYSTONE & SILTSTONE	3.9	330.1	
282.0	CARBONDALE	ENERGY	GRAY SHALE	72.0	334.0	
210.0	CARBONDALE	HERRIN	COAL	4.1	406.0	
205.9	CARBONDALE		CLAYSTONE & SILTSTONE	1.3	410.1	
204.6	CARBONDALE		LIMESTONE	0.5	411.4	
204.1	CARBONDALE		GREEN SHALE	2.1	411.9	
202.0	CARBONDALE		CLAYSTONE & SILTSTONE	3.2	414.0	
198.8	CARBONDALE		SILTSTONE	10.8	417.2	SHALE LAMINATIONS, SANDY INTERVALS

MAPID: 13501238000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.603425 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.087735 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 377.2 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 80-BB **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.5	MODESTO	PIASA	LIMESTONE	4.0	321.5	
282.5	CARBONDALE		DARK GRAY SHALE	10.3	325.5	
272.3	CARBONDALE	GALUM	LIMESTONE	3.0	335.7	
269.3	CARBONDALE		DARK GRAY SHALE	3.5	338.7	
265.8	CARBONDALE	ALLENBY	BONE COAL	1.0	342.2	
264.8	CARBONDALE		CLAYSTONE	3.5	343.2	
261.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	346.7	
259.3	CARBONDALE	LAWSON	DARK GRAY SHALE	1.9	348.7	
257.4	CARBONDALE	LAWSON	CLAYSTONE & SHALE	6.3	350.6	
251.0	CARBONDALE	LAWSON	SILTY SHALE	8.7	357.0	
242.4	CARBONDALE	LAWSON	GRAY SHALE	3.8	365.6	
238.6	CARBONDALE	LAWSON	CARBONACEOUS SHALE	5.6	369.4	
233.0	CARBONDALE	HERRIN	COAL	2.2	375.0	

MAPID: 13501238000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.603425 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.087735 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 377.6 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 80-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.1	MODESTO	PIASA	LIMESTONE	4.0	321.9	
282.1	MODESTO		UNCLASSIFIED	6.0	325.9	
276.1	CARBONDALE		UNCLASSIFIED	15.2	331.9	
260.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	347.1	
258.9	CARBONDALE	ENERGY	SHALE	21.9	349.1	
237.0	CARBONDALE	HERRIN	COAL	6.6	371.0	

MAPID: 13501238000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 8N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: SORENTO NORTH **LONGITUDE:** -89.603425 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.087735 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 377.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 80-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
232.5	CARBONDALE	HERRIN	COAL	2.2	375.5	Coal may be split, unusually thin

MAPID: 13500063000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 30' N line, 1115' W line
QUADRANGLE: OHLMAN **LONGITUDE:** -89.172607 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.261516 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 682.4 **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY A-6 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
23.0	MODESTO	PIASA	LIMESTONE	4.0	627.0	
19.0	MODESTO		DARK GRAY SHALE	13.4	631.0	
5.6	CARBONDALE	DANVILLE	COAL	0.8	644.4	
4.8	CARBONDALE		GRAY SHALE	3.7	645.2	
1.2	CARBONDALE	BANKSTON FORK	LIMESTONE	20.0	648.8	
-18.8	CARBONDALE	ANNA	DARK GRAY SHALE	5.3	668.8	
-25.0	CARBONDALE	HERRIN	COAL	7.4	675.0	

MAPID: 13500063000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 30' N line, 1115' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.172607 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.261516 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.4 **LOGGED (FT.):** 683.0 **LOG TYPE:** Drillers Log

SOURCE: W. G. MERSHON - H. R. DUNHAM **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.4	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
638.4	PLEISTOCENE		SAND & GRAVEL	13.0	12.0	
625.4	PLEISTOCENE		HARD PAN	8.0	25.0	
617.4	PLEISTOCENE		SAND	13.0	33.0	
604.4	PLEISTOCENE		UNCONSOLIDATED	29.0	46.0	BLUE
575.4	PLEISTOCENE		SAND	8.0	75.0	
567.4	PLEISTOCENE		UNCONSOLIDATED	14.0	83.0	BLUE
553.4	BOND	MILLERSVILLE	LIMESTONE	26.0	97.0	
527.4	BOND		BLACK SHALE	3.0	123.0	
524.4	BOND		SHALE WITH LIMESTONE	5.5	126.0	
518.9	BOND		LIGHT SHALE	60.0	131.5	
458.9	BOND		BLUE SHALE	59.0	191.5	
399.9	BOND		COAL	1.5	250.5	
398.4	BOND		UNDERCLAY	1.0	252.0	
397.4	BOND		SANDY SHALE	21.0	253.0	
376.4	BOND		SANDY SHALE	30.5	274.0	BLUE
345.9	BOND		BLUE SHALE	33.5	304.5	
312.4	BOND	CARTHAGE	LIMESTONE	22.5	338.0	
289.9	MODESTO		BLACK SHALE	7.1	360.5	
282.8	MODESTO		BLUE SHALE	22.4	367.6	
260.4	MODESTO		LIGHT SHALE	25.0	390.0	
235.4	MODESTO		LIMESTONE	4.5	415.0	
230.9	MODESTO		LIGHT SHALE	12.0	419.5	
218.9	MODESTO		SHALE WITH LIMESTONE	16.5	431.5	
202.4	MODESTO		LIGHT SHALE	41.0	448.0	
161.4	MODESTO		BLUE SHALE	18.0	489.0	
143.4	MODESTO	CHAPEL	COAL	1.0	507.0	
142.4	MODESTO		UNDERCLAY	1.5	508.0	
140.9	MODESTO		LIMESTONE	15.5	509.5	
125.4	MODESTO		BLUE SHALE	35.0	525.0	
90.4	MODESTO		SANDY SHALE	47.0	560.0	
43.4	MODESTO		BLUE SHALE	4.0	607.0	
39.4	MODESTO		SHALE WITH LIMESTONE	11.0	611.0	
28.4	MODESTO		BLUE SHALE	5.0	622.0	
23.4	MODESTO	PIASA	LIMESTONE	4.0	627.0	
19.4	MODESTO		LIGHT SHALE	3.0	631.0	
16.4	MODESTO		BLUE SHALE	5.0	634.0	
11.4	MODESTO		BLACK SHALE	6.4	639.0	
5.0	CARBONDALE	DANVILLE	COAL	0.8	645.4	

4.2	CARBONDALE		GRAY SHALE	3.8	646.2
0.4	CARBONDALE	BRERETON	LIMESTONE	20.0	650.0
-19.6	CARBONDALE	ANNA	SHALE	5.3	670.0
-24.9	CARBONDALE	HERRIN	COAL	7.4	675.3
-32.4	CARBONDALE		UNDERCLAY	0.3	682.8

MAPID: 13500063000C **VERSION:** 3 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 30' N line, 1115' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.172607 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.261516 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.4 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-6 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
-24.9	CARBONDALE	HERRIN	COAL	7.4	675.3	

MAPID: 13500912000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2530' S line, 45' W line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.250541 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.253505 **DATE COLLECTED:** 10 / 8 / 1957

SURFACE ELEVATION (FT.): 676.0 **LOGGED (FT.):** 671.1 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 25BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
12.3	CARBONDALE	HERRIN	COAL	7.4	663.7	

MAPID: 13500912000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2530' S line, 45' W line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.250541 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.253505 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 676.0 **LOGGED (FT.):** 671.4 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 25BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
52.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	4.5	624.0	
47.5	MODESTO		GRAY SHALE	9.7	628.5	
37.8	CARBONDALE	DANVILLE	COAL	2.1	638.2	
35.7	CARBONDALE		CLAYSTONE	1.5	640.3	
34.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.3	641.8	
31.9	CARBONDALE		DARK GRAY SHALE	2.2	644.1	
29.7	CARBONDALE	ALLENBY	BLACK SHALE	0.3	646.3	
29.4	CARBONDALE		CLAYSTONE	1.8	646.6	
27.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	648.4	UPPER BENCH
23.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.0	652.4	LOWER BENCH
17.6	CARBONDALE	LAWSON	CLAYSTONE	0.5	658.4	
17.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	658.9	
16.3	CARBONDALE	JAMESTOWN	BONE COAL	1.2	659.7	
15.2	CARBONDALE		BLACK SHALE	1.8	660.8	
13.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.8	662.7	
12.6	CARBONDALE	ANNA	BLACK SHALE	0.3	663.4	
12.0	CARBONDALE	HERRIN	COAL	7.4	664.0	

MAPID: 13500912000C **VERSION:** 3 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2530' S line, 45' W line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.250541 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.253505 **DATE COLLECTED:** 10 / 7 / 1957

SURFACE ELEVATION (FT.): 676.0 **LOGGED (FT.):** 676.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 25-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
676.0	PLEISTOCENE		UNCONSOLIDATED	104.0	0.0	
572.0	BOND		LIMESTONE	1.0	104.0	
571.0	BOND		SANDSTONE	5.0	105.0	
566.0	BOND		SHALE	67.0	110.0	
499.0	BOND		COAL	1.0	177.0	
498.0	BOND		SHALE	59.0	178.0	
439.0	BOND		COAL	1.0	237.0	
438.0	BOND		SHALE	88.0	238.0	
350.0	BOND	CARTHAGE	LIMESTONE	10.1	326.0	
339.9	MODESTO		COAL	1.9	336.1	SHALEY
338.0	MODESTO		UNDERCLAY	1.5	338.0	
336.5	MODESTO		SANDSTONE	6.5	339.5	
330.0	MODESTO		SHALE	160.0	346.0	
170.0	MODESTO		COAL	0.5	506.0	
169.5	MODESTO		SHALE	117.0	506.5	
52.5	MODESTO	PIASA	LIMESTONE	4.5	623.5	DRILLER ID'S AS BANKSTON
48.0	MODESTO		SHALE	9.5	628.0	START OF CORE STUDY
38.5	MODESTO		BLACK SHALE	0.2	637.5	
38.3	CARBONDALE	DANVILLE	COAL	2.2	637.7	
36.1	CARBONDALE		UNDERCLAY	0.3	639.9	
35.7	CARBONDALE		CLAYSTONE & SILTSTONE	1.2	640.3	
34.6	CARBONDALE		LIMESTONE	2.3	641.4	
32.2	CARBONDALE		SHALE	2.2	643.8	
30.1	CARBONDALE		BLACK SHALE	0.3	645.9	
29.7	CARBONDALE		CLAYSTONE & SILTSTONE	1.8	646.3	
27.9	CARBONDALE	BANKSTON FORK	LIMESTONE	10.9	648.1	
17.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.5	659.0	
16.5	CARBONDALE	CONANT	LIMESTONE	0.8	659.5	
15.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	660.3	
15.6	CARBONDALE	JAMESTOWN	COAL	0.3	660.4	
15.3	CARBONDALE		BLACK SHALE	0.7	660.7	
14.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.6	661.3	BLACK
14.1	CARBONDALE		BLACK SHALE	1.3	661.9	
12.8	CARBONDALE		LIMESTONE	0.7	663.2	
12.1	CARBONDALE	ANNA	BLACK SHALE	0.8	663.9	
11.3	CARBONDALE	HERRIN	COAL	6.4	664.7	
4.9	CARBONDALE		UNDERCLAY	0.6	671.1	
4.3	CARBONDALE		CLAYSTONE & SILTSTONE	1.3	671.7	
3.0	CARBONDALE		LIMESTONE	0.2	673.0	

2.8	CARBONDALE	CLAYSTONE & SILTSTONE	2.8	673.2

MAPID: 13500064000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 8 **QUARTERS/FOOTAGES:** 375' N line, 1665' W line

QUADRANGLE: RAMSEY LAKE **LONGITUDE:** -89.226619 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.24552 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 656.4 **LOGGED (FT.):** 666.0 **LOG TYPE:** Drillers Log

SOURCE: H. H. BROWN **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
656.4	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
642.4	PLEISTOCENE		SAND	3.0	14.0	
639.4	PLEISTOCENE		CLAY	13.0	17.0	
626.4	PLEISTOCENE		SAND	8.0	30.0	
618.4	PLEISTOCENE		CLAY	48.0	38.0	
570.4	PLEISTOCENE			4.0	86.0	
566.4	BOND	MILLERSVILLE	LIMESTONE	13.0	90.0	
553.4	BOND		SANDY SHALE	10.0	103.0	
543.4	BOND		GRAY SHALE	63.6	113.0	
479.8	BOND		COAL	0.3	176.6	
479.5	BOND		UNDERCLAY	4.0	176.9	
475.5	BOND		ARGILACEOUS SHALE	12.0	180.9	LOG GIVES THICKNESS AS 13.00
463.5	BOND		GRAY SHALE	40.1	192.9	
423.4	BOND		BLACK SHALE	2.0	233.0	
421.4	BOND		COAL	1.0	235.0	
420.4	BOND		UNDERCLAY	2.0	236.0	
418.4	BOND		ARGILACEOUS SHALE	20.0	238.0	
398.4	BOND		BROWN SHALE	22.0	258.0	
376.4	BOND		SANDSTONE	15.0	280.0	
361.4	BOND		LIGHT SHALE	26.7	295.0	
334.7	BOND	CARTHAGE	LIMESTONE	13.0	321.7	
321.7	MODESTO		SANDY SHALE	35.3	334.7	
286.4	MODESTO		SANDY SHALE	7.0	370.0	GRAY
279.4	MODESTO		DARK SHALE	18.0	377.0	
261.4	MODESTO		BLACK SHALE	1.0	395.0	
260.4	MODESTO		GRAY SHALE	5.0	396.0	
255.4	MODESTO		ARGILACEOUS SHALE	24.0	401.0	
231.4	MODESTO		BROWN SHALE	53.3	425.0	LOG GIVES THICKNESS AS 51.25
178.1	MODESTO		LIGHT SHALE	7.3	478.3	
170.9	MODESTO	CHAPEL	COAL	1.7	485.5	
169.2	MODESTO		CLAYSTONE	2.6	487.2	
166.6	MODESTO		BLUE SHALE	9.3	489.8	
157.4	MODESTO		DARK SHALE	85.5	499.0	
71.9	MODESTO		BLUE SHALE	5.5	584.5	
66.4	MODESTO		LIGHT SHALE	2.0	590.0	
64.4	MODESTO		BLUE SHALE	17.0	592.0	
47.4	MODESTO		SHALE	4.0	609.0	VARIOUS COLORS
43.4	MODESTO		DARK SHALE	3.0	613.0	
40.4	MODESTO	PIASA	LIMESTONE	5.0	616.0	

35.4	MODESTO		BLUE SHALE	1.0	621.0	
34.4	MODESTO		DARK SHALE	3.0	622.0	
31.4	MODESTO		BLACK SHALE	4.0	625.0	
27.4	MODESTO		DARK SHALE	2.0	629.0	
25.4	CARBONDALE	DANVILLE	COAL	1.8	631.0	
23.6	CARBONDALE		DARK SHALE	3.2	632.8	
20.4	CARBONDALE		SHALE WITH LIMESTONE	6.5	636.0	
13.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	642.5	
8.4	CARBONDALE		SHALE WITH LIMESTONE	4.4	648.0	
4.0	CARBONDALE	BRERETON	LIMESTONE	0.5	652.4	
3.5	CARBONDALE	ANNA	BLACK SHALE	5.6	652.9	
-2.1	CARBONDALE	HERRIN	COAL	7.5	658.5	UCLY BELOW

MAPID: 13500064000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 8 **QUARTERS/FOOTAGES:** 375' N line, 1665' W line

QUADRANGLE: RAMSEY LAKE **LONGITUDE:** -89.226619 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.24552 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 666.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
40.0	MODESTO	PIASA	LIMESTONE	5.0	616.0	
35.0	MODESTO		DARK GRAY SHALE	10.0	621.0	
25.0	CARBONDALE	DANVILLE	COAL	1.8	631.0	
23.2	CARBONDALE		DARK GRAY SHALE	3.2	632.8	
20.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.5	636.0	
13.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	642.5	
8.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.4	648.0	
3.6	CARBONDALE	BRERETON	LIMESTONE	0.5	652.4	
3.1	CARBONDALE	ANNA	BLACK SHALE	5.6	652.9	
-3.0	CARBONDALE	HERRIN	COAL	7.5	659.0	

MAPID: 13500907000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line

QUADRANGLE: RAMSEY LAKE **LONGITUDE:** -89.205792 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.231161 **DATE COLLECTED:** 8 / 25 / 1957

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 597.4 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 19BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
8.0	CARBONDALE	HERRIN	COAL	7.4	590.0	

MAPID: 13500907000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line

QUADRANGLE: RAMSEY LAKE **LONGITUDE:** -89.205792 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.231161 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 597.4 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 19BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
52.2	MODESTO	PIASA	LIMESTONE	3.4	545.8	
48.8	MODESTO		DARK GRAY SHALE	15.4	549.2	
33.4	CARBONDALE	DANVILLE	COAL	2.7	564.6	
30.7	CARBONDALE		CLAYSTONE & SHALE	1.9	567.3	
28.9	CARBONDALE	GALUM	CALCAREOUS SHALE	2.3	569.1	
26.6	CARBONDALE		GRAY SHALE	1.5	571.4	
25.1	CARBONDALE	ALLENBY	BLACK SHALE	2.0	572.9	
23.1	CARBONDALE		SHALE & SANDSTONE	4.3	574.9	
18.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.3	579.3	
17.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.8	580.6	
16.6	CARBONDALE	LAWSON	SILTY SHALE	1.2	581.4	
15.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.9	582.6	
13.5	CARBONDALE	LAWSON	MOTTLED SHALE	1.4	584.5	
12.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.3	585.9	
11.8	CARBONDALE	ANNA	COAL WITH SHALE PARTINGS	3.8	586.2	
8.0	CARBONDALE	HERRIN	COAL	7.4	590.0	

MAPID: 13500907000C **VERSION:** 3 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line

QUADRANGLE: RAMSEY LAKE **LONGITUDE:** -89.205792 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.231161 **DATE COLLECTED:** 8 / 25 / 1957

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 600.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 19-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
598.0	PLEISTOCENE		UNCONSOLIDATED	17.0	0.0	
581.0	BOND	MILLERSVILLE	LIMESTONE	21.0	17.0	
560.0	BOND		SHALE	69.0	38.0	
491.0	BOND		COAL	1.5	107.0	
489.5	BOND		UNDERCLAY	2.5	108.5	
487.0	BOND		SHALE	150.0	111.0	
337.0	BOND	CARTHAGE	LIMESTONE	10.7	261.0	
326.3	MODESTO		BLACK SHALE	3.3	271.7	
323.0	MODESTO		SHALE	5.0	275.0	
318.0	MODESTO		LIMESTONE & SHALE	32.0	280.0	
286.0	MODESTO		SHALE	234.5	312.0	WITH SANDSTONE
51.5	MODESTO		LIMESTONE	2.7	546.5	START OF CORE STUDY
48.8	MODESTO		SHALE	1.4	549.2	
47.4	MODESTO		BLACK SHALE	1.9	550.6	
45.5	MODESTO		SHALE	1.1	552.5	
44.4	MODESTO		BLACK SHALE	0.9	553.6	
43.5	MODESTO		LIMESTONE	0.2	554.5	
43.3	MODESTO		BLACK SHALE	2.8	554.7	
40.5	MODESTO		SHALE	3.3	557.5	
37.2	MODESTO		LIMESTONE	0.2	560.8	
37.1	MODESTO		SHALE	3.6	560.9	
33.5	CARBONDALE	DANVILLE	COAL	2.7	564.5	
30.7	CARBONDALE		COAL	0.3	567.3	WITH SILTSTONE
30.5	CARBONDALE		BLACK SHALE	0.3	567.5	
30.2	CARBONDALE		UNDERCLAY	0.4	567.8	
29.8	CARBONDALE		CLAYSTONE & SILTSTONE	3.2	568.2	
26.6	CARBONDALE		SHALE	1.5	571.4	
25.1	CARBONDALE		BLACK SHALE	2.0	572.9	
23.1	CARBONDALE		SHALE	3.2	574.9	
19.9	CARBONDALE		SANDSTONE/SHALE	0.2	578.1	
19.7	CARBONDALE		SHALE	1.0	578.3	
18.7	CARBONDALE		LIMESTONE	1.3	579.3	
17.4	CARBONDALE		SHALE	5.3	580.6	
12.1	CARBONDALE		LIMESTONE	0.3	585.9	
11.8	CARBONDALE		SHALE	0.1	586.2	
11.7	CARBONDALE	ANNA	BLACK SHALE	1.8	586.3	
9.9	CARBONDALE		COAL	1.2	588.1	
8.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.4	589.3	BLACK
8.4	CARBONDALE		COAL	0.1	589.6	

8.2	CARBONDALE		BLACK SHALE	0.3	589.8
8.0	CARBONDALE	HERRIN	COAL	7.4	590.0
0.6	CARBONDALE		UNDERCLAY	1.5	597.4
-0.9	CARBONDALE		CLAYSTONE & SILTSTONE	1.1	598.9

MAPID: 13500016000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 17 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line

QUADRANGLE: RAMSEY LAKE **LONGITUDE:** -89.22896 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.227463 **DATE COLLECTED:** 0 / 0 / 1910

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 644.2 **LOG TYPE:** Drillers Log

SOURCE: (NONE LISTED) FARM: CHAS. STANDERS **WELL TYPE:** Coal Test

COMMENT: ELEV SEEMS UNRELIABLE--SAME AS TOT DEPTH

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	PLEISTOCENE		CLAY	7.0	0.0	
-	PLEISTOCENE		SAND	5.0	7.0	FINE
-	PLEISTOCENE		DARK CLAY	2.0	12.0	
-	PLEISTOCENE		SAND	1.0	14.0	
-	PLEISTOCENE		HARD PAN	1.0	15.0	
-	PLEISTOCENE		SAND/CLAY	15.0	16.0	YELLOW
-	PLEISTOCENE		CLAY	44.0	31.0	
-	BOND	MILLERSVILLE	LIMESTONE	8.0	75.0	BROKEN
-	BOND		SLATY SHALE	2.0	83.0	
-	BOND		SANDSTONE/SHALE	35.0	85.0	
-	BOND		DARK SHALE	31.0	120.0	
-	BOND		ROCK	7.0	151.0	
-	BOND		BLUE SHALE	16.0	158.0	
-	BOND		DARK SHALE	31.0	174.0	
-	BOND		BLACK SHALE	2.0	205.0	
-	BOND		COAL	0.5	207.0	
-	BOND		CLAYSTONE	3.5	207.5	
-	BOND		LIMESTONE	2.0	211.0	
-	BOND		BLUE SHALE	7.0	213.0	
-	BOND		DARK SHALE	12.0	220.0	AND LS BANDS
-	BOND		HARD SHALE	45.0	232.0	
-	BOND		LIMESTONE	1.0	277.0	
-	BOND		DARK SHALE	6.0	278.0	
-	BOND		BLUE SHALE	4.0	284.0	LOG READS 'BLUE SHALE & L.S.B '
-	BOND		BLUE SHALE	7.0	288.0	
-	BOND	CARTHAGE	LIMESTONE	10.0	295.0	
-	MODESTO		SLATY SHALE	2.0	305.0	
-	MODESTO		CLAYSTONE	5.0	307.0	
-	MODESTO		SANDY SHALE	41.0	312.0	AND ROCK
-	MODESTO		DARK SHALE	14.0	353.0	
-	MODESTO		BLACK SHALE	4.0	367.0	
-	MODESTO		BLUE SHALE	8.0	371.0	
-	MODESTO		LIMESTONE	1.0	379.0	
-	MODESTO		BLUE SHALE	12.0	380.0	
-	MODESTO		SANDY SHALE	8.0	392.0	AND ROCK
-	MODESTO		BROWN SHALE	26.0	400.0	
-	MODESTO		DARK SHALE	41.0	426.0	
-	MODESTO		BLUE SHALE	12.0	467.0	
-	MODESTO		DARK SHALE	82.0	479.0	

-	MODESTO		BLUE SHALE	3.0	561.0	
-	MODESTO		LIGHT SHALE	2.0	564.0	
-	MODESTO		BLUE SHALE	4.0	566.0	
-	MODESTO		SANDY SHALE	5.0	570.0	
-	MODESTO		BLUE SHALE	9.0	575.0	
-	MODESTO		DARK SHALE	4.0	584.0	
-	MODESTO	PIASA	LIMESTONE	5.0	588.0	
-	MODESTO		BLACK SHALE	6.0	593.0	AND SLATE
-	MODESTO		BLUE SHALE	4.0	599.0	
-	CARBONDALE	DANVILLE	COAL	1.0	603.0	
-	CARBONDALE		BLUE SHALE	3.0	604.0	
-	CARBONDALE		HARD SHALE	8.0	607.0	
-	CARBONDALE		BLUE SHALE	6.0	615.0	
-	CARBONDALE		SHALE WITH LIMESTONE	4.0	621.0	
-	CARBONDALE		LIMESTONE W/ SHALE	3.0	625.0	
-	CARBONDALE		DARK SHALE	3.0	628.0	
-	CARBONDALE		HARD SHALE	5.5	631.0	AND STONE
-	CARBONDALE	ANNA	DARK SHALE	0.8	636.5	
-	CARBONDALE	HERRIN	COAL	6.8	637.3	

MAPID: 13500016000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 1W **SECTION:** 17 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line

QUADRANGLE: RAMSEY LAKE **LONGITUDE:** -89.22896 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.227463 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 643.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
52.0	MODESTO	PIASA	LIMESTONE	5.0	588.0	
47.0	MODESTO		DARK GRAY SHALE	10.0	593.0	
37.0	CARBONDALE	DANVILLE	COAL	1.0	603.0	
36.0	CARBONDALE		DARK GRAY SHALE	17.0	604.0	
19.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	621.0	
15.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.0	625.0	
12.0	CARBONDALE	LAWSON	DARK GRAY SHALE	3.0	628.0	
9.0	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	5.5	631.0	
3.5	CARBONDALE	ANNA	DARK GRAY SHALE	0.8	636.5	
3.0	CARBONDALE	HERRIN	COAL	6.8	637.0	

MAPID: 13500156000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2125' S line, 1360' E line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.349811 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.252304 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** 550.0 **LOG TYPE:** Drillers Log
SOURCE: IN & IL COAL CO. **WELL TYPE:** Plugged and/or Abandoned
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
124.0	CARBONDALE	HERRIN	COAL	8.0	542.0	

MAPID: 13523766000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** NW SE SE SE
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.328042 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.233336 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-127 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13523767000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** NW SE SE NE
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.28984 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.240843 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 638.0 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-136 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.0	630.0	

MAPID: 13590001000C **VERSION:** 1 **PROJECT:** ISGS97

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** SW SW NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.268258 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.240332 **DATE COLLECTED:** 8 / 4 / 1922

SURFACE ELEVATION (FT.): 664.1 **LOGGED (FT.):** 638.1 **LOG TYPE:** Company map

SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test

COMMENT: FAYETTE COUNTY COAL CO PROPERTY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
664.1			UNKNOWN	630.8	0.0	
33.3	CARBONDALE	HERRIN	COAL	7.3	630.8	

MAPID: 13500058000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2040' N line, 300' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.268385 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.226469 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 630.3 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
82.5	MODESTO	PIASA	LIMESTONE	5.0	581.5	
77.5	MODESTO		UNCLASSIFIED	4.5	586.5	
73.0	CARBONDALE		UNCLASSIFIED	14.5	591.0	
58.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.5	605.5	
50.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	614.0	
47.5	CARBONDALE		UNCLASSIFIED	1.8	616.5	
45.7	CARBONDALE	BRERETON	LIMESTONE	1.8	618.3	
43.9	CARBONDALE	ANNA	BLACK SHALE	2.9	620.1	
41.0	CARBONDALE	HERRIN	COAL	7.3	623.0	

MAPID: 13500058000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2040' N line, 300' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.268385 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.226469 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 630.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
82.0	MODESTO	PIASA	LIMESTONE	5.0	582.0	
77.0	CARBONDALE		DARK GRAY SHALE	19.0	587.0	
58.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	606.0	
47.0	CARBONDALE	LAWSON	GRAY SHALE	3.5	617.0	
43.5	CARBONDALE	ANNA	BLACK SHALE	2.9	620.5	
41.0	CARBONDALE	HERRIN	COAL	7.3	623.0	

MAPID: 13500058000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2040' N line, 300' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.268385 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.226469 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 664.1 **LOGGED (FT.):** 630.8 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #12 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
664.1			UNCONSOLIDATED	18.0	0.0	
646.1			HARD PAN	10.0	18.0	
636.1			SAND & GRAVEL	14.0	28.0	
622.1			HARD PAN	74.0	42.0	
548.1	BOND		GRAY SHALE	59.0	116.0	
489.1	BOND		BROWN SHALE	24.0	175.0	
465.1	BOND		COAL	3.0	199.0	
462.1	BOND		CLAYSTONE & SILTSTONE	4.0	202.0	
458.1	BOND		BROWN SHALE	67.0	206.0	
391.1	BOND		CLAYSTONE & SILTSTONE	2.0	273.0	
389.1	BOND		GRAY SHALE	14.0	275.0	
375.1	BOND	CARTHAGE	LIMESTONE	10.0	289.0	
365.1	MODESTO		COAL	2.0	299.0	
363.1	MODESTO		CLAYSTONE & SILTSTONE	5.0	301.0	
358.1	MODESTO		SANDSTONE/SHALE	55.0	306.0	
303.1	MODESTO	MACOUPIN	LIMESTONE	6.0	361.0	
297.1	MODESTO		BLACK SHALE	6.0	367.0	
291.1	MODESTO		CLAYSTONE & SILTSTONE	5.0	373.0	
286.1	MODESTO		GRAY SHALE	44.0	378.0	
242.1	MODESTO		BROWN SHALE	32.0	422.0	
210.1	MODESTO	CHAPEL	COAL	2.0	454.0	
208.1	MODESTO		CLAYSTONE & SILTSTONE	3.0	456.0	
205.1	MODESTO		GRAY SHALE	42.0	459.0	
163.1	MODESTO		BROWN SHALE	58.0	501.0	
105.1	MODESTO		BLUE SHALE	7.0	559.0	
98.1	MODESTO		BROWN SHALE	16.0	566.0	
82.1	MODESTO	PIASA	LIMESTONE	5.0	582.0	
77.1	MODESTO		BLACK SHALE	1.0	587.0	
76.1	CARBONDALE		BROWN SHALE	8.0	588.0	
68.1	CARBONDALE		BLUE SHALE	10.0	596.0	
58.1	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	606.0	
47.1	CARBONDALE		BLUE SHALE	3.5	617.0	
43.6	CARBONDALE	ANNA	BLACK SHALE	2.9	620.5	
40.7	CARBONDALE	HERRIN	COAL	7.3	623.4	
33.3	CARBONDALE		UNDERCLAY	0.0	630.8	T.D.

MAPID: 13500058000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2040' N line, 300' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.268385 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.226469 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 664.1 **LOGGED (FT.):** 630.8 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
664.1	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
646.1	PLEISTOCENE		HARD PAN	10.0	18.0	
636.1	PLEISTOCENE		SAND & GRAVEL	14.0	28.0	
622.1	PLEISTOCENE		CLAY	74.0	42.0	
548.1	BOND		GRAY SHALE	59.0	116.0	
489.1	BOND		BROWN SHALE	24.0	175.0	
465.1	BOND		COAL	3.0	199.0	
462.1	BOND		UNDERCLAY	4.0	202.0	
458.1	BOND		BROWN SHALE	67.0	206.0	
391.1	BOND		CLAYSTONE	2.0	273.0	
389.1	BOND		GRAY SHALE	14.0	275.0	
375.1	BOND	CARTHAGE	LIMESTONE	10.0	289.0	
365.1			COAL	2.0	299.0	
363.1			UNDERCLAY	5.0	301.0	
358.1			SANDY SHALE	55.0	306.0	LOG READS 'SANDY ROCK SH'
303.1	MODESTO	CARLINVILLE	LIMESTONE	6.0	361.0	
297.1			BLACK SHALE	6.0	367.0	
291.1			CLAYSTONE	5.0	373.0	
286.1			GRAY SHALE	44.0	378.0	
242.1			BROWN SHALE	32.0	422.0	
210.1	MODESTO	CHAPEL	COAL	2.0	454.0	
208.1			UNDERCLAY	3.0	456.0	
205.1			GRAY SHALE	42.0	459.0	
163.1			BROWN SHALE	58.0	501.0	
105.1			BLUE SHALE	7.0	559.0	
98.1			BROWN SHALE	16.0	566.0	
82.1	MODESTO	PIASA	LIMESTONE	5.0	582.0	
77.1			BLACK SHALE	1.0	587.0	
76.1	CARBONDALE		BROWN SHALE	8.0	588.0	
68.1	CARBONDALE		BLUE SHALE	10.0	596.0	
58.1	CARBONDALE	BRERETON	LIMESTONE	11.0	606.0	
47.1	CARBONDALE	ANNA	BLUE SHALE	3.5	617.0	
43.6	CARBONDALE	ANNA	BLACK SHALE	2.9	620.5	
40.7	CARBONDALE	HERRIN	COAL	7.3	623.4	UCLY BELOW

MAPID: 13523768000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** NW SW SW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.286945 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.220296 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 598.4 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-407 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.4	591.0	

MAPID: 13500779000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1400' S line, 1450' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.321083 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.221248 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 544.2 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 8BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
151.4	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.3	499.6	
146.1	CARBONDALE		MOTTLED SHALE	6.5	504.9	
139.6	CARBONDALE	GALUM	CALCAREOUS SHALE	5.8	511.4	
133.8	CARBONDALE	ALLENBY	BLACK SHALE	0.4	517.2	
133.4	CARBONDALE		CLAYSTONE	4.5	517.6	
128.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.6	522.1	UPPER BENCH
128.3	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	7.7	522.7	SHALE PARTING
120.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	530.4	LOWER BENCH
118.6	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	532.4	
118.2	CARBONDALE	LAWSON	DARK GRAY SHALE	0.6	532.8	
117.5	CARBONDALE	LAWSON	LIMESTONE/UNDERCLAY	0.5	533.5	
117.0	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	534.0	
115.7	CARBONDALE	ANNA	BLACK SHALE	0.7	535.3	
115.0	CARBONDALE	HERRIN	COAL	8.2	536.0	

MAPID: 13500779000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1400' S line, 1450' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.321083 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.221248 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 543.2 **LOG TYPE:** Drillers Log
SOURCE: D.C. DONAN 8BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
159.1	MODESTO	PIASA	LIMESTONE	4.7	496.9	
154.4	MODESTO		UNCLASSIFIED	4.0	501.6	
150.4	CARBONDALE		UNCLASSIFIED	11.2	505.6	
139.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.4	516.8	
132.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.9	523.2	
128.9	CARBONDALE		SHALE	2.0	527.1	
126.9	CARBONDALE	BRERETON	LIMESTONE	3.6	529.1	
123.3	CARBONDALE	ANNA	BLACK SHALE	2.3	532.7	
121.0	CARBONDALE	HERRIN	COAL	8.2	535.0	

MAPID: 13500779000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1400' S line, 1450' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.321083 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.221248 **DATE COLLECTED:** 6 / 15 / 1957
SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 543.7 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 8BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
115.5	CARBONDALE	HERRIN	COAL	8.2	535.5	

MAPID: 13500779000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1400' S line, 1450' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.321083 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.221248 **DATE COLLECTED:** 6 / 15 / 1957

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 546.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 8-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
656.0	PLEISTOCENE		UNCONSOLIDATED	61.0	0.0	
595.0	BOND		SHALE	71.0	61.0	
524.0	BOND		COAL	2.5	132.0	SHALEY
521.5	BOND		LIMESTONE	5.0	134.5	
516.5	BOND		SILTY SHALE	62.5	139.5	
454.0	BOND		LIMESTONE	1.0	202.0	
453.0	BOND		COAL	1.0	203.0	
452.0	BOND		UNDERCLAY	2.5	204.0	
449.5	BOND		SHALE	5.5	206.5	WITH LIMESTONE
444.0	BOND	CARTHAGE	LIMESTONE	7.7	212.0	
436.3	MODESTO		SHALE	0.8	219.7	
435.5	MODESTO		SANDSTONE	19.5	220.5	WITH SHALE
416.0	MODESTO		SHALE	36.0	240.0	
380.0	MODESTO		LIMESTONE	1.0	276.0	
379.0	MODESTO		SHALE	0.8	277.0	LOG ID'S AS SLATE
378.2	MODESTO		COAL	0.5	277.8	
377.7	MODESTO		UNDERCLAY	1.7	278.3	
376.0	MODESTO		SHALE	217.0	280.0	
159.0	MODESTO	PIASA	LIMESTONE	5.3	497.0	START OF CORE/STUDY ID'S-BANKSTON FORK
153.7	MODESTO		SHALE	6.3	502.3	DARK GRAY TO GREENISH BLACK
147.4	MODESTO		SHALE	5.8	508.6	
141.6			BLACK SHALE	0.4	514.4	
141.2			SHALE	0.4	514.8	
140.8			CLAYSTONE & SILTSTONE	4.2	515.2	
136.7	CARBONDALE		LIMESTONE	0.6	519.3	
136.1	CARBONDALE		SHALE	0.5	519.9	
135.6	CARBONDALE		NO RECORD	2.1	520.4	CORE LOSS
133.5	CARBONDALE		SHALE	7.2	522.5	
126.3	CARBONDALE		LIMESTONE	2.0	529.7	
124.3	CARBONDALE		SHALE	1.1	531.7	
123.2	CARBONDALE		LIMESTONE	0.5	532.8	
122.7	CARBONDALE		SHALE	1.8	533.3	
121.0	CARBONDALE		BLACK SHALE	0.5	535.0	
120.5	CARBONDALE	HERRIN	COAL	8.2	535.5	
112.3	CARBONDALE		UNDERCLAY	2.3	543.7	

MAPID: 13523769000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** SE SE SE SE
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.326794 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.217787 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 543.0 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-403 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.0	536.0	

MAPID: 13500781000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1750' S line, 2630' E line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.354375 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.221844 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 499.8 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 7BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
182.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.6	458.0	
176.4	MODESTO		MOTTLED SHALE	2.8	463.6	
173.6	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	0.8	466.4	
172.8	CARBONDALE		CLAYSTONE & SHALE	2.5	467.2	
170.3	CARBONDALE	GALUM	NODULAR LIMESTONE	0.6	469.7	
169.7	CARBONDALE		GRAY SHALE	1.5	470.3	
168.2	CARBONDALE	ALLENBY	DARK GRAY SHALE	1.0	471.8	
167.2	CARBONDALE		CLAYSTONE & SHALE	3.0	472.8	
164.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.6	475.8	UPPER BENCH
161.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.5	478.4	SHALE PARTING
161.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.6	478.9	LOWER BENCH
158.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.3	481.5	
157.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.8	482.7	
151.4	CARBONDALE	ANNA	CALCAREOUS SHALE	0.6	488.6	
147.0	CARBONDALE	HERRIN	COAL	6.8	493.0	

MAPID: 13500781000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1750' S line, 2630' E line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.354375 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.221844 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 498.8 **LOG TYPE:** Drillers Log
SOURCE: D.C. DONAN 7BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
182.4	MODESTO	PIASA	LIMESTONE	4.8	457.6	
177.6	MODESTO		UNCLASSIFIED	2.8	462.4	
174.8	CARBONDALE		UNCLASSIFIED	11.9	465.2	
162.9	CARBONDALE	BANKSTON FORK	LIMESTONE	7.2	477.1	
155.7	CARBONDALE	ANVIL ROCK	SANDSTONE	0.7	484.3	
155.0	CARBONDALE		SHALE	0.6	485.0	
154.4	CARBONDALE	BRERETON	LIMESTONE	3.6	485.6	
150.8	CARBONDALE	ANNA	BLACK SHALE	2.8	489.2	
148.0	CARBONDALE	HERRIN	COAL	6.8	492.0	

MAPID: 13500781000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1750' S line, 2630' E line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.354375 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.221844 **DATE COLLECTED:** 7 / 2 / 1957
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 499.4 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 7BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
147.4	CARBONDALE	HERRIN	COAL	6.8	492.6	

MAPID: 13500781000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1750' S line, 2630' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.354375 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.221844 **DATE COLLECTED:** 7 / 2 / 1957

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 632.5 **LOG TYPE:** Multiple log types

SOURCE: DONAN 7-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	42.0	0.0	
598.0	BOND		SHALE	61.0	42.0	
537.0	BOND		LIMESTONE	7.0	103.0	
530.0	BOND		SHALE	0.5	110.0	LOG ID'S AS SLATE
529.5	BOND		CLAYSTONE & SILTSTONE	1.5	110.5	
528.0	BOND		SANDY SHALE	56.0	112.0	
472.0	BOND		LIMESTONE	1.5	168.0	
470.5	BOND		SHALE	5.5	169.5	
465.0	BOND	CARTHAGE	LIMESTONE	6.5	175.0	
458.5	MODESTO		SHALE	59.0	181.5	
399.5	MODESTO		LIMESTONE	1.0	240.5	
398.5	MODESTO		BLACK SHALE	3.5	241.5	
395.0	MODESTO		COAL	1.0	245.0	
394.0	MODESTO		UNDERCLAY	4.0	246.0	
390.0	MODESTO		LIMESTONE	1.5	250.0	
388.5	MODESTO		SHALE	78.5	251.5	
310.0	MODESTO		COAL	0.5	330.0	
309.5	MODESTO		UNDERCLAY	1.5	330.5	
308.0	MODESTO		LIMESTONE	4.0	332.0	
304.0	MODESTO		SHALE	121.5	336.0	
182.5	MODESTO	PIASA	LIMESTONE	6.3	457.5	START OF CORE/LOG ID'S AS BANKSTON
176.2			CLAYSTONE & SILTSTONE	0.7	463.8	
175.6			SHALE	1.2	464.4	
174.4			CLAYSTONE & SILTSTONE	1.0	465.6	
173.4			SHALE	0.8	466.6	
172.6			CLAYSTONE & SILTSTONE	2.5	467.4	
170.1			LIMESTONE	0.6	469.9	
169.5			NO RECORD	2.5	470.5	CORE LOSS
167.0			SHALE	1.5	473.0	
165.5			BLACK SHALE	1.0	474.5	
164.5	CARBONDALE		CLAYSTONE & SILTSTONE	4.5	475.5	
160.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	480.0	
157.4	CARBONDALE	BANKSTON FORK	CLAYSTONE & SILTSTONE	0.5	482.6	
156.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	483.1	
154.3	CARBONDALE		CLAYSTONE & SILTSTONE	1.2	485.7	
153.1	CARBONDALE	BRERETON	LIMESTONE	2.8	486.9	
150.2	CARBONDALE		NO RECORD	2.3	489.8	CORE LOSS
148.0	CARBONDALE	ANNA	SHALE	0.6	492.0	
147.4	CARBONDALE	HERRIN	COAL	6.8	492.6	

140.7	CARBONDALE		UNDERCLAY	1.5	499.3	
139.2	CARBONDALE		CLAYSTONE & SILTSTONE	1.5	500.8	
137.7	CARBONDALE		SILTSTONE	4.9	502.3	
132.7	CARBONDALE		CLAYSTONE & SILTSTONE	5.9	507.3	
126.8	CARBONDALE	SPRINGFIELD	SHALE	0.3	513.2	THIN COAL AT BASE
126.6	CARBONDALE		CLAYSTONE & SILTSTONE	4.5	513.4	
122.1	CARBONDALE		LIMESTONE	1.1	517.9	
121.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	519.0	
120.2	CARBONDALE		SILTSTONE	5.9	519.8	
114.2	CARBONDALE		SHALE	20.3	525.8	
94.0	CARBONDALE		CLAYSTONE & SILTSTONE	3.8	546.0	
90.2	CARBONDALE	EXCELLO	BLACK SHALE	3.6	549.8	
86.6	CARBONDALE	EXCELLO	CLAYSTONE & SILTSTONE	1.0	553.4	BLACK
85.6	CARBONDALE	HOUCHIN CREEK	COAL	1.2	554.4	
84.4	CARBONDALE		SILTSTONE	0.3	555.6	
84.2	CARBONDALE		UNDERCLAY	0.5	555.8	COAL STREAKS
83.7	CARBONDALE		CLAYSTONE & SILTSTONE	3.3	556.3	
80.3	CARBONDALE		SILTSTONE	10.0	559.7	
70.3	CARBONDALE		SANDSTONE	50.6	569.7	CORE LOSS
19.7	CARBONDALE		SHALE	1.8	620.3	
17.9	CARBONDALE	SURVANT	COAL	2.0	622.1	
15.9	CARBONDALE		UNDERCLAY	0.1	624.1	
15.8	CARBONDALE		SILTSTONE	8.3	624.2	

MAPID: 13500059000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1980' S line, 1980' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.337842 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.208121 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 512.7 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.9	MODESTO	PIASA	LIMESTONE	4.0	467.1	
163.9	MODESTO		UNCLASSIFIED	4.0	471.1	
159.9	CARBONDALE		UNCLASSIFIED	12.0	475.1	
147.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	487.1	
139.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	495.1	
137.9	CARBONDALE		UNCLASSIFIED	3.3	497.1	
134.6	CARBONDALE	BRERETON	LIMESTONE	3.3	500.4	
131.3	CARBONDALE	ANNA	BLACK SHALE	1.3	503.7	
130.0	CARBONDALE	HERRIN	COAL	7.7	505.0	

MAPID: 13500059000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1980' S line, 1980' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.337842 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.208121 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 513.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.0	MODESTO	PIASA	LIMESTONE	4.0	468.0	
163.0	CARBONDALE		MOTTLED SHALE	12.0	472.0	
151.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	14.0	484.0	
137.0	CARBONDALE	BRERETON	LIMESTONE	6.5	498.0	
130.5	CARBONDALE	ANNA	BLACK SHALE	1.3	504.5	
129.0	CARBONDALE	HERRIN	COAL	7.7	506.0	

MAPID: 13500059000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1980' S line, 1980' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.337842 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.208121 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 635.2 **LOGGED (FT.):** 524.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #13 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.2			UNCONSOLIDATED	29.0	0.0	INCLUDES HARD PAN
606.2			CLAY	8.0	29.0	BLUE
598.2			CLAY	4.0	37.0	YELLOW
594.2			CLAY	4.0	41.0	GREEN
590.2	BOND		SANDSTONE	4.0	45.0	
586.2	BOND		SHALE	45.0	49.0	
541.2	BOND		SANDY SHALE	4.0	94.0	
537.2	BOND		BLACK SHALE	3.0	98.0	
534.2	BOND		SHALE	1.0	101.0	
533.2	BOND		UNDERCLAY	3.0	102.0	
530.2	BOND		LIMESTONE	2.0	105.0	
528.2	BOND		UNDERCLAY	3.0	107.0	
525.2	BOND		LIMESTONE	4.0	110.0	
521.2	BOND		CONGLOMERATE	5.0	114.0	LOG HAS GRAVEL
516.2	BOND		LIMESTONE	1.0	119.0	
515.2	BOND		SHALE	23.0	120.0	
492.2	BOND		LIMESTONE	1.0	143.0	
491.2	BOND		BLUE SHALE	11.0	144.0	
480.2	BOND		SHALE	14.0	155.0	
466.2	BOND		LIMESTONE	1.0	169.0	
465.2	BOND		SHALE	1.3	170.0	
463.9	BOND		UNDERCLAY	2.8	171.3	
461.2	BOND		LIMESTONE	1.0	174.0	
460.2	BOND		SHALE	4.0	175.0	
456.2	BOND	CARTHAGE	LIMESTONE	6.5	179.0	BLUE
449.7	MODESTO		SHALE	46.5	185.5	
403.2	MODESTO		SHALE	9.0	232.0	
394.2	MODESTO		SHALE	6.5	241.0	
387.7	MODESTO		UNDERCLAY	0.5	247.5	
387.2	MODESTO		SHALE	87.2	248.0	
300.0	MODESTO		COAL/CLAYSTONE	0.3	335.2	COAL AND FIRECLAY
299.7	MODESTO		SHALE	5.5	335.5	
294.2	MODESTO		LIMESTONE	15.0	341.0	
279.2	MODESTO		SHALE	106.0	356.0	" SH AND SOAPST "
173.2	MODESTO		UNDERCLAY	3.0	462.0	
170.2	MODESTO		SHALE	3.0	465.0	MULTI
167.2	MODESTO	PIASA	LIMESTONE	4.0	468.0	
163.2	MODESTO		GREEN SHALE	12.0	472.0	
151.2	CARBONDALE		SHALE	14.0	484.0	

137.2	CARBONDALE	BRERETON	LIMESTONE	6.5	498.0	
130.7	CARBONDALE		SHALE	1.3	504.5	
129.4	CARBONDALE	HERRIN	COAL	7.7	505.8	
121.8			UNDERCLAY	3.6	513.4	
118.2			LIMESTONE	1.0	517.0	
117.2			SANDY SHALE	6.0	518.0	
111.2			BLACK SHALE	0.0	524.0	T.D.

MAPID: 13500059000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1980' S line, 1980' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.337842 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.208121 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 635.2 **LOGGED (FT.):** 524.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.2	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
627.2	PLEISTOCENE		HARD PAN	11.0	8.0	
616.2	PLEISTOCENE		UNCLASSIFIED	10.0	19.0	NO LITHO LISTED IN LOG
606.2	PLEISTOCENE		CLAY	8.0	29.0	
598.2	PLEISTOCENE		CLAY	4.0	37.0	
594.2	PLEISTOCENE		CLAY	4.0	41.0	
590.2			SANDSTONE	4.0	45.0	LOG READS 'H.C. SAND ROCK'
586.2			SHALE	45.0	49.0	
541.2			SANDY SHALE	4.0	94.0	
537.2			BLACK SHALE	3.0	98.0	WITH BANDS
534.2			LIGHT SHALE	1.0	101.0	
533.2			UNDERCLAY	3.0	102.0	
530.2			LIMESTONE	2.0	105.0	
528.2			UNDERCLAY	3.0	107.0	
525.2			LIMESTONE	4.0	110.0	
521.2			CONGLOMERATE	5.0	114.0	
516.2			LIMESTONE	1.0	119.0	
515.2			SHALE	23.0	120.0	
492.2			LIMESTONE	1.0	143.0	
491.2			BLUE SHALE	11.0	144.0	
480.2			SHALE	14.0	155.0	
466.2			LIMESTONE	1.0	169.0	
465.2			BLACK SHALE	1.0	170.0	
464.2			LIGHT SHALE	0.3	171.0	
463.9			UNDERCLAY	2.8	171.3	
461.2			LIMESTONE	1.0	174.0	
460.2			SHALE	4.0	175.0	
456.2			LIMESTONE	6.5	179.0	BLUE
449.7			SHALE	46.5	185.5	
403.2			SHALE	9.0	232.0	
394.2			SHALE	6.0	241.0	
388.2			LIGHT SHALE	0.5	247.0	
387.7			UNDERCLAY	0.5	247.5	
387.2			SHALE	87.2	248.0	
300.0			COAL/CLAYSTONE	0.3	335.2	
299.7			SHALE	1.5	335.5	FINE
298.2			LIMESTONE	4.0	337.0	
294.2			SHALE	15.0	341.0	FINE
279.2			SHALE	106.0	356.0	

173.2	CARBONDALE		UNDERCLAY	3.0	462.0	
170.2	CARBONDALE		UNCLASSIFIED	3.0	465.0	LOG READS 'RED YELLOW & BROWN'
167.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	468.0	
163.2	CARBONDALE		GREEN SHALE	12.0	472.0	
151.2	CARBONDALE		HARD SHALE	14.0	484.0	
137.2	CARBONDALE	BRERETON	ROCK	6.5	498.0	LOG READS 'ROCK (LIMESTONE)'
130.7	CARBONDALE	ANNA	BLACK SHALE	1.3	504.5	
129.4	CARBONDALE	HERRIN	COAL	7.7	505.8	
121.8	CARBONDALE		UNDERCLAY	3.6	513.4	
118.2	CARBONDALE		LIMESTONE	1.0	517.0	
117.2	CARBONDALE		SANDY SHALE	6.0	518.0	BLACK SHALE BELOW

MAPID: 13523770000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 21 **QUARTERS/FOOTAGES:** SE SE SE

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.308318 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.203844 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 564.7 **LOG TYPE:** Company map

SOURCE: CARTER OIL W-45 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.7	557.0	

MAPID: 13500870000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1300' S line, 70' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269248 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.206473 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 620.5 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 9BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
86.5	MODESTO	PIASA	NODULAR LIMESTONE	9.4	571.5	
77.1	MODESTO		CLAYSTONE & SHALE	3.8	580.9	
73.3	CARBONDALE	DANVILLE	COAL	0.5	584.7	
72.8	CARBONDALE		CLAYSTONE & SHALE	1.7	585.2	
71.1	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.5	586.9	
69.6	CARBONDALE		SHALE & SANDSTONE	5.3	588.4	
64.3	CARBONDALE	ALLENBY	BLACK SHALE	1.3	593.7	
63.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	7.7	595.0	
55.3	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.7	602.7	
52.7	CARBONDALE	LAWSON	SILTSTONE	1.6	605.3	
51.1	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.1	606.9	
51.0	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.2	607.0	
50.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.3	607.2	
46.6	CARBONDALE	ANNA	BLACK SHALE	1.6	611.4	
45.0	CARBONDALE	HERRIN	COAL	7.5	613.0	

MAPID: 13500870000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1300' S line, 70' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269248 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.206473 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 620.5 **LOG TYPE:** Drillers Log

SOURCE: D.C. DONAN 9BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
86.7	MODESTO	PIASA	LIMESTONE	9.4	571.3	
77.3	MODESTO		UNCLASSIFIED	3.8	580.7	
73.5	CARBONDALE	DANVILLE	COAL	0.5	584.5	
73.0	CARBONDALE		UNCLASSIFIED	9.7	585.0	
63.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.7	594.7	
55.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.8	602.4	
52.8	CARBONDALE	CONANT	LIMESTONE	1.6	605.2	
51.2	CARBONDALE		SHALE	0.3	606.8	
50.9	CARBONDALE	BRERETON	LIMESTONE	4.3	607.1	
46.6	CARBONDALE	ANNA	BLACK SHALE	1.6	611.4	
45.0	CARBONDALE	HERRIN	COAL	7.5	613.0	

MAPID: 13500870000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1300' S line, 70' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269248 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.206473 **DATE COLLECTED:** 7 / 3 / 1957

SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 620.4 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 9BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
45.1	CARBONDALE	HERRIN	COAL	7.5	612.9	

MAPID: 13500870000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1300' S line, 70' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.269248 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.206473 **DATE COLLECTED:** 7 / 3 / 1957

SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 622.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 9-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
658.0	PLEISTOCENE		UNCONSOLIDATED	109.0	0.0	
549.0	BOND		SHALE	71.0	109.0	
478.0	BOND		UNDERCLAY	3.0	180.0	
475.0	BOND		SHALE	5.0	183.0	
470.0	BOND		SANDSTONE	1.0	188.0	
469.0	BOND		SHALE	77.8	189.0	
391.2	BOND	CARTHAGE	LIMESTONE	10.7	266.8	
380.6	MODESTO		SHALE	159.6	277.4	
221.0	MODESTO		COAL	1.5	437.0	LAB REPORTS "COAL AND SLATE"
219.5	MODESTO		UNDERCLAY	1.5	438.5	
218.0	MODESTO		SHALE	126.0	440.0	
92.0	MODESTO		SILTSTONE	0.8	566.0	START OF CORE STUDY
91.2	MODESTO		CLAYSTONE & SILTSTONE	0.5	566.8	
90.7	MODESTO		COAL	0.1	567.3	BONEY
90.6	MODESTO		CLAYSTONE & SILTSTONE	1.3	567.4	
89.3	MODESTO	PIASA	LIMESTONE	9.4	568.7	
79.9	MODESTO		CLAYSTONE & SILTSTONE	3.3	578.1	
76.6	CARBONDALE	DANVILLE	COAL	0.7	581.4	
75.9	CARBONDALE		CLAYSTONE & SILTSTONE	0.3	582.1	GRAYISH BLACK
75.6	CARBONDALE		CLAYSTONE & SILTSTONE	1.2	582.4	
74.4	CARBONDALE		LIMESTONE	1.5	583.6	
72.9	CARBONDALE		SHALE	0.5	585.1	
72.4	CARBONDALE		SANDSTONE	0.2	585.6	
72.2	CARBONDALE		SHALE	3.9	585.8	
68.3	CARBONDALE		CLAYSTONE & SILTSTONE	5.0	589.7	
63.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.7	594.7	
55.7	CARBONDALE		CLAYSTONE & SILTSTONE	2.8	602.3	
52.8	CARBONDALE		SILTSTONE	1.6	605.2	
51.2	CARBONDALE		CLAYSTONE & SILTSTONE	0.3	606.8	BLACK
50.9	CARBONDALE	BRERETON	LIMESTONE	4.3	607.1	
46.7	CARBONDALE	ANNA	BLACK SHALE	1.5	611.3	
45.1	CARBONDALE		PYRITE	0.0	612.9	
45.1	CARBONDALE	HERRIN	COAL	7.6	612.9	
37.5	CARBONDALE		UNDERCLAY	1.4	620.5	
36.2	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	621.8	

MAPID: 13500060000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.336556 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.188895 **DATE COLLECTED:** 8 / 0 / 1912
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 521.7 **LOG TYPE:** Drillers Log
SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
158.5	MODESTO	PIASA	LIMESTONE	3.0	476.5	
155.5	MODESTO		UNCLASSIFIED	6.0	479.5	
149.5	CARBONDALE		UNCLASSIFIED	12.0	485.5	
137.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.5	497.5	
130.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	505.0	
128.5	CARBONDALE		UNCLASSIFIED	2.0	506.5	
126.5	CARBONDALE	BRERETON	LIMESTONE	2.0	508.5	
124.5	CARBONDALE	ANNA	BLACK SHALE	3.5	510.5	
121.0	CARBONDALE	HERRIN	COAL	7.7	514.0	

MAPID: 13500060000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.336556 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.188895 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 522.7 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
157.0	MODESTO	PIASA	LIMESTONE W/ SHALE	2.0	478.0	
155.0	MODESTO		MOTTLED SHALE	1.0	480.0	
154.0	CARBONDALE	DANVILLE	DARK GRAY SHALE	0.5	481.0	
153.5	CARBONDALE		MOTTLED SHALE	16.5	481.5	
137.0	CARBONDALE	GALUM	LIMESTONE	2.0	498.0	
135.0	CARBONDALE	ALLENBY	DARK GRAY SHALE	1.0	500.0	
134.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	6.0	501.0	
128.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	507.0	
124.0	CARBONDALE	LAWSON	SILTY SHALE	3.2	511.0	
120.8	CARBONDALE	ANNA	BLACK SHALE	0.3	514.2	
120.0	CARBONDALE	HERRIN	COAL	7.7	515.0	

MAPID: 13500060000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.336556 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.188895 **DATE COLLECTED:** 8 / 0 / 1912

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 523.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MCHY. CO., #A-15 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.0			CLAY	7.0	0.0	
628.0			SAND & GRAVEL	13.0	7.0	
615.0			HARD PAN	8.0	20.0	
607.0			GRAVEL	8.0	28.0	
599.0			SAND/CLAY	24.0	36.0	
575.0			UNCONSOLIDATED	23.0	60.0	SAND, GRAVEL, BOULDERS
552.0	BOND		BLUE SHALE	17.0	83.0	
535.0	BOND		SHALE	11.0	100.0	W/LS BANDS
524.0	BOND		BLACK SHALE	2.0	111.0	
522.0	BOND		COAL	0.5	113.0	
521.5	BOND		SHALE	6.5	113.5	W/LS BONDS
515.0	BOND		GRAY SHALE	35.0	120.0	
480.0	BOND		BLUE SHALE	22.0	155.0	
458.0	BOND		LIMESTONE W/ SHALE	2.8	177.0	
455.2	BOND		COAL	0.2	179.8	
455.0	BOND		BLUE SHALE	8.0	180.0	
447.0	BOND		LIMESTONE	6.5	188.0	
440.5	BOND		DARK SHALE	3.5	194.5	
437.0	BOND		GRAY SHALE	32.0	198.0	
405.0	MODESTO		SHALE	22.0	230.0	W/LS; DRK BLUE
383.0	MODESTO		BLUE SHALE	3.4	252.0	
379.6	MODESTO	WOMAC	COAL	6.3	255.4	
373.4	MODESTO		BLUE SHALE	8.4	261.6	
365.0	MODESTO		SHALE	25.0	270.0	DRK BLUE
340.0	MODESTO		SANDY SHALE	8.0	295.0	
332.0	MODESTO		BLUE SHALE	39.7	303.0	
292.3	MODESTO	CHAPEL	COAL	0.3	342.7	
292.1	MODESTO		SANDY SHALE	72.1	342.9	
220.0	MODESTO		SHALE	33.0	415.0	DRK BLUE
187.0	MODESTO		BLUE SHALE	19.0	448.0	
168.0	MODESTO		CALCAREOUS SHALE	11.0	467.0	
157.0	MODESTO		LIMESTONE W/ SHALE	2.0	478.0	
155.0	MODESTO		GREEN SHALE	1.0	480.0	
154.0	MODESTO		SHALE	0.5	481.0	DRK GRAY
153.5	MODESTO		SHALE	4.5	481.5	W/RED STREAKS; DRK GRAY
149.0	MODESTO		CLAYSTONE & SHALE	4.0	486.0	
145.0	CARBONDALE		BLUE SHALE	6.0	490.0	
139.0	CARBONDALE		CALCAREOUS SHALE	2.0	496.0	
137.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	498.0	

135.0	CARBONDALE		SHALE	1.0	500.0	DRK GRAY
134.0	CARBONDALE		LIMESTONE W/ SHALE	6.0	501.0	
128.0	CARBONDALE	BRERETON	LIMESTONE	4.0	507.0	
124.0	CARBONDALE	ENERGY	SANDY SHALE	3.2	511.0	
120.8	CARBONDALE	ENERGY	BLACK SHALE	0.3	514.2	
120.5	CARBONDALE	HERRIN	COAL	7.7	514.5	
112.8	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	522.2	

MAPID: 13500060000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.336556 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.188895 **DATE COLLECTED:** 8 / 0 / 1912

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 523.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO. **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.0	PLEISTOCENE		CLAY	7.0	0.0	
628.0	PLEISTOCENE		SAND & GRAVEL	13.0	7.0	
615.0	PLEISTOCENE		HARD PAN	8.0	20.0	
607.0	PLEISTOCENE		GRAVEL	8.0	28.0	
599.0	PLEISTOCENE		SAND/CLAY	24.0	36.0	
575.0	PLEISTOCENE		SAND & GRAVEL	23.0	60.0	AND BOULDERS
552.0	BOND		BLUE SHALE	17.0	83.0	STICKY
535.0	BOND		SHALE	11.0	100.0	WITH LS BANDS
524.0	BOND		BLACK SHALE	2.0	111.0	
522.0	BOND		COAL	0.5	113.0	
521.5	BOND		SHALE	6.5	113.5	STICKY, WITH LS BANDS
515.0	BOND		GRAY SHALE	35.0	120.0	
480.0	BOND		BLUE SHALE	22.0	155.0	
458.0	BOND		LIMESTONE W/ SHALE	2.8	177.0	
455.2	BOND		COAL	0.2	179.8	
455.0	BOND		BLUE SHALE	8.0	180.0	
447.0	BOND	CARTHAGE	LIMESTONE	6.5	188.0	
440.5	MODESTO		DARK SHALE	3.5	194.5	
437.0	MODESTO		GRAY SHALE	32.0	198.0	
405.0	MODESTO		BLUE SHALE	22.0	230.0	WITH LS
383.0	MODESTO		BLUE SHALE	3.4	252.0	STICKY
379.6	MODESTO		COAL	6.3	255.4	
373.4	MODESTO		BLUE SHALE	8.4	261.6	STICKY
365.0	MODESTO		BLUE SHALE	25.0	270.0	
340.0	MODESTO		SANDY SHALE	3.0	295.0	
337.0	MODESTO		SANDY SHALE	5.0	298.0	
332.0	MODESTO		BLUE SHALE	27.0	303.0	STICKY
305.0	MODESTO		BLUE SHALE	12.7	330.0	
292.3	MODESTO	CHAPEL	COAL	0.3	342.7	
292.1	MODESTO		SANDY SHALE	22.1	342.9	
270.0	MODESTO		SANDY SHALE	36.0	365.0	STICKY
234.0	MODESTO		SANDY SHALE	14.0	401.0	
220.0	MODESTO		BLUE SHALE	33.0	415.0	
187.0	MODESTO		BLUE SHALE	19.0	448.0	
168.0	MODESTO		SHALE WITH LIMESTONE	10.0	467.0	
158.0	MODESTO		SHALE WITH LIMESTONE	1.0	477.0	
157.0	MODESTO		LIMESTONE W/ SHALE	2.0	478.0	
155.0	MODESTO		GREEN SHALE	1.0	480.0	
154.0	MODESTO		DARK GRAY SHALE	0.5	481.0	

153.5	MODESTO		DARK GRAY SHALE	4.5	481.5	WITH RED STREAKS
149.0	CARBONDALE		ARGILACEOUS SHALE	4.0	486.0	
145.0	CARBONDALE		BLUE SHALE	6.0	490.0	
139.0	CARBONDALE		SHALE WITH LIMESTONE	2.0	496.0	
137.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	498.0	
135.0	CARBONDALE		DARK GRAY SHALE	1.0	500.0	
134.0	CARBONDALE		GRAY SHALE & LIMESTONE	6.0	501.0	
128.0	CARBONDALE	BRERETON	LIMESTONE	4.0	507.0	
124.0	CARBONDALE	ENERGY	SANDY SHALE	3.2	511.0	
120.8	CARBONDALE	ENERGY	BLACK SHALE	0.3	514.2	
120.5	CARBONDALE	HERRIN	COAL	7.7	514.5	
112.8	CARBONDALE		UNDERCLAY	0.8	522.2	

MAPID: 13523771000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** NW NE NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.338914 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.201729 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 518.7 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-187 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM BANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.7	511.0	

MAPID: 13500061000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.36259 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.179507 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 497.4 **LOG TYPE:** Drillers Log

SOURCE: SETTY ADAM **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
169.8	MODESTO	PIASA	LIMESTONE	4.5	452.2	
165.3	MODESTO		UNCLASSIFIED	3.5	456.7	
161.8	CARBONDALE		UNCLASSIFIED	11.0	460.2	
150.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	471.2	
141.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	480.2	
138.8	CARBONDALE		UNCLASSIFIED	2.0	483.2	
136.8	CARBONDALE	BRERETON	LIMESTONE	2.5	485.2	
134.3	CARBONDALE	ANNA	BLACK SHALE	2.3	487.7	
132.0	CARBONDALE	HERRIN	COAL	7.4	490.0	

MAPID: 13500061000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.36259 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.179507 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 497.4 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
170.0	MODESTO	PIASA	LIMESTONE	4.5	452.0	
165.5	CARBONDALE		MOTTLED SHALE	10.5	456.5	
155.0	CARBONDALE	LAWSON	SANDSTONE	20.5	467.0	
134.5	CARBONDALE	ANNA	BLACK SHALE	2.3	487.5	
132.0	CARBONDALE	HERRIN	COAL	7.4	490.0	

MAPID: 13500061000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.36259 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.179507 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.5 **LOGGED (FT.):** 498.0 **LOG TYPE:** Drillers Log

SOURCE: ADAM SETTY, #A-1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
621.5			UNCONSOLIDATED	30.0	0.0	
591.5	BOND		DARK SHALE	10.0	30.0	
581.5	BOND		GRAY SHALE	20.0	40.0	
561.5	BOND		BLUE SHALE	32.0	60.0	
529.5	BOND		BLACK SHALE	1.0	92.0	
528.5	BOND		COAL	1.0	93.0	W/SH
527.5	BOND		UNDERCLAY	2.0	94.0	
525.5	BOND		SANDSTONE	18.0	96.0	
507.5	BOND		LIMESTONE	2.0	114.0	
505.5	BOND		BLUE SHALE	27.0	116.0	
478.5	BOND		LIMESTONE	2.0	143.0	
476.5	BOND		SANDSTONE	15.0	145.0	
461.5	BOND		SANDY SHALE	8.0	160.0	
453.5	BOND		LIMESTONE	2.0	168.0	
451.5	BOND		DARK SHALE	3.0	170.0	
448.5	BOND		SHALE	11.0	173.0	
437.5	BOND	CARTHAGE	LIMESTONE	10.0	184.0	
427.5	MODESTO		BROWN SHALE	15.7	194.0	
411.8	MODESTO		COAL	1.3	209.7	W/SH
410.5	MODESTO		UNDERCLAY	1.0	211.0	
409.5	MODESTO		SANDY SHALE	25.0	212.0	
384.5	MODESTO		BLACK SHALE	2.0	237.0	
382.5	MODESTO		UNDERCLAY	2.0	239.0	
380.5	MODESTO		BLUE SHALE	19.0	241.0	
361.5	MODESTO		SANDSTONE	63.0	260.0	
298.5	MODESTO		BROWN SHALE	14.5	323.0	
284.0	MODESTO	CHAPEL	COAL	2.0	337.5	
282.0	MODESTO		UNDERCLAY	1.5	339.5	
280.5	MODESTO		SANDSTONE	63.0	341.0	
217.5	MODESTO		SANDY SHALE	38.0	404.0	
179.5	MODESTO		SANDSTONE	2.0	442.0	
177.5	MODESTO		BROWN SHALE	8.0	444.0	
169.5	MODESTO	PIASA	LIMESTONE	4.5	452.0	
165.0	MODESTO		RED SHALE	3.5	456.5	
161.5	MODESTO		BLUE SHALE	7.0	460.0	
154.5	CARBONDALE	ANVIL ROCK	SANDSTONE	20.5	467.0	
134.0	CARBONDALE	ANNA	BLACK SHALE	2.3	487.5	
131.7	CARBONDALE	HERRIN	COAL	7.4	489.8	
124.2			UNDERCLAY	0.8	497.3	

MAPID: 13500061000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.36259 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.179507 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.6 **LOGGED (FT.):** 498.0 **LOG TYPE:** Drillers Log

SOURCE: ADAM SETTY **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
621.6	PLEISTOCENE		SAND	10.0	0.0	
611.6	PLEISTOCENE		UNCONSOLIDATED	20.0	10.0	SANDY
591.6	BOND		DARK SHALE	10.0	30.0	
581.6	BOND		GRAY SHALE	20.0	40.0	
561.6	BOND		BLUE SHALE	32.0	60.0	
529.6	BOND		BLACK SHALE	1.0	92.0	
528.6	BOND		COAL WITH SHALE	1.0	93.0	
527.6	BOND		UNDERCLAY	2.0	94.0	
525.6	BOND		SANDSTONE	18.0	96.0	
507.6	BOND		LIMESTONE	2.0	114.0	
505.6	BOND		BLUE SHALE	27.0	116.0	
478.6	BOND		LIMESTONE	2.0	143.0	
476.6	BOND		SANDSTONE	15.0	145.0	
461.6	BOND		SANDY SLATE	8.0	160.0	BROWN
453.6	BOND		LIMESTONE	2.0	168.0	
451.6	BOND		DARK SHALE	3.0	170.0	
448.6	BOND		LIGHT SHALE	11.0	173.0	
437.6	BOND	CARTHAGE	LIMESTONE	10.0	184.0	
427.6	MODESTO		SHALE	15.7	194.0	
411.9	MODESTO		COAL WITH SHALE	1.3	209.7	
410.6	MODESTO		UNDERCLAY	1.0	211.0	
409.6	MODESTO		SANDY SLATE	25.0	212.0	BROWN
384.6	MODESTO		BLACK SHALE	2.0	237.0	
382.6	MODESTO		UNDERCLAY	2.0	239.0	
380.6	MODESTO		BLUE SHALE	19.0	241.0	
361.6	MODESTO		SANDSTONE	63.0	260.0	
298.6	MODESTO		SHALE	14.5	323.0	
284.1	MODESTO	CHAPEL	COAL	2.0	337.5	
282.1	MODESTO		UNDERCLAY	1.5	339.5	
280.6	MODESTO		SANDSTONE	63.0	341.0	
217.6	MODESTO		SANDY SHALE	38.0	404.0	BROWN
179.6	MODESTO		SANDSTONE	2.0	442.0	
177.6	MODESTO		BROWN SHALE	8.0	444.0	
169.6	MODESTO	PIASA	LIMESTONE	4.5	452.0	
165.1	MODESTO		RED SHALE	3.5	456.5	
161.6	CARBONDALE		BLUE SHALE	7.0	460.0	
154.6	CARBONDALE		SANDSTONE	20.5	467.0	
134.1	CARBONDALE	ANNA	BLACK SHALE	2.3	487.5	
131.8	CARBONDALE	HERRIN	COAL	7.4	489.8	

124.3	CARBONDALE	UNDERCLAY	0.8	497.3

MAPID: 13500061000C **VERSION:** 5 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.36259 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.179507 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.6 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-1 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
131.8	CARBONDALE	HERRIN	COAL	7.4	489.8	

MAPID: 13523772000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NE NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.357879 **GEOLOGIST:** E.PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.18693 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 481.6 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-406 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.6	474.0	

MAPID: 13500667000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 2374' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.33621 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.174252 **DATE COLLECTED:** 8 / 0 / 1948

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 533.5 **LOG TYPE:** Electric Log

SOURCE: REFINERS PET CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
161.5	MODESTO	PIASA	LIMESTONE	5.0	485.5	
156.5	MODESTO		UNCLASSIFIED	6.0	490.5	
150.5	CARBONDALE	DANVILLE	COAL	1.0	496.5	
149.5	CARBONDALE		UNCLASSIFIED	10.0	497.5	
139.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	507.5	
131.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	515.5	
129.5	CARBONDALE		UNCLASSIFIED	2.0	517.5	
127.5	CARBONDALE	BRERETON	LIMESTONE	3.0	519.5	
124.5	CARBONDALE	ANNA	BLACK SHALE	3.5	522.5	
121.0	CARBONDALE	HERRIN	COAL	7.5	526.0	

MAPID: 13500667000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 2374' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.33621 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.174252 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 533.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
161.0	MODESTO	PIASA	LIMESTONE	5.0	486.0	
156.0	CARBONDALE		MOTTLED SHALE	16.0	491.0	
140.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	507.0	
139.0	CARBONDALE		DARK GRAY SHALE	1.0	508.0	
138.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	7.0	509.0	
131.0	CARBONDALE	LAWSON	SHALE	7.0	516.0	
124.0	CARBONDALE	ANNA	BLACK SHALE	2.0	523.0	
121.0	CARBONDALE	HERRIN	COAL	7.5	526.0	

MAPID: 13500778000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2380' N line, 40' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325793 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.181497 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 546.2 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 6BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
151.0	MODESTO	PIASA	LIMESTONE	5.2	497.0	
145.8	CARBONDALE		MOTTLED SHALE	7.5	502.2	
138.3	CARBONDALE	GALUM	NODULAR LIMESTONE	1.2	509.7	
137.2	CARBONDALE		DARK GRAY SHALE	4.0	510.8	
133.2	CARBONDALE	ALLENBY	BONE COAL	0.5	514.8	
132.7	CARBONDALE		CLAYSTONE	4.3	515.3	
128.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.3	519.6	UPPER BENCH
128.1	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	15.6	519.9	SHALE PARTING
112.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.6	535.6	LOWER BENCH
110.9	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	537.1	
110.3	CARBONDALE	ANNA	BLACK SHALE	0.8	537.7	
109.0	CARBONDALE	HERRIN	COAL	7.2	539.0	

MAPID: 13500778000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2380' N line, 40' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325793 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.181497 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 546.2 **LOG TYPE:** Drillers Log

SOURCE: D.C. DONAN 6BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.6	MODESTO	PIASA	LIMESTONE	5.2	493.4	
149.4	MODESTO		UNCLASSIFIED	4.0	498.6	
145.4	CARBONDALE		UNCLASSIFIED	13.4	502.6	
132.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.4	516.0	
124.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	523.4	
121.1	CARBONDALE	CONANT	LIMESTONE	1.5	526.9	
119.6	CARBONDALE		SHALE	3.7	528.4	
115.9	CARBONDALE	BRERETON	LIMESTONE	4.6	532.1	
111.3	CARBONDALE	ANNA	BLACK SHALE	2.3	536.7	
109.0	CARBONDALE	HERRIN	COAL	7.2	539.0	

MAPID: 13500778000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2380' N line, 40' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325793 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.181497 **DATE COLLECTED:** 6 / 20 / 1957

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 600.5 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 6BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
108.9	CARBONDALE	HERRIN	COAL	7.2	539.1	
48.7	CARBONDALE	HOUCHIN CREEK	COAL	1.2	599.3	

MAPID: 13500778000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2380' N line, 40' W line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325793 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.181497 **DATE COLLECTED:** 6 / 20 / 1957

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 928.8 **LOG TYPE:** Multiple log types

SOURCE: DONAN 6-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
648.0	PLEISTOCENE		UNCONSOLIDATED	111.8	0.0	
536.2	BOND		SHALE	21.7	111.8	
514.5	BOND		CLAYSTONE	4.7	133.5	
509.8	BOND		LIMESTONE	1.8	138.2	
508.0	BOND		SHALE	14.0	140.0	
494.0	BOND		LIMESTONE	1.4	154.0	
492.6	BOND		SHALE	51.9	155.4	
440.7	BOND	CARTHAGE	LIMESTONE	9.7	207.3	
431.0	MODESTO		SHALE	147.2	217.0	
283.8	MODESTO		COAL	0.8	364.2	SLATY COAL SEAM
283.0	MODESTO		SHALE	131.7	365.0	
151.3	MODESTO	PIASA	LIMESTONE	5.2	496.7	START OF CORE/STUDY ID'S AS BANKSTON
146.2			SHALE	0.9	501.8	
145.2			BLACK SHALE	6.6	502.8	GREENISH BLACK
138.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.2	509.3	
137.5	CARBONDALE		BLACK SHALE	4.5	510.5	GREENISH BLACK
133.0	CARBONDALE		CLAYSTONE & SHALE	4.3	515.0	
128.7	CARBONDALE	CONANT	LIMESTONE	0.3	519.3	
128.4	CARBONDALE		CLAYSTONE & SHALE	9.9	519.6	
118.5	CARBONDALE		BLACK SHALE	2.4	529.5	GREENISH BLACK
116.2	CARBONDALE		CLAYSTONE & SHALE	3.7	531.8	
112.5	CARBONDALE	BRERETON	LIMESTONE	1.3	535.5	
111.2	CARBONDALE		CLAYSTONE & SHALE	0.5	536.8	
110.7	CARBONDALE	ANNA	BLACK SHALE	1.8	537.3	
108.9	CARBONDALE	HERRIN	COAL	7.3	539.1	
101.7	CARBONDALE		UNDERCLAY	1.1	546.3	
100.6	CARBONDALE		CLAYSTONE & SHALE	2.9	547.4	
97.7	CARBONDALE		LIMESTONE	1.3	550.3	
96.4	CARBONDALE		CLAYSTONE & SHALE	0.5	551.6	
95.9	CARBONDALE		SHALE	1.5	552.1	
94.4	CARBONDALE		CLAYSTONE & SHALE	4.3	553.6	
90.1	CARBONDALE		CONCRETION	0.4	557.9	
89.7	CARBONDALE		SILTSTONE	31.0	558.3	
58.7	CARBONDALE		SHALE	4.7	589.3	
54.0	CARBONDALE		LIMESTONE	0.2	594.0	
53.8	CARBONDALE		BLACK SHALE	0.3	594.2	
53.5	CARBONDALE	HANOVER	LIMESTONE	1.5	594.5	
52.0	CARBONDALE	EXCELLO	BLACK SHALE	3.3	596.0	
48.7	CARBONDALE	HOUCHIN CREEK	COAL	1.3	599.3	CORE STUDY ID'S AS #4

47.4	CARBONDALE		UNDERCLAY	0.3	600.6	
47.1	CARBONDALE		CLAYSTONE & SHALE	1.6	600.9	
45.5	CARBONDALE		SHALE	1.1	602.5	
44.4	CARBONDALE		CLAYSTONE & SHALE	3.2	603.6	
41.2	CARBONDALE		SILTSTONE	44.3	606.8	
-3.1	CARBONDALE		SANDSTONE	6.9	651.1	
-10.0	CARBONDALE	SURVANT	COAL	2.2	658.0	
-12.2	CARBONDALE		BLACK SHALE	0.1	660.2	
-12.2	CARBONDALE		UNDERCLAY	0.0	660.2	
-12.3	CARBONDALE		SILTSTONE	3.9	660.3	
-16.2	CARBONDALE		SHALE	11.6	664.2	
-27.8	CARBONDALE		LIMESTONE	1.0	675.8	
-28.8	CARBONDALE		SHALE	2.5	676.8	
-31.3	CARBONDALE		SANDSTONE	2.4	679.3	
-33.7	CARBONDALE		SILTSTONE	13.6	681.7	
-47.3	CARBONDALE		SHALE	12.2	695.3	
-59.5	CARBONDALE		LIMESTONE	0.2	707.5	
-59.7	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.6	707.7	
-62.3	CARBONDALE	COLCHESTER	COAL	2.7	710.3	LOG ID'S AS #3 COAL
-64.9	TRADEWATER		CLAYSTONE & SHALE	0.1	712.9	BLACK
-65.0	SPOON		CLAYSTONE & SHALE	0.8	713.0	
-65.8	SPOON		LIMESTONE	0.8	713.8	
-66.7	SPOON		CLAYSTONE & SHALE	1.8	714.7	
-68.4	SPOON		CLAYSTONE & SHALE	1.0	716.4	BLACK
-69.4	SPOON	SEELYVILLE	COAL	3.0	717.4	
-72.4	SPOON		UNDERCLAY	0.0	720.4	
-72.5	SPOON		CLAYSTONE & SHALE	0.5	720.5	THIN COAL STREAKS
-73.0	SPOON		CLAYSTONE & SHALE	2.7	721.0	
-75.7	SPOON		SILTSTONE	2.5	723.7	
-78.2	SPOON		SHALE	7.3	726.2	
-85.5	SPOON		SHALE	4.0	733.5	LEAF COAL ZONES
-89.5	SPOON		COAL	1.0	737.5	
-90.5	SPOON		CLAYSTONE & SHALE	6.6	738.5	WITH COAL STREAKS
-97.1	SPOON		SHALE	3.8	745.1	
-100.8	SPOON		CLAYSTONE & SHALE	3.8	748.8	
-104.7	SPOON		CLAYSTONE & SHALE	0.3	752.7	BLACK
-105.0	SPOON		COAL	0.6	753.0	LEAF COAL
-105.6	SPOON		CLAYSTONE & SHALE	5.4	753.6	
-111.0	SPOON		SHALE	1.0	759.0	
-112.0			COAL	0.2	760.0	LEAF COAL
-112.2			CLAYSTONE & SHALE	0.7	760.2	
-112.8			SILTSTONE	3.7	760.8	
-116.5			SHALE	9.9	764.5	
-126.4			COAL	2.0	774.4	
-128.5			UNDERCLAY	1.5	776.5	
-130.0			CLAYSTONE & SHALE	0.3	778.0	
-130.3			SILTSTONE	1.8	778.3	

-132.2	SANDSTONE	0.6	780.2	
-132.8	SILTSTONE	0.8	780.8	
-133.5	CONGLOMERATE	0.4	781.5	
-133.9	CLAYSTONE & SHALE	0.3	781.9	
-134.3	SILTSTONE	7.1	782.3	
-141.3	SILTSTONE	9.2	789.3	COAL STREAKS
-150.5	SANDSTONE	19.1	798.5	
-169.6	SHALE	54.2	817.6	WITH SANDSTONE
-223.8	SHALE & SANDSTONE	19.0	871.8	
-242.8	SANDSTONE	19.8	890.8	WITH SHALE
-262.5	SHALE	14.8	910.5	
-277.3	SANDSTONE	0.3	925.3	
-277.6	CONGLOMERATE	0.8	925.6	
-278.4	CLAYSTONE & SHALE	0.5	926.4	
-278.9	SHALE	0.1	926.9	
-279.0	CONGLOMERATE	1.7	927.0	

MAPID: 13523773000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 33 **QUARTERS/FOOTAGES:** NW NW NW NW

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.325367 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.187614 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 524.3 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-405 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.3	517.0	

MAPID: 13523774000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** NE NE NE NE

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.288868 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.187793 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 604.3 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-401 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.3	597.0	

MAPID: 13500062000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 35 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.273008 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.174609 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 615.1 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
87.8	MODESTO	PIASA	LIMESTONE	7.0	561.2	
80.8	MODESTO		UNCLASSIFIED	8.5	568.2	
72.3	CARBONDALE	DANVILLE	COAL	2.0	576.7	
70.3	CARBONDALE		UNCLASSIFIED	12.5	578.7	
57.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	591.2	
48.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	600.2	
46.8	CARBONDALE		UNCLASSIFIED	2.0	602.2	
44.8	CARBONDALE	BRERETON	LIMESTONE	3.0	604.2	
41.8	CARBONDALE	ANNA	BLACK SHALE	0.8	607.2	
41.0	CARBONDALE	HERRIN	COAL	7.1	608.0	

MAPID: 13500062000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 35 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.273008 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.174609 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 615.1 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
88.0	MODESTO	PIASA	LIMESTONE	7.0	561.0	
81.0	MODESTO		DARK GRAY SHALE	8.5	568.0	
72.5	CARBONDALE	DANVILLE	COAL	3.0	576.5	
69.5	CARBONDALE		CLAYSTONE	1.5	579.5	
68.0	CARBONDALE	LAWSON	GRAY SHALE	17.0	581.0	
51.0	CARBONDALE	BRERETON	LIMESTONE	9.0	598.0	
42.0	CARBONDALE	ANNA	BLACK SHALE	0.8	607.0	
41.0	CARBONDALE	HERRIN	COAL	7.1	608.0	

MAPID: 13500062000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 35 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.273008 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.174609 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.7 **LOGGED (FT.):** 614.8 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #17 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
648.7			UNCONSOLIDATED	14.0	0.0	
634.7			SAND	49.0	14.0	
585.7			HARD PAN	21.0	63.0	
564.7			SAND	13.0	84.0	
551.7	BOND		SANDSTONE	13.0	97.0	
538.7	BOND		DARK SHALE	35.0	110.0	
503.7	BOND		BLUE SHALE	9.0	145.0	
494.7	BOND		COAL	1.0	154.0	
493.7	BOND		BLUE SHALE	23.0	155.0	
470.7	BOND		SANDSTONE	4.0	178.0	
466.7	BOND		BROWN SHALE	69.0	182.0	
397.7	BOND		BLUE SHALE	10.0	251.0	
387.7	BOND	CARTHAGE	LIMESTONE	8.0	261.0	
379.7	MODESTO		BLUE SHALE	68.0	269.0	
311.7	MODESTO		BLACK SHALE	2.0	337.0	
309.7	MODESTO		BLUE SHALE	204.0	339.0	
105.7	MODESTO		SANDSTONE	4.0	543.0	
101.7	MODESTO		SHALE	14.0	547.0	DRK BLUE
87.7	MODESTO	PIASA	LIMESTONE	7.0	561.0	
80.7	MODESTO		BLACK SHALE	5.0	568.0	
75.7	MODESTO		BLUE SHALE	3.5	573.0	
72.2	CARBONDALE	DANVILLE	COAL	3.0	576.5	
69.2	MODESTO		CLAYSTONE & SILTSTONE	1.5	579.5	
67.7	MODESTO		BLUE SHALE	17.0	581.0	
50.7	CARBONDALE	BRERETON	LIMESTONE	9.0	598.0	
41.7	CARBONDALE	ANNA	BLACK SHALE	0.8	607.0	
40.9	CARBONDALE	HERRIN	COAL	7.1	607.8	

MAPID: 13500062000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 9N 2W **SECTION:** 35 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: BALD KNOB **LONGITUDE:** -89.273008 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.174609 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.7 **LOGGED (FT.):** 614.8 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
648.7	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
634.7	PLEISTOCENE		SAND	49.0	14.0	
585.7	PLEISTOCENE		CLAY	21.0	63.0	
564.7	PLEISTOCENE		UNCLASSIFIED	13.0	84.0	LOG READS 'TROUBLED WITH SAND'
551.7	BOND		SANDSTONE	13.0	97.0	
538.7	BOND		DARK SHALE	35.0	110.0	
503.7	BOND		BLUE SHALE	9.0	145.0	
494.7	BOND		COAL	1.0	154.0	
493.7	BOND		BLUE SHALE	23.0	155.0	
470.7	BOND		SANDSTONE	4.0	178.0	
466.7	BOND		BROWN SHALE	69.0	182.0	
397.7	BOND		BLUE SHALE	10.0	251.0	
387.7	BOND	CARTHAGE	LIMESTONE	8.0	261.0	
379.7	MODESTO		BLUE SHALE	68.0	269.0	
311.7	MODESTO		BLACK SHALE	2.0	337.0	
309.7	MODESTO		BLUE SHALE	204.0	339.0	
105.7	MODESTO		SANDSTONE	4.0	543.0	
101.7	MODESTO		BLUE SHALE	14.0	547.0	
87.7	MODESTO	PIASA	LIMESTONE	7.0	561.0	
80.7	MODESTO		BLACK SHALE	5.0	568.0	
75.7	MODESTO		SHALE	3.5	573.0	
72.2	CARBONDALE	DANVILLE	COAL	3.0	576.5	
69.2	CARBONDALE		UNDERCLAY	1.5	579.5	
67.7	CARBONDALE		BLUE SHALE	17.0	581.0	
50.7	CARBONDALE	BRERETON	LIMESTONE	9.0	598.0	
41.7	CARBONDALE	ANNA	BLACK SHALE	0.8	607.0	
40.9	CARBONDALE	HERRIN	COAL	7.1	607.8	

MAPID: 13500052000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** SE SW

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.394404 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.248268 **DATE COLLECTED:** 8 / 0 / 1906

SURFACE ELEVATION (FT.): 652.4 **LOGGED (FT.):** 616.7 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #7 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
652.4			SOIL	2.0	0.0	
650.4			CLAY	13.0	2.0	YELLOW
637.4			HARD PAN	19.0	15.0	
618.4			SAND & GRAVEL	2.0	34.0	
616.4			CLAY	10.0	36.0	YELLOW
606.4			CLAY	64.0	46.0	BLUE
542.4			CLAY, SAND & GRAVEL	10.0	110.0	
532.4			SANDSTONE	5.0	120.0	
527.4			SHALE	52.0	125.0	
475.4			SANDSTONE	12.0	177.0	
463.4			SHALE	58.0	189.0	
405.4			SANDSTONE	2.0	247.0	
403.4			SHALE	25.0	249.0	
378.4			SANDSTONE	11.0	274.0	
367.4			SHALE	38.0	285.0	
329.4			SANDSTONE	2.0	323.0	
327.4			BROWN SHALE	86.0	325.0	
241.4			SANDSTONE	48.0	411.0	
193.4			LIMESTONE	2.0	459.0	
191.4			SANDSTONE	13.0	461.0	
178.4			BLUE SHALE	6.0	474.0	
172.4			SANDSTONE	12.0	480.0	
160.4			LIMESTONE	4.0	492.0	
156.4			BROWN SHALE	2.0	496.0	
154.4			BLACK SHALE	1.2	498.0	
153.2			SANDY SHALE	47.8	499.2	WALSHVILLE CHANNEL
105.4			BLUE SHALE	8.2	547.0	
97.2			LIMESTONE	1.7	555.2	BLUE
95.6			BLACK SHALE	4.0	556.8	
91.6			UNDERCLAY	2.0	560.8	
89.6			DARK SHALE	4.0	562.8	
85.6			SHALE	4.8	566.8	
80.7			LIMESTONE	0.3	571.7	
80.4			DARK SHALE	4.4	572.0	
76.0			LIMESTONE	0.8	576.4	
75.1			SHALE	13.0	577.3	
62.1			SANDSTONE	15.8	590.3	
46.3			BLACK SHALE	2.0	606.1	
44.3	CARBONDALE	COLCHESTER	COAL	2.0	608.1	PROBABLY THE COLCHESTER: CGT 11/95

42.3	SANDSTONE	6.6	610.1

MAPID: 13500052000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** SE SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.394404 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.248268 **DATE COLLECTED:** 8 / 0 / 1906
SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test
COMMENT:

MAPID: 13500254000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** SE SE
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.422469 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.248164 **DATE COLLECTED:** 8 / 0 / 1939
SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: BROWN, JACK ETAL **WELL TYPE:** Dry Hole
COMMENT:

MAPID: 13500452000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.437793 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.260187 **DATE COLLECTED:** 8 / 0 / 1956
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Gas Storage Operational Well
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		

MAPID: 13500705000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.437789 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.252822 **DATE COLLECTED:** 7 / 0 / 1952

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 376.5 **LOG TYPE:** Electric Log

SOURCE: SLAPE DON DRLG CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
298.0	MODESTO	PIASA	LIMESTONE	5.0	343.0	
293.0	MODESTO		UNCLASSIFIED	2.0	348.0	
291.0	CARBONDALE	DANVILLE	COAL	1.0	350.0	
290.0	CARBONDALE		UNCLASSIFIED	8.0	351.0	
282.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	359.0	
277.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	364.0	
275.5	CARBONDALE		UNCLASSIFIED	1.5	365.5	
274.0	CARBONDALE	BRERETON	LIMESTONE	1.0	367.0	
273.0	CARBONDALE	ANNA	BLACK SHALE	2.0	368.0	
271.0	CARBONDALE	HERRIN	COAL	6.5	370.0	

MAPID: 13500705000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.437789 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.252822 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 376.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
297.0	MODESTO	PIASA	LIMESTONE	5.0	344.0	
292.0	CARBONDALE		MOTTLED SHALE	9.0	349.0	
283.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	358.0	
282.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	359.0	
277.0	CARBONDALE	LAWSON	SHALE	6.0	364.0	
271.0	CARBONDALE	HERRIN	COAL	6.0	370.0	

MAPID: 13500447000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.447279 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.252857 **DATE COLLECTED:** 7 / 0 / 1956
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	8.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE	DANVILLE	COAL	1.0		

MAPID: 13500704000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW NE
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.444873 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.260174 **DATE COLLECTED:** 4 / 0 / 1951
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: STEWART OIL CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13501572000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 341' N line, 1287' E line
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.443535 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.260146 **DATE COLLECTED:** 12 / 0 / 1966
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: ATKINS AND HALE **WELL TYPE:** Observation Well
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE	DANVILLE	COAL	0.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		

MAPID: 13501572000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 341' N line, 1287' E line
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.443535 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.260146 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
354.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	292.0	
350.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	100.0	296.0	

MAPID: 13500448000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.459145 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.247363 **DATE COLLECTED:** 5 / 0 / 1956
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: GLASS, THEO G. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0		
-	MODESTO		UNCLASSIFIED	6.0		
-	CARBONDALE		UNCLASSIFIED	7.0		

MAPID: 13500449000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.459145 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.247363 **DATE COLLECTED:** 5 / 0 / 1956
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: GLASS, THEO G. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE	DANVILLE	COAL	0.5		
-	CARBONDALE		UNCLASSIFIED	5.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		

MAPID: 13500236000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** SW SE SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.433152 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.232667 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: MILLER ETAL **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

MAPID: 13523775000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** NE NW NE
QUADRANGLE: BALD KNOB **LONGITUDE:** -89.369857 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.230755 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 506.8 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-404 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.8	499.0	

MAPID: 13500053000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 400' S line, 2240' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.393494 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.218113 **DATE COLLECTED:** 9 / 0 / 1906
SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 468.0 **LOG TYPE:** Drillers Log
SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
224.1	MODESTO	PIASA	LIMESTONE	4.5	423.9	
219.6	MODESTO		UNCLASSIFIED	4.8	428.4	
214.8	CARBONDALE		UNCLASSIFIED	12.8	433.2	
202.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	446.0	
195.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	453.0	
193.0	CARBONDALE		UNCLASSIFIED	1.0	455.0	
192.0	CARBONDALE	BRERETON	LIMESTONE	1.0	456.0	
191.0	CARBONDALE	ANNA	BLACK SHALE	3.0	457.0	
188.0	CARBONDALE	HERRIN	COAL	8.0	460.0	

MAPID: 13500053000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 400' S line, 2240' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.393494 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.218113 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 468.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
233.0	MODESTO	PIASA	LIMESTONE W/ SHALE	13.5	415.0	
219.5	CARBONDALE		CLAYSTONE	6.0	428.5	
213.5	CARBONDALE		BLACK SHALE	11.0	434.5	
202.5	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	445.5	
192.5	CARBONDALE	BRERETON	LIMESTONE	1.0	455.5	
191.5	CARBONDALE	ANNA	BLACK SHALE	3.0	456.5	
188.0	CARBONDALE	HERRIN	COAL	8.0	460.0	

MAPID: 13500053000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 400' S line, 2240' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.393494 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.218113 **DATE COLLECTED:** 9 / 0 / 1906

SURFACE ELEVATION (FT.): 647.9 **LOGGED (FT.):** 489.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #10 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
647.9			UNCONSOLIDATED	14.0	0.0	
633.9			HARD PAN	28.0	14.0	
605.9			CLAY	20.0	42.0	BLUE
585.9			CLAY	7.0	62.0	YELLOW
578.9			CLAY	28.0	69.0	BLUE
550.9			SAND	2.0	97.0	
548.9			GRAVEL	3.0	99.0	
545.9			CLAY	14.0	102.0	YELLOW
531.9	BOND		SHALE	20.0	116.0	
511.9	BOND		BROWN SHALE	2.0	136.0	
509.9	BOND	CARTHAGE	LIMESTONE	11.0	138.0	
498.9	MODESTO		DARK SHALE	5.0	149.0	
493.9	MODESTO		BLUE SHALE	47.0	154.0	W/LS BANDS
446.9	MODESTO		DARK SHALE	14.0	201.0	
432.9	MODESTO		BLACK SHALE	7.0	215.0	
425.9	MODESTO		SHALE	9.0	222.0	
416.9	MODESTO		LIMESTONE	0.7	231.0	
416.2	MODESTO		SHALE	11.3	231.7	
404.9	MODESTO		LIMESTONE	31.0	243.0	
373.9	MODESTO		UNDERCLAY	8.5	274.0	
365.4	MODESTO		BLUE SHALE	2.0	282.5	
363.4	MODESTO		LIMESTONE	1.5	284.5	
361.9	MODESTO		SANDSTONE	18.0	286.0	
343.9	MODESTO		BROWN SHALE	1.0	304.0	
342.9	MODESTO		BLUE SHALE	3.5	305.0	
339.4	MODESTO		BLACK SHALE	2.5	308.5	
336.9	MODESTO		LIMESTONE	0.5	311.0	
336.4	MODESTO		BLUE SHALE	5.5	311.5	
330.9	MODESTO		BROWN SHALE	6.0	317.0	
324.9	MODESTO		LIMESTONE	5.0	323.0	
319.9	MODESTO		DARK SHALE	48.0	328.0	
271.9	MODESTO		LIMESTONE	19.0	376.0	
252.9	MODESTO		CLAYSTONE & SILTSTONE	8.0	395.0	BLUE
244.9	MODESTO		BLUE SHALE	1.0	403.0	
243.9	MODESTO		LIMESTONE	1.0	404.0	
242.9	MODESTO		DARK SHALE	5.0	405.0	
237.9	MODESTO		COAL	0.5	410.0	
237.4	MODESTO		UNDERCLAY	2.5	410.5	
234.9	MODESTO		CLAYSTONE & SILTSTONE	2.0	413.0	MULTI

232.9	MODESTO		LIMESTONE	5.0	415.0	
227.9	MODESTO		SHALE	4.0	420.0	
223.9	MODESTO	PIASA	LIMESTONE	4.5	424.0	
219.4	MODESTO		CLAYSTONE & SHALE	6.5	428.5	BLUE
212.9	CARBONDALE		BLACK SHALE	11.0	435.0	
201.9	CARBONDALE		LIMESTONE	11.0	446.0	
190.9	CARBONDALE	ANNA	BLACK SHALE	3.0	457.0	
187.9	CARBONDALE	HERRIN	COAL	8.0	460.0	
179.9	CARBONDALE		SHALE	21.0	468.0	

MAPID: 13500165000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** NE NW NW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.435497 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.230857 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: MILLER ETAL **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

MAPID: 13500589000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 380' W line of NW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.437635 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.22539 **DATE COLLECTED:** 9 / 0 / 1956
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 451.5 **LOG TYPE:** Electric Log
SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
236.5	MODESTO	PIASA	LIMESTONE	4.5	416.5	
232.0	MODESTO		UNCLASSIFIED	2.5	421.0	
229.5	CARBONDALE	DANVILLE	COAL	1.0	423.5	
228.5	CARBONDALE		UNCLASSIFIED	8.0	424.5	
220.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	432.5	
214.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	438.5	
213.0	CARBONDALE		UNCLASSIFIED	2.0	440.0	
211.0	CARBONDALE	BRERETON	LIMESTONE	2.0	442.0	
209.0	CARBONDALE	ANNA	BLACK SHALE	2.0	444.0	
207.0	CARBONDALE	HERRIN	COAL	5.5	446.0	

MAPID: 13500893000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.428386 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.21803 **DATE COLLECTED:** 11 / 0 / 1943
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 461.0 **LOG TYPE:** Electric Log
SOURCE: SCHNEIDER R E **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
236.0	MODESTO	PIASA	LIMESTONE	5.0	406.0	
231.0	MODESTO		UNCLASSIFIED	5.0	411.0	
226.0	CARBONDALE		UNCLASSIFIED	17.0	416.0	
209.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	433.0	
202.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	440.0	
199.0	CARBONDALE		UNCLASSIFIED	3.0	443.0	
196.0	CARBONDALE	BRERETON	LIMESTONE	3.0	446.0	
193.0	CARBONDALE	ANNA	BLACK SHALE	4.0	449.0	
189.0	CARBONDALE	HERRIN	COAL	8.0	453.0	

MAPID: 13501715000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1320' N line, 2636' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.4296 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.228077 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** 460.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
242.0	MODESTO	PIASA	LIMESTONE	5.0	417.0	
237.0	CARBONDALE		MOTTLED SHALE	13.0	422.0	
224.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	435.0	
219.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.0	440.0	
218.0	CARBONDALE	BRERETON	LIMESTONE	5.0	441.0	
213.0	CARBONDALE	ANNA	BLACK SHALE	4.0	446.0	
207.0	CARBONDALE	HERRIN	COAL	8.0	452.0	

MAPID: 13500166000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 17 **QUARTERS/FOOTAGES:** SE NE
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.44136 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.226319 **DATE COLLECTED:** 0 / 0 / 1931
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 486.0 **LOG TYPE:** Drillers Log
SOURCE: MILLER **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
220.0	CARBONDALE		UNCLASSIFIED	17.0	450.0	
203.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	467.0	
196.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	473.5	
195.0	CARBONDALE		UNCLASSIFIED	1.5	475.0	
193.5	CARBONDALE	BRERETON	LIMESTONE	1.5	476.5	
192.0	CARBONDALE	ANNA	BLACK SHALE	2.0	478.0	
190.0	CARBONDALE	HERRIN	COAL	6.0	480.0	

MAPID: 13500239000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 245' N line, 287' E line of SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.468303 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.209225 **DATE COLLECTED:** 12 / 0 / 1940
SURFACE ELEVATION (FT.): 582.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: TOPF ETAL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500606000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 990' S line, 1980' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.450865 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.20534 **DATE COLLECTED:** 12 / 0 / 1956
SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 465.0 **LOG TYPE:** Electric Log
SOURCE: CONREY, T. M. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
221.1	MODESTO	PIASA	LIMESTONE	3.0	426.9	
218.1	MODESTO		UNCLASSIFIED	2.0	429.9	
216.1	CARBONDALE	DANVILLE	COAL	0.5	431.9	
215.6	CARBONDALE		UNCLASSIFIED	9.5	432.4	
206.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	441.9	
199.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	448.4	
198.1	CARBONDALE		UNCLASSIFIED	2.3	449.9	
195.8	CARBONDALE	BRERETON	LIMESTONE	2.3	452.2	
193.5	CARBONDALE	ANNA	BLACK SHALE	2.5	454.5	
191.0	CARBONDALE	HERRIN	COAL	8.0	457.0	

MAPID: 13500606000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 990' S line, 1980' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.450865 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.20534 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 465.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
221.0	MODESTO	PIASA	LIMESTONE	3.0	427.0	
218.0	CARBONDALE		MOTTLED SHALE	13.0	430.0	
205.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	7.0	443.0	
198.0	CARBONDALE	BRERETON	LIMESTONE	4.0	450.0	
194.0	CARBONDALE	ANNA	BLACK SHALE	3.0	454.0	
191.0	CARBONDALE	HERRIN	COAL	8.0	457.0	

MAPID: 13500054000C **VERSION:** 1 **PROJECT:** NCRDS87

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 660' N line, 1980' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.427178 **GEOLOGIST:** WEIBEL

CONFIDENTIAL: N **LATITUDE:** 39.215288 **DATE COLLECTED:** 0 / 0 / 1883

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 683.0 **LOG TYPE:** Drillers Log

SOURCE: IRVING COAL & OIL LOCAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
656.0			UNCONSOLIDATED	122.0	0.0	
534.0	BOND	CARTHAGE	LIMESTONE	3.0	122.0	
531.0	MODESTO		CLAYSTONE	12.0	125.0	
519.0	MODESTO		DARK SHALE	8.0	137.0	
511.0	MODESTO		LIMESTONE	12.0	145.0	
499.0	MODESTO		SANDSTONE	63.0	157.0	
436.0	MODESTO		SHALE	12.0	220.0	
424.0	MODESTO	CHAPEL	COAL	0.5	232.0	UNCERTAIN CORRELATION
423.5	MODESTO		UNCLASSIFIED	68.0	232.5	
355.5	MODESTO		LIMESTONE	15.0	300.5	
340.5	MODESTO		UNCLASSIFIED	20.0	315.5	
320.5	MODESTO		LIMESTONE	3.0	335.5	
317.5	MODESTO		SHALE	35.0	338.5	
282.5	MODESTO		LIMESTONE	9.0	373.5	
273.5	MODESTO		UNCLASSIFIED	18.0	382.5	
255.5	MODESTO		LIMESTONE	2.0	400.5	
253.5	MODESTO		CLAYSTONE	8.0	402.5	
245.5	MODESTO		SHALE	12.0	410.5	
233.5	MODESTO		LIMESTONE	8.0	422.5	
225.5	MODESTO		CLAYSTONE	4.0	430.5	
221.5	MODESTO		UNCLASSIFIED	3.0	434.5	
218.5	MODESTO		LIMESTONE	7.0	437.5	
211.5	MODESTO		UNCLASSIFIED	3.0	444.5	
208.5	MODESTO	PIASA	LIMESTONE	6.0	447.5	
202.5	MODESTO		SHALE	2.5	453.5	
200.0	CARBONDALE	DANVILLE	COAL	0.5	456.0	
199.5	CARBONDALE		GRAY SHALE	6.0	456.5	
193.5	CARBONDALE		UNCLASSIFIED	5.0	462.5	
188.5	CARBONDALE	BRERETON	LIMESTONE	10.0	467.5	
178.5	CARBONDALE	ANNA	BLACK SHALE	1.0	477.5	
177.5	CARBONDALE	HERRIN	COAL	3.5	478.5	
174.0	CARBONDALE		UNCLASSIFIED	27.5	482.0	
146.5	CARBONDALE		LIMESTONE	7.0	509.5	
139.5	CARBONDALE		UNCLASSIFIED	3.0	516.5	
136.5	CARBONDALE		LIMESTONE	13.0	519.5	
123.5	CARBONDALE		BLACK SHALE	2.0	532.5	
121.5	CARBONDALE		SANDSTONE	30.0	534.5	
91.5	CARBONDALE		GRAY SHALE	20.0	564.5	
71.5	CARBONDALE		UNCLASSIFIED	12.0	584.5	

59.5	CARBONDALE		LIMESTONE	10.0	596.5	
49.5	CARBONDALE		BLACK SHALE	2.5	606.5	
47.0	CARBONDALE		GRAY SHALE	12.0	609.0	
35.0	CARBONDALE		LIMESTONE	19.0	621.0	
16.0	CARBONDALE		UNCLASSIFIED	2.5	640.0	
13.5	CARBONDALE	COLCHESTER	BONE COAL	1.5	642.5	UNCERTAIN CORRELATION
12.0	SPOON		UNCLASSIFIED	9.0	644.0	
3.0	SPOON		GRAY SHALE	10.0	653.0	
-7.0	SPOON		LIMESTONE	20.0	663.0	

MAPID: 13500054000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 660' N line, 1980' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.427178 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.215288 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 482.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
152.0	MODESTO	PIASA	LIMESTONE	6.0	448.0	
146.0	MODESTO		BLACK SHALE	2.5	454.0	
143.5	CARBONDALE	DANVILLE	COAL	0.5	456.5	
143.0	CARBONDALE		CLAYSTONE & SHALE	11.0	457.0	
132.0	CARBONDALE	BRERETON	LIMESTONE	10.0	468.0	
122.0	CARBONDALE	ANNA	BLACK SHALE	1.0	478.0	
121.0	CARBONDALE	HERRIN	COAL	3.5	479.0	

MAPID: 13500054000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 660' N line, 1980' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.427178 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.215288 **DATE COLLECTED:** 0 / 0 / 1883
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 426.5 **LOG TYPE:** Drillers Log
SOURCE: IRVING COAL & OIL **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
208.0	MODESTO	PIASA	LIMESTONE	6.0	392.0	
202.0	MODESTO		UNCLASSIFIED	2.5	398.0	
199.5	CARBONDALE	DANVILLE	COAL	0.5	400.5	
199.0	CARBONDALE		UNCLASSIFIED	10.0	401.0	
189.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	411.0	
183.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	417.0	
181.5	CARBONDALE		UNCLASSIFIED	1.5	418.5	
180.0	CARBONDALE	BRERETON	LIMESTONE	2.0	420.0	
178.0	CARBONDALE	ANNA	BLACK SHALE	1.0	422.0	
177.0	CARBONDALE	HERRIN	COAL	3.5	423.0	

MAPID: 13500055000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 25 **QUARTERS/FOOTAGES:** 990' N line, 330' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.381416 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.199553 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 478.7 **LOG TYPE:** Drillers Log
SOURCE: GRANHOLM & ASSOC. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
199.5	MODESTO	PIASA	LIMESTONE	5.0	436.5	
194.5	MODESTO		UNCLASSIFIED	2.5	441.5	
192.0	CARBONDALE	DANVILLE	COAL	1.0	444.0	
191.0	CARBONDALE		UNCLASSIFIED	12.0	445.0	
179.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	457.0	
171.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	465.0	
169.5	CARBONDALE		UNCLASSIFIED	2.0	466.5	
167.5	CARBONDALE	BRERETON	LIMESTONE	2.0	468.5	
165.5	CARBONDALE	ANNA	BLACK SHALE	0.5	470.5	
165.0	CARBONDALE	HERRIN	COAL	7.7	471.0	

MAPID: 13500055000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 25 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.381416 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.199553 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 478.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
200.0	MODESTO	PIASA	LIMESTONE	5.0	437.0	
195.0	MODESTO		MOTTLED SHALE	2.5	442.0	
192.5	CARBONDALE	DANVILLE	BLACK SHALE	2.0	444.5	
190.5	CARBONDALE		MOTTLED SHALE	4.0	446.5	
186.5	CARBONDALE	GALUM	LIMESTONE	1.0	450.5	
185.5	CARBONDALE		DARK GRAY SHALE	4.0	451.5	
181.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	7.0	455.5	
174.5	CARBONDALE	BRERETON	LIMESTONE	8.5	462.5	
166.0	CARBONDALE	ANNA	BLACK SHALE	0.5	471.0	
166.0	CARBONDALE	HERRIN	COAL	7.7	471.0	

MAPID: 13500055000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 25 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.381416 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.199553 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 636.6 **LOGGED (FT.):** 478.7 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #15 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
636.6			CLAY	9.0	0.0	YELLOW
627.6			CLAY	17.0	9.0	BLUE
610.6			CLAY	48.0	26.0	YELLOW
562.6			SANDY CLAY	14.5	74.0	DARK
548.1	BOND		SANDY SHALE	9.5	88.5	
538.6	BOND		CLAYSTONE & SHALE	26.5	98.0	
512.1	BOND		SANDSTONE	7.5	124.5	
504.6	BOND		CLAYSTONE & SHALE	21.0	132.0	
483.6	BOND		SHALE	5.0	153.0	W/LS BANDS
478.6	BOND	CARTHAGE	LIMESTONE	5.0	158.0	
473.6	MODESTO		UNDERCLAY	3.0	163.0	
470.6	MODESTO		CLAYSTONE & SHALE	6.0	166.0	
464.6	MODESTO		DARK SHALE	4.0	172.0	
460.6	MODESTO		SANDSTONE	12.0	176.0	
448.6	MODESTO		SHALE	84.5	188.0	
364.1	MODESTO		LIMESTONE W/ SHALE	3.5	272.5	
360.6	MODESTO		BLUE SHALE	20.0	276.0	
340.6	MODESTO		BROWN SHALE	7.0	296.0	
333.6	MODESTO		LIMESTONE	2.0	303.0	
331.6	MODESTO		CLAYSTONE & SHALE	5.0	305.0	
326.6	MODESTO		BROWN SHALE	17.0	310.0	
309.6	MODESTO		CLAYSTONE & SHALE	52.0	327.0	
257.6	MODESTO		BLUE SHALE	31.0	379.0	
226.6	MODESTO		BLUE SHALE	5.0	410.0	W/LS BANDS
221.6	MODESTO		CLAYSTONE & SHALE	5.0	415.0	
216.6	MODESTO		BLUE SHALE	5.0	420.0	
211.6	MODESTO		CLAYSTONE & SHALE	4.0	425.0	
207.6	MODESTO		SHALE	2.0	429.0	YELLOW
205.6	MODESTO		BLUE SHALE	3.0	431.0	
202.6	MODESTO		SHALE	2.5	434.0	YELLOW
200.1	MODESTO	PIASA	LIMESTONE	5.0	436.5	WHITE
195.1	MODESTO		CLAYSTONE & SILTSTONE	2.5	441.5	RED/YEL
192.6	MODESTO		BLACK SHALE	2.0	444.0	
190.6	CARBONDALE		CLAYSTONE & SHALE	4.0	446.0	
186.6	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	450.0	
185.6	CARBONDALE		DARK SHALE	4.0	451.0	
181.6	CARBONDALE		LIMESTONE W/ SHALE	7.0	455.0	
174.6	CARBONDALE	BRERETON	LIMESTONE	8.5	462.0	
166.1	CARBONDALE	ANNA	BLACK SHALE	0.5	470.5	

165.6	CARBONDALE	HERRIN	COAL	7.7	471.0

MAPID: 13501149000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.41894 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.201499 **DATE COLLECTED:** 8 / 0 / 1959

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 471.9 **LOG TYPE:** Survey Core Study

SOURCE: PITTSBURGH CONS. COAL CO. 39BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
172.4	CARBONDALE	HERRIN	COAL	1.3	470.6	This area has thin coal, Anvil Rock???

MAPID: 13501149000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.41894 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.201499 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 472.3 **LOG TYPE:** Drillers Log

SOURCE: PITTSBURGH CONS. COAL CO. 39BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
209.4	MODESTO	PIASA	LIMESTONE	4.0	433.6	
205.4	MODESTO		UNCLASSIFIED	4.0	437.6	
201.4	CARBONDALE		UNCLASSIFIED	13.7	441.6	
187.7	CARBONDALE	BANKSTON FORK	LIMESTONE	6.6	455.3	
181.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.4	461.9	
178.7	CARBONDALE	BRERETON	LIMESTONE	3.6	464.3	
175.1	CARBONDALE	ANNA	BLACK SHALE	3.1	467.9	
172.0	CARBONDALE	HERRIN	COAL	1.3	471.0	

MAPID: 13501160000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.411788 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.188767 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 488.8 **LOG TYPE:** Survey Core Study
SOURCE: PITTSBURGH CONS. COAL CO. 47BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
200.0	MODESTO	PIASA	LIMESTONE	2.4	453.0	
197.6	MODESTO		MOTTLED SHALE	10.2	455.4	
187.4	CARBONDALE	DANVILLE	BLACK SHALE	1.0	465.6	
186.4	CARBONDALE	GALUM	CALCAREOUS SHALE	0.9	466.6	
185.5	CARBONDALE	ALLENBY	BLACK SHALE	0.9	467.5	
184.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	10.6	468.4	
174.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.4	479.0	
172.6	CARBONDALE	ANNA	MOTTLED SHALE	2.3	480.4	
170.0	CARBONDALE	HERRIN	COAL	5.8	483.0	

MAPID: 13501160000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.411788 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.188767 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 488.8 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURGH CONS. COAL CO. 47BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
198.5	MODESTO	PIASA	LIMESTONE	2.4	454.5	
196.1	MODESTO		UNCLASSIFIED	4.0	456.9	
192.1	CARBONDALE		UNCLASSIFIED	7.8	460.9	
184.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.6	468.7	
176.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	476.3	
174.7	CARBONDALE	CONANT	LIMESTONE	1.0	478.3	
173.7	CARBONDALE	BRERETON	LIMESTONE	1.4	479.3	
172.3	CARBONDALE	ANNA	BLACK SHALE	2.3	480.7	
170.0	CARBONDALE	HERRIN	COAL	5.8	483.0	

MAPID: 13501160000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.411788 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.188767 **DATE COLLECTED:** 10 / 0 / 1959
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 488.8 **LOG TYPE:** Survey Core Study
SOURCE: PITTSBURGH CONS. COAL CO. 47BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
170.1	CARBONDALE	HERRIN	COAL	5.9	482.9	

MAPID: 13500056000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1980' S line, 1980' W line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.431929 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.193369 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 424.6 **LOG TYPE:** Drillers Log
SOURCE: LUMAGHI COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
212.3	MODESTO	PIASA	LIMESTONE	3.5	379.7	
208.8	MODESTO		UNCLASSIFIED	4.5	383.2	
204.3	CARBONDALE		UNCLASSIFIED	10.5	387.7	
193.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	398.2	
186.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	405.2	
183.8	CARBONDALE		UNCLASSIFIED	3.0	408.2	
180.8	CARBONDALE	BRERETON	LIMESTONE	3.8	411.2	
177.0	CARBONDALE	ANNA	BLACK SHALE	1.0	415.0	
176.0	CARBONDALE	HERRIN	COAL	8.6	416.0	

MAPID: 13500056000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1980' S line, 1980' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.431929 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.193369 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 424.6 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
213.0	MODESTO	PIASA	LIMESTONE	3.5	379.0	
209.5	CARBONDALE		GRAY SHALE	9.0	382.5	
200.5	CARBONDALE	ALLENBY	BLACK SHALE	4.0	391.5	
196.5	CARBONDALE		CLAYSTONE	2.0	395.5	
194.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	397.5	
193.5	CARBONDALE	BANKSTON FORK	GRAY SHALE	12.0	398.5	
181.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	410.5	
180.0	CARBONDALE	LAWSON	GRAY SHALE	1.8	412.0	
178.2	CARBONDALE	BRERETON	LIMESTONE & SHALE	1.5	413.8	
176.7	CARBONDALE	ANNA	BLACK SHALE	1.0	415.3	
176.0	CARBONDALE	HERRIN	COAL	8.6	416.0	

MAPID: 13500056000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1980' S line, 1980' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.431929 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.193369 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 591.9 **LOGGED (FT.):** 427.4 **LOG TYPE:** Drillers Log

SOURCE: LUMAGHI COAL CO., HOLE #1 **WELL TYPE:** Coal Test

COMMENT: NEAR CTR S.LINE, 40-50' BELOW UPLAND

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
591.9			SOIL	10.0	0.0	
581.9			GRAVEL	23.0	10.0	
558.9			SAND	5.0	33.0	QUICK SAND
553.9			CLAY	18.0	38.0	BLUE
535.9			GRAVEL	9.0	56.0	
526.9			CLAY	24.0	65.0	BLUE
502.9			SAND/CLAY	7.0	89.0	
495.9	BOND		SANDY LIMESTONE	5.3	96.0	
490.6	BOND		UNDERCLAY	16.0	101.3	
474.6	BOND		SANDY SHALE	11.0	117.3	
463.6	BOND	CARTHAGE	SANDY LIMESTONE	8.0	128.3	
455.6	MODESTO		SANDSTONE	12.0	136.3	
443.6	MODESTO		BLUE SHALE	3.0	148.3	
440.6	MODESTO		BLACK SHALE	3.0	151.3	
437.6	MODESTO	WOMAC	COAL	0.3	154.3	
437.3	MODESTO		UNDERCLAY	26.0	154.6	
411.3	MODESTO	BURROUGHS	LIMESTONE	0.3	180.6	
411.0	MODESTO		UNDERCLAY	23.0	180.9	
388.0	MODESTO		BLUE SHALE	4.0	203.9	
384.0	MODESTO		UNDERCLAY	11.0	207.9	
373.0	MODESTO		LIMESTONE	1.5	218.9	
371.5	MODESTO		UNDERCLAY	15.0	220.4	
356.5	MODESTO		DARK SHALE	5.4	235.4	
351.1	MODESTO	CHAPEL	COAL	1.0	240.8	
350.1	MODESTO		UNDERCLAY	3.0	241.8	
347.1	MODESTO		LIMESTONE	2.0	244.8	
345.1	MODESTO		UNDERCLAY	19.0	246.8	
326.1	MODESTO		SHALE	14.0	265.8	
312.1	MODESTO		UNDERCLAY	31.3	279.8	
280.8	MODESTO		BROWN SHALE	9.0	311.1	
271.8	MODESTO		BLUE SHALE	2.0	320.1	
269.8	MODESTO		UNDERCLAY	29.0	322.1	
240.8	MODESTO		BLUE SHALE	19.5	351.1	
221.3	MODESTO		BROWN SHALE	8.0	370.6	
213.3	MODESTO	PIASA	LIMESTONE	3.5	378.6	
209.8	MODESTO		BLUE SHALE	9.0	382.1	
200.8	MODESTO		BLACK SHALE	4.0	391.1	
196.8	CARBONDALE		UNDERCLAY	2.0	395.1	
194.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	397.1	

193.8	CARBONDALE		BLUE SHALE	12.0	398.1	
181.8	CARBONDALE	BRERETON	LIMESTONE	1.5	410.1	
180.3	CARBONDALE	BRERETON	BLUE SHALE	1.8	411.6	
178.6	CARBONDALE	BRERETON	LIMESTONE	0.5	413.3	
178.1	CARBONDALE	BRERETON	BLUE SHALE	1.0	413.8	W/LS STREAKS
177.1	CARBONDALE	ANNA	BLACK SHALE	1.0	414.8	
176.1	CARBONDALE	HERRIN	COAL	8.6	415.8	
167.5	CARBONDALE		UNDERCLAY	3.0	424.4	
164.5	CARBONDALE		LIMESTONE	0.0	427.4	T.D.

MAPID: 13500057000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1175' S line, 3750' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.433308 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.19115 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 595.2 **LOGGED (FT.):** 700.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHY. CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
595.2			SANDY CLAY	10.0	0.0	
585.2			SAND & GRAVEL	26.0	10.0	
559.2	BOND		BLACK SHALE	24.0	36.0	
535.2	BOND		ROCK	1.0	60.0	
534.2	BOND		CLAYSTONE & SHALE	3.0	61.0	
531.2	BOND		BLACK SHALE	5.0	64.0	
526.2	BOND		SANDY SHALE	18.0	69.0	
508.2	BOND		BLACK SHALE	0.2	87.0	
508.0	BOND		BONE COAL	1.2	87.2	
506.9	BOND		BLUE SHALE	0.7	88.3	
506.2	BOND		SHALY SANDSTONE	7.0	89.0	
499.2	BOND		SANDSTONE	26.0	96.0	
473.2	MODESTO		SANDY SHALE	7.0	122.0	
466.2	MODESTO		SHALE	9.0	129.0	DRK BLUE
457.2	MODESTO		BLUE SHALE	32.7	138.0	
424.5	MODESTO		BLACK SHALE	0.8	170.7	
423.7	MODESTO		LIMESTONE	1.0	171.5	
422.7	MODESTO		SANDSTONE	79.5	172.5	W/SH PARTINGS
343.2	MODESTO		SANDSTONE	10.0	252.0	
333.2	MODESTO		SANDSTONE	21.0	262.0	W/SH PARTINGS
312.2	MODESTO		SANDSTONE	37.0	283.0	
275.2	MODESTO		SHALE	8.3	320.0	DRK BLUE
266.9	MODESTO		COAL	0.2	328.3	
266.7	MODESTO		UNDERCLAY	1.5	328.5	
265.2	MODESTO		SHALE	2.0	330.0	
263.2	MODESTO		SANDY SHALE	14.0	332.0	
249.2	MODESTO		BLUE SHALE	13.3	346.0	
235.9	MODESTO		BLACK SHALE	3.0	359.3	
232.9	MODESTO		BLUE SHALE	2.8	362.3	
230.1	CARBONDALE	DANVILLE	COAL	0.8	365.1	
229.4	CARBONDALE		UNDERCLAY	3.2	365.8	
226.2	CARBONDALE		SHALE	5.0	369.0	
221.2	CARBONDALE		SANDSTONE	17.1	374.0	
204.1	CARBONDALE		BLUE SHALE	10.4	391.1	
193.7	CARBONDALE		BLACK SHALE	0.5	401.5	
193.2	CARBONDALE	JAMESTOWN	COAL	0.3	402.0	
192.9	CARBONDALE		BLUE SHALE	0.3	402.3	
192.7	CARBONDALE		SHALE	1.8	402.5	
190.9	CARBONDALE	BRERETON	LIMESTONE	3.2	404.3	

187.7	CARBONDALE	ANNA	BLACK SHALE	1.5	407.5	
186.2	CARBONDALE	HERRIN	COAL	4.8	409.0	
181.4	CARBONDALE	HERRIN	BLUE SHALE	0.2	413.8	
181.2	CARBONDALE	HERRIN	COAL	1.3	414.0	
179.9	CARBONDALE		BLUE SHALE	3.5	415.3	
176.4	CARBONDALE		SANDSTONE	2.1	418.8	
174.3	CARBONDALE		BLUE SHALE	1.8	420.9	
172.5	CARBONDALE		SHALY COAL	0.2	422.7	
172.4	CARBONDALE		SANDY SHALE	1.7	422.8	
170.7	CARBONDALE		CLAYSTONE & SHALE	4.0	424.5	
166.7	CARBONDALE		LIMESTONE	2.8	428.5	
163.9	CARBONDALE		SHALE	2.0	431.3	
161.9	CARBONDALE		SANDY SHALE	8.8	433.3	W/LS
153.2	CARBONDALE		SANDSTONE/SHALE	27.0	442.0	
126.2	CARBONDALE		SANDSTONE	11.5	469.0	W/COAL PARTINGS
114.7	CARBONDALE		LIMESTONE	5.5	480.5	BLUE
109.2	CARBONDALE		BLACK SHALE	3.5	486.0	
105.7	CARBONDALE		BLUE SHALE	12.6	489.5	
93.1	CARBONDALE	SURVANT - UPPER	COAL	4.2	502.1	
88.9	CARBONDALE		BLUE SHALE	0.1	506.3	
88.9	CARBONDALE	SURVANT - LOWER	COAL	1.5	506.3	
87.4	CARBONDALE		UNDERCLAY	0.2	507.8	
87.2	CARBONDALE		SHALE	2.0	508.0	
85.2	CARBONDALE		LIMESTONE	3.2	510.0	
82.0	CARBONDALE		BLUE SHALE	4.3	513.2	W/LS BANDS
77.7	CARBONDALE		LIMESTONE	2.5	517.5	
75.2	CARBONDALE		BLUE SHALE	7.0	520.0	
68.2	SPOON		SANDY SHALE	68.2	527.0	
0.0	SPOON		COAL	4.3	595.2	W/SULPHUR BAND (0.08' THICK)
-4.2	SPOON		BLUE SHALE	1.0	599.4	
-5.2	SPOON		SHALE	5.0	600.4	
-10.2	SPOON		SANDY SHALE	6.6	605.4	W/LS
-16.8	SPOON		SHALY SANDSTONE	10.0	612.0	
-26.8	SPOON		SANDSTONE	13.0	622.0	DARK
-39.8	SPOON		SHALE	35.5	635.0	DRK BLUE
-75.3	SPOON		BLACK SHALE	4.8	670.5	
-80.1	SPOON		SHALY COAL	2.0	675.3	
-82.1	SPOON		BLUE SHALE	2.0	677.3	
-84.1	SPOON		SANDY SHALE	20.7	679.3	

MAPID: 13500057000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1175' S line, 3750' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.433308 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.19115 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 415.3 **LOG TYPE:** Drillers Log

SOURCE: NO COMPANY **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
226.1	MODESTO	PIASA	LIMESTONE	5.0	368.9	
221.1	MODESTO		UNCLASSIFIED	4.1	373.9	
217.0	CARBONDALE		UNCLASSIFIED	13.0	378.0	
204.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	391.0	
196.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.4	399.0	
193.6	CARBONDALE	JAMESTOWN	COAL	0.8	401.4	
192.8	CARBONDALE		UNCLASSIFIED	2.1	402.2	
190.7	CARBONDALE	BRERETON	LIMESTONE	3.2	404.3	
187.5	CARBONDALE	ANNA	BLACK SHALE	1.5	407.5	
186.0	CARBONDALE	HERRIN	COAL	6.3	409.0	

MAPID: 13500706000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 480' N line, 330' W line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.437897 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.201113 **DATE COLLECTED:** 6 / 0 / 1948

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 480.5 **LOG TYPE:** Electric Log

SOURCE: PENTECOST & WELLMAN **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
202.0	MODESTO	PIASA	LIMESTONE	6.0	445.0	
196.0	MODESTO		UNCLASSIFIED	2.0	451.0	
194.0	CARBONDALE	DANVILLE	COAL	0.5	453.0	
193.5	CARBONDALE		UNCLASSIFIED	10.5	453.5	
183.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	464.0	
178.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	469.0	
176.0	CARBONDALE		UNCLASSIFIED	2.0	471.0	
174.0	CARBONDALE	BRERETON	LIMESTONE	4.0	473.0	
170.0	CARBONDALE	ANNA	BLACK SHALE	3.0	477.0	
167.0	CARBONDALE	HERRIN	COAL	0.5	480.0	

MAPID: 13500664000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.466042 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.179832 **DATE COLLECTED:** 12 / 0 / 1952

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 449.0 **LOG TYPE:** Electric Log

SOURCE: CALIFORNIA CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
191.0	MODESTO	PIASA	LIMESTONE	3.0	410.0	
188.0	MODESTO		UNCLASSIFIED	4.0	413.0	
184.0	CARBONDALE	DANVILLE	COAL	0.5	417.0	
183.5	CARBONDALE		UNCLASSIFIED	9.5	417.5	
174.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	427.0	
167.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	434.0	
166.0	CARBONDALE		UNCLASSIFIED	2.0	435.0	
164.0	CARBONDALE	BRERETON	LIMESTONE	2.0	437.0	
162.0	CARBONDALE	ANNA	BLACK SHALE	2.0	439.0	
160.0	CARBONDALE	HERRIN	COAL	8.0	441.0	

MAPID: 13501261000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW NW SE

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.466032 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.178002 **DATE COLLECTED:** 2 / 0 / 1962

SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 442.0 **LOG TYPE:** Electric Log

SOURCE: FRANK'S PETROLEUM **WELL TYPE:** Plugged and/or Abandoned

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
204.0	MODESTO	PIASA	LIMESTONE	4.0	400.0	
200.0	MODESTO		UNCLASSIFIED	4.0	404.0	
196.0	CARBONDALE	DANVILLE	COAL	1.0	408.0	
195.0	CARBONDALE		UNCLASSIFIED	10.0	409.0	
185.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	419.0	
177.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	427.0	
174.0	CARBONDALE		UNCLASSIFIED	1.0	430.0	
173.0	CARBONDALE	BRERETON	LIMESTONE	4.0	431.0	
169.0	CARBONDALE	ANNA	BLACK SHALE	1.0	435.0	
168.0	CARBONDALE	HERRIN	COAL	6.0	436.0	

MAPID: 13501270000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SE SE
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.461341 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.176181 **DATE COLLECTED:** 5 / 0 / 1962
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 468.0 **LOG TYPE:** Electric Log
SOURCE: FRANK'S PETROLEUM **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
185.0	CARBONDALE	HERRIN	COAL	10.0	458.0	

MAPID: 13501274000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW SE NE
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.46137 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.181645 **DATE COLLECTED:** 6 / 0 / 1962
SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 487.0 **LOG TYPE:** Electric Log
SOURCE: FRANK'S PETROLEUM **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
204.0	MODESTO	PIASA	LIMESTONE	4.0	447.0	
200.0	MODESTO		UNCLASSIFIED	3.5	451.0	
196.5	CARBONDALE		UNCLASSIFIED	8.5	454.5	
188.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	463.0	
183.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	468.0	
181.0	CARBONDALE		UNCLASSIFIED	2.0	470.0	
179.0	CARBONDALE	BRERETON	LIMESTONE	4.0	472.0	
175.0	CARBONDALE	ANNA	BLACK SHALE	4.0	476.0	
171.0	CARBONDALE	HERRIN	COAL	7.0	480.0	

MAPID: 13501279000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.468393 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.181644 **DATE COLLECTED:** 7 / 0 / 1962
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 492.0 **LOG TYPE:** Electric Log
SOURCE: MIDDLESEX ASSOC OIL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
190.0	MODESTO	PIASA	LIMESTONE	4.0	452.0	
186.0	MODESTO		UNCLASSIFIED	3.0	456.0	
183.0	CARBONDALE		UNCLASSIFIED	10.0	459.0	
173.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	469.0	
168.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	474.0	
166.5	CARBONDALE		UNCLASSIFIED	1.5	475.5	
165.0	CARBONDALE	BRERETON	LIMESTONE	4.0	477.0	
161.0	CARBONDALE	ANNA	BLACK SHALE	3.0	481.0	
158.0	CARBONDALE	HERRIN	COAL	8.0	484.0	

MAPID: 13501318000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 880' W line of SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.470449 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.174373 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 506.5 **LOG TYPE:** Electric Log
SOURCE: WELKER OIL CO., LTD. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
176.5	MODESTO	PIASA	LIMESTONE	4.0	467.5	
172.5	MODESTO		UNCLASSIFIED	3.0	471.5	
169.5	CARBONDALE		UNCLASSIFIED	11.0	474.5	
158.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	485.5	
153.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	490.5	
152.0	CARBONDALE		UNCLASSIFIED	1.5	492.0	
150.5	CARBONDALE	BRERETON	LIMESTONE	4.0	493.5	
146.5	CARBONDALE	ANNA	BLACK SHALE	2.5	497.5	
144.0	CARBONDALE	HERRIN	COAL	6.5	500.0	

MAPID: 13501433000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.466052 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.181643 **DATE COLLECTED:** 7 / 0 / 1954

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 472.5 **LOG TYPE:** Electric Log

SOURCE: WALKER OIL CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
189.0	MODESTO	PIASA	LIMESTONE	4.5	431.0	
184.5	MODESTO		UNCLASSIFIED	4.5	435.5	
180.0	CARBONDALE	DANVILLE	COAL	0.5	440.0	
179.5	CARBONDALE		UNCLASSIFIED	9.5	440.5	
170.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	450.0	
165.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	455.0	
164.0	CARBONDALE		UNCLASSIFIED	2.5	456.0	
161.5	CARBONDALE	BRERETON	LIMESTONE	2.5	458.5	
159.0	CARBONDALE	ANNA	BLACK SHALE	3.0	461.0	
156.0	CARBONDALE	HERRIN	COAL	8.5	464.0	

MAPID: 13501534000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 990' E line of NE

QUADRANGLE: HILLSBORO **LONGITUDE:** -89.461379 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.183467 **DATE COLLECTED:** 3 / 0 / 1964

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 409.4 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
246.7	CARBONDALE	HERRIN	COAL	10.1	399.3	

MAPID: 13501534000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 990' E line of NE
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.461379 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.183467 **DATE COLLECTED:** 3 / 0 / 1964
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 472.0 **LOG TYPE:** Electric Log
SOURCE: WILSON, CARL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
218.0	MODESTO	PIASA	LIMESTONE	4.0	428.0	
214.0	MODESTO		UNCLASSIFIED	4.0	432.0	
210.0	CARBONDALE		UNCLASSIFIED	13.0	436.0	
197.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	449.0	
191.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	455.0	
188.5	CARBONDALE		UNCLASSIFIED	2.5	457.5	
186.0	CARBONDALE	BRERETON	LIMESTONE	2.0	460.0	
184.0	CARBONDALE	ANNA	BLACK SHALE	5.0	462.0	
179.0	CARBONDALE	HERRIN	COAL	5.0	467.0	

MAPID: 13501550000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 330' W line of SE
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.466022 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.176188 **DATE COLLECTED:** 3 / 0 / 1965
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 464.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
166.0	CARBONDALE	HERRIN	COAL	10.0	454.0	

MAPID: 13500918000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 259' S line, 401' W line of NW SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.456417 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.177797 **DATE COLLECTED:** 10 / 0 / 1957
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 492.0 **LOG TYPE:** Drillers Log
SOURCE: COVINGTON, JAMES R. **WELL TYPE:** Water Well
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.0	CARBONDALE	HERRIN	COAL	7.0	485.0	

MAPID: 13501364000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 383' S line, 383' W line of NW SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.45648 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.17814 **DATE COLLECTED:** 6 / 0 / 1963
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 486.0 **LOG TYPE:** Electric Log
SOURCE: WAITUKAITIS, JOSEPH **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
223.0	MODESTO	PIASA	LIMESTONE	4.0	446.0	
219.0	MODESTO		UNCLASSIFIED	4.0	450.0	
215.0	CARBONDALE		UNCLASSIFIED	11.0	454.0	
204.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	465.0	
197.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	472.0	
195.0	CARBONDALE		UNCLASSIFIED	2.0	474.0	
193.0	CARBONDALE	BRERETON	LIMESTONE	2.0	476.0	
191.0	CARBONDALE	ANNA	BLACK SHALE	2.0	478.0	
189.0	CARBONDALE	HERRIN	COAL	6.0	480.0	

MAPID: 13500450000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SE
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.477331 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.25284 **DATE COLLECTED:** 7 / 0 / 1956
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: GLASS, THEO G. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		

MAPID: 13501278000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW SW
QUADRANGLE: BUTLER **LONGITUDE:** -89.526433 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.249201 **DATE COLLECTED:** 6 / 0 / 1962
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: RICHARDSON E V **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500045000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** NW NE NE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.533553 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.260283 **DATE COLLECTED:** 3 / 0 / 1907
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CENTRAL OIL & GAS **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	5.0		
-	CARBONDALE		UNCLASSIFIED	12.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	2.0		

MAPID: 13500195000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** SE SW SE
QUADRANGLE: BUTLER **LONGITUDE:** -89.535706 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.247407 **DATE COLLECTED:** 0 / 0 / 1938
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: KESL JOE JR ETAL **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	5.0		
-	CARBONDALE		UNCLASSIFIED	12.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	1.0		
-	CARBONDALE	ANNA	BLACK SHALE	2.0		

MAPID: 13500183000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** SW SE
QUADRANGLE: BUTLER **LONGITUDE:** -89.555396 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.248467 **DATE COLLECTED:** 9 / 0 / 1930
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: DOYLE ETAL **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

MAPID: 13501532000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.565884 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.245806 **DATE COLLECTED:** 7 / 0 / 1964
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: STRIBLING, W. C. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500046000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 250' S line, 1050' E line of SE
QUADRANGLE: BUTLER **LONGITUDE:** -89.533458 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.232569 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

MAPID: 13500234000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 529' S line, 691' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.476092 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.218674 **DATE COLLECTED:** 7 / 0 / 1940
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 411.0 **LOG TYPE:** Electric Log
SOURCE: TOPF ETAL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
238.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	381.0	
229.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	390.0	
226.0	CARBONDALE		UNCLASSIFIED	3.0	393.0	
223.0	CARBONDALE	BRERETON	LIMESTONE	3.0	396.0	
220.0	CARBONDALE	ANNA	BLACK SHALE	2.0	399.0	
218.0	CARBONDALE	HERRIN	COAL	10.0	401.0	

MAPID: 13500891000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SW SW
QUADRANGLE: BUTLER **LONGITUDE:** -89.528454 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.218105 **DATE COLLECTED:** 7 / 0 / 1942
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: LACEY A M **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13501245000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** NE NW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.581209 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.217001 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 413.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 87-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
340.0	MODESTO	PIASA	NODULAR LIMESTONE	2.9	299.0	
337.1	MODESTO		MOTTLED SHALE	1.4	301.9	
335.7	CARBONDALE	DANVILLE	BONE COAL	0.3	303.3	
335.3	CARBONDALE		MOTTLED SHALE	4.9	303.7	
330.4	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.2	308.6	UPPER BENCH
327.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.6	311.8	SHALE PARTING
324.7	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	5.7	314.3	
319.0	CARBONDALE	ENERGY	SILTSTONE	14.5	320.0	
304.5	CARBONDALE	ENERGY	SILTY SHALE	2.0	334.5	
302.5	CARBONDALE	ENERGY	SILTSTONE	15.4	336.5	
287.1	CARBONDALE	ENERGY	SANDSTONE/SILTSTONE	61.9	351.9	

MAPID: 13501245000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** NE NW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.581209 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.217001 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 87-BB **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	1.6		
-	CARBONDALE	DANVILLE	COAL	0.2		
-	CARBONDALE		UNCLASSIFIED	9.3		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0		

MAPID: 13501245000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** NE NW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.581209 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.217001 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 87-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		Walshville channel coal not present!

MAPID: 13501245000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** NE NW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.581209 **GEOLOGIST:** UITEMP
CONFIDENTIAL: N **LATITUDE:** 39.217001 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 409.0 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO 87-BB **WELL TYPE:**
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
639.0	PLEISTOCENE		CLAY	18.0	0.0	
621.0	PLEISTOCENE		UNCONSOLIDATED	22.0	18.0	
599.0			GRAY SHALE	18.0	40.0	
581.0			BLUE SHALE	46.0	58.0	
535.0			GRAY SHALE	16.0	104.0	
519.0			GRAY SHALE	10.0	120.0	
509.0			CALCAREOUS SHALE	5.0	130.0	
504.0			SANDSTONE	9.0	135.0	GRAY
495.0			GRAY SHALE	7.0	144.0	
488.0				4.0	151.0	GRAY
484.0			GRAY SHALE	33.0	155.0	
451.0			GRAY SHALE	98.0	188.0	
353.0			SHALE	13.0	286.0	
340.0			LIMESTONE	4.0	299.0	
336.0			SHALE	7.0	303.0	
329.0			LIMESTONE	1.0	310.0	
328.0			SHALE	3.0	311.0	
325.0			CALCAREOUS CLAYSTONE	7.0	314.0	GRAY
318.0			SILTY SHALE	7.0	321.0	
311.0			SHALY SANDSTONE	81.0	328.0	GRAY

MAPID: 13500047000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** NW SW
QUADRANGLE: BUTLER **LONGITUDE:** -89.564008 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.208514 **DATE COLLECTED:** 8 / 0 / 1920
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: OHIO OIL CO., THE **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		

MAPID: 13501248000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 990' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.55172 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.203764 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 372.1 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 85-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
290.0	MODESTO	PIASA	LIMESTONE	5.0	327.0	
285.0	MODESTO		DARK GRAY SHALE	5.8	332.0	
279.2	CARBONDALE	DANVILLE	COAL	0.5	337.8	
278.7	CARBONDALE		GRAY SHALE	3.6	338.3	
275.2	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	1.5	341.8	
273.7	CARBONDALE		CALCAREOUS SHALE	4.8	343.3	
268.8	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.0	348.2	UPPER BENCH
266.8	CARBONDALE	BANKSTON FORK	LIMESTONE	8.8	350.2	LOWER BENCH
258.0	CARBONDALE	LAWSON	SILTY SHALE	1.7	359.0	
256.3	CARBONDALE	ANNA	BLACK SHALE	1.8	360.7	
255.0	CARBONDALE	HERRIN	COAL	10.1	362.0	

MAPID: 13501248000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 990' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.55172 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.203764 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 372.1 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 85-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
291.5	MODESTO	PIASA	LIMESTONE	5.0	325.5	
286.5	MODESTO		UNCLASSIFIED	5.8	330.5	
280.7	CARBONDALE	DANVILLE	COAL	0.5	336.3	
280.2	CARBONDALE		UNCLASSIFIED	7.3	336.8	
272.9	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	344.1	
265.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	351.1	
262.9	CARBONDALE		SHALE	3.0	354.1	
259.9	CARBONDALE	BRERETON	LIMESTONE	2.0	357.1	
257.9	CARBONDALE	ANNA	BLACK SHALE	2.9	359.1	
255.0	CARBONDALE	HERRIN	COAL	10.1	362.0	

MAPID: 13501248000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' S line, 990' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.55172 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.203764 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 372.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 85-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
254.8	CARBONDALE	HERRIN	COAL	10.1	362.2	

MAPID: 13500048000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** NE NE
QUADRANGLE: BUTLER **LONGITUDE:** -89.531949 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.215398 **DATE COLLECTED:** 0 / 0 / 1907
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		

MAPID: 13501323000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.523797 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.205412 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 384.0 **LOG TYPE:** Electric Log
SOURCE: CARTER JAMES E **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
270.0	MODESTO	PIASA	LIMESTONE	3.0	343.0	
267.0	MODESTO		UNCLASSIFIED	4.5	346.0	
262.5	CARBONDALE	DANVILLE	COAL	0.5	350.5	
262.0	CARBONDALE		UNCLASSIFIED	8.0	351.0	
254.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	359.0	
248.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	365.0	
247.0	CARBONDALE	BRERETON	LIMESTONE	7.0	366.0	
240.0	CARBONDALE	ANNA	BLACK SHALE	3.0	373.0	
237.0	CARBONDALE	HERRIN	COAL	8.0	376.0	

MAPID: 13501323000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.523797 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.205412 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 383.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
270.0	MODESTO	PIASA	LIMESTONE	3.5	343.0	
266.5	MODESTO		MOTTLED SHALE	3.5	346.5	
263.0	CARBONDALE	DANVILLE	BONE COAL	1.0	350.0	
262.0	CARBONDALE		MOTTLED SHALE	14.0	351.0	
248.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	365.0	
241.0	CARBONDALE	ANNA	BLACK SHALE	3.0	372.0	
237.0	CARBONDALE	HERRIN	COAL	7.0	376.0	

MAPID: 13501258000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.493476 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.188779 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 466.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 94-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
239.0	MODESTO	PIASA	NODULAR LIMESTONE	0.8	372.0	
238.2	CARBONDALE		MOTTLED SHALE	12.1	372.8	
226.1	CARBONDALE	GALUM	NODULAR LIMESTONE	2.0	384.9	
224.1	CARBONDALE	ALLENBY	BLACK SHALE	2.0	386.9	
222.1	CARBONDALE		CLAYSTONE & SHALE	1.8	388.9	
220.3	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	75.6	390.7	

MAPID: 13501258000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.493476 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.188779 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 94-BB **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.6		
-	CARBONDALE		UNCLASSIFIED	12.7		

MAPID: 13501258000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.493476 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.188779 **DATE COLLECTED:** 0 / 0 / 1962
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 94-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	0.0		coal out, Anvil Rock Channel

MAPID: 13501244000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 1650' N line, 990' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.51451 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.198131 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 391.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 83-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
248.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.4	347.0	
247.6	MODESTO		DARK GRAY SHALE	2.3	347.4	
245.2	CARBONDALE		MOTTLED SHALE	16.2	349.8	
229.0	CARBONDALE		BLACK SHALE	5.4	366.0	
223.7	CARBONDALE	ALLENBY	COAL	0.4	371.3	
223.3	CARBONDALE		CALCAREOUS SHALE	5.2	371.7	
218.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.4	376.9	UPPER BENCH
217.7	CARBONDALE	BANKSTON FORK	SHALE & SILTSTONE	1.3	377.3	SHALE PARTING
216.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.0	378.5	LOWER BENCH
214.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.5	380.5	
214.0	CARBONDALE	ANNA	BLACK SHALE	2.3	381.0	
212.0	CARBONDALE	HERRIN	COAL	8.3	383.0	

MAPID: 13501244000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 1650' N line, 990' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.51451 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.198131 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 391.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 83-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
240.5	MODESTO	PIASA	LIMESTONE	0.4	354.5	
240.1	MODESTO		UNCLASSIFIED	2.3	354.9	
237.8	CARBONDALE	DANVILLE	COAL	0.1	357.2	
237.7	CARBONDALE		UNCLASSIFIED	14.3	357.3	
223.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	371.6	
218.1	CARBONDALE	ANVIL ROCK	SANDSTONE	0.6	376.9	
217.5	CARBONDALE	BRERETON	LIMESTONE	2.7	377.5	
214.8	CARBONDALE	ANNA	BLACK SHALE	2.8	380.2	
212.0	CARBONDALE	HERRIN	COAL	8.3	383.0	

MAPID: 13501244000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 1650' N line, 990' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.51451 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.198131 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 391.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 83-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
212.0	CARBONDALE	HERRIN	COAL	8.3	383.0	

MAPID: 13501251000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.528497 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.201765 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 599.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 90-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
33.9	CARBONDALE	HERRIN	COAL	8.6	591.1	

MAPID: 13501251000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.528497 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.201765 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 399.6 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 90-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
269.1	MODESTO	PIASA	LIMESTONE	2.0	355.9	
267.1	MODESTO		UNCLASSIFIED	5.0	357.9	
262.1	CARBONDALE		UNCLASSIFIED	12.0	362.9	
250.1	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	374.9	
243.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	381.2	
241.8	CARBONDALE	CONANT	LIMESTONE	1.0	383.2	
240.8	CARBONDALE		SHALE	3.0	384.2	
237.8	CARBONDALE	BRERETON	LIMESTONE	2.0	387.2	
235.8	CARBONDALE	ANNA	BLACK SHALE	1.8	389.2	
234.0	CARBONDALE	HERRIN	COAL	8.6	391.0	

MAPID: 13500277000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.544743 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.20187 **DATE COLLECTED:** 0 / 0 / 1941
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Electric Log
SOURCE: LACEY A M **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
288.0	MODESTO	PIASA	LIMESTONE	7.0	342.0	
281.0	MODESTO		UNCLASSIFIED	3.5	349.0	
277.5	CARBONDALE		UNCLASSIFIED	9.5	352.5	
268.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	362.0	
260.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	370.0	
258.5	CARBONDALE		UNCLASSIFIED	1.5	371.5	
257.0	CARBONDALE	BRERETON	LIMESTONE	2.0	373.0	
255.0	CARBONDALE	ANNA	BLACK SHALE	4.0	375.0	
251.0	CARBONDALE	HERRIN	COAL	7.0	379.0	

MAPID: 13501249000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 990' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.544742 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.189088 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 401.2 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 89-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
275.7	CARBONDALE	DANVILLE	BONE COAL	1.0	369.3	
274.7	CARBONDALE		CLAYSTONE & SHALE	5.0	370.3	
269.7	CARBONDALE	ALLENBY	BLACK SHALE	0.3	375.3	
269.3	CARBONDALE		MOTTLED SHALE	5.4	375.7	
263.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.2	381.1	UPPER BENCH
259.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.3	385.3	LOWER BENCH
257.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	387.6	
255.1	CARBONDALE	LAWSON	DARK GRAY SHALE	0.2	389.9	
254.9	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	390.1	
253.4	CARBONDALE	ANNA	BLACK SHALE	1.4	391.6	
252.0	CARBONDALE	HERRIN	COAL	8.2	393.0	

MAPID: 13501249000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 990' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.544742 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.189088 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 400.2 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 89-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
276.9	CARBONDALE		UNCLASSIFIED	9.5	368.1	
267.4	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	377.6	
258.8	CARBONDALE	ANVIL ROCK	SANDSTONE	0.5	386.2	
258.3	CARBONDALE	BRERETON	LIMESTONE	2.0	386.7	
256.3	CARBONDALE	ANNA	BLACK SHALE	3.3	388.7	
253.0	CARBONDALE	HERRIN	COAL	8.2	392.0	

MAPID: 13501249000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 990' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.544742 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.189088 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 400.9 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 89-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
252.3	CARBONDALE	HERRIN	COAL	8.2	392.7	

MAPID: 13501436000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 630' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.531883 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.189012 **DATE COLLECTED:** 12 / 0 / 1949
SURFACE ELEVATION (FT.): 745.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: MOUNT C J **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0		

MAPID: 13500194000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 470' S line, 3600' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.579682 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.175418 **DATE COLLECTED:** 0 / 0 / 1939
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 420.0 **LOG TYPE:** Drillers Log
SOURCE: PORT ETAL **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
292.0	MODESTO	PIASA	LIMESTONE	5.0	375.0	
287.0	MODESTO		UNCLASSIFIED	4.0	380.0	
283.0	CARBONDALE		UNCLASSIFIED	10.0	384.0	
273.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	394.0	
267.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	400.0	
265.0	CARBONDALE		UNCLASSIFIED	2.0	402.0	
263.0	CARBONDALE	BRERETON	LIMESTONE	3.0	404.0	
260.0	CARBONDALE	ANNA	BLACK SHALE	3.0	407.0	
257.0	CARBONDALE	HERRIN	COAL	10.0	410.0	

MAPID: 13501235000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 330' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.568007 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.176643 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 391.7 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 88-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.2	346.0	
283.8	MODESTO		BLACK SHALE	4.5	351.2	
279.3	CARBONDALE	DANVILLE	COAL	1.7	355.7	
277.6	CARBONDALE		CLAYSTONE & SHALE	3.3	357.4	
274.3	CARBONDALE	GALUM	CALCAREOUS SHALE	1.9	360.7	
272.4	CARBONDALE		DARK GRAY SHALE	0.8	362.6	
271.6	CARBONDALE	ALLENBY	BLACK SHALE	0.6	363.4	
271.0	CARBONDALE		CLAYSTONE	4.1	364.0	
266.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.5	368.1	UPPER BENCH
263.4	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.7	371.6	SHALE PARTING
262.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.9	372.3	LOWER BENCH
261.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.0	373.2	
254.9	CARBONDALE	ANNA	DARK GRAY SHALE	2.9	380.1	
252.0	CARBONDALE	HERRIN	COAL	8.7	383.0	

MAPID: 13501235000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 330' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.568007 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.176643 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 391.7 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 88-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.1	MODESTO	PIASA	LIMESTONE	2.2	348.9	
283.9	MODESTO		UNCLASSIFIED	4.5	351.1	
279.4	CARBONDALE	DANVILLE	COAL	1.7	355.6	
277.7	CARBONDALE		UNCLASSIFIED	7.5	357.3	
270.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.8	364.8	
263.4	CARBONDALE	ANVIL ROCK	SANDSTONE	0.7	371.6	
262.7	CARBONDALE	CONANT	LIMESTONE	0.9	372.3	
261.8	CARBONDALE		SHALE	3.0	373.2	
258.8	CARBONDALE	BRERETON	LIMESTONE	4.0	376.2	
254.8	CARBONDALE	ANNA	BLACK SHALE	2.8	380.2	
252.0	CARBONDALE	HERRIN	COAL	8.7	383.0	

MAPID: 13501235000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 330' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.568007 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.176643 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 391.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 88-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
251.9	CARBONDALE	HERRIN	COAL	8.7	383.1	

MAPID: 13501239000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.554113 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.187367 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 410.3 **LOG TYPE:** Survey Core Study

SOURCE: CONSOLIDATION COAL CO. 81-BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
288.0	MODESTO	PIASA	LIMESTONE	2.0	354.0	
286.0	CARBONDALE		GRAY SHALE	18.0	356.0	
268.0	CARBONDALE	GALUM	LIMESTONE	3.0	374.0	
265.0	CARBONDALE		SHALE & SANDSTONE	3.5	377.0	
261.5	CARBONDALE	ALLENBY	BLACK SHALE	0.5	380.5	
261.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.2	381.0	UPPER BENCH
254.8	CARBONDALE	BANKSTON FORK	SHALE & SILTSTONE	4.5	387.2	SHALE PARTING
250.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	391.7	LOWER BENCH
245.3	CARBONDALE	LAWSON	MOTTLED SHALE	1.1	396.7	
244.2	CARBONDALE	ANNA	BLACK SHALE	1.8	397.8	
242.0	CARBONDALE	HERRIN	COAL	10.3	400.0	

MAPID: 13501239000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line

QUADRANGLE: BUTLER **LONGITUDE:** -89.554113 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.187367 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 409.3 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATION COAL CO. 81-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.7	MODESTO	PIASA	LIMESTONE	5.0	359.3	
277.7	MODESTO		UNCLASSIFIED	4.0	364.3	
273.7	CARBONDALE		UNCLASSIFIED	12.0	368.3	
261.7	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	380.3	
253.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.4	388.6	
251.0	CARBONDALE	CONANT	LIMESTONE	2.3	391.0	
248.7	CARBONDALE	BRERETON	LIMESTONE	2.8	393.3	
245.9	CARBONDALE	ANNA	BLACK SHALE	2.9	396.1	
243.0	CARBONDALE	HERRIN	COAL	10.3	399.0	

MAPID: 13501239000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.554113 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.187367 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 409.8 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 81-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.5	CARBONDALE	HERRIN	COAL	10.3	399.5	

MAPID: 13501236000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.537921 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.176303 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 405.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 77-BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
269.0	MODESTO	PIASA	LIMESTONE	5.0	360.0	
264.0	MODESTO		BLACK SHALE	5.6	365.0	
258.4	CARBONDALE	DANVILLE	COAL	0.5	370.6	
257.9	CARBONDALE		LIMESTONE W/ SHALE	6.1	371.1	
251.8	CARBONDALE	GALUM	CALCAREOUS SHALE	0.3	377.2	
251.5	CARBONDALE	ALLENBY	BLACK SHALE	2.0	377.5	
249.5	CARBONDALE		CALCAREOUS SHALE	2.5	379.5	
247.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.0	382.0	UPPER BENCH
243.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.7	386.0	LOWER BENCH
236.3	CARBONDALE	LAWSON	MOTTLED SHALE	0.3	392.7	
236.0	CARBONDALE	LAWSON	DARK GRAY SHALE	1.7	393.0	
234.3	CARBONDALE	LAWSON	GRAY SHALE	0.9	394.7	
233.4	CARBONDALE	ANNA	BLACK SHALE	1.4	395.6	
232.0	CARBONDALE	HERRIN	COAL	8.3	397.0	

MAPID: 13501236000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.537921 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.176303 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 405.3 **LOG TYPE:** Drillers Log
SOURCE: CONSOLIDATION COAL CO. 77-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
269.0	MODESTO	PIASA	LIMESTONE	5.0	360.0	
264.0	MODESTO		UNCLASSIFIED	5.6	365.0	
258.4	CARBONDALE	DANVILLE	COAL	0.5	370.6	
257.9	CARBONDALE		UNCLASSIFIED	10.9	371.1	
247.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	382.0	
241.0	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	388.0	
240.0	CARBONDALE		SHALE	2.0	389.0	
238.0	CARBONDALE	BRERETON	LIMESTONE	1.7	391.0	
236.3	CARBONDALE	ANNA	BLACK SHALE	4.3	392.7	
232.0	CARBONDALE	HERRIN	COAL	8.3	397.0	

MAPID: 13501236000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: BUTLER **LONGITUDE:** -89.537921 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.176303 **DATE COLLECTED:** 0 / 0 / 1961
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 405.3 **LOG TYPE:** Survey Core Study
SOURCE: CONSOLIDATION COAL CO. 77-BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
232.0	CARBONDALE	HERRIN	COAL	8.3	397.0	

MAPID: 13501437000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE
QUADRANGLE: BUTLER **LONGITUDE:** -89.530862 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.181703 **DATE COLLECTED:** 11 / 0 / 1949
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 445.0 **LOG TYPE:** Electric Log
SOURCE: REED & DILLS **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
269.0	MODESTO	PIASA	LIMESTONE	4.0	401.0	
265.0	MODESTO		UNCLASSIFIED	4.0	405.0	
261.0	CARBONDALE		UNCLASSIFIED	11.0	409.0	
250.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	420.0	
243.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	427.0	
241.0	CARBONDALE		UNCLASSIFIED	2.0	429.0	
239.0	CARBONDALE	BRERETON	LIMESTONE	2.0	431.0	
237.0	CARBONDALE	ANNA	BLACK SHALE	2.0	433.0	
235.0	CARBONDALE	HERRIN	COAL	10.0	435.0	

MAPID: 13500049000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:**
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.482918 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.1807 **DATE COLLECTED:** 10 / 0 / 1906
SURFACE ELEVATION (FT.): 589.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Drillers Log
SOURCE: CENTRAL OIL & GAS **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
194.0	CARBONDALE	HERRIN	COAL	5.0	395.0	

MAPID: 13500050000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** SE SW
QUADRANGLE: HILLSBORO **LONGITUDE:** -89.485267 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.175218 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 569.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: NO COMPANY **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

MAPID: 13500255000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 222' N line, 250' E line of NW SE
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.647445 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.240837 **DATE COLLECTED:** 9 / 0 / 1940
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: BROWN, JACK ETAL **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	11.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13500707000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.642982 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.240288 **DATE COLLECTED:** 12 / 0 / 1953
SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 345.0 **LOG TYPE:** Electric Log
SOURCE: GLASS, THEO G. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
350.0	MODESTO	PIASA	LIMESTONE	4.5	314.0	
345.5	MODESTO		UNCLASSIFIED	2.5	318.5	
343.0	CARBONDALE	DANVILLE	COAL	1.0	321.0	
-	CARBONDALE	HERRIN	COAL	0.0		COAL THIN OR MISSING - CHANNEL

MAPID: 13500707000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.642982 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.240288 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 431.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
348.0	MODESTO	PIASA	LIMESTONE & SHALE	9.0	316.0	
339.0	CARBONDALE		MOTTLED SHALE	11.0	325.0	
328.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	336.0	
324.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	91.0	340.0	

MAPID: 13500892000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 990' S line, 330' E line of NW SE
QUADRANGLE: BUTLER **LONGITUDE:** -89.590513 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.238789 **DATE COLLECTED:** 0 / 0 / 1947
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: WHITE EDGAR **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500647000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 775' N line, 855' E line of SE
QUADRANGLE: BUTLER **LONGITUDE:** -89.606655 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.208825 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: RIDGEWAY EDWARD S **WELL TYPE:** Dry Hole
COMMENT:

MAPID: 13500039000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 600' N line, 1100' E line of NE
QUADRANGLE: BUTLER **LONGITUDE:** -89.588529 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.216178 **DATE COLLECTED:** 9 / 0 / 1915
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: WILSON E W **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	8.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0		

MAPID: 13500466000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW SE
QUADRANGLE: BUTLER **LONGITUDE:** -89.590606 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.206037 **DATE COLLECTED:** 5 / 0 / 1956
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: SMITH CLARENCE **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500708000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1640' N line, 310' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.602542 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.21358 **DATE COLLECTED:** 4 / 0 / 1951
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: CALVERT DRILLING, INC. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	9.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		

MAPID: 13500708000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1640' N line, 310' W line
QUADRANGLE: BUTLER **LONGITUDE:** -89.602542 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.21358 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 402.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.0	MODESTO	PIASA	LIMESTONE	4.0	282.0	
314.0	CARBONDALE		SHALE	12.0	286.0	
302.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	298.0	
297.0	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	99.0	303.0	

MAPID: 13500041000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** SW NW
QUADRANGLE: BUTLER **LONGITUDE:** -89.601207 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.198064 **DATE COLLECTED:** 1 / 0 / 1915
SURFACE ELEVATION (FT.): 574.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: SCHAFFER & SMATHERS **WELL TYPE:** Dry Hole
COMMENT:

MAPID: 13500312000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.640097 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.197946 **DATE COLLECTED:** 11 / 0 / 1944

SURFACE ELEVATION (FT.): 686.0 **LOGGED (FT.):** 429.0 **LOG TYPE:** Electric Log

SOURCE: VETTE WALTER **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
307.0	MODESTO	PIASA	LIMESTONE	4.0	379.0	
303.0	MODESTO		UNCLASSIFIED	2.0	383.0	
301.0	CARBONDALE		UNCLASSIFIED	6.0	385.0	
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	391.0	
291.0	CARBONDALE	BRERETON	LIMESTONE	3.0	395.0	
288.0	CARBONDALE	ANNA	BLACK SHALE	2.5	398.0	
285.5	CARBONDALE	ENERGY	UNCLASSIFIED	22.5	400.5	
263.0	CARBONDALE	HERRIN	COAL	6.0	423.0	

MAPID: 13500312000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.640097 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.197946 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 686.0 **LOGGED (FT.):** 429.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
302.0	MODESTO	PIASA	LIMESTONE	5.0	384.0	
297.0	CARBONDALE		SHALE	7.0	389.0	
290.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	396.0	
286.0	CARBONDALE	LAWSON	SHALE	18.0	400.0	
268.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	418.0	
265.0	CARBONDALE	ANNA	BLACK SHALE	2.0	421.0	
263.0	CARBONDALE	HERRIN	COAL	6.0	423.0	

MAPID: 13500312000C **VERSION:** 4 **PROJECT:** CONTROL

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.640097 **GEOLOGIST:** HINES
CONFIDENTIAL: N **LATITUDE:** 39.197946 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 695.0 **LOG TYPE:** Survey Sample Study
SOURCE: VETTE WALTER **WELL TYPE:** Oil and Gas Test
COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			NO RECORD	0.0	0.0	

MAPID: 13500042000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 1980' N line, 660' E line
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.662455 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.199419 **DATE COLLECTED:** 5 / 0 / 1895
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log
SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.5		
-	CARBONDALE		UNCLASSIFIED	9.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0		

MAPID: 13500042000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 1980' N line, 660' E line
QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.662455 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.199419 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 417.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
288.0	MODESTO	PIASA	LIMESTONE	3.0	382.0	
285.0	CARBONDALE		SHALE	8.5	385.0	
276.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	393.5	
272.0	CARBONDALE	BANKSTON FORK	SHALE	2.0	398.0	
270.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.5	400.0	
268.5	CARBONDALE	ANNA	CALCAREOUS SHALE	4.0	401.5	
265.0	CARBONDALE	HERRIN	BLACK SHALE	12.0	405.0	

MAPID: 13500042000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 1980' N line, 660' E line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.662455 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.199419 **DATE COLLECTED:** 5 / 9 / 1895

SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 811.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MCHY. CO., HOLE #3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
670.0			UNCONSOLIDATED	15.0	0.0	
655.0			SAND	1.0	15.0	
654.0			HARD PAN	29.0	16.0	
625.0			SANDY CLAY	18.0	45.0	BLUE
607.0			BOULDER	0.8	63.0	
606.2			CLAY	43.2	63.8	
563.0			SAND	13.0	107.0	GREEN
550.0			GRAVEL	3.0	120.0	
547.0	BOND	CARTHAGE	LIMESTONE	12.0	123.0	
535.0	MODESTO		SANDY SHALE	2.0	135.0	
533.0	MODESTO		BLACK SHALE	1.0	137.0	
532.0	MODESTO		SANDY SHALE	45.0	138.0	
487.0	MODESTO	MACOUPIN	LIMESTONE	1.0	183.0	
486.0	MODESTO		BLACK SHALE	1.6	184.0	
484.4	MODESTO		LIMESTONE	1.4	185.6	
483.0	MODESTO	WOMAC	COAL	0.3	187.0	
482.7	MODESTO		GRAY SHALE	6.7	187.3	
476.0	MODESTO	BURROUGHS	LIMESTONE	5.0	194.0	W/SH BANDS
471.0	MODESTO		SANDY SHALE	24.0	199.0	
447.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	223.0	
442.0	MODESTO		SANDSTONE	11.0	228.0	
431.0	MODESTO		SANDY SHALE	51.0	239.0	
380.0	MODESTO		SANDSTONE	28.0	290.0	
352.0	MODESTO		SHALE	64.0	318.0	
288.0	MODESTO	PIASA	LIMESTONE	5.0	382.0	
283.0	MODESTO		SANDY SHALE	13.0	387.0	
270.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	400.0	
267.0	CARBONDALE	ENERGY	SHALE	53.5	403.0	
213.5	CARBONDALE	HERRIN	COAL	1.2	456.5	
212.3	CARBONDALE	HERRIN	SHALE	0.9	457.7	
211.4	CARBONDALE	HERRIN	COAL	1.4	458.6	
210.0	CARBONDALE		UNDERCLAY	1.0	460.0	
209.0	CARBONDALE		BLUE SHALE	2.0	461.0	
207.0	CARBONDALE		CONGLOMERATE	3.0	463.0	
204.0	CARBONDALE		GRAY SHALE	16.0	466.0	
188.0	CARBONDALE	EXCELLO	BLACK SHALE	1.5	482.0	
186.5	CARBONDALE	HOUCHIN CREEK	COAL	1.1	483.5	
185.4	CARBONDALE		UNDERCLAY	2.4	484.6	
183.0	CARBONDALE		SANDSTONE	46.2	487.0	

136.8	CARBONDALE	SURVANT - UPPER	COAL	2.3	533.2	
134.5	CARBONDALE		SHALE	0.3	535.5	
134.2	CARBONDALE	SURVANT - LOWER	COAL	0.7	535.8	
133.5	CARBONDALE		SHALE	2.5	536.5	
131.0	CARBONDALE		SANDSTONE	17.0	539.0	W/SH PARTINGS
114.0	CARBONDALE		SANDY SHALE	34.0	556.0	
80.0	CARBONDALE	MECCA QUARRY	BLACK SHALE	1.9	590.0	
78.1	CARBONDALE	COLCHESTER	COAL	1.8	591.9	
76.2	SPOON		SHALE	2.3	593.8	
74.0	SPOON		LIMESTONE	3.0	596.0	
71.0	SPOON		SHALE	1.2	599.0	
69.8	SPOON	DEKOVEN	COAL	3.4	600.2	
66.4	SPOON		SHALE	1.4	603.6	
65.0	SPOON		LIMESTONE	1.0	605.0	
64.0	SPOON		DARK SHALE	2.5	606.0	
61.5	SPOON	DAVIS	COAL	0.8	608.5	
60.7	SPOON		SHALE	4.3	609.3	
56.5	SPOON		UNDERCLAY	9.5	613.5	
47.0	SPOON		SANDY SHALE	16.0	623.0	
31.0	SPOON		SANDSTONE	5.0	639.0	
26.0	SPOON		BLACK SHALE	4.2	644.0	
21.8	SPOON		COAL	0.8	648.2	
21.1	SPOON		SHALE	12.3	648.9	
8.7	SPOON		COAL	0.8	661.3	
7.9	SPOON		SANDY SHALE	14.9	662.1	
-7.0	SPOON		SHALY SANDSTONE	10.0	677.0	
-17.0	SPOON		SANDY SHALE	14.0	687.0	
-31.0	SPOON		LIMESTONE	2.0	701.0	
-33.0	SPOON	MURPHYSBORO	COAL	4.8	703.0	CORRELATION UNCERTAIN
-37.8	SPOON		UNDERCLAY	6.2	707.8	
-44.0	SPOON		DARK SHALE	3.0	714.0	
-47.0	SPOON		SANDSTONE	14.0	717.0	
-61.0	SPOON		LIMESTONE	3.0	731.0	
-64.0	SPOON		SHALE	9.0	734.0	
-73.0	SPOON		SANDSTONE	2.0	743.0	
-75.0	SPOON		SANDY SHALE	22.0	745.0	
-97.0	SPOON		SANDSTONE	26.0	767.0	
-123.0	SPOON		BLUE SHALE	10.0	793.0	
-133.0	SPOON		SANDSTONE	8.0	803.0	

MAPID: 13500043000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 330' E line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.661303 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.187357 **DATE COLLECTED:** 4 / 0 / 1894

SURFACE ELEVATION (FT.): 689.0 **LOGGED (FT.):** 415.3 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.0	MODESTO	PIASA	LIMESTONE	5.0	385.0	
299.0	MODESTO		UNCLASSIFIED	2.0	390.0	
297.0	CARBONDALE		UNCLASSIFIED	5.5	392.0	
291.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	397.5	
288.5	CARBONDALE	ANNA	BLACK SHALE	1.7	400.5	
286.8	CARBONDALE	ENERGY	UNCLASSIFIED	12.8	402.2	
274.0	CARBONDALE	HERRIN	COAL	0.3	415.0	

MAPID: 13500043000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 330' E line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.661303 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.187357 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 689.0 **LOGGED (FT.):** 468.6 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
290.0	MODESTO	PIASA	LIMESTONE	3.0	399.0	
287.0	MODESTO		SILTY SHALE	12.8	402.0	
274.2	CARBONDALE	DANVILLE	COAL	0.3	414.8	
274.0	CARBONDALE	ENERGY	SILTY SHALE	48.5	415.0	
225.5	CARBONDALE	ENERGY	DARK GRAY SHALE	0.8	463.5	
224.7	CARBONDALE	ENERGY	BONE COAL	1.0	464.3	
224.0	CARBONDALE	HERRIN	COAL	3.6	465.0	

MAPID: 13500043000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 330' E line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.661303 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.187357 **DATE COLLECTED:** 6 / 14 / 1895

SURFACE ELEVATION (FT.): 688.9 **LOGGED (FT.):** 700.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHY. CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
688.9			UNKNOWN	2.0	0.0	LOG HAS CURBING ABOVE NATURAL SURF
686.9			CLAY	18.4	2.0	YELLOW
668.5			SAND	3.0	20.4	W/WATER
665.5			CLAY	16.7	23.4	BLUE
648.8			BOULDERS & CLAY	64.2	40.1	
584.6	BOND		LIMESTONE	0.9	104.3	
583.7	BOND		DARK SHALE	15.4	105.2	
568.3	BOND	CARTHAGE	LIMESTONE	20.1	120.6	CLAYEY AT BASE
548.2	MODESTO		DARK SHALE	8.3	140.7	
539.9	MODESTO		UNDERCLAY	5.0	149.0	
534.9	MODESTO		LIMESTONE	2.0	154.0	
532.9	MODESTO		SHALE	30.5	156.0	DRK GRAY
502.4	MODESTO		DARK SHALE	2.5	186.5	
499.9	MODESTO	WOMAC	COAL	0.5	189.0	
499.4	MODESTO		SANDY SHALE	15.5	189.5	
483.9	MODESTO		CLAYSTONE & SILTSTONE	2.0	205.0	BLUE
481.9	MODESTO		DARK SHALE	19.5	207.0	
462.4	MODESTO	CARLINVILLE	LIMESTONE	5.0	226.5	
457.4	MODESTO		SANDY SHALE	38.5	231.5	
418.9	MODESTO		BLACK SHALE	0.5	270.0	
418.4	MODESTO	CHAPEL	COAL	0.6	270.5	
417.8	MODESTO		UNDERCLAY	2.2	271.1	
415.6	MODESTO		LIMESTONE	5.3	273.3	W/CLYST BANDS
410.4	MODESTO		BLUE SHALE	7.0	278.5	
403.4	MODESTO		SANDY SHALE	31.5	285.5	
371.9	MODESTO		SANDSTONE	1.5	317.0	
370.4	MODESTO		SANDY SHALE	34.3	318.5	
336.1	MODESTO		LIMESTONE	0.3	352.8	
335.9	MODESTO		DARK SHALE	3.5	353.0	
332.4	MODESTO	EXLINE	SHALY LIMESTONE	0.5	356.5	
331.9	MODESTO		DARK SHALE	1.5	357.0	
330.4	MODESTO		COAL	0.1	358.5	
330.3	MODESTO		UNDERCLAY	2.6	358.6	
327.7	MODESTO		UNDERCLAY	6.4	361.2	W/LS BANDS
321.3	MODESTO		DARK SHALE	18.4	367.6	
302.9	MODESTO	PIASA	LIMESTONE	5.0	386.0	
297.9	MODESTO		DARK SHALE	7.5	391.0	
290.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	398.5	
287.4	CARBONDALE	ENERGY	SANDY SHALE	11.1	401.5	

276.3	CARBONDALE	ENERGY	CARBONACEOUS SHALE	1.7	412.6	
274.6	CARBONDALE	ENERGY	COAL	0.3	414.3	SPLIT OF HERRIN?
274.4	CARBONDALE	ENERGY	SANDY SHALE	48.5	414.5	
225.9	CARBONDALE	ENERGY	DARK SHALE	0.8	463.0	
225.1	CARBONDALE	HERRIN	COAL	4.6	463.8	
220.6	CARBONDALE		UNDERCLAY	1.0	468.3	
219.6	CARBONDALE		DARK SHALE	7.3	469.3	W/LS BANDS
212.2	CARBONDALE		SANDY SHALE	13.3	476.7	
198.9	CARBONDALE	HANOVER	LIMESTONE	2.0	490.0	
196.9	CARBONDALE	EXCELLO	BLACK SHALE	6.5	492.0	
190.4	CARBONDALE	HOUCHIN CREEK	COAL	2.4	498.5	
188.0	CARBONDALE		UNDERCLAY	10.3	500.9	
177.6	CARBONDALE		UNCLASSIFIED	38.8	511.3	MISSING RECORD
138.9	CARBONDALE		SANDY SHALE	37.0	550.0	
101.9	CARBONDALE	MECCA QUARRY	BLACK SHALE	1.9	587.0	
100.0	CARBONDALE	COLCHESTER	COAL	2.7	588.9	
97.3	SPOON		SHALE	1.4	591.6	
95.9	SPOON		LIMESTONE	6.0	593.0	W/SH PARTINGS
89.9	SPOON		BLACK SHALE	0.8	599.0	
89.1	SPOON	DEKOVEN	COAL	2.8	599.8	
86.3	SPOON		SHALE	4.3	602.6	
82.0	SPOON	LOWER DEKOVEN	COAL	1.1	606.9	
80.9	SPOON		SHALE	4.5	608.0	
76.4	SPOON	LOWER DEKOVEN	COAL	0.4	612.5	
76.0	SPOON		UNDERCLAY	7.1	612.9	
68.9	SPOON		GRAY SHALE	5.4	620.0	
63.5	SPOON	DAVIS	COAL	2.2	625.4	
61.3	SPOON		GRAY SHALE	4.4	627.6	
56.9	SPOON		SANDY SHALE	22.3	632.0	
34.6	SPOON			2.0	654.3	
32.6	SPOON		UNCLASSIFIED	5.8	656.3	
26.9	SPOON		SANDY SHALE	22.0	662.0	
4.9	SPOON		COAL	6.0	684.0	
-1.1	SPOON		UNDERCLAY	6.0	690.0	
-7.1	SPOON		SANDY SHALE	4.0	696.0	

MAPID: 13500231000C **VERSION:** 1 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** NE

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.66488 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.186422 **DATE COLLECTED:** 0 / 0 / 1894

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 635.8 **LOG TYPE:** Drillers Log

SOURCE: W.W. POST **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			SOIL	2.0	0.0	
-			CLAY	14.0	2.0	GRAY
-			SAND & GRAVEL	3.0	16.0	
-			BOULDERS & CLAY	19.0	19.0	BLUE CLAY
-			BOULDERS & CLAY	45.0	38.0	SANDY CLAY
-			CLAY	17.0	83.0	
-	BOND		DARK SHALE	22.0	100.0	
-	BOND	CARTHAGE	LIMESTONE	17.0	122.0	
-	MODESTO		GREEN SHALE	6.0	139.0	
-	MODESTO		BLACK SHALE	6.0	145.0	
-	MODESTO		GREEN SHALE	4.3	151.0	
-	MODESTO		COAL	0.1	155.3	
-	MODESTO		DARK SHALE	2.0	155.3	
-	MODESTO		UNDERCLAY	5.5	157.3	
-	MODESTO		GRAY SHALE	10.0	162.8	
-	MODESTO		SANDY SHALE	20.3	172.8	
-	MODESTO		CARBONACEOUS SHALE	1.1	193.2	
-	MODESTO	WOMAC	COAL	0.3	194.3	
-	MODESTO		CLAYSTONE & SILTSTONE	7.0	194.5	
-	MODESTO		SANDY SHALE	9.3	201.5	
-	MODESTO		CLAYSTONE & SILTSTONE	5.0	210.8	
-	MODESTO		SANDY SHALE	5.0	215.8	
-	MODESTO		DARK SHALE	9.0	220.8	
-	MODESTO	CARLINVILLE	LIMESTONE	5.0	229.8	
-	MODESTO		SANDY SHALE	38.0	234.8	
-	MODESTO	CHAPEL	COAL	0.6	272.8	
-	MODESTO		UNDERCLAY	5.4	273.4	
-	MODESTO		LIMESTONE & CLAY	3.0	278.8	
-	MODESTO		CLAYSTONE & SILTSTONE	4.0	281.8	
-	MODESTO		SHALE & SANDSTONE	66.0	285.8	SANDY SH/SS
-	MODESTO		DARK SHALE	8.3	351.8	
-	MODESTO		SHALY LIMESTONE	1.0	360.1	
-	MODESTO		COAL	0.3	361.1	
-	MODESTO		UNDERCLAY	2.4	361.4	
-	MODESTO		UNDERCLAY	7.8	363.8	W/LS
-	MODESTO		BLACK SHALE	0.6	371.7	
-	MODESTO		SHALE	2.6	372.3	
-	MODESTO		RED SHALE	15.0	374.8	
-	MODESTO	PIASA	LIMESTONE	5.0	389.8	

-	MODESTO		DARK SHALE	9.0	394.8	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	403.8	
-	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	11.9	405.8	
-	CARBONDALE		BLACK SHALE	0.8	417.8	
-	CARBONDALE		SHALE	0.4	418.6	
-	CARBONDALE		COAL	0.3	419.0	SPLIT OF HERRIN?
-	CARBONDALE	ENERGY	GRAY SHALE	3.6	419.3	
-	CARBONDALE	ENERGY	DARK SHALE	45.0	422.8	
-	CARBONDALE	ENERGY	BLACK SHALE	1.0	467.8	
-	CARBONDALE	HERRIN	COAL	1.3	468.8	
-	CARBONDALE	HERRIN	SHALE	0.3	470.1	
-	CARBONDALE	HERRIN	COAL	0.4	470.4	
-	CARBONDALE		UNDERCLAY	1.0	470.8	
-	CARBONDALE		LIMESTONE	2.0	471.8	
-	CARBONDALE		DARK SHALE	5.0	473.8	
-	CARBONDALE		SANDY SHALE	22.0	478.8	
-	CARBONDALE	HANOVER	LIMESTONE	2.3	500.8	
-	CARBONDALE	EXCELLO	BLACK SHALE	4.6	503.1	
-	CARBONDALE	HOUCHIN CREEK	COAL	2.3	507.7	
-	CARBONDALE		UNDERCLAY	9.8	510.0	
-	CARBONDALE		SANDY SHALE	16.0	519.8	
-	CARBONDALE		GRAY SHALE	7.8	535.8	
-	CARBONDALE	SURVANT	COAL	7.8	543.7	
-	CARBONDALE		SANDSTONE	21.4	551.4	
-	CARBONDALE		SANDY SHALE	18.0	572.8	
-	CARBONDALE		BLUE SHALE	8.0	590.8	
-			BLACK SHALE	24.0	598.8	W/0.17' SULPHUR BAND AT BASE
-	SPOON		COAL	0.1	622.8	
-	SPOON		GRAY SHALE	1.6	622.9	
-	SPOON		SANDSTONE	1.9	624.5	
-	SPOON	DAVIS	COAL	5.0	626.4	
-	SPOON		UNDERCLAY	4.3	631.4	
-	SPOON		UNCLASSIFIED	0.0	635.8	T.D.

MAPID: 13500044000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 1330' S line, 270' W line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.659187 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.178838 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 687.0 **LOGGED (FT.):** 415.5 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR MINING CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
300.9	MODESTO	PIASA	LIMESTONE	6.0	386.1	
294.9	MODESTO		UNCLASSIFIED	2.0	392.1	
292.9	CARBONDALE		UNCLASSIFIED	6.0	394.1	
286.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.0	400.1	
284.9	CARBONDALE	ENERGY	UNCLASSIFIED	11.9	402.1	
273.0	CARBONDALE	HERRIN	COAL	1.5	414.0	

MAPID: 13500044000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 1330' S line, 270' W line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.659187 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.178838 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 687.0 **LOGGED (FT.):** 469.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.0	MODESTO	PIASA	LIMESTONE	2.0	400.0	
285.0	MODESTO		CALCAREOUS SHALE	11.9	402.0	
273.1	CARBONDALE	DANVILLE	BONE COAL	1.5	413.9	
271.6	CARBONDALE	ENERGY	SILTY SHALE	38.6	415.4	
233.0	CARBONDALE	ENERGY	GRAY SHALE	10.0	454.0	
223.0	CARBONDALE	ENERGY	BLACK SHALE	1.0	464.0	
222.0	CARBONDALE	ENERGY	BONE COAL	1.3	465.0	
220.7	CARBONDALE	ENERGY	SHALE	0.3	466.3	
220.0	CARBONDALE	HERRIN	COAL	2.3	467.0	

MAPID: 13500044000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 1330' S line, 270' W line

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.659187 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.178838 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 687.0 **LOGGED (FT.):** 604.0 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
687.0			SOIL	2.0	0.0	BLACK
685.0			CLAY	14.0	2.0	GRAY
671.0			SAND & GRAVEL	3.0	16.0	
668.0			CLAY & GRAVEL	19.0	19.0	
649.0			SAND	22.0	38.0	
627.0			BOULDERS & CLAY	23.0	60.0	
604.0			CLAY & GRAVEL	16.0	83.0	
588.0	BOND		DARK SHALE	23.0	99.0	
565.0	BOND	CARTHAGE	LIMESTONE	16.5	122.0	
548.5	MODESTO		GRAY SHALE	0.5	138.5	
548.0	MODESTO		BLACK SHALE	0.5	139.0	
547.5	MODESTO		GRAY SHALE	4.8	139.5	
542.7	MODESTO		COAL	0.1	144.3	
542.7	MODESTO		SHALE	2.0	144.3	
540.7	MODESTO		COAL	0.1	146.3	
540.6	MODESTO		SHALE	2.6	146.4	
538.0	MODESTO		UNDERCLAY	5.5	149.0	
532.5	MODESTO		SHALE	1.5	154.5	
531.0	MODESTO		UNDERCLAY	3.0	156.0	
528.0	MODESTO		SHALE	30.3	159.0	
497.7	MODESTO		BLACK SHALE	1.8	189.3	
495.9	MODESTO	WOMAC	COAL	0.3	191.1	
495.7	MODESTO		SANDY SHALE	15.7	191.3	
480.0	MODESTO		SHALE	5.0	207.0	W/LS BANDS
475.0	MODESTO		SHALE	14.0	212.0	
461.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	226.0	
456.0	MODESTO		SANDY SHALE	38.0	231.0	
418.0	MODESTO	CHAPEL	COAL	0.6	269.0	
417.4	MODESTO		UNDERCLAY	5.4	269.6	
412.0	MODESTO		CONGLOMERATE	3.0	275.0	
409.0	MODESTO		SANDY SHALE	70.0	278.0	
339.0	MODESTO		DARK SHALE	9.3	348.0	
329.7	MODESTO		COAL	0.3	357.3	
329.4	MODESTO		UNDERCLAY	2.4	357.6	
327.0	MODESTO		SHALE	26.0	360.0	
301.0	MODESTO	PIASA	LIMESTONE	6.0	386.0	
295.0	MODESTO		DARK SHALE	8.0	392.0	
287.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	400.0	
285.0	CARBONDALE		CALCAREOUS SHALE	11.9	402.0	

273.1	CARBONDALE		COAL	1.5	413.9	SPLIT OF HERRIN?
271.6	CARBONDALE	ENERGY	CLAYSTONE & SHALE	38.6	415.4	
233.0	CARBONDALE	ENERGY	GRAY SHALE	10.0	454.0	
223.0	CARBONDALE	ENERGY	BLACK SHALE	1.0	464.0	
222.0	CARBONDALE	HERRIN	COAL	1.3	465.0	
220.7	CARBONDALE	HERRIN	SHALE	0.3	466.3	
220.4	CARBONDALE	HERRIN	COAL	2.3	466.6	
218.1	CARBONDALE		UNDERCLAY	1.1	468.9	
217.0	CARBONDALE		LIMESTONE	2.0	470.0	
215.0	CARBONDALE		SANDY SHALE	17.0	472.0	
198.0	CARBONDALE	HANOVER	LIMESTONE	2.3	489.0	
195.7	CARBONDALE	EXCELLO	BLACK SHALE	4.6	491.3	
191.2	CARBONDALE	HOUCHIN CREEK	COAL	2.3	495.8	
188.8	CARBONDALE		UNDERCLAY	9.8	498.2	
179.0	CARBONDALE		SANDY SHALE	16.0	508.0	
163.0	CARBONDALE		GRAY SHALE	7.8	524.0	
155.2	CARBONDALE	SURVANT - UPPER	COAL	3.7	531.8	
151.5	CARBONDALE		SHALE	0.2	535.5	
151.3	CARBONDALE	SURVANT - LOWER	COAL	4.3	535.7	
147.1	CARBONDALE		SANDY SHALE	0.1	539.9	
147.0	CARBONDALE		SANDSTONE	21.0	540.0	W/SH PARTINGS
126.0	CARBONDALE		SANDY SHALE	18.0	561.0	
108.0	CARBONDALE		CLAYSTONE & SHALE	8.0	579.0	
100.0	CARBONDALE	MECCA QUARRY	BLACK SHALE	3.5	587.0	W/SS
96.5	CARBONDALE	COLCHESTER	COAL	1.6	590.5	
94.9	SPOON		GRAY SHALE	1.9	592.1	
93.0	SPOON		LIMESTONE	5.0	594.0	
88.0	SPOON	DAVIS	COAL	2.5	599.0	
85.5	SPOON	DAVIS	UNKNOWN	0.4	601.5	DRILLERS LOG REPORTS "BOULDER"
85.1	SPOON	DAVIS	BONE COAL	1.4	601.9	
83.7	SPOON		SHALE	0.7	603.3	

MAPID: 13500333000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 9N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 990' N line, 330' E line of NW NE

QUADRANGLE: LITCHFIELD **LONGITUDE:** -89.62822 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.186636 **DATE COLLECTED:** 7 / 0 / 1955

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: BASSETT, CLYDE **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500022000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 660' N line, 1980' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.169962 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.347017 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 612.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY, F.S. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
92.9	MODESTO	PIASA	LIMESTONE	4.0	563.1	
88.9	MODESTO		UNCLASSIFIED	9.3	567.1	
79.6	CARBONDALE	DANVILLE	COAL	1.8	576.4	
77.8	CARBONDALE		UNCLASSIFIED	13.0	578.2	
64.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	591.2	
59.3	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	596.7	
57.8	CARBONDALE		UNCLASSIFIED	1.0	598.2	
56.8	CARBONDALE	BRERETON	LIMESTONE	2.0	599.2	
54.8	CARBONDALE	ANNA	BLACK SHALE	2.8	601.2	
52.0	CARBONDALE	HERRIN	COAL	8.5	604.0	

MAPID: 13500022000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 660' N line, 1980' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.169962 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.347017 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 612.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
93.0	MODESTO	PIASA	LIMESTONE	4.0	563.0	
89.0	MODESTO		SHALE	9.3	567.0	
79.7	CARBONDALE	DANVILLE	COAL	1.8	576.3	
78.0	CARBONDALE		GRAY SHALE	5.5	578.0	
72.5	CARBONDALE	ALLENBY	DARK GRAY SHALE	1.5	583.5	
71.0	CARBONDALE		GRAY SHALE	6.0	585.0	
65.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	591.0	
59.5	CARBONDALE	LAWSON	GRAY SHALE	2.5	596.5	
57.0	CARBONDALE	ANNA	BLACK SHALE	4.8	599.0	
52.0	CARBONDALE	HERRIN	COAL	8.5	604.0	

MAPID: 13500022000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 660' N line, 1980' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.169962 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.347017 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 656.4 **LOGGED (FT.):** 623.0 **LOG TYPE:** Drillers Log

SOURCE: F. S. PEABODY **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEV IS '656.4 McD'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
656.4	PLEISTOCENE		SOIL	3.0	0.0	
653.4	PLEISTOCENE		CLAY	14.0	3.0	
639.4	PLEISTOCENE		CLAY	5.0	17.0	GRAVELLY
634.4	PLEISTOCENE		SAND & GRAVEL	8.0	22.0	
626.4	BOND	MILLERSVILLE	LIMESTONE	7.0	30.0	BROKEN
619.4	BOND	MILLERSVILLE	LIMESTONE	12.0	37.0	
607.4	BOND		SANDY SHALE	57.0	49.0	
550.4	BOND		BLUE SHALE	23.0	106.0	
527.4	BOND		SHALY COAL	0.5	129.0	
526.9	BOND		ARGILACEOUS SHALE	11.5	129.5	
515.4	BOND		LIMESTONE	2.0	141.0	
513.4	BOND		SANDY SHALE	31.0	143.0	W/ LIME BANDS
482.4	BOND		BLUE SHALE	13.0	174.0	
469.4	BOND		BLACK SHALE	1.3	187.0	
468.1	BOND		COAL	1.1	188.3	
467.1	BOND		ARGILACEOUS SHALE	8.7	189.3	
458.4	BOND		SANDY SHALE	14.0	198.0	
444.4	BOND		SANDSTONE/SHALE	16.0	212.0	
428.4	BOND		BLUE SHALE	13.0	228.0	
415.4	BOND		BLUE SHALE	16.0	241.0	
399.4	BOND		BLACK SHALE	0.8	257.0	
398.6	BOND		ARGILACEOUS SHALE	6.2	257.8	
392.4	BOND		SHALE	10.0	264.0	W/ LS BANDS
382.4	BOND	CARTHAGE	LIMESTONE	4.0	274.0	
378.4	BOND	CARTHAGE	LIMESTONE	11.0	278.0	
367.4	MODESTO		SHALE	2.5	289.0	BROKEN
364.9	MODESTO		SHALY COAL	0.2	291.5	
364.7	MODESTO		SHALE	0.9	291.7	
363.8	MODESTO		COAL	0.1	292.6	
363.7	MODESTO		ARGILACEOUS SHALE	11.3	292.7	
352.4	MODESTO		SANDY SHALE	3.0	304.0	
349.4	MODESTO		BLUE SHALE	22.0	307.0	
327.4	MODESTO		LIMESTONE	4.0	329.0	
323.4	MODESTO		BLUE SHALE	5.0	333.0	
318.4	MODESTO		BLACK SHALE	2.5	338.0	
315.9	MODESTO		COAL	0.5	340.5	
315.4	MODESTO		ARGILACEOUS SHALE	8.0	341.0	VERY SOFT WITH LIME PEBBLES
307.4	MODESTO		SANDSTONE	6.0	349.0	W/ LS BANDS
301.4	MODESTO		SANDY SHALE	7.0	355.0	W/ LIME BANDS

294.4	MODESTO		LIMESTONE	3.0	362.0	
291.4	MODESTO		BLUE SHALE	5.0	365.0	
286.4	MODESTO		SANDY SHALE	15.0	370.0	
271.4	MODESTO		SANDSTONE/SHALE	8.0	385.0	
263.4	MODESTO		SANDY SHALE	27.0	393.0	
236.4	MODESTO		BLUE SHALE	13.0	420.0	
223.4	MODESTO		BLUE SHALE	9.5	433.0	W/ BROWN BANDS
213.9	MODESTO	CHAPEL	COAL	1.3	442.5	
212.6	MODESTO		SHALE W/ COAL STREAKS	0.5	443.8	
212.1	MODESTO		BLUE SHALE	8.8	444.3	
203.4	MODESTO		SANDY SHALE	71.0	453.0	
132.4	MODESTO		BLUE SHALE	21.0	524.0	
111.4	MODESTO		BLUE SHALE	3.0	545.0	
108.4	MODESTO		ARGILACEOUS SHALE	7.0	548.0	
101.4	MODESTO		BLUE SHALE	5.0	555.0	
96.4	MODESTO		SANDSTONE	3.0	560.0	
93.4	MODESTO	PIASA	LIMESTONE	4.0	563.0	
89.4	MODESTO		SHALE	4.0	567.0	
85.4	MODESTO		BLUE SHALE	4.0	571.0	
81.4	MODESTO		BLACK SHALE	1.3	575.0	
80.1	CARBONDALE	DANVILLE	COAL	1.8	576.3	
78.4	CARBONDALE		BLUE SHALE	1.0	578.0	
77.4	CARBONDALE		LIGHT SHALE	1.0	579.0	
76.4	CARBONDALE		LIGHT SHALE	3.5	580.0	
72.9	CARBONDALE		DARK SHALE	1.5	583.5	
71.4	CARBONDALE		LIGHT SHALE	6.0	585.0	
65.4	CARBONDALE		LIMESTONE	5.5	591.0	
59.9	CARBONDALE		BLUE SHALE	1.5	596.5	
58.4	CARBONDALE		BLUE SHALE	1.0	598.0	
57.4	CARBONDALE	ANNA	BLACK SHALE	4.8	599.0	
52.6	CARBONDALE	HERRIN	COAL	6.5	603.8	
46.1	CARBONDALE	HERRIN	ROCK	0.2	610.3	LOG READS 'BLUE BAND'
45.9	CARBONDALE	HERRIN	COAL	1.8	610.5	
44.1	CARBONDALE		UNDERCLAY	0.7	612.3	
43.4	CARBONDALE		UNDERCLAY	0.3	613.0	
43.1	CARBONDALE		SANDY SHALE	4.7	613.3	
38.4	CARBONDALE		BLUE SHALE	2.0	618.0	
36.4	CARBONDALE		SHALE WITH LIMESTONE	3.0	620.0	

MAPID: 13500904000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 990' N line, 2310' W line
QUADRANGLE: OHLMAN **LONGITUDE:** -89.18765 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.346124 **DATE COLLECTED:** 8 / 21 / 1957
SURFACE ELEVATION (FT.): 718.0 **LOGGED (FT.):** 712.0 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 18BB **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
13.0	CARBONDALE	HERRIN	COAL	7.0	705.0	

MAPID: 13500904000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 990' N line, 2310' W line
QUADRANGLE: OHLMAN **LONGITUDE:** -89.18765 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.346124 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 718.0 **LOGGED (FT.):** 712.0 **LOG TYPE:** Survey Core Study
SOURCE: D.C. DONAN 18BB **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
59.0	MODESTO	PIASA	NODULAR LIMESTONE	2.8	659.0	
56.2	MODESTO		GRAY SHALE	13.4	661.8	
42.8	CARBONDALE	DANVILLE	COAL	0.8	675.2	
42.0	CARBONDALE		CLAYSTONE	1.0	676.0	
41.0	CARBONDALE	GALUM	CALCAREOUS SHALE	2.7	677.0	
38.3	CARBONDALE	ALLENBY	BLACK SHALE	2.0	679.7	
36.3	CARBONDALE		CLAYSTONE & SHALE	2.3	681.7	
34.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.3	683.9	
27.8	CARBONDALE	LAWSON	SILTSTONE	7.0	690.2	
20.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.8	697.2	
17.1	CARBONDALE	ANNA	BLACK SHALE	1.0	700.9	
13.0	CARBONDALE	HERRIN	COAL	7.0	705.0	

MAPID: 13500904000C **VERSION:** 3 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 990' N line, 2310' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.18765 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.346124 **DATE COLLECTED:** 8 / 15 / 1957

SURFACE ELEVATION (FT.): 718.0 **LOGGED (FT.):** 713.8 **LOG TYPE:** Multiple log types

SOURCE: DONAN 18-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
718.0	PLEISTOCENE		UNCONSOLIDATED	70.0	0.0	
648.0	PLEISTOCENE		SHALE	26.0	70.0	
622.0	PLEISTOCENE		LIMESTONE	54.0	96.0	
568.0	PLEISTOCENE		SHALE	210.3	150.0	
357.7	BOND	CARTHAGE	LIMESTONE	11.3	360.3	
346.4	MODESTO		SHALE	287.4	371.6	
59.0	MODESTO	PIASA	LIMESTONE	2.8	659.0	START OF CORE/LOG ID'S AS BANKSTON
56.2	MODESTO		SHALE	10.8	661.8	
45.5	MODESTO		BLACK SHALE	2.7	672.5	
42.8	MODESTO		BLACK SHALE	0.3	675.2	COAL LENSES
42.6	CARBONDALE	DANVILLE	COAL	0.7	675.4	
41.9	CARBONDALE	DANVILLE	NO RECORD	1.9	676.1	
40.0	CARBONDALE	DANVILLE	COAL	0.2	678.0	
39.8	CARBONDALE		UNDERCLAY	0.8	678.2	
39.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	679.0	
38.8	CARBONDALE		SHALE	2.7	679.2	
36.2	CARBONDALE		BLACK SHALE	2.0	681.8	
34.2	CARBONDALE		CLAYSTONE & SILTSTONE	0.4	683.8	
33.7	CARBONDALE		SHALE	1.8	684.3	
31.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	686.1	
25.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.1	692.3	
25.6	CARBONDALE		SILTSTONE	7.8	692.4	
17.7	CARBONDALE	BRERETON	LIMESTONE	3.8	700.3	
14.0	CARBONDALE	ANNA	BLACK SHALE	1.0	704.0	
13.0	CARBONDALE	HERRIN	COAL	7.0	705.0	
6.0	CARBONDALE		UNDERCLAY	1.9	712.0	

MAPID: 13500013000C **VERSION:** 1 **PROJECT:** NCRDS87

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.222602 **GEOLOGIST:** WEIBEL

CONFIDENTIAL: N **LATITUDE:** 39.342389 **DATE COLLECTED:** 6 / 20 / 1907

SURFACE ELEVATION (FT.): 672.4 **LOGGED (FT.):** 674.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT: LOCATION IMPRECISE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
672.4			UNCONSOLIDATED	69.5	0.0	
602.9	BOND		UNCLASSIFIED	3.5	69.5	
599.4	BOND		SHALE	10.0	73.0	
589.4	BOND	CARTHAGE	LIMESTONE	30.5	83.0	
558.9	MODESTO		SHALE	152.5	113.5	
406.4	MODESTO		DARK SHALE	44.0	266.0	
362.4	MODESTO		SANDSTONE	2.0	310.0	
360.4	MODESTO		UNCLASSIFIED	4.0	312.0	
356.4	MODESTO		SHALE	11.5	316.0	
344.9	MODESTO		LIMESTONE	10.5	327.5	
334.4	MODESTO		SHALE	112.0	338.0	
222.4	MODESTO		SANDSTONE	3.0	450.0	
219.4	MODESTO		DARK SHALE	50.0	453.0	
169.4	MODESTO		COAL	1.0	503.0	
168.4	MODESTO		DARK SHALE	31.0	504.0	
137.4	MODESTO		SHALE	72.0	535.0	
65.4	MODESTO		DARK SHALE	1.0	607.0	
64.4	MODESTO		COAL	1.0	608.0	
63.4	MODESTO		SHALE	12.0	609.0	
51.4	MODESTO	PIASA	LIMESTONE	4.0	621.0	
47.4	MODESTO		SHALE	13.0	625.0	
34.4	MODESTO		BLACK SHALE	1.0	638.0	
33.4	CARBONDALE	DANVILLE	COAL	2.0	639.0	
31.4	CARBONDALE		SHALE	7.0	641.0	
24.4	CARBONDALE		BLACK SHALE	1.0	648.0	
23.4	CARBONDALE		SHALE	5.0	649.0	
18.4	CARBONDALE	BRERETON	LIMESTONE	6.5	654.0	
11.9	CARBONDALE	ANNA	BLACK SHALE	5.3	660.5	
6.6	CARBONDALE	HERRIN	COAL	7.5	665.8	
-0.9	CARBONDALE		UNDERCLAY	0.7	673.3	

MAPID: 13500013000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.222602 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.342389 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 672.0 **LOGGED (FT.):** 673.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
51.0	MODESTO	PIASA	LIMESTONE	4.0	621.0	
47.0	MODESTO		GRAY SHALE	14.0	625.0	
33.0	CARBONDALE	DANVILLE	COAL	2.0	639.0	
31.0	CARBONDALE		CLAYSTONE	1.0	641.0	
30.0	CARBONDALE	GALUM	CALCAREOUS SHALE	6.0	642.0	
24.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	648.0	
23.0	CARBONDALE		CALCAREOUS SHALE	5.0	649.0	
18.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	654.0	
11.5	CARBONDALE	ANNA	BLACK SHALE	5.3	660.5	
6.0	CARBONDALE	HERRIN	COAL	7.5	666.0	

MAPID: 13500013000C **VERSION:** 3 **PROJECT:** NCRDS91

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.222602 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.342389 **DATE COLLECTED:** 6 / 20 / 1907

SURFACE ELEVATION (FT.): 672.4 **LOGGED (FT.):** 674.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO., HOLE #23 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
672.4			CLAY	19.0	0.0	YELLOW
653.4			SAND	5.0	19.0	YELLOW
648.4			CLAY	3.0	24.0	
645.4			CLAY	22.0	27.0	YELLOW
623.4			CLAY	20.5	49.0	
602.9			ROCK	3.5	69.5	
599.4	BOND		CALCAREOUS SHALE	10.0	73.0	
589.4	BOND	MILLERSVILLE	LIMESTONE	30.5	83.0	
558.9	BOND		SANDY SHALE	26.5	113.5	
532.4	BOND		SHALE	47.0	140.0	
485.4	BOND		BLUE SHALE	6.0	187.0	
479.4	BOND		RED SHALE	7.0	193.0	
472.4	BOND		BLUE SHALE	51.0	200.0	
421.4	BOND		SHALE	15.0	251.0	
406.4	BOND		DARK SHALE	44.0	266.0	
362.4	BOND		SANDSTONE	2.0	310.0	
360.4	BOND		UNCLASSIFIED	4.0	312.0	
356.4	BOND		SHALE	6.0	316.0	W/LS
350.4	BOND		BLUE SHALE	5.5	322.0	
344.9	BOND	CARTHAGE	LIMESTONE	10.5	327.5	
334.4	MODESTO		DARK SHALE	3.0	338.0	
331.4	MODESTO		SHALE	28.0	341.0	
303.4	MODESTO		BROWN SHALE	40.0	369.0	
263.4	MODESTO		CALCAREOUS SHALE	6.0	409.0	
257.4	MODESTO		BLUE SHALE	35.0	415.0	
222.4	MODESTO		SANDSTONE	3.0	450.0	
219.4	MODESTO		DARK SHALE	50.0	453.0	
169.4	MODESTO	CHAPEL	COAL	1.0	503.0	
168.4	MODESTO		DARK SHALE	31.0	504.0	
137.4	MODESTO		CALCAREOUS SHALE	21.0	535.0	
116.4	MODESTO		SHALE	51.0	556.0	
65.4	MODESTO		DARK SHALE	1.0	607.0	
64.4	MODESTO		COAL	1.0	608.0	
63.4	MODESTO		CLAYSTONE & SILTSTONE	4.0	609.0	
59.4	MODESTO		BLUE SHALE	8.0	613.0	
51.4	MODESTO	PIASA	LIMESTONE	4.0	621.0	
47.4	MODESTO		BLUE SHALE	13.0	625.0	
34.4	MODESTO		BLACK SHALE	1.0	638.0	
33.4	CARBONDALE	DANVILLE	COAL	2.0	639.0	

31.4	CARBONDALE		CLAYSTONE & SILTSTONE	1.0	641.0
30.4	CARBONDALE		CALCAREOUS SHALE	6.0	642.0
24.4	CARBONDALE		BLACK SHALE	1.0	648.0
23.4	CARBONDALE		BLUE SHALE	3.0	649.0
20.4	CARBONDALE		CALCAREOUS SHALE	2.0	652.0
18.4	CARBONDALE	BRERETON	LIMESTONE	6.5	654.0
11.9	CARBONDALE	ANNA	BLACK SHALE	5.3	660.5
6.6	CARBONDALE	HERRIN	COAL	7.5	665.8
-0.9	CARBONDALE		CLAYSTONE & SILTSTONE	0.7	673.3

MAPID: 13500014000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1320' S line, 1980' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.221422 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.325095 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 716.0 **LOGGED (FT.):** 725.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
43.0	MODESTO	PIASA	LIMESTONE	4.0	673.0	
39.0	MODESTO		DARK GRAY SHALE	14.8	677.0	
24.2	CARBONDALE	DANVILLE	COAL	1.2	691.8	
23.0	CARBONDALE		CLAYSTONE & SHALE	3.0	693.0	
20.0	CARBONDALE	ALLENBY	BLACK SHALE	3.0	696.0	
17.0	CARBONDALE		GRAY SHALE	2.0	699.0	
15.0	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	701.0	
2.0	CARBONDALE	ANNA	BLACK SHALE	4.0	714.0	
-2.0	CARBONDALE	HERRIN	COAL	7.0	718.0	

MAPID: 13500178000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 10 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.194687 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.331885 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 738.0 **LOGGED (FT.):** 742.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
49.0	MODESTO	PIASA	LIMESTONE	4.0	689.0	
45.0	CARBONDALE		SHALE	15.0	693.0	
30.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	15.0	708.0	
15.0	CARBONDALE	LAWSON	SHALE	7.0	723.0	
8.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	730.0	
6.0	CARBONDALE	ANNA	BLACK SHALE	1.0	732.0	
3.0	CARBONDALE	HERRIN	COAL	7.0	735.0	

MAPID: 13500735000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.16651 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.320503 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 665.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
58.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	609.0	
54.0	CARBONDALE		SHALE	17.0	613.0	
37.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.0	630.0	
29.0	CARBONDALE	LAWSON	SHALE	14.0	638.0	
15.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	652.0	
12.0	CARBONDALE	ANNA	BLACK SHALE	3.0	655.0	
9.0	CARBONDALE	HERRIN	COAL	7.0	658.0	

MAPID: 13500015000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.168621 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.305942 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 659.7 **LOGGED (FT.):** 671.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
659.7	PLEISTOCENE		SOIL	10.0	0.0	SOIL AND CLAY
649.7	PLEISTOCENE		SAND & GRAVEL	20.0	10.0	
629.7	PLEISTOCENE		CLAY	19.0	30.0	TOUGH
610.7	PLEISTOCENE		GRAVEL	2.0	49.0	
608.7	BOND	MILLERSVILLE	LIMESTONE	6.0	51.0	BROKEN
602.7	BOND	MILLERSVILLE	LIMESTONE	28.0	57.0	
574.7	BOND		SANDY SHALE	10.0	85.0	
564.7	BOND		SANDY SHALE	16.0	95.0	W/BLUE SH PARTINGS
548.7	BOND		SANDY SHALE	19.0	111.0	
529.7	BOND		BLUE SHALE	28.0	130.0	
501.7	BOND		BLUE SHALE	10.0	158.0	
491.7	BOND		BLACK SHALE	1.0	168.0	
490.7	BOND		COAL	0.3	169.0	
490.4	BOND		DARK SHALE	4.7	169.3	W/ LS BANDS
485.7	BOND		GRAY SHALE	1.0	174.0	
484.7	BOND		SANDSTONE	4.0	175.0	W/ BLU SH PARTINGS
480.7	BOND		BLUE SHALE	5.0	179.0	W/ SS PARTINGS
475.7	BOND		BLUE SHALE	9.0	184.0	
466.7	BOND		GRAY SHALE	2.0	193.0	
464.7	BOND		DARK SHALE	2.0	195.0	
462.7	BOND		BLUE SHALE	17.6	197.0	
445.1	BOND		SANDY SHALE	10.7	214.6	
434.4	BOND		BLACK SHALE	1.5	225.3	
432.9	BOND		COAL	0.7	226.8	
432.3	BOND		ARGILACEOUS SHALE	3.0	227.4	
429.3	BOND		SHALE WITH LIMESTONE	1.8	230.4	
427.5	BOND		SHALE WITH LIMESTONE	5.0	232.2	WITH LIME BANDS, LOG READS 5'2"
422.5	BOND		SANDSTONE	1.0	237.2	
421.5	BOND		BLUE SHALE	25.0	238.2	W/ SH PARTINGS
396.5	BOND		BLUE SHALE	14.5	263.2	
382.0	BOND		SANDY SHALE	7.5	277.7	
374.5	BOND		BLUE SHALE	6.0	285.2	W/ SAND BANDS
368.5	BOND		GRAY SHALE	2.5	291.2	
366.0	BOND		SHALE WITH LIMESTONE	2.0	293.7	W/ NODULES
364.0	BOND		ARGILACEOUS SHALE	3.5	295.7	DARK
360.5	BOND		SHALE WITH LIMESTONE	6.0	299.2	W/ LS BANDS
354.5	BOND		ARGILACEOUS SHALE	3.0	305.2	DARK, W/ LS BANDS
351.5	BOND	CARTHAGE	LIMESTONE	14.0	308.2	
337.5	MODESTO		BLACK SHALE	2.7	322.2	

334.9	MODESTO		COAL	0.2	324.8	
334.7	MODESTO		ARGILACEOUS SHALE	3.2	325.0	
331.5	MODESTO		ARGILACEOUS SHALE	1.5	328.2	DARK
330.0	MODESTO		SANDSTONE	2.5	329.7	W/ SH PARTINGS
327.5	MODESTO		BLUE SHALE	9.0	332.2	W/ SS PARTINGS
318.5	MODESTO		BLUE SHALE	18.0	341.2	
300.5	MODESTO		SANDSTONE	13.0	359.2	
287.5	MODESTO		DARK SANDSTONE	12.0	372.2	
275.5	MODESTO		BLUE SHALE	0.5	384.2	
275.0	MODESTO		LIMESTONE	1.2	384.7	
273.9	MODESTO		BLACK SHALE	6.3	385.8	
267.5	MODESTO		COAL	0.5	392.2	
267.0	MODESTO		BLUE SHALE	2.5	392.7	LOG GIVES THICKNESS AS 3.50
264.5	MODESTO		BLUE SHALE	3.7	395.2	
260.9	MODESTO		BLUE SHALE	4.3	398.8	
256.5	MODESTO		SANDY SHALE	5.0	403.2	
251.5	MODESTO		BLUE SHALE	38.0	408.2	W/ SS PARTINGS
213.5	MODESTO		BLUE SHALE	18.0	446.2	W/ HARD BANDS
195.5	MODESTO		BLUE SHALE	9.7	464.2	W/ SS PARTINGS
185.9	MODESTO		SANDSTONE	1.0	473.8	
184.9	MODESTO		BLUE SHALE	6.2	474.8	
178.7	MODESTO	CHAPEL	COAL	1.1	481.0	
177.6	MODESTO		UNDERCLAY	1.8	482.1	
175.9	MODESTO		SANDSTONE	13.3	483.8	
162.5	MODESTO		SANDY SHALE	22.0	497.2	LOG READS "SANDSHALE"
140.5	MODESTO		BLUE SHALE	72.4	519.2	
68.1	MODESTO		SANDSTONE	23.8	591.6	THCKNSS CHNGD FRM 13.83 FOR DECIML RNDNG
44.3	MODESTO		BLUE SHALE	2.8	615.4	
41.5	MODESTO	PIASA	LIMESTONE	4.2	618.2	
37.4	MODESTO		BLUE SHALE	2.8	622.3	BLUE AND RED SH
34.5	MODESTO		BLACK SHALE	2.0	625.2	
32.5	MODESTO		BLUE SHALE	5.4	627.2	
27.1	CARBONDALE	DANVILLE	COAL	2.0	632.6	
25.1	CARBONDALE		BLUE SHALE	8.3	634.6	
16.9	CARBONDALE		SHALE WITH LIMESTONE	3.0	642.8	
13.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	645.8	
11.5	CARBONDALE		BLUE SHALE	3.0	648.2	
8.5	CARBONDALE	BRERETON	LIMESTONE	8.0	651.2	
0.5	CARBONDALE	ANNA	BLACK SHALE	2.8	659.2	
-2.3	CARBONDALE	HERRIN	COAL	6.4	662.0	
-8.7	CARBONDALE	HERRIN	ROCK	0.1	668.4	BLUE BAND
-8.8	CARBONDALE	HERRIN	COAL	1.7	668.5	
-10.5	CARBONDALE		UNDERCLAY	1.0	670.2	

MAPID: 13500015000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.168621 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.305942 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 670.2 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
42.0	MODESTO	PIASA	LIMESTONE	4.2	618.0	
37.8	MODESTO		MOTTLED SHALE	10.3	622.2	
27.6	CARBONDALE	DANVILLE	COAL	2.0	632.4	
25.6	CARBONDALE		DARK GRAY SHALE	8.3	634.4	
17.3	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	642.7	
14.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	645.7	
12.0	CARBONDALE	LAWSON	GRAY SHALE	3.0	648.0	
9.0	CARBONDALE	BRERETON	LIMESTONE	8.0	651.0	
1.0	CARBONDALE	ANNA	BLACK SHALE	2.8	659.0	
-2.0	CARBONDALE	HERRIN	COAL	8.2	662.0	

MAPID: 13500777000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 15 **QUARTERS/FOOTAGES:** 310' S line, 2310' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.187283 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.306059 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 661.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
64.0	MODESTO	PIASA	LIMESTONE W/ SHALE	10.0	594.0	
54.0	MODESTO		SHALE	7.0	604.0	
47.0	CARBONDALE	DANVILLE	COAL	2.0	611.0	
45.0	CARBONDALE		SHALE	10.0	613.0	
35.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.0	623.0	
27.0	CARBONDALE	LAWSON	GRAY SHALE	14.0	631.0	
13.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	645.0	
9.0	CARBONDALE	ANNA	BLACK SHALE	3.0	649.0	
4.0	CARBONDALE	HERRIN	COAL	7.0	654.0	

MAPID: 13523776000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 15 **QUARTERS/FOOTAGES:** NW SW NW
QUADRANGLE: OHLMAN **LONGITUDE:** -89.19443 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.315481 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 713.6 **LOG TYPE:** Company map
SOURCE: CARTER OIL 19B-698 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.6	706.0	MAO SAYS 7.6"?"

MAPID: 13500737000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line
QUADRANGLE: OHLMAN **LONGITUDE:** -89.241134 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.311448 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 718.0 **LOGGED (FT.):** 720.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
52.0	MODESTO	PIASA	LIMESTONE	5.0	666.0	
47.0	CARBONDALE		SHALE	13.0	671.0	
34.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	684.0	
28.0	CARBONDALE	LAWSON	SHALE	14.0	690.0	
14.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	704.0	
10.0	CARBONDALE	ANNA	BLACK SHALE	2.0	708.0	
6.0	CARBONDALE	HERRIN	COAL	8.0	712.0	

MAPID: 13523777000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 19 **QUARTERS/FOOTAGES:** NE NE NE
QUADRANGLE: OHLMAN **LONGITUDE:** -89.233979 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.304158 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 712.3 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-124 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.3	705.0	

MAPID: 13500017000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 22 **QUARTERS/FOOTAGES:** 0' N line, 0' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.195483 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.30538 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 643.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
611.5	BOND	CARTHAGE	LIMESTONE	31.5	65.5	
355.0	MODESTO	CARLINVILLE	LIMESTONE	19.0	322.0	
34.0	CARBONDALE	HERRIN	COAL	7.8	643.0	

MAPID: 13500877000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 27 **QUARTERS/FOOTAGES:** 50' N line, 750' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.179433 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.290488 **DATE COLLECTED:** 7 / 26 / 1957

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 652.3 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 15BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
10.7	CARBONDALE	DANVILLE	COAL	3.0	649.3	
-19.8	CARBONDALE	HERRIN	COAL	7.8	679.8	

MAPID: 13500877000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 27 **QUARTERS/FOOTAGES:** 50' N line, 750' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.179433 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.290488 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 687.8 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 15BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
30.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.8	630.0	
26.1	MODESTO		DARK GRAY SHALE	15.8	633.9	
10.4	CARBONDALE	DANVILLE	COAL	3.0	649.6	
7.4	CARBONDALE		CLAYSTONE	1.5	652.6	
5.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.7	654.1	
3.2	CARBONDALE		CALCAREOUS SHALE	2.0	656.8	
1.2	CARBONDALE	ALLENBY	BLACK SHALE	2.1	658.8	
-0.9	CARBONDALE		DARK GRAY SHALE	0.6	660.9	
-1.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.1	661.4	UPPER BENCH
-5.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	7.2	665.5	SHALE PARTING
-12.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.6	672.7	LOWER BENCH
-15.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.1	675.3	
-17.3	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.8	677.3	
-18.2	CARBONDALE	LAWSON	BONE COAL	0.1	678.2	
-18.2	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.5	678.2	
-18.8	CARBONDALE	LAWSON	BONE COAL	0.2	678.8	
-19.0	CARBONDALE	ANNA	BLACK SHALE	1.0	679.0	
-20.0	CARBONDALE	HERRIN	COAL	7.8	680.0	

MAPID: 13500877000C **VERSION:** 3 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 27 **QUARTERS/FOOTAGES:** 50' N line, 750' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.179433 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.290488 **DATE COLLECTED:** 7 / 26 / 1957

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 688.0 **LOG TYPE:** Multiple log types

SOURCE: DONAN 15-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
660.0	PLEISTOCENE		UNCONSOLIDATED	86.5	0.0	
573.5			SHALE	4.0	86.5	
569.5			LIMESTONE	109.3	90.5	
460.2			SHALE	49.3	199.8	
411.0	BOND		COAL WITH SHALE	1.5	249.0	"COAL & SLATE"
409.5	BOND		UNDERCLAY	2.5	250.5	
407.0	BOND		SHALE	73.0	253.0	
334.0	BOND		ROCK	9.0	326.0	SHALE SEAMS
325.0	BOND		SHALE	6.0	335.0	
319.0	BOND	CARTHAGE	LIMESTONE	13.3	341.0	
305.7	MODESTO		SHALE	5.7	354.3	DARK SHALE TO SLATE
300.0	MODESTO		SHALE	49.0	360.0	
251.0	MODESTO		SHALE	3.0	409.0	DARK SHALE AND SLATE
248.0	MODESTO		SHALE	183.0	412.0	
65.0	MODESTO		SHALE	3.0	595.0	
62.0	MODESTO		SHALE	3.9	598.0	START OF CORE STUDY
58.1	MODESTO		CLAYSTONE & SHALE	5.0	601.9	
53.1	MODESTO		SHALE	0.8	606.9	
52.3	MODESTO		CLAYSTONE & SHALE	4.8	607.7	
47.5	MODESTO		SILTSTONE	2.8	612.5	
44.7	MODESTO		SANDSTONE	4.8	615.3	
40.0	MODESTO		SANDSTONE/SHALE	1.7	620.0	
38.3	MODESTO		SHALE	3.4	621.7	
34.9	MODESTO		CLAYSTONE & SHALE	0.8	625.1	
34.1	MODESTO		SHALE	0.8	625.9	
33.3	MODESTO		LIMESTONE	0.2	626.7	
33.2	MODESTO		CLAYSTONE & SHALE	1.0	626.8	
32.2	MODESTO		BLACK SHALE	0.0	627.8	
32.1	MODESTO		CLAYSTONE & SHALE	2.1	627.9	
30.1	MODESTO	PIASA	LIMESTONE	3.8	629.9	LOG ID'S AS BANKSTON
26.2	MODESTO		CLAYSTONE & SHALE	4.8	633.8	
21.5			BLACK SHALE	2.4	638.5	DARK GRAY TO BLACK
19.1			NO RECORD	5.1	640.9	
14.0			SHALE	3.3	646.0	DARK GRAY
10.7	CARBONDALE	DANVILLE	COAL	3.0	649.3	
7.7	CARBONDALE		SHALE	0.1	652.3	DARK GRAY
7.7	CARBONDALE		UNDERCLAY	1.1	652.3	
6.6	CARBONDALE		CLAYSTONE & SILTSTONE	0.3	653.4	
6.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	653.8	

3.6	CARBONDALE		NO RECORD	0.8	656.4	
2.7	CARBONDALE		BLACK SHALE	4.1	657.3	
-1.3	CARBONDALE		SHALE	0.6	661.3	DARK GRAY
-1.9	CARBONDALE	CONANT	LIMESTONE	4.1	661.9	
-6.0	CARBONDALE		SHALE	1.8	666.0	
-7.8	CARBONDALE		SHALE	0.8	667.8	
-8.6	CARBONDALE		SHALE	0.4	668.6	
-9.0	CARBONDALE		CLAYSTONE & SILTSTONE	1.3	669.0	
-10.3	CARBONDALE		SHALE	2.8	670.3	
-13.2	CARBONDALE	BRERETON	LIMESTONE	2.6	673.2	
-15.8	CARBONDALE		SHALE	2.1	675.8	
-17.8	CARBONDALE	ANNA	BLACK SHALE	2.0	677.8	BONYCOAL SEAMS
-19.8	CARBONDALE	HERRIN	COAL	7.8	679.8	
-27.6	CARBONDALE		UNDERCLAY	0.4	687.6	

MAPID: 13500739000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.196457 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.284405 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** 690.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
36.0	MODESTO	PIASA	LIMESTONE	6.0	630.0	
30.0	CARBONDALE		SHALE	8.0	636.0	
22.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	10.0	644.0	
12.0	CARBONDALE	LAWSON	SHALE	23.0	654.0	
-15.0	CARBONDALE	HERRIN	COAL	9.0	681.0	

MAPID: 13523778000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** SW SW NE

QUADRANGLE: OHLMAN **LONGITUDE:** -89.222169 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.284221 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 672.1 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-185 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.1	665.0	

MAPID: 13500018000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.219771 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.273278 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 646.4 **LOGGED (FT.):** 657.5 **LOG TYPE:** Drillers Log

SOURCE: H. S. HARGRAVE A-5 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
646.4	PLEISTOCENE		SOIL	10.0	0.0	
636.4	PLEISTOCENE		SAND	4.0	10.0	AND GRAY WATER
632.4	PLEISTOCENE		CLAY	43.0	14.0	
589.4	BOND	MILLERSVILLE	LIMESTONE	38.0	57.0	
551.4	BOND		GRAY SANDSTONE	6.0	95.0	
545.4	BOND		SANDY DARK SHALE	71.0	101.0	
474.4	BOND		COAL	0.5	172.0	
473.9	BOND		UNDERCLAY	2.5	172.5	
471.4	BOND		DARK SHALE	5.0	175.0	
466.4	BOND		BLUE SHALE	18.0	180.0	
448.4	BOND		DARK SHALE	27.0	198.0	
421.4	BOND		BLACK SHALE	1.0	225.0	HARD
420.4	BOND		COAL	0.5	226.0	
419.9	BOND		CLAYSTONE	3.5	226.5	
416.4	BOND		BLUE SHALE	16.0	230.0	
400.4	BOND		HARD SHALE	27.0	246.0	SANDY
373.4	BOND		DARK SHALE	26.0	273.0	W/ LS BANDS
347.4	BOND		BLUE SHALE	16.0	299.0	W/ LS BANDS
331.4	BOND	CARTHAGE	LIMESTONE	12.0	315.0	
319.4	MODESTO		DARK SHALE	1.0	327.0	
318.4	MODESTO		BLACK SHALE	1.0	328.0	
317.4	MODESTO		CLAYSTONE	4.0	329.0	
313.4	MODESTO		SHALE	20.0	333.0	LOG GIVES THICKNESS AS 17.00
293.4	MODESTO		HARD SHALE	4.0	353.0	W/ LIME BANDS
289.4	MODESTO		LIMESTONE	3.0	357.0	
286.4	MODESTO		SANDSTONE/SHALE	15.0	360.0	
271.4	MODESTO		UNCLASSIFIED	13.0	375.0	LOG READS "DARK"
258.4	MODESTO		BLACK SHALE	4.0	388.0	
254.4	MODESTO		COAL	0.5	392.0	
253.9	MODESTO		UNDERCLAY	4.5	392.5	
249.4	MODESTO		BLUE SHALE	2.0	397.0	
247.4	MODESTO		LIMESTONE	1.0	399.0	
246.4	MODESTO		DARK SHALE	17.0	400.0	
229.4	MODESTO		SANDY SHALE	4.0	417.0	BR SD, SH & ROCK
225.4	MODESTO		DARK SHALE	5.0	421.0	
220.4	MODESTO		BROWN SHALE	41.0	426.0	
179.4	MODESTO		DARK SHALE	17.0	467.0	
162.4	MODESTO	CHAPEL	COAL	1.5	484.0	
160.9	MODESTO		UNDERCLAY	1.5	485.5	

159.4	MODESTO		SHALE WITH LIMESTONE	5.0	487.0	BLUE
154.4	MODESTO		DARK SHALE	86.0	492.0	
68.4	MODESTO		BLUE SHALE	24.0	578.0	
44.4	MODESTO		SHALE	3.0	602.0	VARICOLORED
41.4	MODESTO	PIASA	LIMESTONE	5.0	605.0	
36.4	MODESTO		BLUE SHALE	1.0	610.0	HARD
35.4	MODESTO		HARD SHALE	4.0	611.0	
31.4	MODESTO		BLACK SHALE	3.0	615.0	
28.4	MODESTO		DARK SHALE	5.0	618.0	
23.4	CARBONDALE	DANVILLE	COAL	2.3	623.0	
21.1	CARBONDALE		HARD SHALE	8.7	625.3	
12.4	CARBONDALE		LIMESTONE W/ SHALE	12.3	634.0	
0.1	CARBONDALE	ANNA	BLACK SHALE	3.5	646.3	
-3.4	CARBONDALE	HERRIN	COAL	6.9	649.8	
-10.3			UNDERCLAY	0.8	656.7	

MAPID: 13500018000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.219771 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.273278 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 656.9 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
41.0	MODESTO	PIASA	LIMESTONE	5.0	605.0	
36.0	MODESTO		DARK GRAY SHALE	13.0	610.0	
23.0	CARBONDALE	DANVILLE	COAL	2.3	623.0	
20.7	CARBONDALE		DARK GRAY SHALE	8.7	625.3	
12.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	12.3	634.0	
-0.3	CARBONDALE	ANNA	BLACK SHALE	3.5	646.3	
-4.0	CARBONDALE	HERRIN	COAL	6.9	650.0	

MAPID: 13500018000C **VERSION:** 3 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 1650' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.219771 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.273278 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.4 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-5 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
-3.4	CARBONDALE	HERRIN	COAL	6.9	649.8	

MAPID: 13500019000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 34 **QUARTERS/FOOTAGES:** 660' S line, 1980' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.183614 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.263374 **DATE COLLECTED:** 0 / 0 / 1910

SURFACE ELEVATION (FT.): 648.7 **LOGGED (FT.):** 674.5 **LOG TYPE:** Drillers Log

SOURCE: HOWARD HARGRAVE #34 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN, ELEV IS BY ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
648.7	PLEISTOCENE		SOIL	2.0	0.0	
646.7	PLEISTOCENE		CLAY	13.0	2.0	
633.7	PLEISTOCENE		HARD PAN	2.0	15.0	
631.7	PLEISTOCENE		CLAY	4.0	17.0	
627.7	PLEISTOCENE		SAND	3.0	21.0	
624.7	PLEISTOCENE		DARK CLAY	4.0	24.0	
620.7	PLEISTOCENE		SAND	2.0	28.0	LOG READS "WATER SAND"
618.7	PLEISTOCENE		CLAY	21.0	30.0	
597.7	PLEISTOCENE		SAND	4.0	51.0	GRAY
593.7	PLEISTOCENE		DARK CLAY	63.0	55.0	
530.7	BOND		SANDSTONE	2.0	118.0	
528.7	BOND		DARK SHALE	76.0	120.0	
452.7	BOND		ROCK	6.0	196.0	LOG GIVES THICKNESS AS 8.00
446.7	BOND		BLUE SHALE	17.0	202.0	
429.7	BOND		DARK SHALE	21.0	219.0	
408.7	BOND		BLACK SHALE	1.0	240.0	
407.7	BOND		SHALE WITH LIMESTONE	1.0	241.0	
406.7	BOND		COAL	0.5	242.0	
406.2	BOND		LIGHT SHALE	3.5	242.5	
402.7	BOND		LIMESTONE	2.0	246.0	
400.7	BOND		BLUE SHALE	14.0	248.0	
386.7	BOND		DARK SHALE	53.0	262.0	
333.7	BOND		SHALE WITH LIMESTONE	7.0	315.0	BLU SH
326.7	BOND		BLUE SHALE	8.0	322.0	
318.7	BOND	CARTHAGE	LIMESTONE	12.0	330.0	
306.7	MODESTO		DARK SHALE	1.0	342.0	
305.7	MODESTO		BLACK SHALE	2.0	343.0	
303.7	MODESTO		CLAYSTONE	3.0	345.0	
300.7	MODESTO		SHALE WITH LIMESTONE	41.0	348.0	
259.7	MODESTO		DARK SHALE	12.0	389.0	
247.7	MODESTO		BLACK SHALE	3.0	401.0	DIRTY
244.7	MODESTO		COAL	0.5	404.0	
244.2	MODESTO		BLUE SHALE	6.5	404.5	
237.7	MODESTO		LIMESTONE	1.0	411.0	
236.7	MODESTO		DARK SHALE	8.0	412.0	
228.7	MODESTO		BLUE SHALE	5.5	420.0	
223.2	MODESTO		LIMESTONE	3.0	425.5	
220.2	MODESTO		SANDY SHALE	12.5	428.5	
207.7	MODESTO		SANDY SHALE	15.0	441.0	BROWN

192.7	MODESTO		DARK SHALE	42.0	456.0	
150.7	MODESTO	CHAPEL	COAL	1.5	498.0	
149.2	MODESTO		UNDERCLAY	1.5	499.5	
147.7	MODESTO		SHALE WITH LIMESTONE	4.0	501.0	
143.7	MODESTO		GRAY SHALE	4.0	505.0	
139.7	MODESTO		DARK SHALE	79.0	509.0	
60.7	MODESTO		BLUE SHALE	6.0	588.0	
54.7	MODESTO		DARK SHALE	6.0	594.0	
48.7	MODESTO		SHALE	1.0	600.0	
47.7	MODESTO		BLUE SHALE	16.0	601.0	
31.7	MODESTO	PIASA	LIMESTONE	4.0	617.0	
27.7	MODESTO		BLUE SHALE	4.0	621.0	
23.7	MODESTO		DARK SHALE	2.0	625.0	
21.7	MODESTO		BLACK SHALE	3.0	627.0	
18.7	MODESTO		DARK SHALE	6.5	630.0	
12.2	CARBONDALE	DANVILLE	COAL	2.0	636.5	
10.2	CARBONDALE		DARK SHALE	1.5	638.5	
8.7	CARBONDALE		HARD SHALE	10.0	640.0	
-1.3	CARBONDALE		BLUE SHALE	6.0	650.0	LIMY
-7.3	CARBONDALE	BRERETON	LIMESTONE	3.8	656.0	
-11.1	CARBONDALE	ANNA	SLATY SHALE	6.8	659.8	
-17.8	CARBONDALE	ANNA	BLACK SHALE	0.8	666.5	CHIP SLATE
-18.6	CARBONDALE	HERRIN	COAL	7.0	667.3	UCLY BELOW

MAPID: 13500019000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 34 **QUARTERS/FOOTAGES:** 660' S line, 1980' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.183614 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.263374 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 674.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
32.0	MODESTO	PIASA	LIMESTONE	4.0	617.0	
28.0	MODESTO		DARK GRAY SHALE	15.5	621.0	
12.5	CARBONDALE	DANVILLE	COAL	2.0	636.5	
10.5	CARBONDALE		DARK GRAY SHALE	11.5	638.5	
-1.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	650.0	
-7.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	656.0	
-10.8	CARBONDALE	LAWSON	SHALE	6.8	659.8	
-17.5	CARBONDALE	ANNA	BLACK SHALE	0.8	666.5	
-18.0	CARBONDALE	HERRIN	COAL	7.0	667.0	

MAPID: 13500020000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 36 **QUARTERS/FOOTAGES:** 0' N line, 1320' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.153438 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.276199 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 634.1 **LOGGED (FT.):** 687.5 **LOG TYPE:** Drillers Log

SOURCE: H. S. HARGRAVE A10 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEV IS IN FOHS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
634.1	PLEISTOCENE		SAND & GRAVEL	20.0	0.0	
614.1	PLEISTOCENE		HARD PAN	25.0	20.0	
589.1	PLEISTOCENE		SAND/CLAY	69.0	45.0	GY CLY
520.1	MATTOON		LIMESTONE	1.0	114.0	BROKEN
519.1	MATTOON		ARGILACEOUS SHALE	1.0	115.0	
518.1	BOND	MILLERSVILLE	LIMESTONE	12.0	116.0	
506.1	BOND		SANDY SHALE	20.0	128.0	GRAY
486.1	BOND		GRAY SHALE	18.0	148.0	
468.1	BOND		BLUE SHALE	90.0	166.0	
378.1	BOND		BLACK SHALE	2.0	256.0	
376.1	BOND		COAL	1.0	258.0	
375.1	BOND		UNDERCLAY	6.0	259.0	
369.1	BOND		SANDY SHALE	2.0	265.0	
367.1	BOND		SANDY SHALE	47.0	267.0	GRAY
320.1	BOND		SANDY SHALE	21.0	314.0	
299.1	BOND		BLACK SHALE	2.0	335.0	
297.1	BOND		UNDERCLAY	8.0	337.0	
289.1	BOND		GRAY SHALE	18.0	345.0	
271.1	BOND	CARTHAGE	LIMESTONE	17.0	363.0	
254.1	MODESTO		GRAY SHALE	1.0	380.0	
253.1	MODESTO		DARK SHALE	20.0	381.0	
233.1	MODESTO		COAL	1.3	401.0	
231.8	MODESTO		GRAY SHALE	13.8	402.3	
218.1	MODESTO		BLACK SHALE	2.0	416.0	
216.1	MODESTO		ARGILACEOUS SHALE	7.0	418.0	
209.1	MODESTO		ARGILACEOUS SHALE	61.0	425.0	
148.1	MODESTO		BLUE SHALE	25.0	486.0	
123.1	MODESTO	CHAPEL	COAL	1.0	511.0	
122.1	MODESTO		UNDERCLAY	3.0	512.0	
119.1	MODESTO		GRAY SHALE	6.0	515.0	
113.1	MODESTO		SANDY SHALE	2.0	521.0	
111.1	MODESTO		GRAY SHALE	27.0	523.0	
84.1	MODESTO		BLUE SHALE	50.0	550.0	
34.1	MODESTO		SANDSTONE	9.0	600.0	
25.1	MODESTO		GRAY SHALE	15.0	609.0	
10.1	MODESTO		BLUE SHALE	3.0	624.0	
7.1	MODESTO		LIMESTONE	3.0	627.0	
4.1	MODESTO		BLACK SHALE	10.0	630.0	
-5.9	MODESTO		GRAY SHALE	3.0	640.0	

-8.9	MODESTO		DARK SHALE	5.0	643.0
-13.9	CARBONDALE	DANVILLE	COAL	3.2	648.0
-17.1	CARBONDALE		UNDERCLAY	1.8	651.2
-18.9	CARBONDALE		SHALE WITH LIMESTONE	22.0	653.0
-40.9	CARBONDALE	ANNA	BLACK SHALE	4.7	675.0
-45.6	CARBONDALE	HERRIN	COAL	7.7	679.7
-53.2	CARBONDALE		ARGILACEOUS SHALE	0.2	687.3

MAPID: 13500020000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 36 **QUARTERS/FOOTAGES:** 0' N line, 1320' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.153438 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.276199 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 687.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
7.0	MODESTO	PIASA	LIMESTONE	3.0	627.0	
4.0	MODESTO		DARK GRAY SHALE	18.0	630.0	
-14.0	CARBONDALE	DANVILLE	COAL	3.2	648.0	
-17.2	CARBONDALE		CLAYSTONE	1.8	651.2	
-19.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	22.0	653.0	
-41.0	CARBONDALE	ANNA	BLACK SHALE	4.7	675.0	
-46.0	CARBONDALE	HERRIN	COAL	7.7	680.0	

MAPID: 13500020000C **VERSION:** 3 **PROJECT:** DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 1W **SECTION:** 36 **QUARTERS/FOOTAGES:** 0' N line, 1320' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.153438 **GEOLOGIST:** E PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.276199 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 634.1 **LOGGED (FT.):** **LOG TYPE:**

SOURCE: DERING COAL CO. A-10 **WELL TYPE:** Coal Test

COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	-		
-45.5	CARBONDALE	HERRIN	COAL	7.5	679.6	

MAPID: 13500024000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' N line, 330' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.290044 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.347804 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** 583.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
114.1	MODESTO	PIASA	LIMESTONE	5.0	537.9	
109.1	MODESTO		UNCLASSIFIED	7.0	542.9	
102.1	CARBONDALE	DANVILLE	COAL	0.6	549.9	
101.5	CARBONDALE		UNCLASSIFIED	10.5	550.5	
91.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	561.0	
86.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.5	566.0	
85.5	CARBONDALE		UNCLASSIFIED	0.5	566.5	
85.0	CARBONDALE	BRERETON	LIMESTONE	5.0	567.0	
80.0	CARBONDALE	ANNA	BLACK SHALE	4.0	572.0	
76.0	CARBONDALE	HERRIN	COAL	7.5	576.0	

MAPID: 13500024000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' N line, 330' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.290044 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.347804 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 584.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
114.0	MODESTO	PIASA	LIMESTONE	5.0	539.0	
109.0	MODESTO		CALCAREOUS SHALE	7.0	544.0	
102.0	CARBONDALE	DANVILLE	COAL	0.6	551.0	
101.4	CARBONDALE	GALUM	CALCAREOUS SHALE	2.4	551.6	
99.0	CARBONDALE		BLACK SHALE	8.0	554.0	
91.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	5.0	562.0	
86.0	CARBONDALE	LAWSON	GRAY SHALE	1.0	567.0	
85.0	CARBONDALE	BRERETON	LIMESTONE	5.0	568.0	
80.0	CARBONDALE	ANNA	BLACK SHALE	4.0	573.0	
76.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	7.5	577.0	

MAPID: 13500024000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' N line, 330' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.290044 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.347804 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.2 **LOGGED (FT.):** 586.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. #7 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN,ELEVATION IS '653.2 McD'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
653.2	PLEISTOCENE		SOIL	6.0	0.0	AND CLAY
647.2	PLEISTOCENE		SAND	4.0	6.0	
643.2	PLEISTOCENE		CLAY	18.0	10.0	
625.2	PLEISTOCENE		HARD PAN	7.0	28.0	AND GRAVEL
618.2	BOND		LIMESTONE	5.0	35.0	
613.2	BOND		GRAY SHALE	65.0	40.0	
548.2	BOND		COAL	0.1	105.0	
548.1	BOND		ARGILACEOUS SHALE	6.9	105.1	
541.2	BOND		GRAY SHALE	26.0	112.0	
515.2	BOND		DARK SHALE	12.0	138.0	
503.2	BOND		GRAY SHALE	11.0	150.0	
492.2	BOND		COAL	0.5	161.0	
491.7	BOND		SHALE & CLAYSTONE	12.5	161.5	CLAY AND LIME SHALE, MIXED
479.2	BOND		SANDY SHALE	20.0	174.0	
459.2	BOND		GRAY SHALE	36.0	194.0	
423.2	BOND		FOSSILIFEROUS SHALE	2.0	230.0	
421.2	BOND		ARGILACEOUS SHALE	4.0	232.0	
417.2	BOND		SHALE WITH LIMESTONE	12.0	236.0	
405.2	BOND	CARTHAGE	LIMESTONE	16.0	248.0	
389.2	MODESTO		DARK SHALE	5.0	264.0	
384.2	MODESTO		COAL	0.5	269.0	
383.7	MODESTO		DARK SHALE	5.5	269.5	
378.2	MODESTO		ARGILACEOUS SHALE	3.0	275.0	
375.2	MODESTO		SHALE WITH LIMESTONE	4.0	278.0	
371.2	MODESTO		SANDY SHALE	29.0	282.0	
342.2	MODESTO		GRAY SHALE	2.8	311.0	
339.4	MODESTO		COAL	0.3	313.8	
339.2	MODESTO		ARGILACEOUS SHALE	5.0	314.0	
334.2	MODESTO		SHALE WITH LIMESTONE	2.0	319.0	
332.2	MODESTO		SANDSTONE	18.0	321.0	W/ SH BANDS
314.2	MODESTO		SANDY SHALE	20.0	339.0	
294.2	MODESTO		GRAY SHALE	46.0	359.0	
248.2	MODESTO	CHAPEL	COAL	0.2	405.0	
248.0	MODESTO		ARGILACEOUS SHALE	2.8	405.2	
245.2	MODESTO		SANDY SHALE	37.0	408.0	
208.2	MODESTO		GRAY SHALE	70.0	445.0	
138.2	MODESTO		ARGILACEOUS SHALE	3.0	515.0	
135.2	MODESTO		SHALE WITH LIMESTONE	2.0	518.0	
133.2	MODESTO		ARGILACEOUS SHALE	6.0	520.0	

127.2	MODESTO		SHALE WITH LIMESTONE	13.0	526.0	
114.2	MODESTO	PIASA	LIMESTONE	5.0	539.0	
109.2	MODESTO		SHALE WITH LIMESTONE	5.0	544.0	
104.2	MODESTO		BLACK SHALE	2.0	549.0	
102.2	CARBONDALE	DANVILLE	COAL	0.6	551.0	
101.6	CARBONDALE		SHALE WITH LIMESTONE	2.4	551.6	
99.2	CARBONDALE		BLACK SHALE	8.0	554.0	
91.2	CARBONDALE		SHALE WITH LIMESTONE	2.0	562.0	
89.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	564.0	
86.2	CARBONDALE		GRAY SHALE	1.0	567.0	
85.2	CARBONDALE	BRERETON	LIMESTONE	5.0	568.0	
80.2	CARBONDALE	ANNA	BLACK SHALE	4.0	573.0	
76.2	CARBONDALE	HERRIN	COAL	1.0	577.0	
75.2	CARBONDALE	HERRIN	COAL	1.0	578.0	AND SULPHUR
74.2	CARBONDALE	HERRIN	COAL	1.0	579.0	
73.2	CARBONDALE	HERRIN	SANDSTONE	0.5	580.0	
72.7	CARBONDALE	HERRIN	COAL	2.5	580.5	
70.2	CARBONDALE	HERRIN	COAL WITH SHALE	1.5	583.0	MIXED
68.7	CARBONDALE		GRAY SHALE	1.5	584.5	

MAPID: 13500300000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 380' S line, 200' W line of SE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.29752 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.335281 **DATE COLLECTED:** 8 / 0 / 1941

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 615.0 **LOG TYPE:** Electric Log

SOURCE: BENDENUM & TREES **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
109.5	MODESTO	PIASA	LIMESTONE	6.0	567.5	
103.5	MODESTO		UNCLASSIFIED	5.5	573.5	
98.0	CARBONDALE	DANVILLE	COAL	1.0	579.0	
97.0	CARBONDALE		UNCLASSIFIED	17.0	580.0	
80.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	597.0	
75.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.5	602.0	
74.5	CARBONDALE		UNCLASSIFIED	0.5	602.5	
74.0	CARBONDALE	BRERETON	LIMESTONE	4.0	603.0	
70.0	CARBONDALE	ANNA	BLACK SHALE	2.0	607.0	
68.0	CARBONDALE	HERRIN	COAL	6.0	609.0	

MAPID: 13500300000C **VERSION:** 2 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 380' S line, 200' W line of SE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.29752 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.335281 **DATE COLLECTED:** 8 / 0 / 1941

SURFACE ELEVATION (FT.): 681.0 **LOGGED (FT.):** 630.0 **LOG TYPE:** Electric Log

SOURCE: BENDENUM & TREES **WELL TYPE:** Dry Hole

COMMENT: THICKNESS ESTIMATED FROM 1"=50' ELOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
409.0	BOND	CARTHAGE	LIMESTONE	16.0	272.0	
61.0	CARBONDALE	HERRIN	COAL	1.5	620.0	
59.5	CARBONDALE	HERRIN	SHALE	0.5	621.5	
59.0	CARBONDALE	HERRIN	COAL	5.0	622.0	
54.0	CARBONDALE		UNDERCLAY	3.0	627.0	

MAPID: 13500025000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.347549 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.347066 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 644.7 **LOGGED (FT.):** 710.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO.(CONS. INDIANA COAL CO.) **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEV. IS 644.7 FOHS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
644.7	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
630.7	PLEISTOCENE		HARD PAN	12.0	14.0	
618.7	PLEISTOCENE		SAND	14.0	26.0	
604.7	PLEISTOCENE		HARD PAN	14.0	40.0	
590.7	MATTOON		BLUE SHALE	58.0	54.0	
532.7	MATTOON		LIGHT SHALE	18.0	112.0	
514.7	MATTOON		BLUE SHALE	33.0	130.0	
481.7	MATTOON		HARD SHALE	30.0	163.0	PROBABLY NOT COAL: CGT 11/95
451.7	BOND	MILLERSVILLE	LIMESTONE	19.0	193.0	
432.7	BOND		LIGHT SHALE	3.0	212.0	
429.7	BOND		BLACK SHALE	1.0	215.0	
428.7	BOND		DARK SHALE	19.0	216.0	
409.7	BOND		SANDY SHALE	17.0	235.0	
392.7	BOND		BROWN SHALE	14.0	252.0	
378.7	BOND		BLACK SHALE	3.0	266.0	
375.7	BOND		COAL	1.0	269.0	
374.7	BOND		UNDERCLAY	4.0	270.0	
370.7	BOND	CARTHAGE	LIMESTONE	8.0	274.0	
362.7	MODESTO		LIGHT SHALE	21.0	282.0	
341.7	MODESTO		DARK SHALE	109.0	303.0	
232.7	MODESTO		LIMESTONE	6.0	412.0	
226.7	MODESTO		LIGHT SHALE	32.0	418.0	
194.7	CARBONDALE		LIMESTONE	5.0	450.0	
189.7	CARBONDALE	ENERGY	LIGHT SHALE	10.0	455.0	
179.7	CARBONDALE	ENERGY	SANDSTONE	9.0	465.0	
170.7	CARBONDALE	ENERGY	SHALE	12.0	474.0	HARD
158.7	CARBONDALE	ENERGY	BROWN SHALE	25.0	486.0	
133.7	CARBONDALE	ENERGY	BLACK SHALE	1.0	511.0	
132.7	CARBONDALE	ENERGY	SANDSTONE	36.0	512.0	
96.7	CARBONDALE	HERRIN	COAL	0.0	548.0	APPROXIMATE POSITION OF HERRIN COAL
96.7	CARBONDALE		BLUE SHALE	3.0	548.0	
93.7	CARBONDALE		LIMESTONE	2.0	551.0	
91.7	CARBONDALE		BLUE SHALE	5.0	553.0	
86.7	CARBONDALE		BLACK SHALE	5.0	558.0	BLACK CHIP SLATE
81.7	CARBONDALE		BLUE SHALE	9.0	563.0	
72.7	CARBONDALE		LIMESTONE	4.0	572.0	
68.7	CARBONDALE		BLUE SHALE	13.0	576.0	
55.7	CARBONDALE		LIMESTONE	3.0	589.0	
52.7	CARBONDALE		BLUE SHALE	8.0	592.0	

44.7	CARBONDALE		LIMESTONE	18.0	600.0	
26.7	CARBONDALE		GRAY SHALE	2.0	618.0	
24.7	CARBONDALE		BLACK SHALE	7.5	620.0	BLACK CHIP SLATE
17.2	CARBONDALE		LIMESTONE	1.5	627.5	
15.7	CARBONDALE		BLACK SHALE	1.5	629.0	BLACK CHIP SLATE
14.2	CARBONDALE		UNDERCLAY	6.0	630.5	
8.2	CARBONDALE		LIMESTONE	2.5	636.5	
5.7	CARBONDALE		SHALE	5.0	639.0	BLUE CHIP SLATE
0.7	CARBONDALE	HOUCHIN CREEK	COAL	1.8	644.0	
-1.1	CARBONDALE		BLUE SHALE	2.0	645.8	
-3.1	CARBONDALE		SANDY SHALE	7.2	647.8	BROWN
-10.3	CARBONDALE	SURVANT	COAL	1.5	655.0	
-11.8	CARBONDALE		SANDSTONE	30.5	656.5	
-42.3	CARBONDALE		SANDY SHALE	15.0	687.0	BROWN
-57.3	CARBONDALE		BLACK SHALE	2.0	702.0	BLACK CHIP SLATE
-59.3	CARBONDALE	COLCHESTER	COAL	4.6	704.0	
-63.9	CARBONDALE		UNDERCLAY	1.4	708.6	BELOW LOG READS 'DRILL ON SANDSTONE'

MAPID: 13500025000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.347549 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.347066 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 563.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATED IN COAL **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
94.0	CARBONDALE	BRERETON	LIMESTONE	2.0	551.0	
92.0	CARBONDALE	ANNA	BLACK SHALE	5.0	553.0	
87.0	CARBONDALE	HERRIN	COAL	5.0	558.0	

MAPID: 13500026000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1320' N line, 1320' W line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.302933 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.330579 **DATE COLLECTED:** 0 / 0 / 1905
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 634.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
84.4	MODESTO	PIASA	LIMESTONE	4.5	582.6	
79.9	MODESTO		UNCLASSIFIED	8.0	587.1	
71.9	CARBONDALE	DANVILLE	COAL	2.8	595.1	
69.1	CARBONDALE		UNCLASSIFIED	14.3	597.9	
54.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.7	612.2	
49.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.3	617.9	
47.8	CARBONDALE		UNCLASSIFIED	0.5	619.2	
47.3	CARBONDALE	BRERETON	LIMESTONE	3.5	619.7	
43.8	CARBONDALE	ANNA	BLACK SHALE	2.8	623.2	
41.0	CARBONDALE	HERRIN	COAL	8.3	626.0	

MAPID: 13500026000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1320' N line, 1320' W line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.302933 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.330579 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 667.0 **LOGGED (FT.):** 634.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
81.8	MODESTO	PIASA	LIMESTONE	4.5	585.2	
77.3	MODESTO		DARK GRAY SHALE	8.0	589.7	
69.3	CARBONDALE	DANVILLE	COAL	2.8	597.7	
66.6	CARBONDALE		GRAY SHALE	0.8	600.4	
65.8	CARBONDALE	GALUM	LIMESTONE W/ SHALE	1.5	601.2	
64.3	CARBONDALE	ALLENBY	DARK GRAY SHALE	2.8	602.7	
61.6	CARBONDALE		CALCAREOUS SHALE	4.3	605.4	
57.3	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	609.7	
56.3	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.5	610.7	
54.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.7	612.2	
49.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	617.8	
48.5	CARBONDALE	LAWSON	GRAY SHALE	0.7	618.5	
47.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.5	619.2	
47.3	CARBONDALE	BRERETON	LIMESTONE	3.5	619.7	
43.8	CARBONDALE	ANNA	BLACK SHALE	2.8	623.2	
41.0	CARBONDALE	HERRIN	COAL	8.5	626.0	

MAPID: 13500026000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1320' N line, 1320' W line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.302933 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.330579 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 666.6 **LOGGED (FT.):** 826.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. #1 **WELL TYPE:** Coal Test

COMMENT: ELEV IS 'McD',HOLE REDRILLED IN JAN 1909

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
666.6	PLEISTOCENE		SOIL	2.0	0.0	WELL REDRILLED IN 01/1909,SEE 636' DEPTH
664.6	PLEISTOCENE		CLAY	11.0	2.0	
653.6	PLEISTOCENE		CLAY & GRAVEL	4.0	13.0	
649.6	PLEISTOCENE		GRAVEL	2.0	17.0	
647.6	PLEISTOCENE		SAND & GRAVEL	9.5	19.0	
638.1	BOND	MILLERSVILLE	LIMESTONE	3.5	28.5	BROKEN
634.6	BOND	MILLERSVILLE	LIMESTONE	21.0	32.0	
613.6	BOND	MILLERSVILLE	LIMESTONE	6.0	53.0	
607.6	BOND		SANDSTONE	8.0	59.0	
599.6	BOND		SANDY SHALE	68.0	67.0	
531.6	BOND		BLUE SHALE	2.0	135.0	
529.6	BOND		SHALY COAL	0.3	137.0	
529.3	BOND		SANDY SHALE	0.7	137.3	
528.6	BOND		SANDSTONE	5.5	138.0	
523.1	BOND		SANDSTONE	7.0	143.5	
516.1	BOND		SANDY SHALE	13.5	150.5	
502.6	BOND		BLUE SHALE	21.0	164.0	
481.6	BOND		BLUE SHALE	5.0	185.0	W/ LS BANDS
476.6	BOND		FOSSILIFEROUS SHALE	2.0	190.0	SHALE MIXED WITH FOSSILS
474.6	BOND		BLUE SHALE	1.0	192.0	
473.6	BOND		BLACK SHALE	1.8	193.0	
471.8	BOND		COAL	0.5	194.8	
471.3	BOND		SANDSTONE	3.8	195.3	
467.6	BOND		LIMESTONE W/ SHALE	2.0	199.0	MIXED
465.6	BOND		SANDSTONE	2.0	201.0	
463.6	BOND		SANDSTONE/SHALE	8.0	203.0	
455.6	BOND		BLUE SHALE	22.0	211.0	WITH FINE STREAKS OF SAND
433.6	BOND		BLUE SHALE	18.0	233.0	
415.6	BOND		BLUE SHALE	3.0	251.0	W/LS BANDS
412.6	BOND		BLUE SHALE	8.0	254.0	
404.6	BOND		FOSSILIFEROUS SHALE	2.0	262.0	
402.6	BOND		ARGILACEOUS SHALE	2.5	264.0	
400.1	BOND		SHALE	10.0	266.5	W/ LS BANDS
390.1	BOND	CARTHAGE	LIMESTONE	12.5	276.5	
377.6	MODESTO		SHALE	1.0	289.0	
376.6	MODESTO		BLACK SHALE	1.5	290.0	
375.1	MODESTO		BLUE SHALE	2.0	291.5	
373.1	MODESTO		COAL	0.2	293.5	
372.9	MODESTO		SANDSTONE	3.3	293.7	

369.6	MODESTO		SANDY SHALE	2.0	297.0	
367.6	MODESTO		SHALE WITH LIMESTONE	1.0	299.0	MIXED
366.6	MODESTO		SHALE WITH LIMESTONE	1.0	300.0	MIXED
365.6	MODESTO		SANDY SHALE	7.0	301.0	
358.6	MODESTO		SANDY SHALE	9.0	308.0	
349.6	MODESTO		BLUE SHALE	9.0	317.0	
340.6	MODESTO		BLUE SHALE	9.0	326.0	
331.6	MODESTO		SANDSTONE/SHALE	12.8	335.0	
318.8	MODESTO		FOSSILIFEROUS SHALE	0.5	347.8	
318.3	MODESTO		BLACK SHALE	3.0	348.3	
315.3	MODESTO		BONE COAL	0.5	351.3	
314.8	MODESTO		ARGILACEOUS SHALE	4.3	351.8	LOG GIVES THICKNESS AS 4.50
310.6	MODESTO		BLUE SHALE	1.0	356.0	SOFT
309.6	MODESTO		SHALE WITH LIMESTONE	4.0	357.0	
305.6	MODESTO		LIMESTONE	4.0	361.0	
301.6	MODESTO		SANDSTONE	3.5	365.0	
298.1	MODESTO		SANDY SHALE	1.5	368.5	
296.6	MODESTO		SANDSTONE	5.0	370.0	
291.6	MODESTO		LIMESTONE	0.8	375.0	
290.8	MODESTO		SANDSTONE	1.3	375.8	
289.6	MODESTO		FOSSILIFEROUS SHALE	1.3	377.0	
288.3	MODESTO		SANDSTONE/SHALE	4.8	378.3	
283.6	MODESTO		SANDY SHALE	2.3	383.0	
281.3	MODESTO		SANDSTONE	1.2	385.3	
280.1	MODESTO		SANDY SHALE	20.0	386.5	W/ SS BANDS
260.1	MODESTO		SANDY SHALE	2.5	406.5	
257.6	MODESTO		BLUE SHALE	19.0	409.0	
238.6	MODESTO		BLUE SHALE	8.0	428.0	
230.6	MODESTO		BLUE SHALE	4.2	436.0	W/ BR BANDS
226.4	MODESTO		LIMESTONE	0.7	440.2	
225.8	MODESTO		BLUE SHALE	5.2	440.8	
220.6	MODESTO		BLUE SHALE	0.3	446.0	
220.3	MODESTO	CHAPEL	COAL	0.9	446.3	
219.3	MODESTO		SANDSTONE	4.8	447.3	W/ LIME NODULES
214.6	MODESTO		SANDY SHALE	6.0	452.0	
208.6	MODESTO		SANDSTONE	8.0	458.0	
200.6	MODESTO		SANDSTONE/SHALE	1.5	466.0	
199.1	MODESTO		LIMESTONE	1.0	467.5	
198.1	MODESTO		SANDSTONE/SHALE	7.5	468.5	
190.6	MODESTO		SANDY SHALE	4.0	476.0	BLUE
186.6	MODESTO		SANDY SHALE	14.0	480.0	
172.6	MODESTO		SANDY SHALE	1.0	494.0	
171.6	MODESTO		SANDY SHALE	26.0	495.0	BLUE
145.6	MODESTO		SANDY SHALE	18.0	521.0	
127.6	MODESTO		BLUE SHALE	18.0	539.0	
109.6	MODESTO		BLUE SHALE	3.0	557.0	
106.6	MODESTO		SANDSTONE	2.0	560.0	BLUE

104.6	MODESTO		BLUE SHALE	3.5	562.0	WITH LIME BANDS
101.1	MODESTO		SANDSTONE	3.5	565.5	BLUE
97.6	MODESTO		SANDY SHALE	7.0	569.0	LIME
90.6	MODESTO		SHALE WITH LIMESTONE	2.0	576.0	
88.6	MODESTO		SANDSTONE	1.5	578.0	
87.1	MODESTO		BLUE SHALE	3.0	579.5	
84.1	MODESTO	PIASA	LIMESTONE	4.5	582.5	
79.6	MODESTO		BLUE SHALE	4.0	587.0	
75.6	MODESTO		BLUE SHALE	3.0	591.0	
72.6	CARBONDALE		BLACK SHALE	1.0	594.0	
71.6	CARBONDALE	DANVILLE	COAL	2.8	595.0	
68.8	CARBONDALE		BLUE SHALE	0.8	597.8	
68.1	CARBONDALE		SHALE WITH LIMESTONE	2.5	598.5	
65.6	CARBONDALE		SHALE WITH LIMESTONE	1.5	601.0	
64.1	CARBONDALE		DARK SHALE	2.8	602.5	
61.3	CARBONDALE		SHALE WITH LIMESTONE	1.8	605.3	
59.6	CARBONDALE		SHALE WITH LIMESTONE	2.5	607.0	
57.1	CARBONDALE		LIMESTONE	1.0	609.5	
56.1	CARBONDALE		SHALE WITH LIMESTONE	1.5	610.5	
54.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.7	612.0	
48.9	CARBONDALE		SHALE WITH LIMESTONE	0.7	617.7	
48.3	CARBONDALE		BLUE SHALE	0.7	618.3	
47.6	CARBONDALE		SHALE WITH LIMESTONE	0.5	619.0	
47.1	CARBONDALE	BRERETON	LIMESTONE	3.5	619.5	
43.6	CARBONDALE	ANNA	BLACK SHALE	2.8	623.0	
40.8	CARBONDALE	HERRIN	COAL	6.5	625.8	
34.3	CARBONDALE	HERRIN	ROCK	0.2	632.3	BLUE BAND
34.1	CARBONDALE	HERRIN	COAL	1.8	632.5	
32.3	CARBONDALE		UNDERCLAY	1.7	634.3	
30.6	CARBONDALE		ARGILACEOUS SHALE	4.0	636.0	TOP OF WELL DRLLED 1909 IN BTTM OF SHAFT
26.6	CARBONDALE		LIMESTONE	4.0	640.0	
22.6	CARBONDALE		SANDY SHALE	17.0	644.0	
5.6	CARBONDALE		BLUE SHALE	23.0	661.0	W/ GRAY ROCK BANDS
-17.4	CARBONDALE		DARK SHALE	4.0	684.0	
-21.4	CARBONDALE	EXCELLO	BLACK SHALE	12.0	688.0	
-33.4	CARBONDALE		LIMESTONE	3.0	700.0	
-36.4	CARBONDALE		LIMESTONE	2.0	703.0	
-38.4	CARBONDALE		DARK SHALE	10.0	705.0	
-48.4	CARBONDALE		COAL	1.0	715.0	
-49.4	CARBONDALE		DARK SHALE	10.0	716.0	
-59.4	CARBONDALE		SANDSTONE	15.0	726.0	W/ SH BANDS
-74.4	CARBONDALE		SANDSTONE	21.0	741.0	W/ SH BANDS
-95.4	CARBONDALE		DARK SHALE	2.0	762.0	
-97.4	CARBONDALE	MECCA QUARRY	GRAY SHALE	5.0	764.0	
-102.4	CARBONDALE	MECCA QUARRY	BLACK SHALE	5.0	769.0	
-107.4	CARBONDALE	COLCHESTER	COAL	2.0	774.0	(SAVED FULL CORE)
-109.4	SPOON		GRAY SHALE	3.0	776.0	

-112.4	SPOON		GRAY SHALE	3.0	779.0	
-115.4	SPOON		BLACK SHALE	1.0	782.0	
-116.4	SPOON	SEELYVILLE	COAL	0.5	783.0	
-116.9	SPOON	SEELYVILLE	GRAY SHALE	0.5	783.5	
-117.4	SPOON	SEELYVILLE	COAL	3.2	784.0	(SAVED FULL CORE)
-120.6	SPOON		GRAY SHALE	7.8	787.2	
-128.4	SPOON		BLUE SHALE	9.0	795.0	W/ GY ROCK BANDS
-137.4	SPOON		BLACK SHALE	6.0	804.0	
-143.4	SPOON		GRAY SHALE	9.0	810.0	
-152.4	SPOON		DARK SHALE	7.0	819.0	W/ GRAY ROCK BANDS

MAPID: 13500740000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 455' S line, 330' W line of NW NW

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.287613 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.331871 **DATE COLLECTED:** 3 / 0 / 1955

SURFACE ELEVATION (FT.): 678.0 **LOGGED (FT.):** 628.0 **LOG TYPE:** Electric Log

SOURCE: GULF REFINING CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
95.0	MODESTO	PIASA	LIMESTONE	4.0	583.0	
91.0	MODESTO		UNCLASSIFIED	7.0	587.0	
84.0	CARBONDALE		UNCLASSIFIED	17.0	594.0	
67.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	611.0	
61.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.5	617.0	
60.5	CARBONDALE		UNCLASSIFIED	0.5	617.5	
60.0	CARBONDALE	BRERETON	LIMESTONE	2.5	618.0	
57.5	CARBONDALE	ANNA	BLACK SHALE	2.5	620.5	
55.0	CARBONDALE	HERRIN	COAL	5.0	623.0	

MAPID: 13500878000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.25924 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.305991 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 681.0 **LOGGED (FT.):** 705.5 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 16BB **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
23.1	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.3	657.9	
22.7	MODESTO		DARK GRAY SHALE	7.2	658.3	
15.6	CARBONDALE	DANVILLE	COAL	2.7	665.4	
12.9	CARBONDALE		CLAYSTONE	0.4	668.1	
12.5	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.8	668.5	
11.7	CARBONDALE		DARK GRAY SHALE	2.5	669.3	
9.2	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.3	671.8	
8.8	CARBONDALE		GRAY SHALE	0.9	672.2	
7.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.8	673.1	UPPER BENCH
6.1	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	1.0	674.9	SHALE PARTING
5.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	18.3	675.8	LOWER BENCH
-13.1	CARBONDALE	LAWSON	CLAYSTONE	0.3	694.1	
-13.4	CARBONDALE	LAWSON	DARK GRAY SHALE	0.8	694.4	
-14.2	CARBONDALE	ANNA	BLACK SHALE	1.8	695.2	
-16.0	CARBONDALE	HERRIN	COAL	8.5	697.0	

MAPID: 13500878000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.25924 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.305991 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 681.0 **LOGGED (FT.):** 705.5 **LOG TYPE:** Drillers Log

SOURCE: D.C. DONAN 16BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
23.8	MODESTO		UNCLASSIFIED	8.2	657.2	
15.6	CARBONDALE	DANVILLE	COAL	2.7	665.4	
12.9	CARBONDALE		UNCLASSIFIED	11.7	668.1	
1.2	CARBONDALE	BANKSTON FORK	LIMESTONE	5.2	679.8	
-4.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	685.0	
-6.3	CARBONDALE		SHALE	2.0	687.3	
-8.3	CARBONDALE	BRERETON	LIMESTONE	4.8	689.3	
-13.1	CARBONDALE	ANNA	BLACK SHALE	2.9	694.1	
-16.0	CARBONDALE	HERRIN	COAL	8.5	697.0	

MAPID: 13500878000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.25924 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.305991 **DATE COLLECTED:** 8 / 1 / 1957

SURFACE ELEVATION (FT.): 681.0 **LOGGED (FT.):** 668.8 **LOG TYPE:** Survey Core Study

SOURCE: D.C. DONAN 16BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
14.9	CARBONDALE	DANVILLE	COAL	2.7	666.1	
-16.0	CARBONDALE	HERRIN	COAL	8.5	697.0	

MAPID: 13500878000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.25924 **GEOLOGIST:** MCCRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.305991 **DATE COLLECTED:** 8 / 1 / 1957

SURFACE ELEVATION (FT.): 681.0 **LOGGED (FT.):** 707.4 **LOG TYPE:** Multiple log types

SOURCE: DONAN 16-BB **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
681.0	PLEISTOCENE		UNCONSOLIDATED	94.0	0.0	
587.0	BOND		LIMESTONE	5.0	94.0	SHALE SEAMS
582.0	BOND		LIMESTONE	28.0	99.0	
554.0	BOND		SANDY SHALE	78.0	127.0	
476.0	BOND		COAL	1.0	205.0	
475.0	BOND		SHALE	54.0	206.0	
421.0	BOND		SHALE/COAL	2.0	260.0	
419.0	BOND		SHALE	84.4	262.0	
334.6	BOND	CARTHAGE	LIMESTONE	11.6	346.4	
323.0	MODESTO		SHALE	4.0	358.0	
319.0	MODESTO		SHALE/COAL	3.0	362.0	"SLATE AND BONY COAL"
316.0	MODESTO		SHALE	161.0	365.0	
155.0	MODESTO		COAL	1.0	526.0	
154.0	MODESTO		SHALE	131.3	527.0	
22.7	MODESTO	PIASA	LIMESTONE	0.6	658.3	START OF CORE/LOG ID'S AS BANKSTON
22.1	MODESTO		CLAYSTONE & SILTSTONE	2.2	658.9	
19.9	MODESTO		SHALE	4.7	661.1	
15.2	MODESTO		BLACK SHALE	0.3	665.8	
14.9	CARBONDALE	DANVILLE	COAL	2.7	666.1	
12.2	CARBONDALE		UNDERCLAY	0.2	668.8	
12.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	669.0	
11.8	CARBONDALE		LIMESTONE	0.8	669.2	
11.0	CARBONDALE		CLAYSTONE & SILTSTONE	1.5	670.0	
9.5	CARBONDALE		SHALE	1.0	671.5	DARK GREY
8.5	CARBONDALE		BLACK SHALE	0.3	672.5	GRAY AND BLACK
8.2	CARBONDALE		SHALE	0.9	672.8	
7.2	CARBONDALE		LIMESTONE	1.5	673.8	
5.7	CARBONDALE		BLACK LIMESTONE	0.3	675.3	
5.5	CARBONDALE		SHALE	0.5	675.5	
4.9	CARBONDALE		CLAYSTONE & SILTSTONE	0.4	676.1	
4.5	CARBONDALE		LIMESTONE	17.5	676.5	STUDY ID'S AS BANKSTON
-13.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.3	694.0	
-13.3	CARBONDALE		SHALE	0.8	694.3	DARK GRAY
-14.1	CARBONDALE	ANNA	BLACK SHALE	1.9	695.1	
-16.0	CARBONDALE	HERRIN	COAL	8.5	697.0	
-24.5	CARBONDALE		UNDERCLAY	1.9	705.5	

MAPID: 13500027000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' N line, 0' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.269976 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.31968 **DATE COLLECTED:** 0 / 0 / 1904

SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 665.2 **LOG TYPE:** Drillers Log

SOURCE: BOLEN & KEISTER **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
44.6	MODESTO	PIASA	LIMESTONE	4.2	613.4	
40.4	MODESTO		UNCLASSIFIED	10.3	617.6	
30.1	CARBONDALE	DANVILLE	COAL	2.0	627.9	
28.1	CARBONDALE		UNCLASSIFIED	8.3	629.9	
19.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	638.2	
14.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	643.2	
13.3	CARBONDALE		UNCLASSIFIED	1.5	644.7	
11.8	CARBONDALE	BRERETON	LIMESTONE	8.0	646.2	
3.8	CARBONDALE	ANNA	BLACK SHALE	2.8	654.2	
1.0	CARBONDALE	HERRIN	COAL	8.2	657.0	

MAPID: 13500027000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' N line, 0' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.269976 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.31968 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 666.2 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
44.0	MODESTO	PIASA	LIMESTONE	4.2	614.0	
39.8	MODESTO		DARK GRAY SHALE	10.3	618.2	
29.6	CARBONDALE	DANVILLE	COAL	2.0	628.4	
27.6	CARBONDALE		GRAY SHALE	8.3	630.4	
19.3	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	638.7	
16.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	641.7	
14.3	CARBONDALE	LAWSON	GRAY SHALE	3.0	643.7	
11.3	CARBONDALE	BRERETON	LIMESTONE	8.0	646.7	
3.3	CARBONDALE	ANNA	BLACK SHALE	2.8	654.7	
0.0	CARBONDALE	HERRIN	COAL	8.2	658.0	

MAPID: 13500027000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' N line, 0' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.269976 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.31968 **DATE COLLECTED:** 0 / 0 / 1904

SURFACE ELEVATION (FT.): 657.7 **LOGGED (FT.):** 667.0 **LOG TYPE:** Drillers Log

SOURCE: BOLEN AND KEISTER **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEVATION IS 'McD'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
657.7	PLEISTOCENE		SOIL	2.0	0.0	AND CLAY
655.7	PLEISTOCENE		SOIL	8.0	2.0	AND CLAY
647.7	PLEISTOCENE		SAND & GRAVEL	20.0	10.0	
627.7	PLEISTOCENE		CLAY	19.0	30.0	TOUGH
608.7	PLEISTOCENE		GRAVEL	2.0	49.0	
606.7	BOND	MILLERSVILLE	LIMESTONE	6.0	51.0	BROKEN
600.7	BOND	MILLERSVILLE	LIMESTONE	28.5	57.0	
572.2	BOND		SANDY SHALE	10.5	85.5	
561.7	BOND		SANDY SHALE	16.0	96.0	W/ BLUE SH PARTINGS
545.7	BOND		SANDY SHALE	19.0	112.0	
526.7	BOND		BLUE SHALE	28.0	131.0	
498.7	BOND		BLUE SHALE	10.0	159.0	
488.7	BOND		BLACK SHALE	1.0	169.0	
487.7	BOND		COAL	0.3	170.0	
487.4	BOND		DARK SHALE	4.7	170.3	LOG ALSO READS 'L.S.B.'
482.7	BOND		GRAY SHALE	1.0	175.0	
481.7	BOND		SANDSTONE	4.0	176.0	W/ BLUE SH PARTINGS
477.7	BOND		BLUE SHALE	5.0	180.0	W/ SS PARTINGS
472.7	BOND		BLUE SHALE	9.0	185.0	
463.7	BOND		GRAY SHALE	2.0	194.0	
461.7	BOND		DARK SHALE	2.0	196.0	
459.7	BOND		BLUE SHALE	17.6	198.0	
442.1	BOND		SANDY SHALE	10.5	215.6	
431.6	BOND		BLACK SHALE	1.5	226.1	
430.1	BOND		COAL	0.7	227.6	
429.4	BOND		ARGILACEOUS SHALE	3.0	228.3	
426.4	BOND		SHALE WITH LIMESTONE	1.8	231.3	
424.7	BOND		SHALE WITH LIMESTONE	5.0	233.0	W/ LS BANDS
419.7	BOND		SANDSTONE	1.0	238.0	
418.7	BOND		BLUE SHALE	25.0	239.0	W/ SDY SH PARTINGS
393.7	BOND		BLUE SHALE	14.5	264.0	
379.2	BOND		SANDY SHALE	7.5	278.5	
371.7	BOND		BLUE SHALE	6.0	286.0	W/ SAND BANDS
365.7	BOND		GRAY SHALE	2.5	292.0	
363.2	BOND		SHALE WITH LIMESTONE	2.0	294.5	W/ NODULES
361.2	BOND		ARGILACEOUS SHALE	3.5	296.5	DARK
357.7	BOND		SHALE WITH LIMESTONE	6.0	300.0	W/ LS BANDS
351.7	BOND		ARGILACEOUS SHALE	3.0	306.0	DARK, W/ LS BANDS
348.7	BOND	CARTHAGE	LIMESTONE	14.0	309.0	

334.7	MODESTO		BLACK SHALE	2.7	323.0	
332.0	MODESTO		COAL	0.2	325.7	
331.9	MODESTO		ARGILACEOUS SHALE	3.2	325.8	
328.7	MODESTO		ARGILACEOUS SHALE	1.5	329.0	DARK
327.2	MODESTO		SANDSTONE	2.5	330.5	W/ BLUE SH PARTINGS
324.7	MODESTO		BLUE SHALE	9.0	333.0	W/ SS PARTINGS
315.7	MODESTO		BLUE SHALE	5.0	342.0	
310.7	MODESTO		BLUE SHALE	13.0	347.0	
297.7	MODESTO		SANDSTONE	13.0	360.0	
284.7	MODESTO		DARK SANDSTONE	12.0	373.0	
272.7	MODESTO		BLUE SHALE	0.5	385.0	LOG HAS 6" MISENTERED AS 6FT
272.2	MODESTO		LIMESTONE	1.2	385.5	
271.0	MODESTO		BLACK SHALE	6.3	386.7	
264.7	MODESTO		COAL	0.5	393.0	
264.2	MODESTO		BLUE SHALE	3.5	393.5	
260.7	MODESTO		BLUE SHALE	3.7	397.0	
257.0	MODESTO		BLUE SHALE	4.3	400.7	
252.7	MODESTO		SANDY SHALE	5.0	405.0	
247.7	MODESTO		BLUE SHALE	38.0	410.0	W/ SS PARTINGS
209.7	MODESTO		BLUE SHALE	18.0	448.0	W/ HARD BANDS
191.7	MODESTO		BLUE SHALE	9.7	466.0	W/ SS PARTINGS
182.0	MODESTO		SANDSTONE	1.0	475.7	
181.0	MODESTO		BLUE SHALE	4.3	476.7	TOUGH
176.7	MODESTO		BLUE SHALE	1.8	481.0	
174.9	MODESTO	CHAPEL	COAL	1.1	482.8	
173.8	MODESTO		UNDERCLAY	1.8	483.9	
172.0	MODESTO		SANDSTONE	17.3	485.7	
154.7	MODESTO		SANDY SHALE	22.0	503.0	
132.7	MODESTO		BLUE SHALE	72.4	525.0	
60.3	MODESTO		SANDSTONE	13.8	597.4	
46.4	MODESTO		BLUE SHALE	2.8	611.3	
43.7	MODESTO	PIASA	LIMESTONE	4.2	614.0	
39.5	MODESTO		BLUE SHALE	2.8	618.2	BLUE AND RED SH
36.7	MODESTO		BLACK SHALE	2.0	621.0	
34.7	MODESTO		BLUE SHALE	1.0	623.0	
33.7	MODESTO		BLUE SHALE	4.4	624.0	
29.3	CARBONDALE	DANVILLE	COAL	2.0	628.4	
27.3	CARBONDALE		BLUE SHALE	8.3	630.4	
19.0	CARBONDALE		SHALE WITH LIMESTONE	3.0	638.7	
16.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	641.7	
13.7	CARBONDALE		BLUE SHALE	3.0	644.0	
10.7	CARBONDALE	BRERETON	LIMESTONE	8.0	647.0	
2.7	CARBONDALE	ANNA	BLACK SHALE	2.8	655.0	
-0.1	CARBONDALE	HERRIN	COAL	6.4	657.8	
-6.6	CARBONDALE	HERRIN	UNCLASSIFIED	0.1	664.3	LOG HAS 1" MISENTERED AS 1FT
-6.6	CARBONDALE	HERRIN	COAL	1.7	664.3	
-8.3	CARBONDALE		UNDERCLAY	1.0	666.0	

MAPID: 13500297000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.32958 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.296732 **DATE COLLECTED:** 6 / 0 / 1941

SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 628.0 **LOG TYPE:** Drillers Log

SOURCE: DETRICK ETAL **WELL TYPE:** Dry Hole

COMMENT: DRILLERS LOG ONLY - QUESTIONABLE DATA

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
75.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	595.0	
65.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	605.0	
62.5	CARBONDALE		UNCLASSIFIED	2.5	607.5	
60.0	CARBONDALE	BRERETON	LIMESTONE	8.0	610.0	
52.0	CARBONDALE	ANNA	BLACK SHALE	2.0	618.0	
50.0	CARBONDALE	HERRIN	COAL	8.0	620.0	DATA FABRICATED? LOG SAYS 12' @618'

MAPID: 13500028000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1980' S line, 1320' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.293159 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.295953 **DATE COLLECTED:** 12 / 0 / 1888

SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 665.2 **LOG TYPE:** Drillers Log

SOURCE: WARNER & SON **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
54.3	MODESTO	PIASA	LIMESTONE	4.5	609.7	
49.8	MODESTO		UNCLASSIFIED	10.4	614.2	
39.4	CARBONDALE	DANVILLE	COAL	2.8	624.6	
36.6	CARBONDALE		UNCLASSIFIED	9.8	627.4	
26.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	637.2	
21.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.3	642.2	
20.5	CARBONDALE		UNCLASSIFIED	2.5	643.5	
18.0	CARBONDALE	BRERETON	LIMESTONE	7.0	646.0	
11.0	CARBONDALE	ANNA	BLACK SHALE	4.0	653.0	
7.0	CARBONDALE	HERRIN	COAL	8.2	657.0	

MAPID: 13500028000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1980' S line, 1320' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.293159 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.295953 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 664.2 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
55.0	MODESTO	PIASA	LIMESTONE	4.5	609.0	
50.5	MODESTO		BLACK SHALE	10.4	613.5	
40.1	CARBONDALE	DANVILLE	COAL	2.8	623.9	
37.3	CARBONDALE		CLAYSTONE & SHALE	1.2	626.7	
36.2	CARBONDALE	GALUM	CALCAREOUS SHALE	4.0	627.8	
32.2	CARBONDALE	ALLENBY	DARK GRAY SHALE	4.7	631.8	
27.5	CARBONDALE		CALCAREOUS SHALE	3.3	636.5	
24.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	9.3	639.8	
15.0	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.7	649.0	
13.3	CARBONDALE	BANKSTON FORK	LIMESTONE	1.6	650.7	
11.7	CARBONDALE	LAWSON	BLACK SHALE	2.8	652.3	
9.0	CARBONDALE	BRERETON	LIMESTONE	0.5	655.0	
8.5	CARBONDALE	ANNA	BLACK SHALE	0.8	655.5	
8.0	CARBONDALE	HERRIN	COAL	8.2	656.0	

MAPID: 13500028000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1980' S line, 1320' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.293159 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.295953 **DATE COLLECTED:** 12 / 0 / 1888

SURFACE ELEVATION (FT.): 663.6 **LOGGED (FT.):** 670.2 **LOG TYPE:** Drillers Log

SOURCE: NOKOMIS COAL CO. **WELL TYPE:** Coal Test

COMMENT: ELEV IS 'McD',LOC IS CTR OF N 1/2 OF SE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
663.6	PLEISTOCENE		UNCONSOLIDATED	21.0	0.0	
642.6	PLEISTOCENE		SAND & GRAVEL	21.7	21.0	W/ WATER
620.9	BOND	MILLERSVILLE	LIMESTONE	36.3	42.7	BASTARD LS
584.6	BOND		SANDSTONE/SHALE	49.0	79.0	SDY SH
535.6	BOND		HARD SHALE	32.0	128.0	GRAY
503.6	BOND		BLACK SHALE	1.3	160.0	
502.3	BOND		COAL	0.4	161.3	
501.9	BOND		UNDERCLAY	3.5	161.7	
498.4	BOND		SANDY SHALE	18.8	165.2	
479.6	BOND		HARD SHALE	6.5	184.0	GRAY
473.1	BOND		BLACK SHALE	0.8	190.5	
472.3	BOND		HARD SHALE	25.4	191.3	GRAY, WITH KIDNEY ORE
446.8	BOND		HARD SHALE	1.5	216.8	GRAY WITH FOSSILS
445.3	BOND		BLACK SHALE	0.2	218.3	LOG SAYS SOME VERSIONS HAVE 2' NOT 2"
445.2	BOND		COAL	0.8	218.4	
444.4	BOND		BLACK SHALE	0.3	219.2	
444.1	BOND		UNDERCLAY	2.7	219.5	
441.4	BOND		SHALE	2.0	222.2	SDY SH
439.4	BOND		UNCLASSIFIED	0.2	224.2	KIDNEY ORE
439.3	BOND		SHALE	26.8	224.3	SDY SH
412.4	BOND		LIMESTONE	0.6	251.2	
411.8	BOND		SHALE	34.4	251.8	SDY SH
377.4	BOND		FOSSILIFEROUS LIMESTONE	3.0	286.2	
374.4	BOND		ARGILACEOUS SHALE	7.5	289.2	SOFT, W/ LS NODULES
366.9	BOND		GREEN SHALE	2.5	296.7	W/ LS NODULES
364.4	BOND		GREEN SHALE	2.0	299.2	
362.4	BOND		LIMESTONE W/ SHALE	1.3	301.2	
361.2	BOND		LIMESTONE	1.0	302.4	
360.2	BOND		GREEN SHALE	0.3	303.4	
359.9	BOND	CARTHAGE	LIMESTONE	12.0	303.7	
347.9	MODESTO		BLACK SHALE	1.8	315.7	
346.1	MODESTO		DARK SHALE	5.2	317.5	
340.9	MODESTO		UNDERCLAY	3.5	322.7	W/ LS NODULES
337.4	MODESTO		SANDY SHALE	1.8	326.2	W/ LS NODULES
335.6	MODESTO		SANDY SHALE	9.0	328.0	
326.6	MODESTO		HARD SHALE	14.7	337.0	GRAY
311.9	MODESTO		FOSSILIFEROUS LIMESTONE	8.0	351.7	

303.9	MODESTO		SANDY SHALE	19.7	359.7	STRIPED DARK SANDY SH
284.3	MODESTO		DARK SHALE	0.8	379.3	W/ FOSSILS
283.4	MODESTO		BLACK SHALE	4.8	380.2	
278.6	MODESTO		COAL	0.6	385.0	
278.0	MODESTO		UNDERCLAY	2.5	385.6	
275.5	MODESTO		DARK SHALE	2.6	388.1	
272.9	MODESTO		DARK SHALE	3.0	390.7	W/ LS NODULES
269.9	MODESTO		LIMESTONE	1.5	393.7	
268.4	MODESTO		LIMESTONE W/ SHALE	1.0	395.2	
267.4	MODESTO		GRAY SHALE	2.0	396.2	
265.4	MODESTO		SHALE	5.8	398.2	W/ LS NODULES
259.7	MODESTO		SANDY SHALE	9.0	403.9	W/ LS NODULES
250.7	MODESTO		HARD SHALE	16.8	412.9	GRAY
233.9	MODESTO		SANDY SHALE	9.3	429.7	STRIPED
224.7	MODESTO		SANDY SHALE	0.6	438.9	W/ FOSSILS
224.1	MODESTO		SANDY SHALE	7.4	439.5	STRIPED
216.7	MODESTO		FOSSILIFEROUS LIMESTONE	0.3	446.9	
216.4	MODESTO		HARD SHALE	20.9	447.2	GRAY
195.5	MODESTO		HARD SHALE	1.0	468.1	GRAY SH W/ LS
194.5	MODESTO		FOSSILIFEROUS LIMESTONE	0.8	469.1	
193.8	MODESTO		BLACK SHALE	0.7	469.8	
193.1	MODESTO		LIMESTONE	0.3	470.5	
192.8	MODESTO		HARD SHALE	7.0	470.8	GRAY
185.8	MODESTO	CHAPEL	COAL	1.2	477.8	
184.7	MODESTO		UNDERCLAY	2.0	478.9	
182.7	MODESTO		LIMESTONE AND SANDSTONE	2.2	480.9	
180.5	MODESTO		SANDSTONE	5.5	483.1	
175.0	MODESTO		SHALE & SANDSTONE	6.0	488.6	SDY SH
169.0	MODESTO		SANDSTONE	4.6	494.6	
164.4	MODESTO		SANDY DARK SHALE	10.0	499.2	
154.4	MODESTO		HARD SHALE	64.0	509.2	GRAY
90.4	MODESTO		SHALE	0.5	573.2	DARK BLUE
89.9	MODESTO		HARD SHALE	15.5	573.7	GRAY
74.4	MODESTO		UNDERCLAY	2.0	589.2	
72.4	MODESTO		SHALE WITH LIMESTONE	1.5	591.2	
70.9	MODESTO		DARK SHALE	0.5	592.7	
70.4	MODESTO		SHALE WITH LIMESTONE	0.3	593.2	
70.2	MODESTO		DARK SHALE	0.8	593.4	
69.4	MODESTO		BLACK SHALE	0.4	594.2	
69.0	MODESTO		GRAY SHALE	2.6	594.6	
66.4	MODESTO		UNCLASSIFIED	12.0	597.2	BETWEEN SAND AND LS
54.4	MODESTO	PIASA	LIMESTONE	4.5	609.2	
49.9	MODESTO		GRAY SHALE	1.0	613.7	
48.9	MODESTO		BLACK SHALE	8.6	614.7	
40.3	MODESTO		BLACK SHALE	0.8	623.3	W/ SULPHUR

39.6	MODESTO		BLACK SHALE	0.1	624.0	
39.5	CARBONDALE	DANVILLE	COAL	2.8	624.1	
36.8	CARBONDALE		HARD SHALE	0.7	626.8	
36.1	CARBONDALE		UNDERCLAY	0.5	627.5	
35.6	CARBONDALE		HARD SHALE	4.0	628.0	W/ FOSSILS
31.6	CARBONDALE		HARD SHALE	4.7	632.0	
26.9	CARBONDALE		HARD SHALE	3.3	636.7	
23.7	CARBONDALE		LIMESTONE	1.8	639.9	
21.9	CARBONDALE		GRAY SHALE	1.3	641.7	
20.7	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.5	642.9	
18.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	645.4	
14.4	CARBONDALE		GREEN SHALE	1.0	649.2	
13.4	CARBONDALE		DARK SHALE	0.7	650.2	
12.8	CARBONDALE	BRERETON	LIMESTONE	1.6	650.8	
11.2	CARBONDALE	ANNA	BLACK SHALE	2.8	652.4	
8.4	CARBONDALE	ANNA	ROCK	0.5	655.2	BLACK
7.9	CARBONDALE	ANNA	BLACK SHALE	0.8	655.7	
7.2	CARBONDALE	HERRIN	COAL	6.4	656.4	
0.8	CARBONDALE	HERRIN	UNCLASSIFIED	0.1	662.8	SULPHUR AND DIRTY BAND
0.7	CARBONDALE	HERRIN	COAL	1.8	662.9	
-1.1	CARBONDALE		UNDERCLAY	0.5	664.7	
-1.6	CARBONDALE		HARD SHALE	3.0	665.2	GRAY

MAPID: 13523779000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** SE SE SW

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.261456 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.291408 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 742.8 **LOG TYPE:** Company map

SOURCE: CARTER OIL 19B-699 **WELL TYPE:** Coal Test

COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.8	735.0	

MAPID: 13500919000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.270724 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.280462 **DATE COLLECTED:** 10 / 0 / 1957

SURFACE ELEVATION (FT.): 763.0 **LOGGED (FT.):** 773.0 **LOG TYPE:** Electric Log

SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
37.1	MODESTO	PIASA	LIMESTONE	5.5	725.9	
31.6	MODESTO		UNCLASSIFIED	8.0	731.4	
23.6	CARBONDALE	DANVILLE	COAL	1.5	739.4	
22.1	CARBONDALE		UNCLASSIFIED	14.0	740.9	
8.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	754.9	
1.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.3	761.4	
0.3	CARBONDALE		UNCLASSIFIED	1.3	762.7	
-1.0	CARBONDALE	BRERETON	LIMESTONE	3.0	764.0	
-4.0	CARBONDALE	ANNA	BLACK SHALE	1.0	767.0	
-5.0	CARBONDALE	HERRIN	COAL	5.0	768.0	

MAPID: 13500919000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.270724 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.280462 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 763.0 **LOGGED (FT.):** 773.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
37.0	MODESTO	PIASA	LIMESTONE	5.0	726.0	
32.0	MODESTO		SHALE	9.0	731.0	
23.0	CARBONDALE	DANVILLE	COAL	1.0	740.0	
22.0	CARBONDALE	LAWSON	SHALE	19.0	741.0	
3.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	760.0	
0.0	CARBONDALE	ANNA	BLACK SHALE	3.0	763.0	
-2.0	CARBONDALE	HERRIN	COAL	8.0	765.0	

MAPID: 13500741000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.343729 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.287618 **DATE COLLECTED:** 3 / 0 / 1953

SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 603.0 **LOG TYPE:** Electric Log

SOURCE: RYAN OIL CO., ETAL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
109.5	MODESTO	PIASA	LIMESTONE	5.0	563.5	
104.5	MODESTO		UNCLASSIFIED	5.0	568.5	
99.5	CARBONDALE	DANVILLE	COAL	1.0	573.5	
98.5	CARBONDALE		UNCLASSIFIED	11.5	574.5	
87.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	586.0	
82.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	591.0	
80.5	CARBONDALE		UNCLASSIFIED	1.0	592.5	
79.5	CARBONDALE	BRERETON	LIMESTONE	2.5	593.5	
77.0	CARBONDALE	ANNA	BLACK SHALE	1.0	596.0	
76.0	CARBONDALE	HERRIN	COAL	6.0	597.0	

MAPID: 13500741000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.343729 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.287618 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 602.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
108.0	MODESTO	PIASA	LIMESTONE	6.0	565.0	
102.0	CARBONDALE		SHALE	10.0	571.0	
92.0	CARBONDALE		CALCAREOUS SHALE	6.0	581.0	
86.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	587.0	
81.0	CARBONDALE	ANNA	SHALE	3.0	592.0	
78.0	CARBONDALE	HERRIN	COAL	7.0	595.0	

MAPID: 13500741000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 990' N line, 330' W line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.343729 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.287618 **DATE COLLECTED:** 3 / 15 / 1953
SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 602.0 **LOG TYPE:** Electric Log
SOURCE: RYAN OIL COMPANY **WELL TYPE:** Oil and Gas Test
COMMENT: PARTING THICKNESSES FROM 1"=50' ELOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
409.0	BOND	CARTHAGE	LIMESTONE	11.5	264.0	
82.0	CARBONDALE		SHALE	3.0	591.0	
79.0	CARBONDALE	HERRIN	COAL	2.5	594.0	
76.5	CARBONDALE	HERRIN	SHALE	1.0	596.5	
75.5	CARBONDALE	HERRIN	COAL	2.7	597.5	
72.8	CARBONDALE	HERRIN	SHALE	1.0	600.2	
71.8	CARBONDALE	HERRIN	COAL	2.0	601.2	
69.8	CARBONDALE		CLAYSTONE	3.0	603.2	

MAPID: 13500029000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2590' S line, 2590' E line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.354123 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.282828 **DATE COLLECTED:** 0 / 0 / 1906
SURFACE ELEVATION (FT.): 668.0 **LOGGED (FT.):** 593.0 **LOG TYPE:** Drillers Log
SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
116.7	MODESTO	PIASA	LIMESTONE	5.0	551.3	
111.7	MODESTO		UNCLASSIFIED	4.0	556.3	
107.7	CARBONDALE		UNCLASSIFIED	9.0	560.3	
98.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	569.3	
93.7	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	574.3	
91.7	CARBONDALE		UNCLASSIFIED	2.0	576.3	
89.7	CARBONDALE	BRERETON	LIMESTONE	7.0	578.3	
82.7	CARBONDALE	ANNA	BLACK SHALE	1.7	585.3	
81.0	CARBONDALE	HERRIN	COAL	6.0	587.0	

MAPID: 13500029000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2590' S line, 2590' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.354123 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.282828 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 668.0 **LOGGED (FT.):** 594.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
117.0	MODESTO	PIASA	LIMESTONE	5.0	551.0	
112.0	MODESTO		DARK GRAY SHALE	10.0	556.0	
102.0	CARBONDALE	DANVILLE	COAL	1.0	566.0	
101.0	CARBONDALE		CLAYSTONE	2.0	567.0	
99.0	CARBONDALE	BRERETON	LIMESTONE	16.0	569.0	
83.0	CARBONDALE	ANNA	BLACK SHALE	1.7	585.0	
81.0	CARBONDALE	HERRIN	COAL	7.3	587.0	

MAPID: 13500029000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2590' S line, 2590' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.354123 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.282828 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 667.8 **LOGGED (FT.):** 594.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. #6 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEVATION IS 'McD'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
667.8	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
653.8	PLEISTOCENE		HARD PAN	14.0	14.0	
639.8	PLEISTOCENE		ROCK	2.0	28.0	
637.8	PLEISTOCENE		HARD PAN	8.0	30.0	
629.8	BOND		LIMESTONE	8.0	38.0	
621.8	BOND		LIGHT SHALE	4.0	46.0	
617.8	BOND		DARK SHALE	4.0	50.0	
613.8	BOND		BLACK SHALE	9.0	54.0	
604.8	BOND		DARK SHALE	40.0	63.0	
564.8	BOND		BROWN SHALE	18.0	103.0	
546.8	BOND		BLACK SHALE	4.0	121.0	
542.8	BOND		SANDSTONE	26.0	125.0	
516.8	BOND		BROWN SHALE	29.0	151.0	
487.8	BOND		COAL	2.0	180.0	
485.8	BOND		UNDERCLAY	6.0	182.0	
479.8	BOND		LIMESTONE W/ SHALE	13.0	188.0	
466.8	BOND		GRAY SHALE	17.0	201.0	
449.8	BOND		BROWN SHALE	29.0	218.0	
420.8	BOND		CLAYSTONE	2.0	247.0	
418.8	BOND	CARTHAGE	LIMESTONE	15.0	249.0	
403.8	MODESTO		COAL	1.0	264.0	
402.8	MODESTO		UNDERCLAY	3.0	265.0	
399.8	MODESTO		GRAY SHALE	22.0	268.0	
377.8	MODESTO		BROWN SHALE	35.0	290.0	
342.8	MODESTO		BLACK SHALE	5.0	325.0	
337.8	MODESTO		GRAY SHALE	19.0	330.0	
318.8	MODESTO		SANDSTONE	12.0	349.0	
306.8	MODESTO		BROWN SHALE	55.0	361.0	
251.8	MODESTO		CLAYSTONE	2.0	416.0	
249.8	MODESTO		SANDSTONE	35.0	418.0	
214.8	MODESTO		BROWN SHALE	72.0	453.0	
142.8	MODESTO		GRAY SHALE	26.0	525.0	
116.8	MODESTO	PIASA	LIMESTONE	5.0	551.0	
111.8	MODESTO		BROWN SHALE	10.0	556.0	
101.8	CARBONDALE	DANVILLE	COAL	1.0	566.0	
100.8	CARBONDALE		UNDERCLAY	2.0	567.0	
98.8	CARBONDALE	BRERETON	LIMESTONE	16.0	569.0	
82.8	CARBONDALE	ANNA	BLACK SHALE	1.7	585.0	
81.1	CARBONDALE	HERRIN	COAL	5.3	586.7	

75.8	CARBONDALE	HERRIN	COAL	0.7	592.0	SOFT COAL
75.1	CARBONDALE		UNDERCLAY	1.3	592.7	

MAPID: 13500030000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 1420' N line, 300' W line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.343857 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.271731 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 582.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
128.3	MODESTO	PIASA	LIMESTONE	5.0	536.7	
123.3	MODESTO		UNCLASSIFIED	5.0	541.7	
118.3	CARBONDALE		UNCLASSIFIED	15.5	546.7	
102.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	562.2	
98.3	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	566.7	
97.3	CARBONDALE		UNCLASSIFIED	1.0	567.7	
96.3	CARBONDALE	BRERETON	LIMESTONE	4.0	568.7	
92.3	CARBONDALE	ANNA	BLACK SHALE	1.3	572.7	
91.0	CARBONDALE	HERRIN	COAL	8.0	574.0	

MAPID: 13500030000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 1420' N line, 300' W line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.343857 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.271731 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 582.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
128.0	MODESTO	PIASA	LIMESTONE	5.0	537.0	
123.0	MODESTO		DARK GRAY SHALE	9.5	542.0	
113.5	CARBONDALE	GALUM	LIMESTONE	1.5	551.5	
112.0	CARBONDALE		DARK GRAY SHALE	2.0	553.0	
110.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	555.0	
109.0	CARBONDALE		DARK GRAY SHALE	6.5	556.0	
102.5	CARBONDALE	BRERETON	LIMESTONE	10.5	562.5	
92.0	CARBONDALE	ANNA	BLACK SHALE	1.3	573.0	
91.0	CARBONDALE	HERRIN	COAL	8.0	574.0	

MAPID: 13500030000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 1420' N line, 300' W line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.343857 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.271731 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 665.4 **LOGGED (FT.):** 583.3 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. #2 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
665.4	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
653.4	PLEISTOCENE		SAND	3.0	12.0	
650.4	PLEISTOCENE		HARD PAN	3.0	15.0	
647.4	PLEISTOCENE		SAND	15.5	18.0	
631.9	BOND		LIGHT SHALE	3.5	33.5	
628.4	BOND		LIMESTONE	3.0	37.0	
625.4	BOND		LIGHT SHALE	10.0	40.0	
615.4	BOND		BLACK SHALE	9.0	50.0	
606.4	BOND		LIGHT SHALE	11.0	59.0	
595.4	BOND		DARK SHALE	44.0	70.0	
551.4	BOND		BLACK SHALE	29.0	114.0	
522.4	BOND		BROWN SHALE	27.0	143.0	
495.4	BOND		COAL	1.0	170.0	
494.4	BOND		UNDERCLAY	4.0	171.0	
490.4	BOND		LIMESTONE	3.0	175.0	
487.4	BOND		LIGHT SHALE	14.0	178.0	
473.4	BOND		BROWN SHALE	18.0	192.0	
455.4	BOND		BLUE SHALE	9.0	210.0	
446.4	BOND		LIGHT SHALE	24.0	219.0	
422.4	BOND	CARTHAGE	LIMESTONE	9.0	243.0	
413.4	MODESTO		LIGHT SHALE	26.0	252.0	
387.4	MODESTO		HARD SHALE	31.0	278.0	
356.4	MODESTO		BLACK SHALE	6.0	309.0	
350.4	MODESTO		UNDERCLAY	8.0	315.0	
342.4	MODESTO		HARD SHALE	31.0	323.0	
311.4	MODESTO		DARK SHALE	50.0	354.0	
261.4	MODESTO		LIGHT SHALE	12.0	404.0	
249.4	MODESTO		SANDSTONE	9.0	416.0	
240.4	MODESTO		LIGHT SHALE	4.0	425.0	
236.4	MODESTO		DARK SHALE	4.0	429.0	
232.4	MODESTO		LIMESTONE	2.0	433.0	
230.4	MODESTO		BLUE SHALE	17.0	435.0	
213.4	MODESTO		BROWN SHALE	25.0	452.0	
188.4	MODESTO		DARK SHALE	32.0	477.0	
156.4	MODESTO		BLUE SHALE	21.0	509.0	
135.4	MODESTO		SHALE	2.0	530.0	RED, WHITE, AND PINK
133.4	MODESTO		BLUE SHALE	5.0	532.0	
128.4	MODESTO	PIASA	LIMESTONE	5.0	537.0	
123.4	MODESTO		BROWN SHALE	9.5	542.0	

113.9	CARBONDALE		LIMESTONE	1.5	551.5
112.4	CARBONDALE		DARK SHALE	2.0	553.0
110.4	CARBONDALE		BLACK SHALE	1.0	555.0
109.4	CARBONDALE		DARK SHALE	6.5	556.0
102.9	CARBONDALE	BRERETON	LIMESTONE	10.5	562.5
92.4	CARBONDALE	ANNA	BLACK SHALE	1.3	573.0
91.1	CARBONDALE	HERRIN	COAL	8.0	574.3
83.1	CARBONDALE		UNDERCLAY	1.0	582.3

MAPID: 13500223000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** NW SW NE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.296456 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.271392 **DATE COLLECTED:** 0 / 0 / 1939

SURFACE ELEVATION (FT.): 728.0 **LOGGED (FT.):** 664.0 **LOG TYPE:** Drillers Log

SOURCE: CASSENS ETAL **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
113.0	MODESTO	PIASA	LIMESTONE	5.0	615.0	
108.0	MODESTO		UNCLASSIFIED	5.0	620.0	
103.0	CARBONDALE		UNCLASSIFIED	15.0	625.0	
88.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	640.0	
85.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	643.0	
84.0	CARBONDALE		UNCLASSIFIED	1.0	644.0	
83.0	CARBONDALE	BRERETON	LIMESTONE	5.0	645.0	
78.0	CARBONDALE	ENERGY	UNCLASSIFIED	13.0	650.0	
65.0	CARBONDALE	HERRIN	COAL	1.0	663.0	THICKNESS PROBABLY 5 TO 6': CGT 11/95

MAPID: 13500751000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW NE

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.428605 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.344288 **DATE COLLECTED:** 6 / 0 / 1954

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 471.0 **LOG TYPE:** Electric Log

SOURCE: DELTA DRILLING CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.5	MODESTO	PIASA	LIMESTONE	4.5	385.5	
247.0	MODESTO		UNCLASSIFIED	3.5	390.0	
243.5	CARBONDALE		UNCLASSIFIED	9.5	393.5	
234.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	403.0	
227.0	CARBONDALE	ENERGY	UNCLASSIFIED	59.0	410.0	
168.0	CARBONDALE	HERRIN	COAL	2.0	469.0	

MAPID: 13500875000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.392933 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.327937 **DATE COLLECTED:** 7 / 0 / 1957

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 476.0 **LOG TYPE:** Electric Log

SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
223.0	MODESTO	PIASA	LIMESTONE	5.0	430.0	
218.0	MODESTO		UNCLASSIFIED	2.5	435.0	
215.5	CARBONDALE		UNCLASSIFIED	7.5	437.5	
208.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	445.0	
204.0	CARBONDALE	ENERGY	UNCLASSIFIED	25.0	449.0	
179.0	CARBONDALE	HERRIN	COAL	2.0	474.0	CORRELATION PROBABLY WRONG: CGT 11/95

MAPID: 13500875000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.392933 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.327937 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** 548.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
222.0	MODESTO	PIASA	LIMESTONE	5.0	432.0	
217.0	CARBONDALE		CLAYSTONE & SHALE	11.0	437.0	
206.0	CARBONDALE	ENERGY	SHALE	100.0	448.0	

MAPID: 13500031000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.365878 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.317769 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 648.6 **LOGGED (FT.):** 726.5 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. #3 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
648.6	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
633.6	PLEISTOCENE		CLAY	41.0	15.0	
592.6	MATTOON		LIGHT SHALE	24.0	56.0	
568.6	MATTOON		SANDY SHALE	26.0	80.0	
542.6	MATTOON		BROWN SHALE	8.0	106.0	
534.6	MATTOON		BLUE SHALE	66.0	114.0	
468.6	MATTOON		LIGHT SHALE	13.0	180.0	
455.6	BOND	MILLERSVILLE	LIMESTONE	28.0	193.0	
427.6	BOND		BLACK SHALE	4.0	221.0	
423.6	BOND		BLUE SHALE	12.0	225.0	
411.6	BOND		SANDY SHALE	18.0	237.0	
393.6	BOND		BLUE SHALE	14.0	255.0	
379.6	BOND		BLACK SHALE	4.0	269.0	
375.6	BOND		CLAYSTONE	5.0	273.0	
370.6	BOND	CARTHAGE	LIMESTONE	7.0	278.0	
363.6	MODESTO		LIGHT SHALE	60.0	285.0	
303.6	MODESTO		SANDY SHALE	65.0	345.0	
238.6	MODESTO		BLUE SHALE	40.0	410.0	
198.6	MODESTO		BROWN SHALE	11.0	450.0	
187.6	MODESTO		BLACK SHALE	4.0	461.0	
183.6	CARBONDALE		COAL	1.5	465.0	
182.1	CARBONDALE		UNDERCLAY	1.5	466.5	
180.6	CARBONDALE		LIMESTONE	6.0	468.0	
174.6	CARBONDALE		SHALE	5.0	474.0	
169.6	CARBONDALE		BLACK SHALE	3.0	479.0	
166.6	CARBONDALE		SHALE	5.0	482.0	
161.6	CARBONDALE		SANDY SLATE	9.0	487.0	BLUE
152.6	CARBONDALE		LIMESTONE	5.0	496.0	
147.6	CARBONDALE		SANDY SHALE	9.0	501.0	LIGHT
138.6	CARBONDALE		SHALE	7.0	510.0	
131.6	CARBONDALE		SANDY SLATE	19.0	517.0	BLUE
112.6	CARBONDALE	HERRIN	COAL	0.0	536.0	APPROXIMATE POSITION OF HERRIN COAL
112.6	CARBONDALE		BLUE SHALE	34.0	536.0	
78.6	CARBONDALE		SANDSTONE	7.0	570.0	
71.6	CARBONDALE		SANDY SHALE	27.0	577.0	BLUE
44.6	CARBONDALE		LIMESTONE	4.0	604.0	
40.6	CARBONDALE		SANDY SHALE	12.0	608.0	
28.6	CARBONDALE	HOUCHIN CREEK	COAL	1.0	620.0	LOG READS 'PROBABLY #6'
27.6	CARBONDALE		CLAYSTONE	1.0	621.0	

26.6	CARBONDALE		SANDY SHALE	4.0	622.0	
22.6	CARBONDALE		SANDSTONE	28.0	626.0	
-5.4	CARBONDALE		SANDSTONE	6.0	654.0	BLUE
-11.4	CARBONDALE	SURVANT	COAL	1.0	660.0	
-12.4	CARBONDALE		BLUE SHALE	2.0	661.0	
-14.4	CARBONDALE		LIMESTONE	4.0	663.0	
-18.4	CARBONDALE		BROWN SHALE	19.0	667.0	
-37.4	CARBONDALE		BLACK SHALE	2.0	686.0	
-39.4	CARBONDALE		UNDERCLAY	2.0	688.0	COLCHESTER HORIZON?
-41.4	CARBONDALE		BROWN SHALE	36.0	690.0	
-77.4	CARBONDALE		ROCK	0.5	726.0	

MAPID: 13500031000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** NE NE

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.365878 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.317769 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 466.5 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
188.0	CARBONDALE	ANNA	BLACK SHALE	4.0	461.0	
184.0	CARBONDALE	HERRIN	COAL	1.5	465.0	

MAPID: 13500903000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1650' N line, 1650' W line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.41422 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.300438 **DATE COLLECTED:** 7 / 0 / 1957

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Structure Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	4.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5		

MAPID: 13500903000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1650' N line, 1650' W line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.41422 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.300438 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 469.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.0	MODESTO	PIASA	LIMESTONE	5.0	367.0	
273.0	MODESTO		CLAYSTONE & SHALE	6.0	372.0	
267.0	CARBONDALE	DANVILLE	COAL	2.0	378.0	
265.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	89.0	380.0	

MAPID: 13500032000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** SW NE NE

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.385909 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.287623 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 649.9 **LOGGED (FT.):** 662.3 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. #5 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEVATION IS 'McD'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
649.9			UNCONSOLIDATED	14.0	0.0	
635.9			HARD PAN	10.0	14.0	
625.9			UNCLASSIFIED	17.0	24.0	WASH
608.9			SANDSTONE	4.0	41.0	
604.9			BLUE SHALE	30.0	45.0	
574.9			COAL	2.0	75.0	
572.9			UNDERCLAY	2.0	77.0	
570.9			LIMESTONE	8.0	79.0	
562.9			BLUE SHALE	39.0	87.0	
523.9			LIMESTONE	2.0	126.0	
521.9			BLUE SHALE	28.0	128.0	
493.9			LIMESTONE	8.0	156.0	
485.9			BROWN SHALE	2.0	164.0	
483.9			BROWN SHALE	6.0	166.0	
477.9			LIMESTONE	2.0	172.0	
475.9			GRAY SHALE	28.0	174.0	
447.9			BROWN SHALE	19.0	202.0	
428.9			COAL	1.5	221.0	
427.4			UNDERCLAY	2.5	222.5	
424.9			LIMESTONE W/ SHALE	4.0	225.0	
420.9			LIMESTONE W/ SHALE	20.0	229.0	
400.9			SANDSTONE	4.0	249.0	
396.9			GRAY SHALE	36.0	253.0	
360.9			BROWN SHALE	24.0	289.0	
336.9			COAL	1.0	313.0	
335.9			UNDERCLAY	1.0	314.0	
334.9			GRAY SHALE	35.0	315.0	
299.9			BROWN SHALE	5.0	350.0	
294.9			BLUE SHALE	2.0	355.0	
292.9			BROWN SHALE	4.0	357.0	
288.9			GRAY SHALE	2.0	361.0	
286.9			LIMESTONE	5.0	363.0	
281.9			GRAY SHALE	21.0	368.0	
260.9			BROWN SHALE	9.0	389.0	
251.9			LIGHT SHALE	6.0	398.0	
245.9			BLUE SHALE	5.0	404.0	
240.9			LIMESTONE	6.0	409.0	
234.9			BLUE SHALE	4.0	415.0	
230.9			LIMESTONE W/ SHALE	17.0	419.0	

213.9			LIMESTONE W/ SHALE	10.0	436.0	
203.9			BLACK SHALE	2.0	446.0	
201.9			UNDERCLAY	1.0	448.0	
200.9			LIMESTONE	18.0	449.0	
182.9			GRAY SHALE	23.0	467.0	
159.9	CARBONDALE	HERRIN	COAL	0.0	490.0	APPROXIMATE POSITION OF HERRIN COAL
159.9	CARBONDALE		ROCK	4.0	490.0	
155.9	CARBONDALE		GRAY SHALE	71.0	494.0	
84.9	CARBONDALE		LIMESTONE	30.0	565.0	
54.9	CARBONDALE		BROWN SHALE	8.0	595.0	
46.9	CARBONDALE		GRAY SHALE	14.0	603.0	
32.9	CARBONDALE		SANDSTONE	8.0	617.0	DARK
24.9	CARBONDALE		GRAY SHALE	21.0	625.0	
3.9	CARBONDALE		LIMESTONE	10.0	646.0	
-6.1	CARBONDALE		BLACK SHALE	1.3	656.0	
-7.4	CARBONDALE	COLCHESTER	COAL	4.0	657.3	
-11.4	CARBONDALE		CLAYSTONE	1.0	661.3	

MAPID: 13500032000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** SW NE NE

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.385909 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.287623 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		

MAPID: 13500224000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.428374 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.276745 **DATE COLLECTED:** 7 / 0 / 1940

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: GRANHOLM & ASSOC. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 13500743000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SE
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.440084 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.280365 **DATE COLLECTED:** 5 / 0 / 1949
SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: STEWART OIL CO. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		

MAPID: 13500749000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 300' N line, 341' E line of SE
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.440166 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.267628 **DATE COLLECTED:** 3 / 0 / 1944
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: TEXACO, INC. **WELL TYPE:** Observation Well
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.0		

MAPID: 13500750000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.449384 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.269344 **DATE COLLECTED:** 10 / 0 / 1947
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		

MAPID: 13501570000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 369' S line, 1945' E line
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.44587 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.262102 **DATE COLLECTED:** 11 / 0 / 1966
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: ATKINS AND HALE **WELL TYPE:** Gas Storage Operational Well
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.5		

MAPID: 13501570000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 369' S line, 1945' E line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.44587 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.262102 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	LAWSON	SHALE	99.0		

MAPID: 13500902000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.42837 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.262081 **DATE COLLECTED:** 8 / 0 / 1957

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.5		

MAPID: 13500902000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 3W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.42837 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.262081 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	ENERGY	SHALE & SANDSTONE	99.0		

MAPID: 13500748000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.576681 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.342296 **DATE COLLECTED:** 10 / 0 / 1951

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 345.0 **LOG TYPE:** Electric Log

SOURCE: GULF REFINING CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
333.0	MODESTO	PIASA	LIMESTONE	3.0	286.0	
330.0	CARBONDALE	ENERGY	UNCLASSIFIED	52.0	289.0	
278.0	CARBONDALE	HERRIN	COAL	4.0	341.0	

MAPID: 13500748000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.576681 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.342296 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 345.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
382.0	MODESTO	PIASA	LIMESTONE	3.0	237.0	
379.0	CARBONDALE	ENERGY	SHALE	51.0	240.0	
278.0	CARBONDALE	HERRIN	COAL	4.0	341.0	

MAPID: 13522336000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2415' S line, 117' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.568851 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.340901 **DATE COLLECTED:** 7 / 11 / 1978

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-13 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	51.0	0.0	
589.0	BOND	CARTHAGE	LIMESTONE	1.0	51.0	
588.0	MODESTO		GRAY SHALE	20.0	52.0	
568.0	MODESTO		SANDY SHALE	22.0	72.0	
546.0	MODESTO		GRAY SHALE	7.0	94.0	
539.0	MODESTO		BLACK SHALE	3.0	101.0	
536.0	MODESTO		SANDY SHALE	13.0	104.0	
523.0	MODESTO		LIMESTONE	1.0	117.0	
522.0	MODESTO		SANDY SHALE	29.5	118.0	
492.5	MODESTO		SHALE	19.5	147.5	
473.0	MODESTO		BLACK SHALE	3.0	167.0	
470.0	MODESTO		LIMESTONE	1.0	170.0	
469.0	MODESTO		GRAY SHALE	19.0	171.0	
450.0	MODESTO	CHAPEL	COAL	2.0	190.0	
448.0	MODESTO		GRAY SHALE	98.0	192.0	
350.0	MODESTO		BLACK SHALE	2.0	290.0	
348.0	MODESTO		GRAY SHALE	10.0	292.0	
338.0	MODESTO		LIMESTONE	3.0	302.0	
335.0	MODESTO		SHALE	5.0	305.0	
330.0	MODESTO	PIASA	LIMESTONE	5.0	310.0	
325.0	MODESTO		SHALE	7.0	315.0	
318.0	CARBONDALE	ENERGY	GRAY SHALE	45.0	322.0	
273.0	CARBONDALE	HERRIN	COAL	4.0	367.0	
269.0	CARBONDALE		UNDERCLAY	7.0	371.0	
262.0	CARBONDALE		GRAY SHALE	9.0	378.0	
253.0	CARBONDALE		SANDY SHALE	3.0	387.0	

MAPID: 13500300301M **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW NE NW SW
QUADRANGLE: RAYMOND **LONGITUDE:** -89.565236 **GEOLOGIST:** TREWORGY,J
CONFIDENTIAL: N **LATITUDE:** 39.325557 **DATE COLLECTED:** 0 / 0 / 1900
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 3.3 **LOG TYPE:** Measured section
SOURCE: MINE NOTES-RAYMOND C C **WELL TYPE:** Underground mine
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
640.0			UNKNOWN	434.0	0.0	
206.0	CARBONDALE	HERRIN	COAL	3.3	434.0	

MAPID: 13500772000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.562253 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.320529 **DATE COLLECTED:** 5 / 0 / 1954
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 371.0 **LOG TYPE:** Electric Log
SOURCE: CLAYPOOL DAVID N **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
330.0	MODESTO	PIASA	LIMESTONE	3.0	306.0	
327.0	MODESTO		UNCLASSIFIED	3.0	309.0	
324.0	CARBONDALE		UNCLASSIFIED	7.0	312.0	
317.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	319.0	
312.0	CARBONDALE	ANNA	BLACK SHALE	2.0	324.0	
310.0	CARBONDALE	ENERGY	UNCLASSIFIED	44.0	326.0	
266.0	CARBONDALE	HERRIN	COAL	1.0	370.0	

MAPID: 13500772000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.562253 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.320529 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 353.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
329.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	307.0	
324.0	CARBONDALE		MOTTLED SHALE	1.0	312.0	
323.0	CARBONDALE	GALUM	LIMESTONE AND SANDSTONE	4.0	313.0	
319.0	CARBONDALE		MOTTLED SHALE	4.0	317.0	
315.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	321.0	
310.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	5.0	326.0	
305.0	CARBONDALE	ENERGY	DARK GRAY SHALE	4.0	331.0	
301.0	CARBONDALE	ENERGY	GRAY SHALE	15.0	335.0	
286.0	CARBONDALE	ENERGY	DARK GRAY SHALE	6.0	350.0	
284.0	CARBONDALE	HERRIN	COAL	1.0	352.0	

MAPID: 13500752000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' S line, 1040' W line of NW SW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.526875 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.324277 **DATE COLLECTED:** 10 / 0 / 1952

SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 533.0 **LOG TYPE:** Electric Log

SOURCE: WIRTH EDWARD LEE **WELL TYPE:** Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
272.0	MODESTO	PIASA	UNCLASSIFIED	-	357.0	
234.0	CARBONDALE	ENERGY	UNCLASSIFIED	20.0	395.0	
214.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	415.0	ENERGY SHALE ROOF
204.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	3.0	425.0	POSSIBLE COAL HORIZON
167.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	462.0	
143.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	486.0	
96.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	533.0	

MAPID: 13500900000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE NW
QUADRANGLE: RAYMOND **LONGITUDE:** -89.503593 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.329713 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: REED O A **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	8.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	37.0		
-	CARBONDALE	HERRIN	COAL	2.0		

MAPID: 13501439000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.510335 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.306135 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: REED O A **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	6.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	45.0		

MAPID: 13501440000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NW SE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.501072 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.311482 **DATE COLLECTED:** 5 / 0 / 1953
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: WIRTH EDWARD LEE **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.5		
-	CARBONDALE		UNCLASSIFIED	9.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	40.0		

MAPID: 13501441000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.501094 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.313304 **DATE COLLECTED:** 9 / 0 / 1951
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 397.0 **LOG TYPE:** Electric Log
SOURCE: WHITE EDGAR **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
310.0	MODESTO	PIASA	LIMESTONE	5.0	325.0	
305.0	MODESTO		UNCLASSIFIED	3.0	330.0	
302.0	CARBONDALE		UNCLASSIFIED	9.0	333.0	
293.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	342.0	
287.0	CARBONDALE	ENERGY	UNCLASSIFIED	47.0	348.0	
240.0	CARBONDALE	HERRIN	COAL	2.0	395.0	

MAPID: 13500744000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.519712 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.306125 **DATE COLLECTED:** 1 / 0 / 1952

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: MAGNOLIA PETROLEUM **WELL TYPE:** Producer-Oil

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.5		
-	MODESTO		UNCLASSIFIED	7.0		
-	CARBONDALE		UNCLASSIFIED	18.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5		
-	CARBONDALE	ENERGY	UNCLASSIFIED	37.0		
-	CARBONDALE	HERRIN	COAL	3.0		

MAPID: 13500744000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.519712 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.306125 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 358.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
315.0	MODESTO	PIASA	LIMESTONE	3.0	325.0	
312.0	CARBONDALE	ENERGY	UNCLASSIFIED	24.0	328.0	
288.0	CARBONDALE	HERRIN	COAL	6.0	352.0	

MAPID: 13501444000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 990' S line, 990' W line of SE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.517378 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.307956 **DATE COLLECTED:** 3 / 0 / 1952
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 537.0 **LOG TYPE:** Electric Log
SOURCE: MAGNOLIA PETROLEUM **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
315.0	MODESTO	PIASA	UNCLASSIFIED	-	338.0	
293.0	CARBONDALE	ENERGY	UNCLASSIFIED	63.0	360.0	
239.0	CARBONDALE	HERRIN	UNCLASSIFIED	3.0	414.0	ENERGY SHALE ROOF
230.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	-	423.0	CORRELATION UNCERTAIN
194.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	459.0	
170.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	483.0	
116.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	537.0	

MAPID: 13501444000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 990' S line, 990' W line of SE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.517378 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.307956 **DATE COLLECTED:** 3 / 0 / 1952
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: MAGNOLIA PETROLEUM **WELL TYPE:** Service Well
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	7.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		

MAPID: 13500745000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 990' S line, 330' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.547918 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.307809 **DATE COLLECTED:** 6 / 0 / 1950

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 388.0 **LOG TYPE:** Electric Log

SOURCE: HALL J M **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
325.5	MODESTO	PIASA	LIMESTONE	3.5	309.5	
322.0	MODESTO		UNCLASSIFIED	2.0	313.0	
320.0	CARBONDALE		UNCLASSIFIED	6.5	315.0	
313.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	321.5	
309.0	CARBONDALE	ENERGY	UNCLASSIFIED	59.0	326.0	
250.0	CARBONDALE	HERRIN	COAL	3.0	385.0	

MAPID: 13500389000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.559748 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.31324 **DATE COLLECTED:** 5 / 0 / 1956

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 487.0 **LOG TYPE:** Electric Log

SOURCE: PERKINS OIL, INC. **WELL TYPE:** Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
334.0	MODESTO	PIASA	UNCLASSIFIED	-	296.0	
310.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	320.0	
260.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	370.0	MISSING
250.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	380.0	NO COAL
216.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	414.0	
197.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	433.0	
143.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	487.0	

MAPID: 13500389000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.559748 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.31324 **DATE COLLECTED:** 5 / 0 / 1956

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 377.5 **LOG TYPE:** Electric Log

SOURCE: PERKINS OIL, INC. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
329.0	MODESTO	PIASA	LIMESTONE	3.5	301.0	
325.5	MODESTO		UNCLASSIFIED	2.0	304.5	
323.5	CARBONDALE		UNCLASSIFIED	5.0	306.5	
318.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	311.5	
315.5	CARBONDALE	ENERGY	UNCLASSIFIED	60.5	314.5	
255.0	CARBONDALE	HERRIN	COAL	2.5	375.0	

MAPID: 13500033000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** SW NE NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.580956 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.316849 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 444.0 **LOG TYPE:** Drillers Log

SOURCE: CONSOLIDATED COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
615.0			UNCONSOLIDATED	45.0	0.0	
570.0			ROCK	53.0	45.0	
517.0			COAL	0.5	98.0	
516.5			ROCK	304.5	98.5	
212.0			SHALE	25.0	403.0	
187.0			SANDSTONE	2.0	428.0	
185.0			SHALE	9.0	430.0	
176.0			COAL	4.2	439.0	
171.8			UNDERCLAY	0.8	443.2	

MAPID: 13500746000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.569033 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.305919 **DATE COLLECTED:** 5 / 0 / 1951
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Electric Log
SOURCE: CALVERT DRILLING, INC. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
338.0	MODESTO	PIASA	LIMESTONE	4.0	306.0	
334.0	MODESTO		UNCLASSIFIED	6.0	310.0	
328.0	CARBONDALE		UNCLASSIFIED	16.5	316.0	
311.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	332.5	
308.0	CARBONDALE	ENERGY	UNCLASSIFIED	59.0	336.0	
249.0	CARBONDALE	HERRIN	COAL	5.0	395.0	

MAPID: 13500747000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 300' N line, 330' E line of SW
QUADRANGLE: RAYMOND **LONGITUDE:** -89.578516 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.311454 **DATE COLLECTED:** 5 / 0 / 1949
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 361.0 **LOG TYPE:** Electric Log
SOURCE: RICHARDSON & FIRMIN **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
338.0	MODESTO	PIASA	LIMESTONE	4.0	272.0	
334.0	MODESTO		UNCLASSIFIED	5.0	276.0	
329.0	CARBONDALE		UNCLASSIFIED	10.0	281.0	
319.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	291.0	
315.0	CARBONDALE	ENERGY	UNCLASSIFIED	61.0	295.0	
254.0	CARBONDALE	HERRIN	COAL	5.0	356.0	

MAPID: 13500225000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' S line, 200' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.584585 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.291316 **DATE COLLECTED:** 2 / 0 / 1940
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: BURROUGHS, O. W. **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	9.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	66.0		
-	CARBONDALE	HERRIN	COAL	4.0		

MAPID: 13501458000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.573561 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.296795 **DATE COLLECTED:** 5 / 0 / 1949
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: BOYD & ROSSI **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	6.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		

MAPID: 13501459000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE NW
QUADRANGLE: RAYMOND **LONGITUDE:** -89.580694 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.302235 **DATE COLLECTED:** 5 / 0 / 1949
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: BOYD, L. K. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	2.5		
-	CARBONDALE		UNCLASSIFIED	7.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	65.0		

MAPID: 13500898000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW NE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.554926 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.30414 **DATE COLLECTED:** 11 / 0 / 1951
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: REED O A **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	9.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	65.0		

MAPID: 13500754000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.52666 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.300633 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 392.0 **LOG TYPE:** Electric Log
SOURCE: CARROLL, DELL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
328.0	MODESTO	PIASA	LIMESTONE	3.0	309.0	
325.0	MODESTO		UNCLASSIFIED	3.0	312.0	
322.0	CARBONDALE		UNCLASSIFIED	7.0	315.0	
315.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	322.0	
309.0	CARBONDALE	ENERGY	UNCLASSIFIED	58.0	328.0	
251.0	CARBONDALE	HERRIN	COAL	6.0	386.0	

MAPID: 13500754000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.52666 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.300633 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
323.0	MODESTO	PIASA	LIMESTONE	4.0	314.0	
319.0	CARBONDALE		CLAYSTONE & SHALE	8.0	318.0	
311.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	326.0	
306.0	CARBONDALE	ENERGY	GRAY SHALE	48.0	331.0	

MAPID: 13500754000C **VERSION:** 3 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.52666 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.300633 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 510.0 **LOG TYPE:** Electric Log
SOURCE: CARROLL, DELL **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
323.0	MODESTO	PIASA	UNCLASSIFIED	-	314.0	
305.0	CARBONDALE	ENERGY	UNCLASSIFIED	58.0	332.0	
247.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	390.0	ENERGY SHALE ROOF
238.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	399.0	THIN OR ABSENT
198.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	439.0	
177.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	460.0	
127.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	510.0	

MAPID: 13500896000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.519676 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.304303 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 399.0 **LOG TYPE:** Electric Log
SOURCE: MARSCH, LOUIS **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
327.0	MODESTO	PIASA	LIMESTONE	5.0	318.0	
322.0	MODESTO		UNCLASSIFIED	4.0	323.0	
318.0	CARBONDALE		UNCLASSIFIED	11.0	327.0	
307.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	338.0	
302.0	CARBONDALE	ENERGY	UNCLASSIFIED	54.0	343.0	
248.0	CARBONDALE	HERRIN	COAL	2.0	397.0	

MAPID: 13501464000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW
QUADRANGLE: RAYMOND **LONGITUDE:** -89.522021 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.304295 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 401.0 **LOG TYPE:** Electric Log
SOURCE: MARSCH, LOUIS **WELL TYPE:** Water Injection
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
325.0	MODESTO	PIASA	LIMESTONE	6.0	319.0	
319.0	MODESTO		UNCLASSIFIED	4.0	325.0	
315.0	CARBONDALE		UNCLASSIFIED	11.0	329.0	
304.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	340.0	
299.0	CARBONDALE	ENERGY	UNCLASSIFIED	55.0	345.0	
244.0	CARBONDALE	HERRIN	COAL	1.0	400.0	

MAPID: 13500758000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.528925 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.289599 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 387.0 **LOG TYPE:** Electric Log
SOURCE: CARROLL, DELL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
329.0	MODESTO	PIASA	LIMESTONE	2.0	318.0	
327.0	MODESTO		UNCLASSIFIED	2.0	320.0	
325.0	CARBONDALE		UNCLASSIFIED	5.0	322.0	
320.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	327.0	
316.5	CARBONDALE	ENERGY	UNCLASSIFIED	53.5	330.5	
263.0	CARBONDALE	HERRIN	COAL	3.0	384.0	

MAPID: 13500226000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.584089 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.289495 **DATE COLLECTED:** 1 / 0 / 1940

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 405.0 **LOG TYPE:** Electric Log

SOURCE: HENDERSON BROS., ETAL **WELL TYPE:** Plugged and/or Abandoned

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
280.0	MODESTO	PIASA	LIMESTONE	4.0	354.0	
276.0	MODESTO		UNCLASSIFIED	2.0	358.0	
274.0	CARBONDALE		UNCLASSIFIED	4.0	360.0	
270.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	364.0	
261.0	CARBONDALE	BRERETON	LIMESTONE	2.0	373.0	
259.0	CARBONDALE	ENERGY	UNCLASSIFIED	26.0	375.0	
233.0	CARBONDALE	HERRIN	COAL	4.0	401.0	

MAPID: 13500227000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 331' N line, 199' W line of SW NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.584486 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.285884 **DATE COLLECTED:** 6 / 0 / 1940

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 407.0 **LOG TYPE:** Electric Log

SOURCE: WOOLSEY W W **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE	5.0	356.0	
281.0	MODESTO		UNCLASSIFIED	2.0	361.0	
279.0	CARBONDALE		UNCLASSIFIED	5.0	363.0	
274.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	368.0	
265.0	CARBONDALE	BRERETON	LIMESTONE	2.0	377.0	
263.0	CARBONDALE	ENERGY	UNCLASSIFIED	26.0	379.0	
237.0	CARBONDALE	HERRIN	COAL	2.0	405.0	

MAPID: 13500755000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE SW
QUADRANGLE: NOKOMIS SW **LONGITUDE:** -89.48448 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.263776 **DATE COLLECTED:** 8 / 0 / 1948
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	4.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		

MAPID: 13500228000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 990' S line, 990' E line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.589799 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.337011 **DATE COLLECTED:** 5 / 0 / 1940
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 360.0 **LOG TYPE:** Electric Log
SOURCE: GULF REFINING CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
323.0	MODESTO	PIASA	LIMESTONE	3.0	305.0	
320.0	MODESTO		UNCLASSIFIED	2.5	308.0	
317.5	CARBONDALE		UNCLASSIFIED	7.5	310.5	
310.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	318.0	
307.0	CARBONDALE	ENERGY	UNCLASSIFIED	37.0	321.0	
270.0	CARBONDALE	HERRIN	COAL	2.0	358.0	

MAPID: 13500228000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 990' S line, 990' E line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.589799 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.337011 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 352.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
324.0	MODESTO	PIASA	LIMESTONE	5.0	304.0	
319.0	CARBONDALE		MOTTLED SHALE	10.0	309.0	
309.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	319.0	
304.0	CARBONDALE	ENERGY	SILTY SHALE	28.0	324.0	

MAPID: 13522337000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 2073' S line, 2028' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.598143 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.340312 **DATE COLLECTED:** 7 / 10 / 1977

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 407.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-14 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	32.0	0.0	
608.0	BOND		SHALE	26.0	32.0	
582.0	BOND	CARTHAGE	LIMESTONE	8.0	58.0	
574.0	MODESTO		SHALE	18.0	66.0	
556.0	MODESTO		SANDY SHALE	9.0	84.0	
547.0	MODESTO		SANDSTONE	9.0	93.0	
538.0	MODESTO		GRAY SHALE	8.0	102.0	
530.0	MODESTO	MACOUPIN	LIMESTONE	2.0	110.0	
528.0	MODESTO		BLACK SHALE	3.0	112.0	
525.0	MODESTO		GRAY SHALE	15.0	115.0	
510.0	MODESTO		GRAY SHALE	12.0	130.0	
498.0	MODESTO		GRAY SHALE	29.0	142.0	
469.0	MODESTO	CARLINVILLE	LIMESTONE	1.5	171.0	
467.5	MODESTO		BLACK SHALE	1.0	172.5	
466.5	MODESTO		GRAY SHALE	27.5	173.5	
439.0	MODESTO	CHAPEL	COAL	1.5	201.0	
437.5	MODESTO		GRAY SHALE	96.5	202.5	
341.0	MODESTO		BLACK SHALE	3.0	299.0	
338.0	MODESTO		GRAY SHALE	15.0	302.0	
323.0	MODESTO	PIASA	LIMESTONE	3.0	317.0	
320.0	MODESTO		SHALE	3.0	320.0	
317.0	CARBONDALE	ENERGY	GRAY SHALE	58.6	323.0	
258.4	CARBONDALE	HERRIN	COAL	2.6	381.6	
255.8	CARBONDALE		UNDERCLAY	2.4	384.2	
253.4	CARBONDALE		SANDY SHALE	10.4	386.6	
243.0	CARBONDALE		GRAY SHALE	10.0	397.0	

MAPID: 13522567000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 30' S line, 1130' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.590243 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.334377 **DATE COLLECTED:** 6 / 13 / 1975

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-31 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
625.0			UNCONSOLIDATED	58.0	0.0	
567.0	BOND	CARTHAGE	LIMESTONE	9.0	58.0	
558.0	MODESTO		BLACK SHALE	3.0	67.0	
555.0	MODESTO		GRAY SHALE	10.0	70.0	
545.0	MODESTO		SHALY LIMESTONE	8.0	80.0	
537.0	MODESTO		CALCAREOUS SHALE	22.0	88.0	
515.0	MODESTO		BLACK SHALE	5.0	110.0	
510.0	MODESTO		SHALE	45.0	115.0	
465.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	160.0	
461.0	MODESTO		GRAY SHALE	4.0	164.0	
457.0	MODESTO		LIMESTONE	1.5	168.0	
455.5	MODESTO		BLACK SHALE	1.0	169.5	
454.5	MODESTO		LIMESTONE	1.0	170.5	
453.5	MODESTO		GRAY SHALE	27.0	171.5	
426.5	MODESTO	CHAPEL	COAL	1.5	198.5	
425.0	MODESTO		GRAY SHALE	105.0	200.0	
320.0	MODESTO		BLACK SHALE	5.0	305.0	
315.0	MODESTO		GRAY SHALE	14.0	310.0	
301.0	MODESTO	PIASA	LIMESTONE	1.0	324.0	
300.0	MODESTO		GRAY SHALE	2.0	325.0	
298.0	MODESTO		BLACK SHALE	3.0	327.0	
295.0	CARBONDALE		GRAY SHALE	5.0	330.0	
290.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	335.0	
286.5	CARBONDALE	ENERGY	SHALE	51.0	338.5	
235.5	CARBONDALE	HERRIN	COAL	2.5	389.5	
233.0	CARBONDALE		UNDERCLAY	3.0	392.0	
230.0	CARBONDALE		LIMESTONE	3.0	395.0	
227.0	CARBONDALE		SHALE	2.0	398.0	
225.0	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	400.0	
220.0	CARBONDALE		SHALE	5.0	405.0	

MAPID: 13500756000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW
QUADRANGLE: RAYMOND **LONGITUDE:** -89.615784 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.341656 **DATE COLLECTED:** 7 / 0 / 1952
SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 410.5 **LOG TYPE:** Electric Log
SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.0	MODESTO	PIASA	LIMESTONE	2.5	344.0	
301.5	MODESTO		UNCLASSIFIED	1.5	346.5	
300.0	CARBONDALE		UNCLASSIFIED	6.0	348.0	
294.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	354.0	
289.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	359.0	
239.0	CARBONDALE	HERRIN	COAL	1.5	409.0	

MAPID: 13522568000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2445' S line, 240' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.642404 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.343383 **DATE COLLECTED:** 8 / 30 / 1977
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Multiple log types
SOURCE: MOBIL OIL RI-77-35 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
215.0	CARBONDALE	HERRIN	COAL	8.2	417.0	CLEAN COAL, ALSO CONTAINS 0.6' PARTING

MAPID: 13522568000C **VERSION:** 2 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2445' S line, 240' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.642404 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.343383 **DATE COLLECTED:** 8 / 30 / 1977

SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-35 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
632.0			UNCONSOLIDATED	59.0	0.0	
573.0	BOND		GRAY SHALE	43.0	59.0	
530.0	BOND		COAL	2.0	102.0	
528.0	BOND		SANDY SHALE	16.0	104.0	
512.0	BOND	CARTHAGE	LIMESTONE	5.0	120.0	
507.0	MODESTO		GRAY SHALE	18.0	125.0	
489.0	MODESTO		BLACK SHALE	3.5	143.0	
485.5	MODESTO	WOMAC	COAL	1.0	146.5	
484.5	MODESTO		GRAY SHALE	5.5	147.5	
479.0	MODESTO		LIMESTONE	2.0	153.0	
477.0	MODESTO		GRAY SHALE	4.0	155.0	
473.0	MODESTO		LIMESTONE	1.0	159.0	
472.0	MODESTO		GRAY SHALE	40.0	160.0	
432.0	MODESTO		BLACK SHALE	2.0	200.0	
430.0	MODESTO		GRAY SHALE	20.5	202.0	
409.5	MODESTO	CHAPEL	COAL	1.5	222.5	
408.0	MODESTO		GRAY SHALE	90.0	224.0	
318.0	MODESTO		SHALE	2.0	314.0	
316.0	MODESTO		GRAY SHALE	22.0	316.0	
294.0	MODESTO		BLACK SHALE	3.0	338.0	
291.0	MODESTO		GRAY SHALE	11.5	341.0	
279.5	MODESTO		LIMESTONE	1.5	352.5	
278.0	MODESTO		GRAY SHALE	2.0	354.0	
276.0	MODESTO	PIASA	LIMESTONE	3.0	356.0	
273.0			SHALE	15.0	359.0	
258.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	374.0	
253.0	CARBONDALE		CALCAREOUS SHALE	7.0	379.0	
246.0	CARBONDALE	ENERGY	GRAY SHALE	31.0	386.0	
215.0	CARBONDALE	HERRIN	COAL	9.0	417.0	
206.0	CARBONDALE		UNDERCLAY/SHALE	14.0	426.0	

MAPID: 13522594000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 90' N line, 1305' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.628612 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.348097 **DATE COLLECTED:** 5 / 25 / 1979

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 427.5 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-3-10C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
231.9	CARBONDALE	HERRIN	COAL	6.2	408.1	CLEAN COAL, ALSO CONTAINS 0.6' PARTING

MAPID: 13522594000C **VERSION:** 2 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 90' N line, 1305' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.628612 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.348097 **DATE COLLECTED:** 5 / 25 / 1979

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 427.5 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-3-10C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	118.0	0.0	
522.0	BOND		SHALE	6.5	118.0	
515.5	BOND	CARTHAGE	SHALY LIMESTONE	5.5	124.5	
510.0	MODESTO		GRAY SHALE	14.0	130.0	
496.0	MODESTO		LIMESTONE	1.0	144.0	
495.0	MODESTO		GRAY SHALE	3.0	145.0	
492.0	MODESTO		BLACK SHALE	3.0	148.0	
489.0	MODESTO		GRAY SHALE	5.0	151.0	
484.0	MODESTO		SANDSTONE	8.0	156.0	
476.0	MODESTO		GRAY SHALE	44.0	164.0	
432.0	MODESTO		BLACK SHALE	2.0	208.0	
430.0	MODESTO		GRAY SHALE	3.0	210.0	
427.0	MODESTO		LIMESTONE	2.5	213.0	
424.5	MODESTO		GRAY SHALE	12.5	215.5	
412.0	MODESTO	CHAPEL	COAL	1.0	228.0	
411.0	MODESTO		GRAY SHALE	100.0	229.0	
311.0	MODESTO		BLACK SHALE	1.0	329.0	
310.0	MODESTO		GRAY SHALE	3.0	330.0	
307.0	MODESTO		SHALE	5.0	333.0	
302.0	MODESTO		GRAY SHALE	13.5	338.0	
288.5	MODESTO	PIASA	LIMESTONE	2.5	351.5	
286.0	MODESTO		GRAY SHALE	5.5	354.0	
280.5	CARBONDALE	DANVILLE	COAL	2.5	359.5	
278.0	CARBONDALE		GRAY SHALE	6.5	362.0	
271.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	368.5	
267.5	CARBONDALE	ENERGY	GRAY SHALE	7.5	372.5	
260.0	CARBONDALE	ENERGY	GRAY SHALE	25.0	380.0	
235.0	CARBONDALE	ENERGY	SHALE	1.4	405.0	
233.6	CARBONDALE	HERRIN	COAL	6.8	406.4	
226.8	CARBONDALE		CLAYSTONE & SANDSTONE	4.2	413.2	
222.6	CARBONDALE		GRAY SHALE	3.0	417.4	
219.7	CARBONDALE		LIMESTONE	0.8	420.3	
218.9	CARBONDALE		GRAY SHALE	1.6	421.1	
217.3	CARBONDALE		LIMESTONE	1.0	422.7	
216.3	CARBONDALE		GRAY SHALE	2.0	423.7	
214.3	CARBONDALE		CORE LOSS	1.9	425.7	

MAPID: 13500283000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 458' S line, 2957' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.673163 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.33959 **DATE COLLECTED:** 3 / 0 / 1941

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: BRANSON, THOS. W. **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	3.5		
-	CARBONDALE		UNCLASSIFIED	10.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0		
-	CARBONDALE		UNCLASSIFIED	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	4.0		
-	CARBONDALE	ANNA	BLACK SHALE	0.5		
-	CARBONDALE	HERRIN	COAL	3.0		

MAPID: 13522569000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2553' S line, 1350' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.677035 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.345586 **DATE COLLECTED:** 8 / 12 / 1977

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-36 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	85.0	0.0	
555.0	BOND	CARTHAGE	SHALY LIMESTONE	9.0	85.0	
546.0	MODESTO		BLACK SHALE	2.0	94.0	
544.0	MODESTO		GRAY SHALE	12.0	96.0	
532.0	MODESTO		SANDY LIMESTONE	4.5	108.0	
527.5	MODESTO		SANDSTONE	5.0	112.5	
522.5	MODESTO		GRAY SHALE	15.5	117.5	
507.0	MODESTO		BLACK SHALE	4.0	133.0	
503.0	MODESTO		GRAY SHALE	8.0	137.0	
495.0	MODESTO		LIMESTONE	2.0	145.0	
493.0	MODESTO		GRAY SHALE	5.0	147.0	
488.0	MODESTO		SHALY LIMESTONE	1.5	152.0	
486.5	MODESTO		GRAY SHALE	4.5	153.5	
482.0	MODESTO		SANDY SHALE	26.0	158.0	
456.0	MODESTO	CARLINVILLE	LIMESTONE	2.0	184.0	
454.0	MODESTO		BLACK SHALE	1.5	186.0	
452.5	MODESTO		GRAY SHALE	21.5	187.5	
431.0	MODESTO	CHAPEL	COAL	1.0	209.0	
430.0	MODESTO		UNDERCLAY	3.0	210.0	
427.0	MODESTO		CALCAREOUS SANDSTONE	4.0	213.0	
423.0	MODESTO		SANDY SHALE	15.5	217.0	
407.5	MODESTO		GRAY SHALE	73.0	232.5	
334.5	MODESTO		LIMESTONE	0.5	305.5	
334.0	MODESTO		SANDY SHALE	19.0	306.0	
315.0	MODESTO		BLACK SHALE	3.0	325.0	
312.0	MODESTO		GRAY SHALE	4.0	328.0	
308.0	MODESTO		SHALY LIMESTONE	3.0	332.0	
305.0	MODESTO		CALCAREOUS SHALE	8.0	335.0	
297.0	MODESTO	PIASA	LIMESTONE	4.0	343.0	
293.0	MODESTO		BLACK SHALE	2.5	347.0	
290.5	CARBONDALE		GRAY SHALE	6.5	349.5	
284.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	356.0	
278.0	CARBONDALE		SHALE	2.0	362.0	
276.0	CARBONDALE	BRERETON	LIMESTONE	7.0	364.0	
269.0	CARBONDALE	ANNA	BLACK SHALE	3.5	371.0	
265.5	CARBONDALE	HERRIN	COAL	8.5	374.5	
257.0	CARBONDALE		UNDERCLAY	1.0	383.0	
256.0	CARBONDALE		LIMESTONE	4.5	384.0	

251.5	CARBONDALE	GRAY SHALE	5.0	388.5
246.5	CARBONDALE	LIMESTONE	1.5	393.5
245.0	CARBONDALE	GRAY SHALE	5.0	395.0

MAPID: 13522570000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 12' N line, 300' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.663883 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.348051 **DATE COLLECTED:** 10 / 11 / 1977

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 480.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-43 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
641.0			UNCONSOLIDATED	96.0	0.0	
545.0			SANDY SHALE	28.0	96.0	
517.0			CALCAREOUS SANDSTONE	3.0	124.0	
514.0			SANDY SHALE	17.0	127.0	
497.0	MODESTO		GRAY SHALE	2.5	144.0	
494.5	MODESTO		LIMESTONE	0.5	146.5	
494.0	MODESTO		BLACK SHALE	5.0	147.0	
489.0	MODESTO		GRAY SHALE	6.0	152.0	
483.0	MODESTO		SHALY LIMESTONE	2.0	158.0	
481.0	MODESTO		SANDY SHALE	44.0	160.0	
437.0	MODESTO		BLACK SHALE	1.5	204.0	
435.5	MODESTO		GRAY SHALE	19.0	205.5	
416.5	MODESTO	CHAPEL	COAL	1.5	224.5	
415.0	MODESTO		GRAY SHALE	2.0	226.0	
413.0	MODESTO		SANDY LIMESTONE	9.0	228.0	
404.0	MODESTO		GRAY SHALE	104.0	237.0	
300.0	MODESTO		BLACK SHALE	1.0	341.0	
299.0	CARBONDALE	DANVILLE	COAL	2.0	342.0	
297.0	CARBONDALE		UNDERCLAY	3.5	344.0	
293.5	CARBONDALE		GRAY SHALE	8.5	347.5	
285.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	356.0	
282.0	CARBONDALE		SHALE	5.0	359.0	
277.0	CARBONDALE		GRAY SHALE	10.0	364.0	
267.0	CARBONDALE	BRERETON	SHALY LIMESTONE	9.0	374.0	
258.0	CARBONDALE	ANNA	BLACK SHALE	5.5	383.0	
252.5	CARBONDALE	HERRIN	COAL	8.0	388.5	
244.5	CARBONDALE		UNDERCLAY	0.5	396.5	
244.0	CARBONDALE		LIMESTONE	5.5	397.0	
238.5	CARBONDALE		GRAY SHALE	3.5	402.5	
235.0	CARBONDALE		LIMESTONE	7.0	406.0	
228.0	CARBONDALE		GRAY SHALE	11.0	413.0	
217.0	CARBONDALE	HANOVER	LIMESTONE	1.0	424.0	
216.0	CARBONDALE	EXCELLO	BLACK SHALE	5.0	425.0	
211.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	430.0	
208.0	CARBONDALE		UNDERCLAY	2.0	433.0	
206.0	CARBONDALE		GRAY SHALE	25.0	435.0	
181.0	CARBONDALE	SURVANT	COAL	4.0	460.0	
177.0	CARBONDALE		SANDY SHALE	16.0	464.0	

MAPID: 13522338000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 63' S line, 1461' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.698337 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.340257 **DATE COLLECTED:** 7 / 7 / 1978

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-19 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.0			UNCONSOLIDATED	72.0	0.0	
563.0	BOND		GRAY SHALE	12.0	72.0	
551.0	BOND	CARTHAGE	LIMESTONE	8.0	84.0	
543.0	MODESTO		BLACK SHALE	3.0	92.0	
540.0	MODESTO		GRAY SHALE	11.0	95.0	
529.0	MODESTO		SHALY LIMESTONE	4.0	106.0	
525.0	MODESTO		SANDSTONE	6.5	110.0	
518.5	MODESTO		GRAY SHALE	15.0	116.5	
503.5	MODESTO		BLACK SHALE	5.5	131.5	
498.0	MODESTO		SANDY SHALE	20.0	137.0	
478.0	MODESTO		GRAY SHALE	17.0	157.0	
461.0	MODESTO	CARLINVILLE	LIMESTONE	2.0	174.0	
459.0	MODESTO		SHALE	1.0	176.0	
458.0	MODESTO		GRAY SHALE	30.0	177.0	
428.0	MODESTO	CHAPEL	COAL	1.0	207.0	
427.0	MODESTO		SANDY SHALE	24.0	208.0	
403.0	MODESTO		GRAY SHALE	88.0	232.0	
315.0	MODESTO		BLACK SHALE	3.0	320.0	
312.0	CARBONDALE	DANVILLE	COAL	2.0	323.0	
310.0	CARBONDALE		GRAY SHALE	11.0	325.0	
299.0	CARBONDALE		LIMESTONE	3.5	336.0	
295.5	CARBONDALE		SHALE	1.0	339.5	
294.5	CARBONDALE		GRAY SHALE	4.5	340.5	
290.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.5	345.0	
285.5	CARBONDALE		SHALE	2.5	349.5	
283.0	CARBONDALE	BRERETON	LIMESTONE	12.5	352.0	
270.5	CARBONDALE	ENERGY	GRAY SHALE	2.0	364.5	
268.5	CARBONDALE	HERRIN	COAL	7.4	366.5	
261.1	CARBONDALE		UNDERCLAY	0.3	373.9	
260.8	CARBONDALE		UNDERCLAY	0.6	374.2	
260.2	CARBONDALE		CORE LOSS	0.3	374.8	
260.0	CARBONDALE		UNDERCLAY	8.5	375.0	
251.5	CARBONDALE		LIMESTONE	5.0	383.5	
246.5	CARBONDALE		GRAY SHALE	1.5	388.5	

MAPID: 13522442000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 790' S line, 3500' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.691106 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.341704 **DATE COLLECTED:** 5 / 18 / 1979

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 395.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-6-11C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
625.0			UNCONSOLIDATED	78.0	0.0	
547.0	BOND		GRAY SHALE	4.0	78.0	
543.0	BOND	CARTHAGE	LIMESTONE	8.5	82.0	
534.5	MODESTO		BLACK SHALE	2.5	90.5	
532.0	MODESTO		SANDY SHALE	9.0	93.0	
523.0	MODESTO		SANDSTONE	12.5	102.0	
510.5	MODESTO		GRAY SHALE	14.5	114.5	
496.0	MODESTO	MACOUPIN	LIMESTONE	1.0	129.0	
495.0	MODESTO		GRAY SHALE	1.0	130.0	
494.0	MODESTO		BLACK SHALE	3.0	131.0	
491.0	MODESTO	WOMAC	COAL	1.0	134.0	
490.0	MODESTO		GRAY SHALE	7.0	135.0	
483.0	MODESTO		LIMESTONE	1.0	142.0	
482.0	MODESTO		SHALE	4.5	143.0	
477.5	MODESTO		SANDSTONE	2.5	147.5	
475.0	MODESTO		GRAY SHALE	3.0	150.0	
472.0	MODESTO		GRAY SHALE	22.5	153.0	
449.5	MODESTO	CARLINVILLE	LIMESTONE	4.5	175.5	
445.0	MODESTO		GRAY SHALE	27.0	180.0	
418.0	MODESTO	CHAPEL	COAL	1.0	207.0	
417.0	MODESTO		GRAY SHALE	3.0	208.0	
414.0	MODESTO		SANDSTONE	4.0	211.0	
410.0	MODESTO		GRAY SHALE	13.0	215.0	
397.0	MODESTO		GRAY SHALE	98.0	228.0	
299.0	MODESTO		BLACK SHALE	2.0	326.0	
297.0	CARBONDALE	DANVILLE	COAL	1.0	328.0	
296.0	CARBONDALE		GRAY SHALE	18.0	329.0	
278.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	347.0	
267.0	CARBONDALE		GRAY SHALE	1.5	358.0	
265.5	CARBONDALE	BRERETON	LIMESTONE	7.9	359.5	
257.6	CARBONDALE		GRAY SHALE	0.6	367.4	
257.0	CARBONDALE	HERRIN	COAL	8.2	368.0	
248.8	CARBONDALE		SHALE	1.4	376.2	
247.4	CARBONDALE		LIMESTONE	4.4	377.6	
243.0	CARBONDALE		SHALE	5.5	382.0	
237.5	CARBONDALE		LIMESTONE	3.5	387.5	
234.0	CARBONDALE		CALCAREOUS SHALE	4.0	391.0	

MAPID: 13522571000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2626' N line, 2629' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.691076 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.340813 **DATE COLLECTED:** 8 / 15 / 1977

SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-37 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
638.0			UNCONSOLIDATED	92.0	0.0	
546.0	BOND		SHALE	2.0	92.0	
544.0	BOND	CARTHAGE	SHALY LIMESTONE	7.0	94.0	
537.0	MODESTO		BLACK SHALE	4.0	101.0	
533.0	MODESTO		GRAY SHALE	32.0	105.0	
501.0	MODESTO		BLACK SHALE	3.0	137.0	
498.0	MODESTO	WOMAC	COAL	1.0	140.0	
497.0	MODESTO		GRAY SHALE	14.0	141.0	
483.0	MODESTO		SANDY SHALE	29.0	155.0	
454.0	MODESTO		LIMESTONE	2.5	184.0	
451.5	MODESTO		SHALE	1.5	186.5	
450.0	MODESTO		LIMESTONE	2.0	188.0	
448.0	MODESTO		GRAY SHALE	21.5	190.0	
426.5	MODESTO	CHAPEL	COAL	1.0	211.5	
425.5	MODESTO		UNDERCLAY	3.5	212.5	
422.0	MODESTO		SHALY LIMESTONE	5.0	216.0	
417.0	MODESTO		GRAY SHALE	72.5	221.0	
344.5	MODESTO		LIMESTONE	1.0	293.5	
343.5	MODESTO		SHALE	2.5	294.5	
341.0	MODESTO		GRAY SHALE	28.0	297.0	
313.0	MODESTO		BLACK SHALE	1.5	325.0	
311.5	MODESTO		COAL	1.0	326.5	
310.5	MODESTO		GRAY SHALE	4.0	327.5	
306.5	MODESTO		LIMESTONE	1.5	331.5	
305.0	MODESTO		GRAY SHALE	7.0	333.0	
298.0	MODESTO	PIASA	SHALY LIMESTONE	8.0	340.0	
290.0	CARBONDALE		GRAY SHALE	5.0	348.0	
285.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.0	353.0	
281.0	CARBONDALE		GRAY SHALE	1.0	357.0	
280.0	CARBONDALE	BRERETON	SHALY LIMESTONE	11.0	358.0	
269.0	CARBONDALE	ANNA	BLACK SHALE	4.0	369.0	
265.0	CARBONDALE	HERRIN	COAL	8.5	373.0	
256.5	CARBONDALE		UNDERCLAY	2.5	381.5	
254.0	CARBONDALE		SHALY LIMESTONE	5.0	384.0	
249.0	CARBONDALE		GRAY SHALE	11.0	389.0	

MAPID: 13522339000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2217' N line, 960' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.700025 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.334095 **DATE COLLECTED:** 7 / 6 / 1978

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 395.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-18 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
633.0			UNCONSOLIDATED	68.0	0.0	
565.0	BOND		SHALE	17.0	68.0	
548.0	BOND	CARTHAGE	LIMESTONE	10.0	85.0	
538.0	MODESTO		BLACK SHALE	2.0	95.0	
536.0	MODESTO		GRAY SHALE	13.0	97.0	
523.0	MODESTO	MACOUPIN	SANDY LIMESTONE	8.0	110.0	
515.0	MODESTO		GRAY SHALE	16.0	118.0	
499.0	MODESTO		BLACK SHALE	3.0	134.0	
496.0	MODESTO		GRAY SHALE	21.0	137.0	
475.0	MODESTO		GRAY SHALE	17.0	158.0	
458.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	175.0	
453.0	MODESTO		GRAY SHALE	32.0	180.0	
421.0	MODESTO	CHAPEL	COAL	2.0	212.0	
419.0	MODESTO		SANDY SHALE	10.0	214.0	
409.0	MODESTO		SHALY SANDSTONE	9.0	224.0	
400.0	MODESTO		GRAY SHALE	63.0	233.0	
337.0	MODESTO		SANDY SHALE	49.0	296.0	
288.0	MODESTO		BLACK SHALE	4.0	345.0	
284.0	CARBONDALE	DANVILLE	COAL	1.0	349.0	
283.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	19.5	350.0	UNCERTAIN CORRELATION
263.5	CARBONDALE	HERRIN	COAL	7.1	369.5	
256.4	CARBONDALE		UNDERCLAY	0.9	376.6	
255.5	CARBONDALE		SHALY LIMESTONE	5.0	377.5	
250.5	CARBONDALE		CALCAREOUS SHALE	6.5	382.5	
244.0	CARBONDALE		LIMESTONE	1.5	389.0	
242.5	CARBONDALE		SHALE	4.5	390.5	

MAPID: 13522340000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 960' N line, 2626' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.690976 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.336865 **DATE COLLECTED:** 7 / 6 / 1978

SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 395.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-20 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
632.0			UNCONSOLIDATED	76.0	0.0	
556.0	BOND		GRAY SHALE	10.0	76.0	
546.0	BOND	CARTHAGE	LIMESTONE	7.5	86.0	
538.5	MODESTO		BLACK SHALE	2.5	93.5	
536.0	MODESTO		GRAY SHALE	14.0	96.0	
522.0	MODESTO		SANDSTONE	6.5	110.0	
515.5	MODESTO		GRAY SHALE	16.5	116.5	
499.0	MODESTO	MACOUPIN	LIMESTONE	1.5	133.0	
497.5	MODESTO		BLACK SHALE	3.0	134.5	
494.5	MODESTO	WOMAC	COAL	1.0	137.5	
493.5	MODESTO		GRAY SHALE	7.5	138.5	
486.0	MODESTO		LIMESTONE	2.0	146.0	
484.0	MODESTO		GRAY SHALE	10.0	148.0	
474.0	MODESTO		GRAY SHALE	21.0	158.0	
453.0	MODESTO	CARLINVILLE	LIMESTONE	3.0	179.0	
450.0	MODESTO		GRAY SHALE	31.0	182.0	
419.0	MODESTO	CHAPEL	COAL	1.0	213.0	
418.0	MODESTO		GRAY SHALE	3.0	214.0	
415.0	MODESTO		SHALY LIMESTONE	3.0	217.0	
412.0	MODESTO		GRAY SHALE	3.0	220.0	
409.0	MODESTO		SANDSTONE	73.5	223.0	
335.5	MODESTO		COAL	0.5	296.5	
335.0	MODESTO		SHALE	29.0	297.0	
306.0	MODESTO		GRAY SHALE	6.0	326.0	
300.0	MODESTO		BLACK SHALE	4.5	332.0	
295.5	CARBONDALE	DANVILLE	COAL	1.0	336.5	
294.5	CARBONDALE		GRAY SHALE	7.5	337.5	
287.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	345.0	
282.0	CARBONDALE	ENERGY	SHALE	22.0	350.0	
260.0	CARBONDALE	HERRIN	COAL	7.9	372.0	
252.1	CARBONDALE		GRAY SHALE	0.3	379.9	
251.8	CARBONDALE		LIMESTONE	5.8	380.2	
246.0	CARBONDALE		GRAY SHALE	4.5	386.0	
241.5	CARBONDALE		LIMESTONE	2.5	390.5	
239.0	CARBONDALE		GRAY SHALE	1.0	393.0	
238.0	CARBONDALE		LIMESTONE	1.0	394.0	

MAPID: 13522443000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1095' N line, 429' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.683146 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.335887 **DATE COLLECTED:** 5 / 21 / 1979

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-7-12C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
639.0			UNCONSOLIDATED	54.0	0.0	
585.0	BOND		GRAY SHALE	25.0	54.0	
560.0	BOND		BLACK SHALE	1.0	79.0	
559.0	BOND		GRAY SHALE	2.0	80.0	
557.0	BOND	CARTHAGE	LIMESTONE	6.0	82.0	
551.0	MODESTO		GRAY SHALE	1.0	88.0	
550.0	MODESTO		BLACK SHALE	3.0	89.0	
547.0	MODESTO		GRAY SHALE	15.0	92.0	
532.0	MODESTO		SANDSTONE	4.0	107.0	
528.0	MODESTO		GRAY SHALE	18.5	111.0	
509.5	MODESTO		LIMESTONE	1.5	129.5	
508.0	MODESTO		BLACK SHALE	4.0	131.0	
504.0	MODESTO		GRAY SHALE	8.5	135.0	
495.5	MODESTO		LIMESTONE	0.5	143.5	
495.0	MODESTO		GRAY SHALE	31.0	144.0	
464.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	175.0	
460.0	MODESTO		GRAY SHALE	28.0	179.0	
432.0	MODESTO	CHAPEL	COAL	1.0	207.0	
431.0	MODESTO		GRAY SHALE	12.0	208.0	
419.0	MODESTO		SANDSTONE	8.0	220.0	
411.0	MODESTO		SANDY SHALE	6.0	228.0	
405.0	MODESTO		GRAY SHALE	45.0	234.0	
360.0	MODESTO		GRAY SHALE	7.5	279.0	
352.5	MODESTO		GRAY SHALE	3.5	286.5	
349.0	MODESTO		GRAY SHALE	4.0	290.0	
345.0	MODESTO		SANDY SHALE	20.0	294.0	
325.0	MODESTO		BLACK SHALE	3.0	314.0	
322.0	MODESTO		SANDY SHALE	11.0	317.0	
311.0	MODESTO	PIASA	SHALY LIMESTONE	6.5	328.0	
304.5	MODESTO		SHALE	0.5	334.5	
304.0	CARBONDALE		GRAY SHALE	3.0	335.0	
301.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	6.5	338.0	
294.5	CARBONDALE	ENERGY	GRAY SHALE	8.5	344.5	
286.0	CARBONDALE	ENERGY	GRAY SHALE	7.2	353.0	
278.8	CARBONDALE	ENERGY	SANDSTONE	0.1	360.2	
278.7	CARBONDALE	ENERGY	GRAY SHALE	9.0	360.3	
269.7	CARBONDALE	ENERGY	SANDSTONE	0.1	369.3	
269.6	CARBONDALE	ENERGY	GRAY SHALE	2.2	369.4	
267.4	CARBONDALE	ENERGY	SHALE	1.1	371.6	

266.3	CARBONDALE	ENERGY	BLACK SHALE	0.0	372.7
266.3	CARBONDALE	HERRIN	COAL	7.7	372.7
258.6	CARBONDALE		GRAY SHALE	1.4	380.4
257.2	CARBONDALE		LIMESTONE	1.6	381.8
255.6	CARBONDALE		CALCAREOUS SHALE	4.2	383.4
251.5	CARBONDALE		GRAY SHALE	5.2	387.5
246.3	CARBONDALE		LIMESTONE	1.2	392.7
245.1	CARBONDALE		CALCAREOUS SHALE	2.2	393.9

MAPID: 13522447000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 62' S line, 3420' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.691146 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.324749 **DATE COLLECTED:** 5 / 22 / 1979

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-7-13C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	49.0	0.0	
591.0	BOND		GRAY SHALE	30.0	49.0	
561.0	BOND	CARTHAGE	LIMESTONE	6.0	79.0	
555.0	MODESTO		CALCAREOUS SHALE	1.0	85.0	
554.0	MODESTO		BLACK SHALE	2.0	86.0	
552.0	MODESTO		GRAY SHALE	15.0	88.0	
537.0	MODESTO		SANDSTONE	9.0	103.0	
528.0	MODESTO		SANDY SHALE	15.0	112.0	
513.0	MODESTO		LIMESTONE	1.0	127.0	
512.0	MODESTO		BLACK SHALE	3.0	128.0	
509.0	MODESTO	WOMAC	COAL	1.0	131.0	
508.0	MODESTO		GRAY SHALE	39.5	132.0	
468.5	MODESTO	CARLINVILLE	LIMESTONE	4.3	171.5	
464.2	MODESTO		GRAY SHALE	34.7	175.8	
429.5	MODESTO	CHAPEL	COAL	1.5	210.5	
428.0	MODESTO		GRAY SHALE	114.0	212.0	
314.0	MODESTO		BLACK SHALE	2.5	326.0	
311.5	CARBONDALE	DANVILLE	COAL	1.0	328.5	
310.5	CARBONDALE	ENERGY	GRAY SHALE	10.5	329.5	
300.0	CARBONDALE	ENERGY	GRAY SHALE	7.9	340.0	
292.1	CARBONDALE	ENERGY	GRAY SHALE	2.0	347.9	
290.2	CARBONDALE	ENERGY	GRAY SHALE	20.2	349.8	
270.0	CARBONDALE	ENERGY	GRAY SHALE	0.1	370.0	
269.9	CARBONDALE	ENERGY	BLACK SHALE	0.1	370.1	
269.8	CARBONDALE	HERRIN	COAL	5.7	370.2	
264.1	CARBONDALE		BLACK SHALE	0.9	375.9	
263.2	CARBONDALE		SHALY LIMESTONE	4.3	376.8	
259.0	CARBONDALE		GRAY SHALE	1.8	381.0	
257.2	CARBONDALE		GRAY SHALE	3.5	382.8	
253.7	CARBONDALE		SHALY LIMESTONE	0.9	386.3	
252.8	CARBONDALE		GRAY SHALE	1.2	387.2	
251.6	CARBONDALE		LIMESTONE	1.7	388.4	

MAPID: 13522572000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 620' N line, 2300' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.695323 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.338139 **DATE COLLECTED:** 6 / 25 / 1975

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 350.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-37 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
610.0			UNCONSOLIDATED	54.0	0.0	
556.0	BOND		GRAY SHALE	19.0	54.0	
537.0	BOND	CARTHAGE	LIMESTONE	7.0	73.0	
530.0	MODESTO		BLACK SHALE	5.0	80.0	
525.0	MODESTO		GRAY SHALE	13.0	85.0	
512.0	MODESTO	MACOUPIN	LIMESTONE	5.5	98.0	
506.5	MODESTO		GRAY SHALE	16.5	103.5	
490.0	MODESTO		BLACK SHALE	4.5	120.0	
485.5	MODESTO	WOMAC	COAL	1.0	124.5	
484.5	MODESTO		GRAY SHALE	38.5	125.5	
446.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	164.0	
442.0	MODESTO		SHALE	31.0	168.0	
411.0	MODESTO	CHAPEL	COAL	1.0	199.0	
410.0	MODESTO		GRAY SHALE	2.0	200.0	
408.0	MODESTO		LIMESTONE	6.5	202.0	
401.5	MODESTO		GRAY SHALE	80.5	208.5	
321.0	MODESTO	PIASA	LIMESTONE	3.0	289.0	
318.0	MODESTO		CALCAREOUS SHALE	32.0	292.0	
286.0	MODESTO		BLACK SHALE	5.0	324.0	
281.0	CARBONDALE	DANVILLE	COAL	1.0	329.0	
280.0	CARBONDALE		GRAY SHALE	11.0	330.0	
269.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	341.0	
263.5	CARBONDALE		GRAY SHALE	3.5	346.5	

MAPID: 13522573000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2390' S line, 2624' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.690843 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.331145 **DATE COLLECTED:** 8 / 22 / 1977

SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-29 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
632.0			UNCONSOLIDATED	68.0	0.0	
564.0	BOND		GRAY SHALE	12.0	68.0	
552.0	BOND	CARTHAGE	LIMESTONE	6.0	80.0	
546.0	MODESTO		SHALE	2.0	86.0	
544.0	MODESTO		GRAY SHALE	14.5	88.0	
529.5	MODESTO		LIMESTONE AND SANDSTONE	6.0	102.5	
523.5	MODESTO		GRAY SHALE	16.5	108.5	
507.0	MODESTO	MACOUPIN	LIMESTONE	1.5	125.0	
505.5	MODESTO		BLACK SHALE	4.0	126.5	
501.5	MODESTO	WOMAC	COAL	0.5	130.5	
501.0	MODESTO		GRAY SHALE	7.0	131.0	
494.0	MODESTO		SHALE	3.0	138.0	
491.0	MODESTO		SILTY SHALE	30.0	141.0	
461.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	171.0	
457.0	MODESTO		GRAY SHALE	33.0	175.0	
424.0	MODESTO	CHAPEL	COAL	1.0	208.0	
423.0	MODESTO		GRAY SHALE	83.0	209.0	
340.0	MODESTO		SANDY SHALE	3.0	292.0	
337.0	MODESTO		SILTY SHALE	39.0	295.0	
298.0	MODESTO		BLACK SHALE	4.0	334.0	
294.0	CARBONDALE	DANVILLE	COAL	2.0	338.0	
292.0	CARBONDALE		GRAY SHALE	9.0	340.0	
283.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	349.0	
281.5	CARBONDALE	ENERGY	GRAY SHALE	15.0	350.5	
266.5	CARBONDALE	HERRIN	COAL	7.5	365.5	
259.0	CARBONDALE		UNDERCLAY	6.0	373.0	
253.0	CARBONDALE		GRAY SHALE	5.0	379.0	
248.0	CARBONDALE		LIMESTONE	5.5	384.0	
242.5	CARBONDALE		BLACK SHALE	0.5	389.5	

MAPID: 13522574000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 273' N line, 2630' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.672308 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.337526 **DATE COLLECTED:** 8 / 24 / 1977

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 415.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-30 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	99.0	0.0	
541.0	MODESTO		GRAY SHALE	38.0	99.0	
503.0	MODESTO	MACOUPIN	LIMESTONE	2.0	137.0	
501.0	MODESTO		BLACK SHALE	3.5	139.0	
497.5	MODESTO	WOMAC	COAL	0.5	142.5	
497.0	MODESTO		GRAY SHALE	11.0	143.0	
486.0	MODESTO		CALCAREOUS SANDSTONE	3.0	154.0	
483.0	MODESTO		GRAY SHALE	34.5	157.0	
448.5	MODESTO	CARLINVILLE	LIMESTONE	2.5	191.5	
446.0	MODESTO		GRAY SHALE	30.5	194.0	
415.5	MODESTO	CHAPEL	COAL	1.5	224.5	
414.0	MODESTO		GRAY SHALE	19.5	226.0	
394.5	MODESTO		GRAY SHALE	68.5	245.5	
326.0	MODESTO		SANDY SHALE	7.0	314.0	
319.0	MODESTO		GRAY SHALE	28.0	321.0	
291.0	MODESTO		BLACK SHALE	4.0	349.0	
287.0	CARBONDALE		GRAY SHALE	4.0	353.0	
283.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	357.0	
277.0	CARBONDALE	ENERGY	GRAY SHALE	27.0	363.0	
250.0	CARBONDALE	ENERGY	BLACK SHALE	1.0	390.0	
249.0	CARBONDALE	HERRIN	COAL	8.0	391.0	
241.0	CARBONDALE		UNDERCLAY	1.5	399.0	
239.5	CARBONDALE		CALCAREOUS SHALE	1.3	400.5	
238.2	CARBONDALE		CORE LOSS	0.1	401.8	
238.1	CARBONDALE		LIMESTONE	1.6	401.9	
236.5	CARBONDALE		GRAY SHALE	5.7	403.5	
230.8	CARBONDALE		LIMESTONE	5.8	409.2	

MAPID: 13522575000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 510' N line, 30' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.66248 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.336331 **DATE COLLECTED:** 6 / 19 / 1975
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Multiple log types
SOURCE: MOBIL OIL R-75-33 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
251.5	CARBONDALE	HERRIN	COAL	7.5	393.5	CLEAN COAL, ALSO CONTAINS 0.4' PARTING

MAPID: 13522575000C **VERSION:** 2 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 510' N line, 30' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.66248 **GEOLOGIST:** SROKA
CONFIDENTIAL: N **LATITUDE:** 39.336331 **DATE COLLECTED:** 6 / 19 / 1975
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Multiple log types
SOURCE: MOBIL OIL R-75-33 **WELL TYPE:** Coal Test
COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	57.0	0.0	
588.0	BOND		SANDSTONE	55.0	57.0	
533.0	BOND	CARTHAGE	LIMESTONE	8.0	112.0	
525.0	MODESTO		SHALE	16.0	120.0	
509.0	MODESTO		BLACK SHALE	3.0	136.0	
506.0	MODESTO		COAL	2.0	139.0	
504.0	MODESTO		GRAY SHALE	6.0	141.0	
498.0	MODESTO		SHALY LIMESTONE	3.0	147.0	
495.0	MODESTO		GRAY SHALE	37.0	150.0	
458.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	187.0	
453.0	MODESTO		GRAY SHALE	26.5	192.0	
426.5	MODESTO	CHAPEL	COAL	1.5	218.5	
425.0	MODESTO		GRAY SHALE	106.0	220.0	
319.0	MODESTO		BLACK SHALE	6.0	326.0	
313.0	MODESTO		GRAY SHALE	12.0	332.0	
301.0	MODESTO	PIASA	LIMESTONE	2.0	344.0	
299.0	MODESTO		BLACK SHALE	5.0	346.0	
294.0	CARBONDALE		GRAY SHALE	4.0	351.0	
290.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	355.0	
287.0	CARBONDALE	ENERGY	GRAY SHALE	35.5	358.0	
251.5	CARBONDALE	HERRIN	COAL	7.5	393.5	
244.0	CARBONDALE		UNDERCLAY	7.0	401.0	
237.0	CARBONDALE		LIMESTONE	1.5	408.0	
235.5	CARBONDALE		SHALE	0.5	409.5	

MAPID: 13522576000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1599' N line, 309' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.644297 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.332324 **DATE COLLECTED:** 8 / 10 / 1977

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 425.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-31 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
246.0	CARBONDALE	HERRIN	COAL	6.0	399.0	CLEAN COAL, ALSO CONTAINS 2' PARTING

MAPID: 13522576000C **VERSION:** 2 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1599' N line, 309' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.644297 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.332324 **DATE COLLECTED:** 8 / 10 / 1977

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 425.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-31 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	119.0	0.0	
526.0	MODESTO		GRAY SHALE	14.0	119.0	
512.0	MODESTO	WOMAC	BLACK SHALE	3.0	133.0	
509.0	MODESTO		GRAY SHALE	7.0	136.0	
502.0	MODESTO		SANDSTONE	3.0	143.0	
499.0	MODESTO		SANDY SHALE	22.0	146.0	
477.0	MODESTO		GRAY SHALE	13.0	168.0	
464.0	MODESTO	CARLINVILLE	SHALY LIMESTONE	4.0	181.0	
460.0	MODESTO		SANDY SHALE	34.0	185.0	
426.0	MODESTO	CHAPEL	COAL	1.0	219.0	
425.0	MODESTO		SANDY SHALE	21.0	220.0	
404.0	MODESTO		GRAY SHALE	75.0	241.0	
329.0	MODESTO		BLACK SHALE	2.0	316.0	
327.0	MODESTO		SHALE	12.5	318.0	
314.5	MODESTO		LIMESTONE	1.5	330.5	
313.0	MODESTO		SHALE	9.0	332.0	
304.0	MODESTO	PIASA	LIMESTONE	4.0	341.0	
300.0			SHALE	4.0	345.0	
296.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	349.0	
292.0	CARBONDALE	ENERGY	GRAY SHALE	46.0	353.0	
246.0	CARBONDALE	HERRIN	COAL	1.5	399.0	
244.5	CARBONDALE	HERRIN	SHALE	2.0	400.5	
242.5	CARBONDALE	HERRIN	COAL	4.5	402.5	
238.0	CARBONDALE		UNDERCLAY	2.0	407.0	
236.0	CARBONDALE		LIMESTONE	1.5	409.0	
234.5	CARBONDALE		GRAY SHALE	7.0	410.5	
227.5	CARBONDALE		LIMESTONE	5.0	417.5	
222.5	CARBONDALE		GRAY SHALE	2.5	422.5	

MAPID: 13522577000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 135' S line, 2352' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.634811 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.322031 **DATE COLLECTED:** 8 / 26 / 1977

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-32 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	33.0	0.0	
607.0	BOND		GRAY SHALE	49.0	33.0	
558.0	BOND	CARTHAGE	LIMESTONE	8.0	82.0	
550.0	MODESTO		BLACK SHALE	1.0	90.0	
549.0	MODESTO		GRAY SHALE	17.0	91.0	
532.0	MODESTO		LIMESTONE AND SANDSTONE	14.0	108.0	
518.0	MODESTO		SANDSTONE	15.0	122.0	
503.0	MODESTO	MACOUPIN	LIMESTONE	2.0	137.0	
501.0	MODESTO		BLACK SHALE	2.5	139.0	
498.5	MODESTO	WOMAC	COAL	1.0	141.5	
497.5	MODESTO		SANDY SHALE	9.5	142.5	
488.0	MODESTO		SHALY SANDSTONE	6.0	152.0	
482.0	MODESTO		SANDY SHALE	28.0	158.0	
454.0	MODESTO	CARLINVILLE	LIMESTONE	3.0	186.0	
451.0	MODESTO		BLACK SHALE	1.0	189.0	
450.0	MODESTO		SANDY SHALE	44.0	190.0	
406.0	MODESTO	CHAPEL	COAL	1.0	234.0	
405.0	MODESTO		GRAY SHALE	90.0	235.0	
315.0	MODESTO		BLACK SHALE	3.0	325.0	
312.0	MODESTO		GRAY SHALE	14.0	328.0	
298.0	MODESTO	PIASA	LIMESTONE	3.0	342.0	
295.0			GRAY SHALE	4.0	345.0	
291.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	349.0	
288.0	CARBONDALE		CALCAREOUS SHALE	8.0	352.0	
280.0	CARBONDALE	ENERGY	GRAY SHALE	57.0	360.0	
223.0	CARBONDALE	HERRIN	COAL	3.7	417.0	
219.3	CARBONDALE		UNDERCLAY	6.8	420.7	
212.5	CARBONDALE		LIMESTONE	1.5	427.5	
211.0	CARBONDALE		GRAY SHALE	8.0	429.0	
203.0	CARBONDALE		UNCLASSIFIED	3.0	437.0	

MAPID: 13522578000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 49' N line, 2633' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.633107 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.33599 **DATE COLLECTED:** 8 / 25 / 1977

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-33 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST,DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	43.0	0.0	
602.0	BOND		SILTY SHALE	13.0	43.0	
589.0	BOND		SANDY SHALE	14.0	56.0	
575.0	BOND		GRAY SHALE	19.0	70.0	
556.0	BOND	CARTHAGE	LIMESTONE	9.0	89.0	
547.0	MODESTO		BLACK SHALE	1.5	98.0	
545.5	MODESTO		GRAY SHALE	16.5	99.5	
529.0	MODESTO		SANDSTONE	8.5	116.0	
520.5	MODESTO		GRAY SHALE	15.5	124.5	
505.0	MODESTO		BLACK SHALE	3.0	140.0	
502.0	MODESTO	WOMAC	COAL	1.0	143.0	
501.0	MODESTO		GRAY SHALE	6.0	144.0	
495.0	MODESTO		CALCAREOUS SANDSTONE	9.0	150.0	
486.0	MODESTO		SANDY SHALE	10.0	159.0	
476.0	MODESTO		GRAY SHALE	22.0	169.0	
454.0	MODESTO	CARLINVILLE	LIMESTONE	3.0	191.0	
451.0	MODESTO		SANDY SHALE	12.0	194.0	
439.0	MODESTO		GRAY SHALE	19.5	206.0	
419.5	MODESTO	CHAPEL	COAL	1.5	225.5	
418.0	MODESTO		GRAY SHALE	14.0	227.0	
404.0	MODESTO		GRAY SHALE	78.0	241.0	
326.0	MODESTO		SHALE	11.0	319.0	
315.0	MODESTO		GRAY SHALE	20.0	330.0	
295.0	MODESTO	PIASA	LIMESTONE	4.0	350.0	
291.0	MODESTO		BLACK SHALE	2.5	354.0	
288.5	CARBONDALE		GRAY SHALE	4.5	356.5	
284.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	361.0	
281.0	CARBONDALE	ENERGY	GRAY SHALE	53.5	364.0	
227.5	CARBONDALE	HERRIN	COAL	4.5	417.5	
223.0	CARBONDALE		UNDERCLAY	4.0	422.0	
219.0	CARBONDALE		LIMESTONE	6.0	426.0	
213.0	CARBONDALE		GRAY SHALE	5.0	432.0	
208.0	CARBONDALE		LIMESTONE	3.0	437.0	

MAPID: 13500229000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 956' S line, 663' E line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.58834 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.322318 **DATE COLLECTED:** 11 / 0 / 1940
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Electric Log
SOURCE: GULF REFINING CO. **WELL TYPE:** Producer-Oil
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
328.6	MODESTO	PIASA	LIMESTONE	2.0	308.4	
326.6	MODESTO		UNCLASSIFIED	2.3	310.4	
324.3	CARBONDALE		UNCLASSIFIED	6.3	312.7	
318.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	319.0	
314.0	CARBONDALE	ENERGY	UNCLASSIFIED	54.0	323.0	
260.0	CARBONDALE	HERRIN	COAL	3.0	377.0	

MAPID: 13501179000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.59706 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.333637 **DATE COLLECTED:** 3 / 0 / 1960
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 403.5 **LOG TYPE:** Electric Log
SOURCE: MURPHY OIL CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.3	MODESTO	PIASA	LIMESTONE	2.0	334.7	
309.3	MODESTO		UNCLASSIFIED	2.0	336.7	
307.3	CARBONDALE		UNCLASSIFIED	5.0	338.7	
302.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.3	343.7	
297.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	349.0	
247.0	CARBONDALE	HERRIN	COAL	4.5	399.0	

MAPID: 13501179000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.59706 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.333637 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 382.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.0	MODESTO	PIASA	LIMESTONE	5.0	345.0	
296.0	CARBONDALE	ENERGY	SHALE	30.0	350.0	
266.0	CARBONDALE	HERRIN	COAL	2.0	380.0	

MAPID: 13500280000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 400' N line, 200' E line of SE SE

QUADRANGLE: RAYMOND **LONGITUDE:** -89.586371 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.307528 **DATE COLLECTED:** 2 / 0 / 1941

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 406.0 **LOG TYPE:** Electric Log

SOURCE: DORTOMEDGE OIL CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.0	MODESTO	PIASA	LIMESTONE	3.0	320.0	
300.0	MODESTO		UNCLASSIFIED	2.5	323.0	
297.5	CARBONDALE		UNCLASSIFIED	7.5	325.5	
290.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	333.0	
283.0	CARBONDALE	ENERGY	UNCLASSIFIED	62.0	340.0	
221.0	CARBONDALE	HERRIN	COAL	4.0	402.0	

MAPID: 13500586000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE NE

QUADRANGLE: RAYMOND **LONGITUDE:** -89.58704 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.316883 **DATE COLLECTED:** 5 / 0 / 1956

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 394.5 **LOG TYPE:** Electric Log

SOURCE: RICHARDSON OIL CO **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
330.0	MODESTO	PIASA	LIMESTONE	3.0	315.0	
327.0	MODESTO		UNCLASSIFIED	2.0	318.0	
325.0	CARBONDALE		UNCLASSIFIED	5.0	320.0	
320.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	325.0	
316.0	CARBONDALE	ENERGY	UNCLASSIFIED	62.0	329.0	
254.0	CARBONDALE	HERRIN	COAL	3.5	391.0	

MAPID: 13501477000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE

QUADRANGLE: RAYMOND **LONGITUDE:** -89.594178 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.313535 **DATE COLLECTED:** 8 / 0 / 1949

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: MOUNT C J **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	2.5		
-	CARBONDALE		UNCLASSIFIED	7.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13522579000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 375' S line, 1810' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.616754 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.307308 **DATE COLLECTED:** 6 / 19 / 1974

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 427.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-2 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	40.0	0.0	
605.0	BOND		SHALE	34.0	40.0	
571.0	BOND	CARTHAGE	LIMESTONE	8.0	74.0	
563.0	MODESTO		BLACK SHALE	2.0	82.0	
561.0	MODESTO		GRAY SHALE	46.0	84.0	
515.0	MODESTO		BLACK SHALE	6.0	130.0	
509.0	MODESTO	MACOUPIN	SANDY LIMESTONE	8.0	136.0	
501.0	MODESTO		GRAY SHALE	26.0	144.0	
475.0	MODESTO	CARLINVILLE	LIMESTONE	8.0	170.0	
467.0	MODESTO		GRAY SHALE	34.0	178.0	
433.0	MODESTO	CHAPEL	COAL	2.0	212.0	
431.0	MODESTO		GRAY SHALE	101.0	214.0	
330.0	MODESTO		BLACK SHALE	2.0	315.0	
328.0	MODESTO		GRAY SHALE	13.0	317.0	
315.0	MODESTO	PIASA	LIMESTONE	4.0	330.0	
311.0	MODESTO		SHALE	4.0	334.0	
307.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	338.0	
303.0	CARBONDALE		GRAY SHALE	18.0	342.0	
285.0	CARBONDALE	ENERGY	GRAY SHALE	48.0	360.0	
237.0	CARBONDALE	HERRIN	COAL	2.0	408.0	
235.0	CARBONDALE		UNDERCLAY	2.0	410.0	
233.0	CARBONDALE		LIMESTONE	2.0	412.0	
231.0	CARBONDALE		GRAY SHALE	13.0	414.0	

MAPID: 13522580000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 750' N line, 375' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.644456 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.320045 **DATE COLLECTED:** 5 / 19 / 1975

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 424.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-19 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0			UNCONSOLIDATED	80.0	0.0	
570.0	MODESTO		GRAY SHALE	61.0	80.0	
509.0	MODESTO		SANDSTONE	7.0	141.0	
502.0	MODESTO		GRAY SHALE	31.0	148.0	
471.0	MODESTO	CARLINVILLE	LIMESTONE	3.0	179.0	
468.0	MODESTO		BLACK SHALE	1.5	182.0	
466.5	MODESTO		GRAY SHALE	38.5	183.5	
428.0	MODESTO	CHAPEL	COAL	1.0	222.0	
427.0	MODESTO		GRAY SHALE	13.0	223.0	
414.0	MODESTO		GRAY SHALE	62.0	236.0	
352.0	MODESTO		SANDY SHALE	28.0	298.0	
324.0	MODESTO		BLACK SHALE	4.0	326.0	
320.0	MODESTO		GRAY SHALE	15.6	330.0	
304.4	MODESTO	PIASA	LIMESTONE	3.4	345.6	
301.0	CARBONDALE	ENERGY	GRAY SHALE	57.0	349.0	
244.0	CARBONDALE	HERRIN	COAL	4.0	406.0	
240.0	CARBONDALE		UNDERCLAY	2.5	410.0	
237.5	CARBONDALE		LIMESTONE	1.5	412.5	
236.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	414.0	
234.0	CARBONDALE		GRAY SHALE	4.0	416.0	
230.0	CARBONDALE		LIMESTONE	4.0	420.0	

MAPID: 13522581000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 45' S line, 1355' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.64765 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.307823 **DATE COLLECTED:** 8 / 3 / 1977

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 426.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-22 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
647.0			UNCONSOLIDATED	52.0	0.0	
595.0			SANDSTONE	21.0	52.0	
574.0			SANDY SHALE	2.0	73.0	
572.0			SANDSTONE	5.0	75.0	
567.0			CALCAREOUS SANDSTONE	5.0	80.0	
562.0			SANDSTONE	13.0	85.0	
549.0			GRAY SHALE	8.0	98.0	
541.0			SANDY SHALE	4.0	106.0	
537.0			SANDSTONE	8.0	110.0	
529.0			SANDSTONE/LIMESTONE	7.5	118.0	
521.5	MODESTO		GRAY SHALE	6.5	125.5	
515.0	MODESTO	MACOUPIN	LIMESTONE	1.0	132.0	
514.0	MODESTO		BLACK SHALE	1.0	133.0	
513.0	MODESTO	WOMAC	COAL	1.0	134.0	
512.0	MODESTO		GRAY SHALE	10.0	135.0	
502.0	MODESTO		GRAY SHALE	13.0	145.0	
489.0	MODESTO		GRAY SHALE	18.0	158.0	
471.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	176.0	
467.0	MODESTO		SANDY SHALE	15.0	180.0	
452.0	MODESTO		GRAY SHALE	19.0	195.0	
433.0	MODESTO	CHAPEL	COAL	1.0	214.0	
432.0	MODESTO		GRAY SHALE	10.0	215.0	
422.0	MODESTO		SANDY SHALE	7.0	225.0	
415.0	MODESTO		GRAY SHALE	13.0	232.0	
402.0	MODESTO		SANDY SHALE	10.0	245.0	
392.0	MODESTO		GRAY SHALE	37.0	255.0	
355.0	MODESTO		SANDY SHALE	8.0	292.0	
347.0	MODESTO		GRAY SHALE	18.0	300.0	
329.0	MODESTO		BLACK SHALE	2.0	318.0	
327.0	MODESTO		GRAY SHALE	3.0	320.0	
324.0	MODESTO		GRAY SHALE	7.0	323.0	
317.0	MODESTO		GRAY SHALE	2.0	330.0	
315.0	MODESTO	PIASA	LIMESTONE	3.0	332.0	
312.0	MODESTO		SHALE	5.0	335.0	
307.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	340.0	
302.0	CARBONDALE	ENERGY	GRAY SHALE	61.0	345.0	
241.0	CARBONDALE	HERRIN	COAL	3.3	406.0	
237.7	CARBONDALE		UNDERCLAY	2.2	409.3	

235.5	CARBONDALE	LIMESTONE	5.5	411.5
230.0	CARBONDALE	GRAY SHALE	9.0	417.0

MAPID: 13522582000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 65' N line, 2100' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.669788 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.32302 **DATE COLLECTED:** 6 / 5 / 1974

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 430.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-5 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
635.0			UNCONSOLIDATED	75.0	0.0	
560.0	BOND		GRAY SHALE	3.0	75.0	
557.0	BOND	CARTHAGE	SHALY LIMESTONE	12.0	78.0	
545.0	MODESTO		BLACK SHALE	2.0	90.0	
543.0	MODESTO		GRAY SHALE	17.0	92.0	
526.0	MODESTO		SANDY LIMESTONE	4.0	109.0	
522.0	MODESTO		GRAY SHALE	21.0	113.0	
501.0	MODESTO		BLACK SHALE	4.0	134.0	
497.0	MODESTO		SHALY LIMESTONE	7.0	138.0	
490.0	MODESTO		GRAY SHALE	33.0	145.0	
457.0	MODESTO	CARLINVILLE	LIMESTONE	10.0	178.0	
447.0	MODESTO		GRAY SHALE	33.0	188.0	
414.0	MODESTO	CHAPEL	COAL	2.0	221.0	
412.0	MODESTO		GRAY SHALE	97.0	223.0	
315.0	MODESTO		GRAY SHALE	20.0	320.0	
295.0	MODESTO		BLACK SHALE	4.0	340.0	
291.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	344.0	
287.0	CARBONDALE	ENERGY	GRAY SHALE	39.0	348.0	
248.0	CARBONDALE	HERRIN	COAL	6.0	387.0	
242.0	CARBONDALE		UNDERCLAY/SHALE	27.0	393.0	
215.0	CARBONDALE	EXCELLO	BLACK SHALE	5.0	420.0	
210.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	425.0	
208.0	CARBONDALE		UNDERCLAY	3.0	427.0	

MAPID: 13522583000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 1605' N line, 162' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.662812 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.31847 **DATE COLLECTED:** 8 / 9 / 1977

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 430.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-23 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	63.0	0.0	
582.0	BOND		GRAY SHALE	32.0	63.0	
550.0	BOND	CARTHAGE	LIMESTONE	6.0	95.0	
544.0	MODESTO		BLACK SHALE	1.0	101.0	
543.0	MODESTO		GRAY SHALE	17.0	102.0	
526.0	MODESTO		SANDY SHALE	7.0	119.0	
519.0	MODESTO		SHALY LIMESTONE	2.5	126.0	
516.5	MODESTO		GRAY SHALE	15.5	128.5	
501.0	MODESTO		BLACK SHALE	2.5	144.0	
498.5	MODESTO	WOMAC	COAL	1.0	146.5	
497.5	MODESTO		GRAY SHALE	4.0	147.5	
493.5	MODESTO		LIMESTONE	8.0	151.5	
485.5	MODESTO		GRAY SHALE	29.5	159.5	
456.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	189.0	
451.0	MODESTO		GRAY SHALE	13.0	194.0	
438.0	MODESTO		SANDSTONE	1.5	207.0	
436.5	MODESTO		SANDY SHALE	28.5	208.5	
408.0	MODESTO	CHAPEL	COAL	2.0	237.0	
406.0	MODESTO		GRAY SHALE	96.0	239.0	
310.0	MODESTO		BLACK SHALE	1.5	335.0	
308.5	MODESTO		COAL	1.5	336.5	
307.0	MODESTO		GRAY SHALE	5.5	338.0	
301.5	MODESTO	PIASA	LIMESTONE	3.5	343.5	
298.0			GRAY SHALE	3.0	347.0	
295.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	350.0	
291.0	CARBONDALE	ENERGY	GRAY SHALE	53.0	354.0	
238.0	CARBONDALE	HERRIN	COAL	4.5	407.0	
233.5	CARBONDALE		UNDERCLAY	6.5	411.5	
227.0	CARBONDALE		LIMESTONE	3.0	418.0	
224.0	CARBONDALE		GRAY SHALE	9.0	421.0	

MAPID: 13522585000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1285' N line, 240' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.702383 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.322041 **DATE COLLECTED:** 6 / 9 / 1974

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 427.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-8 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
625.0			UNCONSOLIDATED	36.0	0.0	
589.0	BOND		GRAY SHALE	60.0	36.0	
529.0	BOND	CARTHAGE	LIMESTONE	8.0	96.0	
521.0	MODESTO		CALCAREOUS SHALE	15.0	104.0	
506.0	MODESTO		SANDY LIMESTONE	10.0	119.0	
496.0	MODESTO		GRAY SHALE	10.0	129.0	
486.0	MODESTO		BLACK SHALE	1.0	139.0	
485.0	MODESTO		GRAY SHALE	37.0	140.0	
448.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	177.0	
443.0	MODESTO		GRAY SHALE	33.0	182.0	
410.0	MODESTO	CHAPEL	COAL	2.0	215.0	
408.0	MODESTO		GRAY SHALE	101.0	217.0	
307.0	MODESTO		SHALE	4.0	318.0	
303.0	MODESTO		GRAY SHALE	13.0	322.0	
290.0	MODESTO	PIASA	LIMESTONE	4.0	335.0	
286.0			SHALE	3.0	339.0	
283.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	342.0	
279.0	CARBONDALE	ENERGY	SHALE	40.0	346.0	
239.0	CARBONDALE	HERRIN	COAL	6.0	386.0	
233.0	CARBONDALE		LIMESTONE	14.0	392.0	
219.0	CARBONDALE		SHALE	6.0	406.0	
213.0	CARBONDALE		LIMESTONE	10.0	412.0	
203.0	CARBONDALE		GRAY SHALE	5.0	422.0	

MAPID: 13522584000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 39' N line, 2596' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.693752 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.309603 **DATE COLLECTED:** 7 / 29 / 1977

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 414.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-19 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0			UNCONSOLIDATED	35.0	0.0	
607.0	BOND		SILTY SHALE	49.0	35.0	
558.0	BOND	CARTHAGE	LIMESTONE	11.0	84.0	
547.0	MODESTO		SHALE	2.0	95.0	
545.0	MODESTO		GRAY SHALE	15.0	97.0	
530.0	MODESTO		SANDY LIMESTONE	6.0	112.0	
524.0	MODESTO		GRAY SHALE	5.0	118.0	
519.0	MODESTO		GRAY SHALE	15.0	123.0	
504.0	MODESTO	MACOUPIN	LIMESTONE	1.0	138.0	
503.0	MODESTO		BLACK SHALE	2.5	139.0	
500.5	MODESTO	WOMAC	COAL	0.5	141.5	
500.0	MODESTO		GRAY SHALE	9.0	142.0	
491.0	MODESTO		GRAY SHALE	2.0	151.0	
489.0	MODESTO		SANDSTONE	7.0	153.0	
482.0	MODESTO		GRAY SHALE	23.0	160.0	
459.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	183.0	
455.0	MODESTO		GRAY SHALE	35.0	187.0	
420.0	MODESTO	CHAPEL	COAL	1.5	222.0	
418.5	MODESTO		GRAY SHALE	78.5	223.5	
340.0	MODESTO		LIMESTONE	1.5	302.0	
338.5	MODESTO		GRAY SHALE	37.5	303.5	
301.0	MODESTO		BLACK SHALE	2.5	341.0	
298.5	CARBONDALE	DANVILLE	COAL	1.5	343.5	
297.0	CARBONDALE		GRAY SHALE	12.0	345.0	
285.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	357.0	
284.5	CARBONDALE	ENERGY	SANDY SHALE	36.5	357.5	
248.0	CARBONDALE	HERRIN	COAL	4.0	394.0	
244.0	CARBONDALE		UNDERCLAY	2.0	398.0	
242.0	CARBONDALE		LIMESTONE	7.0	400.0	
235.0	CARBONDALE		GRAY SHALE	5.0	407.0	
230.0	CARBONDALE		LIMESTONE	2.0	412.0	

MAPID: 13500757000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SE

QUADRANGLE: ATWATER **LONGITUDE:** -89.667711 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.299851 **DATE COLLECTED:** 12 / 0 / 1953

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 401.0 **LOG TYPE:** Electric Log

SOURCE: GLASS, THEO G. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
321.1	MODESTO	PIASA	LIMESTONE	3.5	323.9	
317.6	MODESTO		UNCLASSIFIED	1.8	327.4	
315.8	CARBONDALE		UNCLASSIFIED	4.8	329.2	
311.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	334.0	
307.0	CARBONDALE	ENERGY	UNCLASSIFIED	57.0	338.0	
250.0	CARBONDALE	HERRIN	COAL	6.0	395.0	

MAPID: 13522434000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 275' N line, 1491' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.667313 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.307479 **DATE COLLECTED:** 8 / 2 / 1977

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 404.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-20 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	46.0	0.0	
599.0	BOND		GRAY SHALE	18.0	46.0	
581.0	BOND	CARTHAGE	SHALY LIMESTONE	11.0	64.0	
570.0	MODESTO		SHALE	1.0	75.0	
569.0	MODESTO		GRAY SHALE	16.0	76.0	
553.0	MODESTO		CALCAREOUS SANDSTONE	8.0	92.0	
545.0	MODESTO		GRAY SHALE	17.0	100.0	
528.0	MODESTO	MACOUPIN	SHALY LIMESTONE	2.0	117.0	
526.0	MODESTO		BLACK SHALE	2.0	119.0	
524.0	MODESTO	WOMAC	COAL	1.0	121.0	
523.0	MODESTO		GRAY SHALE	8.0	122.0	
515.0	MODESTO		CALCAREOUS SANDSTONE	3.5	130.0	
511.5	MODESTO		SANDY SHALE	8.5	133.5	
503.0	MODESTO		GRAY SHALE	18.5	142.0	
484.5	MODESTO	CARLINVILLE	LIMESTONE	4.5	160.5	
480.0	MODESTO		GRAY SHALE	41.5	165.0	
438.5	MODESTO	CHAPEL	COAL	1.0	206.5	
437.5	MODESTO		GRAY SHALE	40.5	207.5	
397.0	MODESTO		LIMESTONE	1.0	248.0	
396.0	MODESTO		GRAY SHALE	33.0	249.0	
363.0	MODESTO		SANDY SHALE	23.0	282.0	
340.0	MODESTO		BLACK SHALE	2.0	305.0	
338.0	MODESTO		CALCAREOUS SHALE	9.5	307.0	
328.5	MODESTO		GRAY SHALE	1.5	316.5	
327.0	MODESTO	PIASA	LIMESTONE	4.0	318.0	
323.0			GRAY SHALE	4.0	322.0	
319.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	326.0	
314.0	CARBONDALE	ENERGY	GRAY SHALE	30.0	331.0	
284.0	CARBONDALE	ENERGY	SILTY SHALE	5.2	361.0	
278.8	CARBONDALE	ENERGY	SILTY SHALE	2.6	366.2	
276.2	CARBONDALE	ENERGY	SILTY SHALE	1.2	368.8	
275.0	CARBONDALE	ENERGY	CORE LOSS	0.5	370.0	
274.5	CARBONDALE	ENERGY	SILTY SHALE	13.0	370.5	
261.5	CARBONDALE	ENERGY	BLACK SHALE	0.3	383.5	
261.2	CARBONDALE	HERRIN	COAL	3.7	383.8	
257.5	CARBONDALE		UNDERCLAY	0.7	387.5	
256.8	CARBONDALE		LIMESTONE	2.6	388.2	
254.3	CARBONDALE		UNDERCLAY	4.3	390.7	

250.0	CARBONDALE	LIMESTONE	2.0	395.0
248.0	CARBONDALE	CALCAREOUS SHALE	3.0	397.0
245.0	CARBONDALE	GRAY SHALE	4.0	400.0

MAPID: 13522586000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 825' S line, 340' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.679346 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.295751 **DATE COLLECTED:** 6 / 6 / 1974

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 425.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-4 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	44.0	0.0	
596.0	BOND		GRAY SHALE	20.0	44.0	
576.0	BOND	CARTHAGE	LIMESTONE	10.0	64.0	
566.0	MODESTO		BLACK SHALE	4.0	74.0	
562.0	MODESTO		CALCAREOUS SHALE	12.0	78.0	
550.0	MODESTO		SHALY LIMESTONE	10.0	90.0	
540.0	MODESTO		GRAY SHALE	22.0	100.0	
518.0	MODESTO		BLACK SHALE	3.0	122.0	
515.0	MODESTO	WOMAC	COAL	2.0	125.0	
513.0	MODESTO		GRAY SHALE	38.0	127.0	
475.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	165.0	
470.0	MODESTO		GRAY SHALE	43.0	170.0	
427.0	MODESTO	CHAPEL	COAL	1.0	213.0	
426.0	MODESTO		GRAY SHALE	71.0	214.0	
355.0	MODESTO		GRAY SHALE	25.0	285.0	
330.0	MODESTO		GRAY SHALE	22.0	310.0	
308.0	MODESTO	PIASA	LIMESTONE	2.0	332.0	
306.0	MODESTO		SHALE	4.0	334.0	
302.0	MODESTO		BLACK SHALE	5.0	338.0	
297.0	CARBONDALE	DANVILLE	COAL	2.0	343.0	
295.0	CARBONDALE	ENERGY	SHALY SANDSTONE	49.0	345.0	
246.0	CARBONDALE	ENERGY	LIMESTONE	4.0	394.0	
242.0	CARBONDALE	ENERGY	GRAY SHALE	12.0	398.0	
230.0	CARBONDALE	ENERGY	BLACK SHALE	3.0	410.0	
227.0	CARBONDALE	HERRIN	COAL	3.0	413.0	
224.0	CARBONDALE		GRAY SHALE	9.0	416.0	

MAPID: 13522587000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1080' S line, 150' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.661208 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.296144 **DATE COLLECTED:** 6 / 3 / 1974

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 450.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-3 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0			UNCONSOLIDATED	50.0	0.0	
600.0	BOND		GRAY SHALE	26.0	50.0	
574.0	BOND	CARTHAGE	LIMESTONE	11.0	76.0	
563.0	MODESTO		SHALE	2.0	87.0	
561.0	MODESTO		GRAY SHALE	43.0	89.0	
518.0	MODESTO		BLACK SHALE	3.0	132.0	
515.0	MODESTO		GRAY SHALE	36.0	135.0	
479.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	171.0	
474.0	MODESTO		GRAY SHALE	40.5	176.0	
433.5	MODESTO	CHAPEL	COAL	1.0	216.5	
432.5	MODESTO		GRAY SHALE	99.0	217.5	
333.5	MODESTO		BLACK SHALE	2.0	316.5	
331.5	MODESTO		GRAY SHALE	9.5	318.5	
322.0	MODESTO	PIASA	LIMESTONE	4.0	328.0	
318.0			GRAY SHALE	5.0	332.0	
313.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	337.0	
308.0	CARBONDALE		SHALE	10.0	342.0	
298.0	CARBONDALE	ENERGY	GRAY SHALE	48.6	352.0	
249.4	CARBONDALE	HERRIN	COAL	3.4	400.6	
246.0	CARBONDALE		GRAY SHALE	28.0	404.0	
218.0	CARBONDALE	EXCELLO	BLACK SHALE	4.0	432.0	
214.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	436.0	
212.0	CARBONDALE		GRAY SHALE	12.0	438.0	

MAPID: 13522588000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** 2445' N line, 924' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.645984 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.300902 **DATE COLLECTED:** 8 / 9 / 1977

SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-21 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
652.0			UNCONSOLIDATED	58.0	0.0	
594.0	BOND		SANDY SHALE	33.0	58.0	
561.0	BOND	CARTHAGE	LIMESTONE	2.5	91.0	
558.5	MODESTO		SANDSTONE	6.5	93.5	
552.0	MODESTO		SHALY SANDSTONE	37.0	100.0	
515.0	MODESTO	MACOUPIN	LIMESTONE	7.5	137.0	
507.5	MODESTO		BLACK SHALE	3.0	144.5	
504.5	MODESTO	WOMAC	COAL	1.0	147.5	
503.5	MODESTO		GRAY SHALE	39.5	148.5	
464.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	188.0	
460.0	MODESTO		SHALE	1.0	192.0	
459.0	MODESTO		GRAY SHALE	35.0	193.0	
424.0	MODESTO	CHAPEL	COAL	1.0	228.0	
423.0	MODESTO		SANDY SHALE	19.0	229.0	
404.0	MODESTO		GRAY SHALE	82.0	248.0	
322.0	MODESTO		BLACK SHALE	1.5	330.0	
320.5	MODESTO		COAL	0.5	331.5	
320.0	MODESTO		GRAY SHALE	12.5	332.0	
307.5	MODESTO	PIASA	LIMESTONE	1.5	344.5	
306.0			GRAY SHALE	5.0	346.0	
301.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	351.0	
296.0	CARBONDALE	ENERGY	GRAY SHALE	66.0	356.0	
230.0	CARBONDALE	HERRIN	COAL	3.0	422.0	
227.0	CARBONDALE		GRAY SHALE	6.0	425.0	
221.0	CARBONDALE		SHALY LIMESTONE	7.0	431.0	
214.0	CARBONDALE		GRAY SHALE	2.0	438.0	

MAPID: 13522589000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1032' N line, 2415' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.634184 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.304256 **DATE COLLECTED:** 6 / 17 / 1975

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 402.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-32 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	42.0	0.0	
598.0	MODESTO		SANDY SHALE	28.0	42.0	
570.0	MODESTO		SANDSTONE	10.0	70.0	
560.0	MODESTO		SANDY SHALE	28.0	80.0	
532.0	MODESTO		BLACK SHALE	3.0	108.0	
529.0	MODESTO		SANDY SHALE	39.0	111.0	
490.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	150.0	
485.0	MODESTO		GRAY SHALE	40.0	155.0	
445.0	MODESTO		COAL	2.0	195.0	
443.0	MODESTO		GRAY SHALE	98.0	197.0	
345.0	MODESTO		BLACK SHALE	3.0	295.0	
342.0			SHALE	20.0	298.0	
322.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	318.0	
317.0	CARBONDALE	ENERGY	SHALE	66.5	323.0	
250.5	CARBONDALE	HERRIN	COAL	2.5	389.5	
248.0	CARBONDALE		SHALE	10.0	392.0	

MAPID: 13522590000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 1710' N line, 665' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.60703 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.301181 **DATE COLLECTED:** 6 / 16 / 1974

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 447.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-1 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	60.0	0.0	
585.0	BOND		GRAY SHALE	53.0	60.0	
532.0	BOND	CARTHAGE	LIMESTONE	7.0	113.0	
525.0	MODESTO		SILTY SHALE	24.0	120.0	
501.0	MODESTO		LIMESTONE	2.0	144.0	
499.0	MODESTO		BLACK SHALE	4.0	146.0	
495.0	MODESTO		SANDY LIMESTONE	5.0	150.0	
490.0	MODESTO		GRAY SHALE	29.0	155.0	
461.0	MODESTO	CARLINVILLE	LIMESTONE	6.0	184.0	
455.0	MODESTO		GRAY SHALE	30.0	190.0	
425.0	MODESTO	CHAPEL	COAL	2.0	220.0	
423.0	MODESTO		GRAY SHALE	98.0	222.0	
325.0	MODESTO		SHALE	15.0	320.0	
310.0	MODESTO	PIASA	LIMESTONE	5.0	335.0	
305.0			GRAY SHALE	7.0	340.0	
298.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	347.0	
293.0	CARBONDALE	ENERGY	SILTY SHALE	70.0	352.0	
223.0	CARBONDALE	HERRIN	COAL	3.0	422.0	
220.0	CARBONDALE		UNDERCLAY	5.0	425.0	
215.0	CARBONDALE		LIMESTONE	4.0	430.0	
211.0	CARBONDALE		GRAY SHALE	13.0	434.0	

MAPID: 13500261000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 165' S line, 165' E line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.585874 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.29089 **DATE COLLECTED:** 9 / 0 / 1940
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: DORTOMEDGE OIL CO **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	8.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0		
-	CARBONDALE	ENERGY	UNCLASSIFIED	56.0		
-	CARBONDALE	HERRIN	COAL	5.0		

MAPID: 13500281000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 100' N line, 1240' W line of NE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.590763 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.304899 **DATE COLLECTED:** 2 / 0 / 1941
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 430.0 **LOG TYPE:** Electric Log
SOURCE: CASHELL **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
299.0	MODESTO	PIASA	LIMESTONE	8.0	345.0	
291.0	CARBONDALE	ENERGY	UNCLASSIFIED	71.0	353.0	
220.0	CARBONDALE	HERRIN	COAL	6.0	424.0	

MAPID: 13500264000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 165' E line of NE NE
QUADRANGLE: RAYMOND **LONGITUDE:** -89.585817 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.287735 **DATE COLLECTED:** 12 / 0 / 1940
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: DORTOMEDGE OIL CO **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	19.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		

MAPID: 13500035000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2330' S line, 225' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.70189 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.286496 **DATE COLLECTED:** 0 / 0 / 1903

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: CRAWFORD A W **WELL TYPE:** Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	DANVILLE	COAL	1.0		
-	CARBONDALE		UNCLASSIFIED	19.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	1.5		
-	CARBONDALE	BRERETON	LIMESTONE	6.0		

MAPID: 13500036000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** SW SW NW

QUADRANGLE: ATWATER **LONGITUDE:** -89.701153 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.273539 **DATE COLLECTED:** 6 / 0 / 1903

SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** 390.3 **LOG TYPE:** Drillers Log

SOURCE: LOWRY **WELL TYPE:** Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
337.0	MODESTO	PIASA	LIMESTONE	4.0	317.0	
333.0	MODESTO		UNCLASSIFIED	3.0	321.0	
330.0	CARBONDALE		UNCLASSIFIED	11.0	324.0	
319.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	335.0	
313.0	CARBONDALE	ANNA	BLACK SHALE	5.5	341.0	
307.5	CARBONDALE	ENERGY	UNCLASSIFIED	43.5	346.5	
264.0	CARBONDALE	HERRIN	COAL	0.3	390.0	

MAPID: 13501480000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 10N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 380' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.602519 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.262978 **DATE COLLECTED:** 12 / 0 / 1948

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 465.0 **LOG TYPE:** Electric Log

SOURCE: WHITE EDGAR **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.0	MODESTO	PIASA	LIMESTONE	4.0	375.0	
274.0	MODESTO		UNCLASSIFIED	4.0	379.0	
270.0	CARBONDALE		UNCLASSIFIED	12.0	383.0	
258.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	395.0	
253.0	CARBONDALE	ENERGY	UNCLASSIFIED	60.0	400.0	
193.0	CARBONDALE	HERRIN	COAL	5.0	460.0	

MAPID: 13500011000C **VERSION:** 1 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.553452 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.423529 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.7 **LOGGED (FT.):** 382.0 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.7			SOIL	4.0	0.0	
646.7			CLAY	20.0	4.0	
626.7	BOND		SHALE	28.0	24.0	
598.7	BOND		SANDSTONE	24.5	52.0	
574.2	BOND	CARTHAGE	LIMESTONE	9.5	76.5	
564.7	MODESTO		SHALE	38.0	86.0	
526.7	MODESTO		SANDSTONE	12.0	124.0	
514.7	MODESTO		SHALE	33.0	136.0	
481.7	MODESTO		SANDSTONE	3.0	169.0	
478.7	MODESTO		SHALE	13.0	172.0	
465.7	MODESTO		SHALE	9.0	185.0	W/ LS
456.7	MODESTO	CHAPEL	COAL	0.8	194.0	
455.9	MODESTO		SHALE	7.2	194.8	W/ LS BOTTOM 3'
448.7	MODESTO		SANDSTONE	90.0	202.0	TOP 7' GRAY, NEXT 77' W/ SH
358.7	MODESTO		SHALE	39.6	292.0	
319.1	MODESTO	PIASA	LIMESTONE	3.0	331.6	
316.1	MODESTO		SHALE	6.8	334.6	W/ LS BOTTOM 5'
309.3	MODESTO		SANDSTONE	1.0	341.4	
308.3	MODESTO		BLACK SHALE	4.0	342.4	
304.3	CARBONDALE		LIMESTONE	1.0	346.4	
303.3	CARBONDALE		SHALE	2.5	347.4	
300.8	CARBONDALE		LIMESTONE	0.1	349.9	
300.7	CARBONDALE		SHALE	8.2	350.0	
292.5	CARBONDALE		LIMESTONE	5.3	358.2	
287.2	CARBONDALE		SHALE	0.8	363.5	
286.4	CARBONDALE		LIMESTONE	1.0	364.3	
285.4	CARBONDALE		LIMESTONE	4.9	365.3	
280.4	CARBONDALE	HERRIN	COAL	8.1	370.3	
272.4	CARBONDALE		SHALE	3.7	378.3	

MAPID: 13500011000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.553452 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.423529 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 378.1 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
319.7	MODESTO	PIASA	LIMESTONE	2.8	331.3	
316.9	MODESTO		UNCLASSIFIED	2.0	334.1	
314.9	CARBONDALE		UNCLASSIFIED	10.0	336.1	
304.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.8	346.1	
297.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	353.9	
295.1	CARBONDALE		UNCLASSIFIED	2.0	355.9	
293.1	CARBONDALE	BRERETON	LIMESTONE	7.2	357.9	
285.9	CARBONDALE	ANNA	BLACK SHALE	4.9	365.1	
281.0	CARBONDALE	HERRIN	COAL	8.1	370.0	

MAPID: 13501509000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.551235 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.4292 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 375.7 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-17-63 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.5	MODESTO	PIASA	LIMESTONE	2.8	328.5	
315.7	MODESTO		MOTTLED SHALE	3.7	331.3	
312.0	CARBONDALE	DANVILLE	BLACK SHALE	2.5	335.0	
309.5	CARBONDALE		CLAYSTONE	4.3	337.5	
305.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.1	341.8	
304.1	CARBONDALE		CLAYSTONE	13.5	342.9	
290.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.2	356.4	UPPER BENCH
286.4	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.1	360.6	SHALE PARTING
283.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.3	363.7	LOWER BENCH
283.0	CARBONDALE	LAWSON	MOTTLED SHALE	2.2	364.0	
280.8	CARBONDALE	LAWSON	DARK GRAY SHALE	0.3	366.2	
280.5	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	366.5	
279.0	CARBONDALE	HERRIN	COAL	7.7	368.0	

MAPID: 13501509000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.551235 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.4292 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 375.7 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-17-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.4	MODESTO	PIASA	LIMESTONE	2.8	328.6	
315.6	MODESTO		UNCLASSIFIED	6.2	331.4	
309.4	CARBONDALE		UNCLASSIFIED	10.2	337.6	
299.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.2	347.8	
293.0	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	354.0	
291.2	CARBONDALE		SHALE	0.6	355.8	
290.6	CARBONDALE	BRERETON	LIMESTONE	7.6	356.4	
283.0	CARBONDALE	ANNA	BLACK SHALE	4.0	364.0	
279.0	CARBONDALE	HERRIN	COAL	7.7	368.0	

MAPID: 13501509000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.551235 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.4292 **DATE COLLECTED:** 10 / 13 / 1963
SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 376.1 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-17-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.6	CARBONDALE	HERRIN	COAL	7.7	368.4	

MAPID: 13501524000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 45' N line, 23' E line of NE NE SE
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.569825 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.428978 **DATE COLLECTED:** 11 / 1 / 1963
SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 375.7 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-16-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.5	CARBONDALE	HERRIN	COAL	8.2	367.5	

MAPID: 13501524000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 6 **QUARTERS/FOOTAGES:** 45' N line, 23' E line of NE NE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.569825 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.428978 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 375.2 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-16-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
299.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.1	349.9	
294.0	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	355.0	
292.8	CARBONDALE		SHALE	1.0	356.2	
291.8	CARBONDALE	BRERETON	LIMESTONE	7.3	357.2	
284.5	CARBONDALE	ANNA	BLACK SHALE	2.5	364.5	
282.0	CARBONDALE	HERRIN	COAL	8.2	367.0	

MAPID: 13522448000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 90' S line, 40' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587524 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.407608 **DATE COLLECTED:** 6 / 2 / 1979

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 394.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-7-4C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	40.0	0.0	
605.0	BOND		SANDSTONE	26.0	40.0	
579.0	BOND		SANDY SHALE	17.0	66.0	
562.0	BOND	CARTHAGE	LIMESTONE	9.0	83.0	
553.0	MODESTO		SHALE	1.0	92.0	
552.0	MODESTO		BLACK SHALE	3.0	93.0	
549.0	MODESTO		SANDY SHALE	22.0	96.0	
527.0	MODESTO	MACOUPIN	LIMESTONE	1.0	118.0	
526.0	MODESTO		BLACK SHALE	1.0	119.0	
525.0	MODESTO		GRAY SHALE	10.0	120.0	
515.0	MODESTO		GRAY SHALE	10.0	130.0	
505.0	MODESTO		GRAY SHALE	56.0	140.0	
449.0	MODESTO	CARLINVILLE	LIMESTONE	1.5	196.0	
447.5	MODESTO		BLACK SHALE	3.5	197.5	
444.0	MODESTO		SHALE	4.5	201.0	
439.5	MODESTO	CHAPEL	COAL	1.5	205.5	
438.0	MODESTO		GRAY SHALE	90.0	207.0	
348.0	MODESTO		BLACK SHALE	1.5	297.0	
346.5	MODESTO		GRAY SHALE	29.5	298.5	
317.0	MODESTO	PIASA	LIMESTONE	1.8	328.0	
315.2	MODESTO		GRAY SHALE	10.2	329.8	
305.0	CARBONDALE	DANVILLE	COAL	0.5	340.0	
304.5	CARBONDALE		GRAY SHALE	14.0	340.5	
290.5	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.0	354.5	
286.5	CARBONDALE		GRAY SHALE	1.0	358.5	
285.5	CARBONDALE	BRERETON	LIMESTONE	3.0	359.5	
282.5	CARBONDALE	ANNA	BLACK SHALE	1.8	362.5	
280.7	CARBONDALE	HERRIN	COAL	8.1	364.3	
272.6	CARBONDALE		GRAY SHALE	2.1	372.4	
270.5	CARBONDALE		UNCLASSIFIED	19.5	374.5	
251.0	CARBONDALE		UNCLASSIFIED	0.0	394.0	

MAPID: 13522523000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 228' N line, 67' W line of NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.569426 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421097 **DATE COLLECTED:** 8 / 14 / 1979

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 401.0 **LOG TYPE:** Drillers Log

SOURCE: SHELL OIL COMPANY X32 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
649.0	PLEISTOCENE		UNCONSOLIDATED	20.5	0.0	
628.5			SANDSTONE	59.5	20.5	
569.0			SANDSTONE WITH COAL	2.5	80.0	
566.5			SHALY SANDSTONE	5.5	82.5	GRAY
561.0			LIMESTONE	7.0	88.0	
554.0			SHALE	9.0	95.0	GR
545.0			SHALE WITH LIMESTONE	1.0	104.0	
544.0			GRAY SHALE	3.0	105.0	
541.0			SHALE WITH LIMESTONE	3.0	108.0	
538.0			SHALE	6.0	111.0	GR-GY
532.0			CALCAREOUS SHALE	23.0	117.0	
509.0			GRAY SHALE	66.0	140.0	
443.0			SLATY SHALE	4.0	206.0	
439.0			SHALE	58.0	210.0	GR
381.0			SILTY SHALE	37.0	268.0	
344.0			SHALE W/ COAL STREAKS	1.0	305.0	
343.0			SHALE	1.5	306.0	GR
341.5			SILTY SHALE	14.5	307.5	
327.0			BLACK SHALE	9.0	322.0	
318.0			SHALE & SILTSTONE	1.5	331.0	
316.5			SHALE	2.5	332.5	
314.0			CALCAREOUS SHALE	2.0	335.0	
312.0	MODESTO	PIASA	LIMESTONE	2.0	337.0	
310.0			SHALE	3.5	339.0	GR
306.5			BLACK SHALE	7.1	342.5	
299.4			CONGLOMERATE & LIMESTONE	0.2	349.6	
299.2			SHALE WITH LIMESTONE	1.8	349.8	
297.4			LIMESTONE	0.7	351.6	
296.7			SILTY SHALE	2.6	352.3	
294.1			SILTSTONE	4.1	354.9	
290.0			CALCAREOUS SHALE	3.0	359.0	
287.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	362.0	
284.2	CARBONDALE		CALCAREOUS SHALE	2.5	364.8	
281.7	CARBONDALE		LIMESTONE	3.7	367.3	
278.0	CARBONDALE		CALCAREOUS SHALE	0.5	371.0	
277.5	CARBONDALE	ANNA	BLACK SHALE	3.2	371.5	
274.3	CARBONDALE	HERRIN	COAL	7.5	374.7	
266.8	CARBONDALE		SHALE WITH LIMESTONE	12.8	382.2	

254.0	CARBONDALE	LIMESTONE	4.0	395.0
250.0	CARBONDALE	SHALE & SILTSTONE	2.0	399.0

MAPID: 13522523000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 228' N line, 67' W line of NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.569426 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.421097 **DATE COLLECTED:** 8 / 14 / 1979

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 382.2 **LOG TYPE:** Drillers Log

SOURCE: SHELL OIL COMPANY X-32 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
274.3	CARBONDALE	HERRIN	COAL	7.5	374.7	

MAPID: 13522526000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 486' S line, 76' E line of SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.551084 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.408463 **DATE COLLECTED:** 8 / 6 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 384.0 **LOG TYPE:** Drillers Log

SOURCE: SHELL OIL COMPANY X33 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	4.5	0.0	
-	PLEISTOCENE		UNCONSOLIDATED	21.5	4.5	
-			SILTY SHALE	27.0	26.0	
-			SANDY SILTSTONE	8.5	53.0	
-			SILTY SHALE	3.0	61.5	
-			COAL	0.5	64.5	
-			LIMESTONE	6.5	65.0	
-			SHALE	19.5	71.5	GR
-			SILTSTONE/LIMESTONE	8.0	91.0	
-			SILTY SHALE	7.0	99.0	
-			CALCAREOUS SHALE	1.5	106.0	
-			SILTY SHALE	7.5	107.5	
-			CALCAREOUS SHALE	3.5	115.0	
-			SILTY SHALE	62.5	118.5	
-			SHALE	3.0	181.0	GR
-			SHALE W/ COAL STREAKS	1.0	184.0	
-			SILTY SHALE	39.5	185.0	
-			CALCAREOUS SILTSTONE	2.5	224.5	
-			SHALE & SANDSTONE	64.5	227.0	
-			SHALE	1.5	291.5	GR
-			SILTY SHALE	13.5	293.0	
-			BLACK SHALE	1.0	306.5	
-			SHALE	4.5	307.5	
-			SANDY SHALE	5.5	312.0	
-			SHALE	1.5	317.5	
-			CALCAREOUS SHALE	2.0	319.0	
-			LIMESTONE	1.5	321.0	
-			SHALE	10.0	322.5	
-			SHALE	1.5	332.5	GR
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	334.0	
-	CARBONDALE		SHALE	12.0	335.0	GR
-	CARBONDALE		LIMESTONE	5.0	347.0	
-	CARBONDALE		SHALE	1.5	352.0	
-	CARBONDALE	BRERETON	LIMESTONE	4.0	353.5	
-	CARBONDALE	ANNA	BLACK SHALE	1.5	357.5	
-	CARBONDALE	HERRIN	COAL	6.6	359.0	
-	CARBONDALE		LIMESTONE W/ SHALE	7.5	365.6	GR
-	CARBONDALE		SILTSTONE	1.0	373.0	
-	CARBONDALE		CALCAREOUS SHALE	3.0	374.0	

-	CARBONDALE	CALCAREOUS SHALE	3.0	377.0
-	CARBONDALE	SILTY SHALE	4.0	380.0

MAPID: 13522526000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 486' S line, 76' E line of SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.551084 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.408463 **DATE COLLECTED:** 8 / 6 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 8.8 **LOG TYPE:** Drillers Log

SOURCE: SHELL OIL COMPANY X-33 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	6.6	380.0	

MAPID: 13522549000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1950' S line, 45' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.569439 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.412506 **DATE COLLECTED:** 6 / 10 / 1975

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 391.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-28 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
655.0			UNCONSOLIDATED	18.0	0.0	
637.0	BOND		SANDSTONE	50.0	18.0	
587.0	BOND		LIMESTONE	2.0	68.0	
585.0	BOND		GRAY SHALE	16.0	70.0	
569.0	BOND	CARTHAGE	LIMESTONE	8.0	86.0	
561.0	MODESTO		BLACK SHALE	3.0	94.0	
558.0	MODESTO		GRAY SHALE	12.0	97.0	
546.0	MODESTO		SANDY LIMESTONE	5.0	109.0	
541.0	MODESTO		GRAY SHALE	8.0	114.0	
533.0	MODESTO		BLACK SHALE	3.0	122.0	
530.0	MODESTO		GRAY SHALE	8.0	125.0	
522.0	MODESTO		SANDSTONE	7.0	133.0	
515.0	MODESTO		GRAY SHALE	63.0	140.0	
452.0	MODESTO		BLACK SHALE	3.0	203.0	
449.0	MODESTO	CHAPEL	COAL	2.0	206.0	
447.0	MODESTO		GRAY SHALE	23.0	208.0	
424.0	MODESTO		LIMESTONE	4.0	231.0	
420.0	MODESTO		GRAY SHALE	50.0	235.0	
370.0	MODESTO		SHALY SANDSTONE	14.0	285.0	
356.0	MODESTO		GRAY SHALE	21.0	299.0	
335.0	MODESTO		BLACK SHALE	4.0	320.0	
331.0	MODESTO		GRAY SHALE	17.0	324.0	
314.0	MODESTO	PIASA	LIMESTONE	2.0	341.0	
312.0	MODESTO		BLACK SHALE	3.0	343.0	
309.0	CARBONDALE		SHALE	10.0	346.0	
299.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.0	356.0	
295.0	CARBONDALE		SHALE	4.0	360.0	
291.0	CARBONDALE	BRERETON	LIMESTONE	3.0	364.0	
288.0	CARBONDALE	ANNA	BLACK SHALE	8.8	367.0	
279.2	CARBONDALE	HERRIN	COAL	8.4	375.8	
270.8	CARBONDALE		UNDERCLAY	4.8	384.2	
266.0	CARBONDALE		LIMESTONE	2.0	389.0	

MAPID: 13522525000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 1358' S line, 70' W line of SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.569148 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.396352 **DATE COLLECTED:** 8 / 8 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 392.2 **LOG TYPE:** Drillers Log

SOURCE: SHELL OIL COMPANY X40 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	3.0	0.0	
-	PLEISTOCENE		UNCONSOLIDATED	14.0	3.0	
-			SANDY SILTSTONE	5.0	17.0	BROWN
-			SHALE & SANDSTONE	62.5	22.0	
-			GREEN SHALE	2.0	84.5	
-			CALCAREOUS SHALE	3.0	86.5	
-			LIMESTONE	3.5	89.5	
-			SILTY SHALE	16.5	93.0	
-			COAL	0.5	109.5	
-			SILTY SHALE	3.0	110.0	
-			SANDY SHALE	4.0	113.0	
-			SANDY SILTSTONE	5.5	117.0	
-			SANDSTONE	2.0	122.5	
-			SILTY SHALE	5.5	124.5	
-			CALCAREOUS SHALE	2.0	130.0	
-			BLACK SHALE	3.5	132.0	
-			SILTY SHALE	2.5	135.5	
-	BOND	CARTHAGE	LIMESTONE AND SANDSTONE	2.0	138.0	
-	MODESTO		SILTY SHALE	3.0	140.0	
-	MODESTO		SANDY SILTSTONE	3.0	143.0	
-	MODESTO		SILTY SHALE	23.5	146.0	
-	MODESTO		SHALE	40.5	169.5	
-	MODESTO		BLACK SHALE	2.0	210.0	
-	MODESTO		LIMESTONE	0.5	212.0	
-	MODESTO	CHAPEL	COAL	1.0	212.5	
-	MODESTO		SANDY CONGLOMERATE	49.5	213.5	
-	MODESTO		CALCAREOUS SILTSTONE	2.0	263.0	
-	MODESTO		SHALE & SANDSTONE	12.0	265.0	
-	MODESTO		CONGLOMERATE	29.0	277.0	GREEN
-	MODESTO		BLACK SHALE	1.0	306.0	
-	MODESTO		SILTY SHALE	5.5	307.0	
-	MODESTO		SHALE	2.5	312.5	
-	MODESTO		SILTY SHALE	9.0	315.0	
-	MODESTO		BLACK SHALE	1.5	324.0	
-	MODESTO		GREEN SHALE	2.5	325.5	
-	MODESTO		SHALE & SANDSTONE	7.0	328.0	
-	MODESTO		GREEN SHALE	6.5	335.0	
-	MODESTO	PIASA	LIMESTONE	1.5	341.5	

-			GREEN SHALE	7.0	343.0
-			BLACK SHALE	6.5	350.0
-			CALCAREOUS SHALE	8.5	356.5
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	365.0
-	CARBONDALE		GREEN SHALE	3.0	336.0
-	CARBONDALE	BRERETON	LIMESTONE	3.5	369.0
-	CARBONDALE		GREEN SHALE	7.5	372.5
-	CARBONDALE	HERRIN	COAL	8.8	380.0
-	CARBONDALE		GREEN SHALE	3.4	388.8

MAPID: 13522550000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2586' S line, 60' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.569661 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.399741 **DATE COLLECTED:** 7 / 2 / 1977

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 383.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-61 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0			UNCONSOLIDATED	18.0	0.0	
632.0	BOND		SANDY SHALE	53.0	18.0	
579.0	BOND	CARTHAGE	LIMESTONE	8.0	71.0	
571.0	MODESTO		BLACK SHALE	1.0	79.0	
570.0	MODESTO		GRAY SHALE	18.0	80.0	
552.0	MODESTO		SANDY LIMESTONE	5.5	98.0	
546.5	MODESTO		SANDSTONE/SHALE	3.5	103.5	
543.0	MODESTO		GRAY SHALE	5.0	107.0	
538.0	MODESTO		CALCAREOUS SHALE	2.0	112.0	
536.0	MODESTO		BLACK SHALE	2.5	114.0	
533.5	MODESTO		GRAY SHALE	5.0	116.5	
528.5	MODESTO		SHALY LIMESTONE	2.0	121.5	
526.5	MODESTO		GRAY SHALE	2.5	123.5	
524.0	MODESTO		SANDY LIMESTONE	1.5	126.0	
522.5	MODESTO		GRAY SHALE	6.5	127.5	
516.0	MODESTO		GRAY SHALE	50.6	134.0	
465.4	MODESTO		SHALY LIMESTONE	1.4	184.6	
464.0	MODESTO		SHALE	4.5	186.0	
459.5	MODESTO	CHAPEL	COAL	1.0	190.5	
458.5	MODESTO		GRAY SHALE	4.5	191.5	
454.0	MODESTO		SANDSTONE	4.0	196.0	
450.0	MODESTO		SANDY SHALE	59.0	200.0	
391.0	MODESTO		GRAY SHALE	28.0	259.0	
363.0	MODESTO		SHALE	2.0	287.0	
361.0	MODESTO		GRAY SHALE	14.0	289.0	
347.0	MODESTO		BLACK SHALE	2.0	303.0	
345.0	MODESTO		SANDY SHALE	12.0	305.0	
333.0	MODESTO		CALCAREOUS SHALE	3.5	317.0	
329.5	MODESTO		LIMESTONE	1.0	320.5	
328.5	MODESTO		SHALE	11.5	321.5	
317.0	MODESTO	PIASA	LIMESTONE	2.1	333.0	
314.9			GRAY SHALE	8.9	335.1	
306.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	3.0	344.0	
303.0	CARBONDALE		CALCAREOUS SHALE	3.0	347.0	
300.0	CARBONDALE	BRERETON	LIMESTONE	8.3	350.0	
291.7	CARBONDALE		SHALE	0.1	358.3	
291.6	CARBONDALE		CORE LOSS	0.7	358.4	
291.0	CARBONDALE		BLACK SHALE	0.8	359.0	
290.2	CARBONDALE		SHALE	0.6	359.8	

289.6	CARBONDALE	HERRIN	COAL	7.5	360.4
282.1	CARBONDALE		UNDERCLAY	1.1	367.9
281.0	CARBONDALE		GRAY SHALE	2.0	369.0
279.0	CARBONDALE		LIMESTONE	1.0	371.0
278.0	CARBONDALE		GRAY SHALE	6.0	372.0
272.0	CARBONDALE		SHALY LIMESTONE	5.0	378.0

MAPID: 13500012000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.56923 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.385315 **DATE COLLECTED:** 5 / 0 / 1937

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 387.1 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
305.0	MODESTO	PIASA	LIMESTONE	1.0	346.0	
304.0	MODESTO		UNCLASSIFIED	2.0	347.0	
302.0	CARBONDALE		UNCLASSIFIED	9.0	349.0	
293.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.8	358.0	
283.2	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	367.8	
282.2	CARBONDALE		UNCLASSIFIED	0.8	368.8	
281.4	CARBONDALE	BRERETON	LIMESTONE	6.2	369.6	
275.2	CARBONDALE	ANNA	BLACK SHALE	5.2	375.8	
270.0	CARBONDALE	HERRIN	COAL	6.1	381.0	

MAPID: 13500012000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.56923 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.385315 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 387.1 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.9	MODESTO		SHALE	12.0	332.1	
306.9	CARBONDALE	DANVILLE	BLACK SHALE	2.0	344.1	
304.9	CARBONDALE		SHALE	3.0	346.1	
301.9	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	2.0	349.1	
299.9	CARBONDALE	ALLENBY	BLACK SHALE	3.0	351.1	
296.9	CARBONDALE		CALCAREOUS SHALE	4.0	354.1	
292.9	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	9.8	358.1	
283.2	CARBONDALE	BANKSTON FORK	GRAY SHALE	1.8	367.8	
281.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	369.7	
278.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	372.3	
276.4	CARBONDALE	BRERETON	LIMESTONE	1.3	374.6	
275.2	CARBONDALE	ANNA	BLACK SHALE	5.2	375.8	
270.0	CARBONDALE	HERRIN	COAL	6.1	381.0	

MAPID: 13500012000C **VERSION:** 3 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 19 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.56923 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.385315 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 651.4 **LOGGED (FT.):** 390.6 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
651.4			SOIL	4.0	0.0	
647.4			CLAY	21.0	4.0	
626.4	BOND		SHALE	37.0	25.0	
589.4	BOND		SANDSTONE	15.0	62.0	
574.4	BOND	CARTHAGE	LIMESTONE	4.5	77.0	
569.9	MODESTO		SHALE	5.5	81.5	
564.4	MODESTO		LIMESTONE	8.0	87.0	
556.4	MODESTO		SHALE	10.0	95.0	
546.4	MODESTO		SANDSTONE	9.0	105.0	
537.4	MODESTO		SHALE	90.0	114.0	
447.4	MODESTO		LIMESTONE	4.0	204.0	
443.4	MODESTO		SHALE	68.0	208.0	
375.4	MODESTO		SHALE	3.0	276.0	
372.4	MODESTO		SHALE	53.0	279.0	
319.4	MODESTO		BLACK SHALE	6.0	332.0	
313.4	MODESTO		SHALE	6.0	338.0	
307.4	MODESTO		BLACK SHALE	2.0	344.0	
305.4	MODESTO		SHALE	1.0	346.0	W/ LS PEBBLES & LS BED
304.4	MODESTO		SHALE	2.0	347.0	
302.4	MODESTO		SHALE	2.0	349.0	W/ LS PEBBLES
300.4	CARBONDALE		SHALE	7.0	351.0	S/ LS BASAL 4'
293.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	358.0	
290.4	CARBONDALE	BANKSTON FORK	SHALE	1.2	361.0	
289.2	CARBONDALE	BANKSTON FORK	LIMESTONE	5.6	362.2	
283.6	CARBONDALE		SHALE	1.8	367.8	
281.8	CARBONDALE		LIMESTONE	2.7	369.6	
279.1	CARBONDALE		SHALE	2.3	372.3	
276.9	CARBONDALE		LIMESTONE	1.3	374.5	
275.6	CARBONDALE		SHALE	1.0	375.8	
274.6	CARBONDALE	ANNA	BLACK SHALE	4.2	376.8	
270.5	CARBONDALE	HERRIN	COAL	6.1	380.9	
264.4	CARBONDALE		SHALE	3.6	387.0	

MAPID: 13522341000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 45' N line, 42' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.55066 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.39246 **DATE COLLECTED:** 7 / 12 / 1978

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-10 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
637.0			UNCONSOLIDATED	18.0	0.0	
619.0	BOND		GRAY SHALE	64.0	18.0	
555.0	BOND		COAL	0.5	82.0	
554.5	BOND		GRAY SHALE	3.5	82.5	
551.0	BOND	CARTHAGE	SHALY LIMESTONE	4.0	86.0	
547.0	MODESTO		BLACK SHALE	1.0	90.0	
546.0	MODESTO		GRAY SHALE	15.0	91.0	
531.0	MODESTO		SHALE	4.5	106.0	
526.5	MODESTO		LIMESTONE AND SANDSTONE	6.0	110.5	
520.5	MODESTO		GRAY SHALE	11.5	116.5	
509.0	MODESTO		GRAY SHALE	3.0	128.0	
506.0	MODESTO		BLACK SHALE	2.0	131.0	
504.0	MODESTO	WOMAC	COAL	0.5	133.0	
503.5	MODESTO		SANDY SHALE	21.5	133.5	
482.0	MODESTO		SANDY SHALE	56.0	155.0	
426.0	MODESTO		BLACK SHALE	1.0	211.0	
425.0	MODESTO		GRAY SHALE	4.0	212.0	
421.0	MODESTO	CHAPEL	COAL	1.0	216.0	
420.0	MODESTO		SANDY SHALE	11.0	217.0	
409.0	MODESTO		SANDSTONE	11.0	228.0	
398.0	MODESTO		SANDY SHALE	74.0	239.0	
324.0	MODESTO		GRAY SHALE	12.0	313.0	
312.0	MODESTO		BLACK SHALE	2.0	325.0	
310.0	MODESTO		GRAY SHALE	13.0	327.0	
297.0	MODESTO	PIASA	LIMESTONE	2.5	340.0	
294.5	MODESTO		SHALE	0.5	342.5	
294.0			GRAY SHALE	17.0	343.0	
277.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	360.0	
273.5	CARBONDALE		SHALE	4.0	363.5	
269.5	CARBONDALE	BRERETON	LIMESTONE	6.0	367.5	
263.5	CARBONDALE	ANNA	BLACK SHALE	3.6	373.5	
259.9	CARBONDALE	HERRIN	COAL	8.3	377.1	
251.6	CARBONDALE		GRAY SHALE	5.6	385.4	
246.0	CARBONDALE		LIMESTONE	3.0	391.0	
243.0	CARBONDALE		SHALE	6.0	394.0	

MAPID: 13522593000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2605' N line, 1305' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.555019 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.385397 **DATE COLLECTED:** 5 / 30 / 1979

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-20-5C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0			UNCONSOLIDATED	19.0	0.0	
623.0	BOND		GRAY SHALE	54.5	19.0	
568.5	BOND	CARTHAGE	LIMESTONE	5.5	73.5	
563.0	MODESTO		SHALE	1.0	79.0	
562.0	MODESTO		GRAY SHALE	22.0	80.0	
540.0	MODESTO		SANDSTONE	6.0	102.0	
534.0	MODESTO		GRAY SHALE	11.0	108.0	
523.0	MODESTO	MACOUPIN	LIMESTONE	0.8	119.0	
522.2	MODESTO		GRAY SHALE	1.2	119.8	
521.0	MODESTO		BLACK SHALE	2.0	121.0	
519.0	MODESTO		GRAY SHALE	71.7	123.0	
447.3	MODESTO	CARLINVILLE	LIMESTONE	2.3	194.7	
445.0	MODESTO		SHALE	1.0	197.0	
444.0	MODESTO		GRAY SHALE	3.6	198.0	
440.4	MODESTO	CHAPEL	COAL	1.0	201.6	
439.4	MODESTO		GRAY SHALE	90.4	202.6	
349.0	MODESTO		SHALE	1.0	293.0	
348.0	MODESTO		CALCAREOUS SHALE	15.0	294.0	
333.0	MODESTO		BLACK SHALE	1.0	309.0	
332.0	MODESTO		SHALE	12.5	310.0	
319.5	MODESTO	PIASA	LIMESTONE	2.0	322.5	
317.5	MODESTO		SHALE	1.5	324.5	
316.0	MODESTO		GRAY SHALE	11.8	326.0	
304.2	CARBONDALE	DANVILLE	COAL	0.4	337.8	
303.8	CARBONDALE		GRAY SHALE	2.8	338.2	
301.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	341.0	
297.5	CARBONDALE		SHALE	2.3	344.5	
295.2	CARBONDALE	BRERETON	LIMESTONE	9.8	346.8	
285.4	CARBONDALE	ANNA	BLACK SHALE	3.4	356.6	
282.1	CARBONDALE	HERRIN	COAL	8.2	359.9	
273.9	CARBONDALE		GRAY SHALE	1.7	368.1	
272.2	CARBONDALE		CORE LOSS	0.2	369.8	
272.0	CARBONDALE		GRAY SHALE	2.5	370.0	
269.5	CARBONDALE		LIMESTONE	1.4	372.5	
268.1	CARBONDALE		GRAY SHALE	1.1	373.9	
267.0	CARBONDALE		LIMESTONE	0.8	375.0	
266.2	CARBONDALE		SHALY LIMESTONE	2.2	375.8	
264.0	CARBONDALE		SHALE	1.9	378.0	
262.2	CARBONDALE		CORE LOSS	0.2	379.8	

262.0	CARBONDALE	GRAY SHALE	1.3	380.0
260.7	CARBONDALE	LIMESTONE	1.3	381.3
259.4	CARBONDALE	GRAY SHALE	1.6	382.6
257.8	CARBONDALE	LIMESTONE	0.8	384.2
257.0	CARBONDALE	GRAY SHALE	5.0	385.0

MAPID: 13522595000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 21 **QUARTERS/FOOTAGES:** 30' S line, 2550' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.541167 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.378093 **DATE COLLECTED:** 5 / 31 / 1979

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 405.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-21-1AC **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
639.0			UNCONSOLIDATED	58.0	0.0	
581.0	BOND		SHALE	30.0	58.0	
551.0	BOND	CARTHAGE	SHALY LIMESTONE	2.0	88.0	
549.0	MODESTO		GRAY SHALE	21.0	90.0	
528.0	MODESTO		SANDSTONE	4.0	111.0	
524.0	MODESTO		SANDY SHALE	18.0	115.0	
506.0	MODESTO		BLACK SHALE	3.0	133.0	
503.0	MODESTO		GRAY SHALE	13.0	136.0	
490.0	MODESTO		LIMESTONE	1.0	149.0	
489.0	MODESTO		GRAY SHALE	13.0	150.0	
476.0	MODESTO		GRAY SHALE	12.0	163.0	
464.0	MODESTO		SANDSTONE	1.5	175.0	
462.5	MODESTO		SANDY SHALE	26.5	176.5	
436.0	MODESTO	CARLINVILLE	LIMESTONE	0.3	203.0	
435.7	MODESTO		GRAY SHALE	9.7	203.3	
426.0	MODESTO		SHALE	5.0	213.0	
421.0	MODESTO	CHAPEL	COAL	1.0	218.0	
420.0	MODESTO		GRAY SHALE	112.0	219.0	
308.0	MODESTO		BLACK SHALE	2.0	331.0	
306.0	MODESTO		GRAY SHALE	4.5	333.0	
301.5	MODESTO	PIASA	LIMESTONE	6.5	337.5	
295.0	MODESTO		GRAY SHALE	9.5	344.0	
285.5	MODESTO		SHALE	1.5	353.5	
284.0	CARBONDALE		GRAY SHALE	5.0	355.0	
279.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.4	360.0	
274.6	CARBONDALE		SHALE	1.3	364.4	
273.3	CARBONDALE	BRERETON	SHALY LIMESTONE	11.0	365.7	
262.3	CARBONDALE	ANNA	BLACK SHALE	2.3	376.7	
260.0	CARBONDALE	HERRIN	COAL	8.3	379.0	
251.6	CARBONDALE		CORE LOSS	0.2	387.4	
251.5	CARBONDALE		GRAY SHALE	16.5	387.5	
235.0	CARBONDALE		LIMESTONE	1.0	404.0	

MAPID: 13522524000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1752' N line, 46' W line of NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.549977 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.373151 **DATE COLLECTED:** 9 / 4 / 1979

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 399.0 **LOG TYPE:** Drillers Log

SOURCE: SHELL OIL COMPANY X39 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
637.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
633.0	PLEISTOCENE		CLAY & GRAVEL	60.0	4.0	BR
573.0			SHALE	9.0	64.0	GR
564.0			LIMESTONE W/ COAL	0.5	73.0	
563.5			CLAYSTONE & SILTSTONE	2.5	73.5	GR
561.0			LIMESTONE	6.5	76.0	
554.5			SANDY SHALE	3.5	82.5	
551.0			SILTY SHALE	17.0	86.0	
534.0			LIMESTONE	4.0	103.0	
530.0			SANDY SHALE	18.0	107.0	
512.0			BLACK SHALE	2.0	125.0	
510.0			COAL	1.0	127.0	
509.0			SHALE	67.5	128.0	
441.5			SHALE	7.0	195.5	GR
434.5			SHALY COAL	1.5	202.5	BLACK
433.0			SHALE WITH LIMESTONE	1.0	204.0	
432.0			COAL	1.0	205.0	
431.0			SILTY SHALE	109.0	206.0	GR
322.0			LIMESTONE W/ SHALE	3.0	315.0	
319.0			BLACK SHALE	2.0	318.0	
317.0			SHALE	3.0	320.0	GR
314.0			SHALE	3.5	323.0	
310.5			CALCAREOUS SHALE	4.5	326.5	
306.0			SHALE	13.0	331.0	
293.0			SHALE	3.0	344.0	GR
290.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	347.0	
286.5	CARBONDALE		SHALE	1.0	350.5	GR
285.5	CARBONDALE		LIMESTONE	14.0	351.5	
271.5	CARBONDALE		BLACK SHALE	1.2	365.5	
270.3	CARBONDALE	BRERETON	LIMESTONE	0.3	366.7	
270.0	CARBONDALE	ANNA	BLACK SHALE	1.0	367.0	
269.0	CARBONDALE	HERRIN	COAL	8.6	368.0	
260.3	CARBONDALE		SHALE WITH LIMESTONE	11.8	376.7	
248.5	CARBONDALE		LIMESTONE	2.0	388.5	
246.5	CARBONDALE		SHALE & SILTSTONE	8.5	390.5	

MAPID: 13522524000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1752' N line, 46' W line of NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.549977 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.373151 **DATE COLLECTED:** 9 / 4 / 1979

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 376.6 **LOG TYPE:** Drillers Log

SOURCE: SHELL OIL COMPANY X-39 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
269.0	CARBONDALE	HERRIN	COAL	8.6	368.0	

MAPID: 13522551000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 1345' N line, 30' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.550269 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.374274 **DATE COLLECTED:** 9 / 6 / 1975

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 391.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-27 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.0			UNCONSOLIDATED	69.0	0.0	
566.0	BOND		SHALE	12.0	69.0	
554.0	BOND	CARTHAGE	LIMESTONE	7.0	81.0	
547.0	MODESTO		GRAY SHALE	19.0	88.0	
528.0	MODESTO		LIMESTONE	4.0	107.0	
524.0	MODESTO		GRAY SHALE	15.0	111.0	
509.0	MODESTO	MACOUPIN	SANDY LIMESTONE	3.0	126.0	
506.0	MODESTO		BLACK SHALE	2.0	129.0	
504.0	MODESTO	WOMAC	COAL	2.0	131.0	
502.0	MODESTO		GRAY SHALE	38.5	133.0	
463.5	MODESTO	CARLINVILLE	LIMESTONE	1.5	171.5	
462.0	MODESTO		GRAY SHALE	34.0	173.0	
428.0	MODESTO		BLACK SHALE	2.0	207.0	
426.0	MODESTO		GRAY SHALE	5.0	209.0	
421.0	MODESTO	CHAPEL	COAL	1.0	214.0	
420.0	MODESTO		GRAY SHALE	93.0	215.0	
327.0	MODESTO		LIMESTONE	1.0	308.0	
326.0	MODESTO		GRAY SHALE	17.0	309.0	
309.0	MODESTO		BLACK SHALE	3.0	326.0	
306.0	MODESTO		GRAY SHALE	19.0	329.0	
287.0	MODESTO		BLACK SHALE	2.5	348.0	
284.5	MODESTO		GRAY SHALE	4.5	350.5	
280.0	MODESTO	PIASA	LIMESTONE	5.0	355.0	
275.0			SHALE	1.0	360.0	
274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	361.0	
271.0	CARBONDALE		SHALE	2.0	364.0	
269.0	CARBONDALE	BRERETON	LIMESTONE	6.0	366.0	
263.0	CARBONDALE	ANNA	BLACK SHALE	3.0	372.0	
260.0	CARBONDALE	HERRIN	COAL	8.5	375.0	
251.5	CARBONDALE		UNDERCLAY	4.5	383.5	
247.0	CARBONDALE		SHALY LIMESTONE	3.0	388.0	

MAPID: 13522596000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 30' N line, 72' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.56886 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.377925 **DATE COLLECTED:** 5 / 30 / 1979

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-29-3C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0			UNCONSOLIDATED	32.0	0.0	
610.0	BOND		GRAY SHALE	26.0	32.0	
584.0	BOND		SANDSTONE	2.5	58.0	
581.5	BOND		GRAY SHALE	21.5	60.5	
560.0	BOND	CARTHAGE	LIMESTONE	6.0	82.0	
554.0	MODESTO		BLACK SHALE	3.5	88.0	
550.5	MODESTO		GRAY SHALE	19.5	91.5	
531.0	MODESTO		LIMESTONE	4.0	111.0	
527.0	MODESTO		GRAY SHALE	15.0	115.0	
512.0	MODESTO		BLACK SHALE	2.0	130.0	
510.0	MODESTO		GRAY SHALE	6.0	132.0	
504.0	MODESTO		SANDY SHALE	22.0	138.0	
482.0	MODESTO		SILTY SHALE	20.0	160.0	
462.0	MODESTO		GRAY SHALE	23.5	180.0	
438.5	MODESTO		LIMESTONE	1.0	203.5	
437.5	MODESTO		BLACK SHALE	3.5	204.5	
434.0	MODESTO		GRAY SHALE	4.0	208.0	
430.0	MODESTO	CHAPEL	COAL	1.5	212.0	
428.5	MODESTO		GRAY SHALE	106.5	213.5	
322.0	MODESTO		BLACK SHALE	2.0	320.0	
320.0	MODESTO		GRAY SHALE	5.5	322.0	
314.5	MODESTO	PIASA	LIMESTONE	4.0	327.5	
310.5	MODESTO	PIASA	SANDY SHALE	2.2	331.5	
308.3	MODESTO	PIASA	LIMESTONE	2.0	333.7	
306.3	MODESTO		GRAY SHALE	11.3	335.7	
295.0	CARBONDALE	DANVILLE	COAL	1.2	347.0	
293.8	CARBONDALE		GRAY SHALE	7.6	348.2	
286.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	355.8	
283.0	CARBONDALE		GRAY SHALE	2.0	359.0	
281.0	CARBONDALE	BRERETON	LIMESTONE	10.0	361.0	
271.0	CARBONDALE	ANNA	BLACK SHALE	3.1	371.0	
267.9	CARBONDALE	HERRIN	COAL	8.6	374.1	
259.3	CARBONDALE		UNDERCLAY	1.3	382.7	
258.0	CARBONDALE		CORE LOSS	0.1	384.0	
258.0	CARBONDALE		GRAY SHALE	2.0	384.0	
256.0	CARBONDALE		LIMESTONE	0.7	386.0	
255.3	CARBONDALE		GRAY SHALE	1.3	386.7	
254.0	CARBONDALE		SHALY LIMESTONE	5.0	388.0	
249.0	CARBONDALE		GRAY SHALE	5.0	393.0	

244.0	CARBONDALE	LIMESTONE	1.0	398.0
243.0	CARBONDALE	GRAY SHALE	1.0	399.0

MAPID: 13501098000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.585794 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.3696 **DATE COLLECTED:** 3 / 0 / 1958

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 390.5 **LOG TYPE:** Electric Log

SOURCE: COVINGTON, JAMES R. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
306.5	MODESTO	PIASA	LIMESTONE	3.0	337.5	
303.5	MODESTO		UNCLASSIFIED	5.0	340.5	
298.5	CARBONDALE	DANVILLE	COAL	1.0	345.5	
297.5	CARBONDALE		UNCLASSIFIED	13.0	346.5	
284.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	359.5	
279.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	364.5	
278.0	CARBONDALE		UNCLASSIFIED	1.5	366.0	
276.5	CARBONDALE	BRERETON	LIMESTONE	9.0	367.5	
267.5	CARBONDALE	ANNA	BLACK SHALE	5.5	376.5	
262.0	CARBONDALE	HERRIN	COAL	8.5	382.0	

MAPID: 13501098000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.585794 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.3696 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
306.0	MODESTO	PIASA	LIMESTONE	4.0	338.0	
302.0	CARBONDALE		MOTTLED SHALE	10.0	342.0	
292.0	CARBONDALE	GALUM	LIMESTONE & SHALE	1.5	352.0	
290.5	CARBONDALE		SHALE	1.5	353.5	
289.0	CARBONDALE	ALLENBY	COAL	1.0	355.0	
288.0	CARBONDALE		CLAYSTONE	4.0	356.0	
284.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	360.0	
280.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	364.0	
274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	370.0	
267.0	CARBONDALE	LAWSON	SHALE	5.0	377.0	
262.0	CARBONDALE	HERRIN	COAL	8.0	382.0	

MAPID: 13522552000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 660' S line, 330' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.569956 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.365091 **DATE COLLECTED:** 6 / 15 / 1974

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-19 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.0			UNCONSOLIDATED	67.0	0.0	
568.0	BOND	CARTHAGE	LIMESTONE	5.0	67.0	
563.0	MODESTO		SHALE	22.0	72.0	
541.0	MODESTO		SANDY LIMESTONE	6.0	94.0	
535.0	MODESTO		GRAY SHALE	13.0	100.0	
522.0	MODESTO	MACOUPIN	LIMESTONE	4.0	113.0	
518.0	MODESTO	WOMAC	BLACK SHALE	3.0	117.0	
515.0	MODESTO		GRAY SHALE	70.0	120.0	
445.0	MODESTO	CARLINVILLE	LIMESTONE	2.0	190.0	
443.0	MODESTO		SHALE	12.0	192.0	
431.0	MODESTO	CHAPEL	COAL	1.0	204.0	
430.0	MODESTO		GRAY SHALE	105.0	205.0	
325.0	MODESTO		BLACK SHALE	2.0	310.0	
323.0	MODESTO		GRAY SHALE	2.0	312.0	
321.0	MODESTO		LIMESTONE	10.0	314.0	
311.0	MODESTO		GRAY SHALE	9.0	324.0	
302.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	333.0	
301.0	CARBONDALE		GRAY SHALE	6.0	334.0	
295.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	340.0	
291.0	CARBONDALE		SHALE	2.0	344.0	
289.0	CARBONDALE	BRERETON	LIMESTONE	6.0	346.0	
283.0	CARBONDALE		SHALE	10.0	352.0	
273.0	CARBONDALE	HERRIN	COAL	8.0	362.0	
265.0	CARBONDALE		UNDERCLAY	3.0	370.0	
262.0	CARBONDALE		LIMESTONE	4.0	373.0	
258.0	CARBONDALE		GRAY SHALE	5.0	377.0	
253.0	CARBONDALE		LIMESTONE	4.0	382.0	
249.0	CARBONDALE		GRAY SHALE	14.0	386.0	

MAPID: 13522592000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2112' N line, 1056' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.583275 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.372185 **DATE COLLECTED:** 5 / 25 / 1979

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 392.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-30-6C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
641.0			UNCONSOLIDATED	49.0	0.0	
592.0	BOND		GRAY SHALE	28.0	49.0	
564.0	BOND	CARTHAGE	LIMESTONE	7.0	77.0	
557.0	MODESTO		SHALE	1.5	84.0	
555.5	MODESTO		GRAY SHALE	20.5	85.5	
535.0	MODESTO		SANDY LIMESTONE	5.0	106.0	
530.0	MODESTO		GRAY SHALE	14.0	111.0	
516.0	MODESTO	MACOUPIN	LIMESTONE	1.0	125.0	
515.0	MODESTO		BLACK SHALE	3.0	126.0	
512.0	MODESTO	WOMAC	COAL	1.0	129.0	
511.0	MODESTO		SANDY SHALE	70.5	130.0	
440.5	MODESTO	CARLINVILLE	LIMESTONE	1.5	200.5	
439.0	MODESTO		BLACK SHALE	2.0	202.0	
437.0	MODESTO		GRAY SHALE	10.5	204.0	
426.5	MODESTO	CHAPEL	COAL	2.0	214.5	
424.5	MODESTO		SANDY SHALE	61.5	216.5	
363.0	MODESTO		GRAY SHALE	34.0	278.0	
329.0	MODESTO		BLACK SHALE	1.0	312.0	
328.0	MODESTO		SANDY SHALE	11.0	313.0	
317.0	MODESTO		SHALE	2.0	324.0	
315.0	MODESTO	PIASA	LIMESTONE	2.6	326.0	
312.4	MODESTO		GRAY SHALE	11.4	328.6	
301.0	MODESTO		LIMESTONE	1.0	340.0	
300.0	CARBONDALE	DANVILLE	COAL	0.2	341.0	
299.8	CARBONDALE		GRAY SHALE	11.6	341.2	
288.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.2	352.8	
286.0	CARBONDALE		GRAY SHALE	4.5	355.0	
281.5	CARBONDALE	BRERETON	LIMESTONE	2.0	359.5	
279.5	CARBONDALE		SHALE	5.1	361.5	
274.4	CARBONDALE	HERRIN	COAL	8.6	366.6	
265.8	CARBONDALE		UNDERCLAY	0.4	375.2	
265.4	CARBONDALE		CORE LOSS	0.4	375.6	
265.0	CARBONDALE		UNDERCLAY	4.0	376.0	
261.0	CARBONDALE		LIMESTONE	4.0	380.0	
257.0	CARBONDALE		GRAY SHALE	8.0	384.0	

MAPID: 13522591000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 40' N line, 1164' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.564595 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.363178 **DATE COLLECTED:** 5 / 31 / 1979

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 385.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-32-2C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
635.0			UNCONSOLIDATED	46.0	0.0	
589.0	BOND		GRAY SHALE	16.0	46.0	
573.0	BOND	CARTHAGE	LIMESTONE	6.5	62.0	
566.5	MODESTO		SHALE	1.5	68.5	
565.0	MODESTO		GRAY SHALE	18.0	70.0	
547.0	MODESTO		SANDSTONE	5.0	88.0	
542.0	MODESTO		GRAY SHALE	14.0	93.0	
528.0	MODESTO		LIMESTONE	5.0	107.0	
523.0	MODESTO		BLACK SHALE	2.5	112.0	
520.5	MODESTO	WOMAC	COAL	1.0	114.5	
519.5	MODESTO		GRAY SHALE	12.5	115.5	
507.0	MODESTO		SANDSTONE	2.0	128.0	
505.0	MODESTO		GRAY SHALE	25.5	130.0	
479.5	MODESTO		SANDSTONE	1.0	155.5	
478.5	MODESTO		GRAY SHALE	28.5	156.5	
450.0	MODESTO	CARLINVILLE	LIMESTONE	1.0	185.0	
449.0	MODESTO		SHALE	10.0	186.0	
439.0	MODESTO		LIMESTONE	1.5	196.0	
437.5	MODESTO	CHAPEL	COAL	1.5	197.5	
436.0	MODESTO		GRAY SHALE	11.0	199.0	
425.0	MODESTO		GRAY SHALE	9.0	210.0	
416.0	MODESTO		GRAY SHALE	4.0	219.0	
412.0	MODESTO		SANDSTONE	1.0	223.0	
411.0	MODESTO		GRAY SHALE	16.0	224.0	
395.0	MODESTO		GRAY SHALE	40.0	240.0	
355.0	MODESTO		GRAY SHALE	24.0	280.0	
331.0	MODESTO		BLACK SHALE	2.5	304.0	
328.5	CARBONDALE		SANDY SHALE	7.5	306.5	
321.0	CARBONDALE		SHALE	4.0	314.0	
317.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	318.0	
315.0	MODESTO		CALCAREOUS SHALE	11.0	320.0	
304.0			LIMESTONE	6.5	331.0	
297.5	MODESTO		CALCAREOUS SHALE	7.5	337.5	
290.0	MODESTO		SHALE	1.0	345.0	
289.0	CARBONDALE	ENERGY	GRAY SHALE	13.6	346.0	
275.4	CARBONDALE	ENERGY	BLACK SHALE	0.0	359.6	
275.4	CARBONDALE	HERRIN	COAL	3.4	359.6	
271.9	CARBONDALE	HERRIN	GRAY SHALE	0.9	363.1	
271.1	CARBONDALE	HERRIN	COAL	0.0	363.9	

271.1	CARBONDALE	HERRIN	GRAY SHALE	0.9	363.9
270.1	CARBONDALE	HERRIN	COAL	5.0	364.9
265.1	CARBONDALE		UNDERCLAY	0.3	369.9
264.9	CARBONDALE		GRAY SHALE	4.9	370.1
260.0	CARBONDALE		GRAY SHALE	3.0	375.0
257.0	CARBONDALE		LIMESTONE	3.0	378.0
254.0	CARBONDALE		CALCAREOUS SHALE	4.0	381.0
250.0	CARBONDALE		UNCLASSIFIED	0.0	385.0

MAPID: 13500006000C **VERSION:** 1 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** SE/c

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.597264 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.429077 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.8 **LOGGED (FT.):** 386.3 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.8			SOIL	4.0	0.0	
646.8			CLAY	10.0	4.0	
636.8			SAND	3.0	14.0	
633.8			CLAY	28.0	17.0	
605.8	BOND		SHALE	10.0	45.0	
595.8	BOND		SANDSTONE	17.0	55.0	
578.8	BOND		SHALE	10.0	72.0	W/ LS PEBBLES BASAL 2'
568.8	BOND	CARTHAGE	LIMESTONE	9.5	82.0	
559.3	MODESTO		CLAYSTONE & SILTSTONE	1.5	91.5	
557.8	MODESTO		SHALE	6.0	93.0	
551.8	MODESTO		SHALE	17.0	99.0	W/ LS BEDS
534.8	MODESTO		SHALE	4.0	116.0	
530.8	MODESTO		SHALE	8.0	120.0	W/ LS
522.8	MODESTO		SANDSTONE	6.0	128.0	W/ LS PEBBLES BASAL 3'
516.8	MODESTO		SHALE	51.0	134.0	
465.8	MODESTO		LIMESTONE	0.3	185.0	
465.5	MODESTO		SHALE	4.8	185.3	
460.6	MODESTO		LIMESTONE	0.7	190.2	
460.0	MODESTO		SHALE	0.7	190.8	
459.3	MODESTO		LIMESTONE	0.8	191.5	
458.5	MODESTO		SHALE	2.8	192.3	
455.8	MODESTO	CHAPEL	COAL	0.8	195.0	
455.0	MODESTO		SHALE	7.2	195.8	W /LS BASAL 4'
447.8	MODESTO		SANDSTONE	84.0	203.0	
363.8	MODESTO		SHALE	3.0	287.0	W/ LS
360.8	MODESTO		SHALE	18.0	290.0	
342.8	MODESTO		CLAYSTONE & SILTSTONE	8.0	308.0	
334.8	MODESTO		SHALE	10.5	316.0	
324.3	MODESTO		SANDSTONE	10.5	326.5	
313.8	MODESTO	PIASA	LIMESTONE	2.7	337.0	
311.1	MODESTO		SHALE	9.3	339.7	
301.8	CARBONDALE		LIMESTONE	0.3	349.0	
301.5	CARBONDALE		SHALE	0.3	349.3	
301.2	CARBONDALE		LIMESTONE	0.4	349.6	
300.8	CARBONDALE		SHALE	0.4	350.0	
300.4	CARBONDALE		LIMESTONE	0.6	350.4	
299.8	CARBONDALE		SHALE	17.3	351.0	
282.5	CARBONDALE		LIMESTONE	3.8	368.3	
278.8	CARBONDALE		SHALE	0.4	372.0	

278.4	CARBONDALE		LIMESTONE	1.2	372.4	
277.2	CARBONDALE		BLACK SHALE	0.3	373.6	
276.9	CARBONDALE		SHALE	1.0	373.9	
275.9	CARBONDALE		SHALE	0.3	374.9	
275.5	CARBONDALE	HERRIN	COAL	7.6	375.3	
268.0	CARBONDALE		SHALE	3.5	382.8	W/ LS

MAPID: 13500006000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** SE/c

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.597264 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.429077 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 382.6 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
314.2	MODESTO	PIASA	LIMESTONE	2.7	336.8	
311.5	MODESTO		UNCLASSIFIED	4.3	339.5	
307.2	CARBONDALE		UNCLASSIFIED	14.5	343.8	
292.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	358.3	
289.7	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	361.3	
287.2	CARBONDALE		UNCLASSIFIED	2.0	363.8	
285.2	CARBONDALE	BRERETON	LIMESTONE	7.6	365.8	
277.6	CARBONDALE	ANNA	BLACK SHALE	1.6	373.4	
276.0	CARBONDALE	HERRIN	COAL	7.6	375.0	

MAPID: 13500006000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** SE/c

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.597264 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.429077 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.8 **LOGGED (FT.):** 386.3 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #1 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.8	PLEISTOCENE		SOIL	4.0	0.0	
646.8	PLEISTOCENE		CLAY	10.0	4.0	
636.8	PLEISTOCENE		SAND	3.0	14.0	LOG READS "SEA SAND"
633.8	PLEISTOCENE		CLAY	28.0	17.0	
605.8	BOND		SANDY SLATE	10.0	45.0	AND MICA
595.8	BOND		MICACEOUS SANDSTONE	17.0	55.0	
578.8	BOND		BLACK SHALE	8.0	72.0	GRITTY
570.8	BOND		SHALE	2.0	80.0	W/ LIME PEBBLES
568.8	BOND	CARTHAGE	LIMESTONE	9.5	82.0	
559.3	MODESTO		CLAYSTONE	1.5	91.5	
557.8	MODESTO		DARK SHALE	6.0	93.0	
551.8	MODESTO		GRAY SHALE	17.0	99.0	W/ LAYERS OF LS
534.8	MODESTO		DARK SHALE	4.0	116.0	
530.8	MODESTO		LIMESTONE & SHALE	8.0	120.0	
522.8	MODESTO		GRAY SANDSTONE	3.0	128.0	GRANULATED
519.8	MODESTO		GRAY SANDSTONE	3.0	131.0	GRANULATED, WITH LIME PEBBLES
516.8	MODESTO		BLACK SHALE	51.0	134.0	
465.8	MODESTO		LIMESTONE	0.3	185.0	
465.5	MODESTO		BLACK SHALE	4.8	185.3	
460.6	MODESTO		LIMESTONE	0.7	190.2	
460.0	MODESTO		BLACK SHALE	0.7	190.8	
459.3	MODESTO		LIMESTONE	0.5	191.5	
458.8	MODESTO		DARK SHALE	3.0	192.0	
455.8	MODESTO	CHAPEL	COAL	0.8	195.0	
455.0	MODESTO		BLACK SHALE	3.2	195.8	
451.8	MODESTO		LIMESTONE & SHALE	4.0	199.0	
447.8	MODESTO		SANDSTONE	84.0	203.0	
363.8	MODESTO		LIMESTONE & SHALE	3.0	287.0	
360.8	MODESTO		ARGILACEOUS SHALE	18.0	290.0	
342.8	MODESTO		CLAYSTONE	8.0	308.0	RED AND GRAY
334.8	MODESTO		ARGILACEOUS SHALE	10.5	316.0	
324.3	MODESTO		SANDSTONE	10.5	326.5	
313.8	MODESTO	PIASA	LIMESTONE	2.7	337.0	
311.1	MODESTO		BLACK SHALE	9.3	339.7	
301.8	CARBONDALE		LIMESTONE	0.3	349.0	
301.5	CARBONDALE		BLACK SHALE	0.3	349.3	
301.2	CARBONDALE		LIMESTONE	0.4	349.6	
300.8	CARBONDALE		BLACK SHALE	0.4	350.0	
300.4	CARBONDALE		LIMESTONE	0.6	350.4	

299.8	CARBONDALE		BLACK SHALE	17.3	351.0	
282.5	CARBONDALE	BRERETON	LIMESTONE	3.8	368.3	
278.8	CARBONDALE	BRERETON	BLACK SHALE	0.4	372.0	
278.4	CARBONDALE	BRERETON	LIMESTONE	1.2	372.4	
277.2	CARBONDALE	ANNA	BLACK SHALE	0.3	373.6	DRY
276.9	CARBONDALE	ANNA	ARGILACEOUS SHALE	1.0	373.9	
275.9	CARBONDALE	ANNA	BLACK SHALE	0.3	374.9	SOFT
275.5	CARBONDALE	HERRIN	COAL	7.6	375.3	
268.0	CARBONDALE		LIMESTONE & SHALE	3.5	382.8	

MAPID: 13501490000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.59266 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.432708 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 375.4 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-1-63 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
310.7	MODESTO	PIASA	LIMESTONE	3.5	329.3	
307.2	MODESTO		MOTTLED SHALE	3.9	332.8	
303.2	CARBONDALE	DANVILLE	BLACK SHALE	1.9	336.8	
301.3	CARBONDALE		DARK GRAY SHALE	3.0	338.7	
298.3	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.1	341.7	
297.2	CARBONDALE		MOTTLED SHALE	0.7	342.8	
296.6	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.3	343.4	
296.2	CARBONDALE		CLAYSTONE	0.4	343.8	
295.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	8.7	344.2	UPPER BENCH
287.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.8	352.8	SHALE PARTING
284.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	9.2	355.7	LOWER BENCH
275.1	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	364.9	
273.8	CARBONDALE	LAWSON	DARK GRAY SHALE	1.8	366.2	
272.0	CARBONDALE	HERRIN	COAL	7.4	368.0	

MAPID: 13501490000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.59266 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.432708 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 375.4 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-1-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
310.6	MODESTO	PIASA	LIMESTONE	3.5	329.4	
307.1	MODESTO		UNCLASSIFIED	4.0	332.9	
303.1	CARBONDALE		UNCLASSIFIED	12.6	336.9	
290.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	349.5	
287.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.7	352.5	
285.8	CARBONDALE		SHALE	1.5	354.2	
284.3	CARBONDALE	BRERETON	LIMESTONE	9.2	355.7	
275.1	CARBONDALE	ANNA	BLACK SHALE	3.1	364.9	
272.0	CARBONDALE	HERRIN	COAL	7.4	368.0	

MAPID: 13501490000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.59266 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.432708 **DATE COLLECTED:** 6 / 21 / 1963

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 375.2 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-1-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
272.2	CARBONDALE	HERRIN	COAL	7.4	367.8	

MAPID: 13501490000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.59266 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.432708 **DATE COLLECTED:** 6 / 21 / 1963

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 378.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C163 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		GLACIAL DRIFT	87.0	0.0	
553.0			LIMESTONE	1.0	87.0	
552.0			SHALE	4.0	88.0	
548.0			COAL	1.3	92.0	
546.7			UNDERCLAY	6.7	93.3	
540.0			CALCAREOUS SHALE	8.0	100.0	
532.0			SANDSTONE	4.0	108.0	
528.0			GREEN SHALE	2.0	112.0	
526.0			SHALE	1.0	114.0	
525.0			GREEN SHALE	77.0	115.0	
448.0			SHALE	5.0	192.0	
443.0	MODESTO	CHAPEL	COAL	1.7	197.0	
441.3	MODESTO		UNDERCLAY	1.8	198.7	
439.5	MODESTO		SHALE	84.5	200.5	
355.0	MODESTO		GRAY SHALE	30.0	285.0	
325.0	MODESTO		VARRIGATED SHALE	14.0	315.0	
311.0	MODESTO		LIMESTONE	3.5	329.0	
307.5	MODESTO		VARRIGATED SHALE	4.0	332.5	
303.5	MODESTO		SHALE	3.5	336.5	
300.0	MODESTO		NO RECORD	1.3	340.0	
298.7	MODESTO	PIASA	LIMESTONE	2.3	341.3	
296.3	CARBONDALE		SHALE	1.3	343.7	
295.0	CARBONDALE		GREEN SHALE	7.0	345.0	
288.0	CARBONDALE		SHALE	3.3	352.0	
284.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	355.2	
281.5	CARBONDALE	BANKSTON FORK	SHALE	1.8	358.5	
279.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.6	360.2	
276.2	CARBONDALE		SHALE	0.5	363.8	
275.7	CARBONDALE		LIMESTONE	0.5	364.3	
275.2	CARBONDALE		SHALE	1.4	364.8	
273.8	CARBONDALE	ANNA	BLACK SHALE	1.3	366.2	
272.4	CARBONDALE	ANNA	LIMESTONE	0.3	367.6	
272.2	CARBONDALE	HERRIN	COAL	7.4	367.8	
264.8	CARBONDALE		UNDERCLAY	2.8	375.2	

MAPID: 13501491000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SE SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587922 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.421719 **DATE COLLECTED:** 6 / 0 / 1963

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 376.7 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-2-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
276.0	CARBONDALE	HERRIN	COAL	7.7	369.0	

MAPID: 13501491000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SE SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587922 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421719 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 375.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-2-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
310.6	MODESTO	PIASA	LIMESTONE	3.0	334.4	
307.6	MODESTO		UNCLASSIFIED	3.0	337.4	
304.6	CARBONDALE		UNCLASSIFIED	11.6	340.4	
293.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	352.0	
291.0	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	354.0	
289.7	CARBONDALE		SHALE	1.9	355.3	
287.8	CARBONDALE	BRERETON	LIMESTONE	6.8	357.2	
281.0	CARBONDALE	ANNA	BLACK SHALE	4.0	364.0	
277.0	CARBONDALE	HERRIN	COAL	7.7	368.0	

MAPID: 13501491000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SE SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587922 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421719 **DATE COLLECTED:** 6 / 0 / 1963

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 378.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C263 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
645.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
639.0	PLEISTOCENE		GLACIAL DRIFT	22.0	6.0	'
617.0			SANDSTONE	59.0	28.0	
558.0			LIMESTONE	9.0	87.0	
549.0			SHALE	8.0	96.0	
541.0			COAL	0.8	104.0	
540.2			UNDERCLAY	5.3	104.8	
535.0			SANDSTONE	20.0	110.0	
515.0			SANDY SHALE	72.0	130.0	
443.0			SHALE	3.0	202.0	
440.0			SHALE	85.0	205.0	
355.0			GRAY SHALE	32.0	290.0	
323.0			VARRIGATED SHALE	13.0	322.0	
310.0			LIMESTONE	3.0	335.0	
307.0			VARRIGATED SHALE	3.0	338.0	
304.0	MODESTO	PIASA	SHALE	5.0	341.0	
299.0	CARBONDALE		LIMESTONE	1.0	346.0	DARK
298.0	CARBONDALE		SHALE	5.0	347.0	GR-GY
293.0	CARBONDALE		CLAYSTONE & SILTSTONE	4.0	352.0	
289.0	CARBONDALE		SHALE	2.0	356.0	GR-GY
287.0	CARBONDALE	BRERETON	LIMESTONE	7.0	358.0	
280.0	CARBONDALE	ANNA	DARK SHALE	2.7	365.0	
277.3	CARBONDALE	ANNA	BLACK SHALE	1.3	367.7	
276.0	CARBONDALE	HERRIN	COAL	7.7	369.0	BAD CORE
268.3	CARBONDALE		UNDERCLAY	1.3	376.7	

MAPID: 13500313000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.615843 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.421855 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 363.3 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 3 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
321.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.3	318.0	
318.7	MODESTO		MOTTLED SHALE	2.6	320.3	
316.2	CARBONDALE	DANVILLE	BLACK SHALE	6.1	322.8	
310.1	CARBONDALE		LIMESTONE W/ SHALE	1.0	328.9	
309.1	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.9	329.9	
308.2	CARBONDALE		DARK GRAY SHALE	1.8	330.8	
306.3	CARBONDALE	ALLENBY	BLACK SHALE	0.7	332.7	
305.7	CARBONDALE		CLAYSTONE & SHALE	13.9	333.3	
291.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	347.3	UPPER BENCH
287.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.4	351.4	SHALE PARTING
286.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.8	352.8	LOWER BENCH
283.4	CARBONDALE	LAWSON	GRAY SHALE	1.3	355.6	
282.0	CARBONDALE	HERRIN	COAL	6.3	357.0	

MAPID: 13500313000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.615843 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421855 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 363.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
319.9	MODESTO	PIASA	LIMESTONE	2.3	319.1	
317.6	MODESTO		UNCLASSIFIED	3.0	321.4	
314.6	CARBONDALE		UNCLASSIFIED	13.3	324.4	
301.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	337.7	
297.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	341.8	
294.2	CARBONDALE		SHALE	2.6	344.8	
291.6	CARBONDALE	BRERETON	LIMESTONE	8.3	347.4	
283.3	CARBONDALE	ANNA	BLACK SHALE	1.3	355.7	
282.0	CARBONDALE	HERRIN	COAL	6.3	357.0	

MAPID: 13500313000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.615843 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.421855 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 638.8 **LOGGED (FT.):** 363.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.8	CARBONDALE	HERRIN	COAL	6.3	357.0	

MAPID: 13500313000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 2 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.615843 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421855 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 638.8 **LOGGED (FT.):** 365.0 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 3 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
638.8	PLEISTOCENE		CLAY	15.0	0.0	
623.8	PLEISTOCENE		SAND	7.0	15.0	
616.8			SHALE	41.0	22.0	
575.8			SANDSTONE/SHALE	4.5	63.0	GREEN
571.3			SHALE WITH LIMESTONE	2.0	67.5	
569.3			ARGILLACEOUS SANDSTONE	3.0	69.5	GREEN
566.3			LIMESTONE & CLAY	7.5	72.5	GREEN
558.8			GRAY SHALE	1.4	80.0	
557.4			GRAY SHALE	6.2	81.4	
551.2			GRAY SHALE	2.8	87.6	
548.4			GREEN SHALE	1.1	90.4	
547.3			SHALE WITH LIMESTONE	11.9	91.5	
535.4			GREEN SHALE	3.7	103.4	
531.7			SHALE WITH LIMESTONE	4.3	107.1	
527.5			LIMESTONE	2.5	111.3	GREEN
525.0			SHALE WITH LIMESTONE	3.7	113.8	
521.3			GRAY SHALE	10.0	117.5	
511.3			SILTY SHALE	40.5	127.5	
470.8			GRAY SHALE	2.8	168.0	
468.0			SILTY SHALE	0.3	170.8	
467.7			GRAY SHALE	3.7	171.1	
464.0			GRAY SHALE	2.4	174.8	
461.6			GRAY SHALE	1.4	177.2	
460.2			UNDERCLAY	2.2	178.6	GRAY
458.0			SHALE WITH LIMESTONE	10.6	180.8	
447.5			GRAY SHALE	59.5	191.3	
388.0			GRAY SHALE	26.2	250.8	
361.8			GRAY SHALE	1.8	277.0	
360.0			COAL	0.2	278.8	
359.8			GRAY SHALE	0.4	279.0	
359.4			UNDERCLAY	2.7	279.4	
356.7			SHALE WITH LIMESTONE	1.0	282.1	
355.7			SILTY SHALE	15.9	283.1	
339.8			UNDERCLAY	3.0	299.0	
336.8			GRAY SHALE	3.5	302.0	
333.3			GRAY SHALE	3.3	305.5	
330.0			SANDSTONE	4.6	308.8	
325.4			GRAY SHALE	4.2	313.4	

321.2			LIMESTONE	1.8	317.6	
319.5			GRAY SHALE	1.3	319.3	
318.1			GRAY SHALE	7.8	320.7	
310.4	MODESTO	PIASA	LIMESTONE	1.5	328.4	
308.9			GRAY SHALE	0.4	329.9	
308.5			SHALE WITH LIMESTONE	0.7	330.3	
307.8			GREEN SHALE	8.9	331.0	
298.9			SHALE WITH LIMESTONE	1.4	339.9	
297.5			GRAY SHALE	4.7	341.3	
292.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	346.0	
288.0	CARBONDALE		GRAY SHALE	1.6	350.8	
286.5	CARBONDALE	BRERETON	LIMESTONE	1.0	352.3	
285.5	CARBONDALE	BRERETON	GRAY SHALE	0.5	353.3	
285.0	CARBONDALE	BRERETON	LIMESTONE	1.4	353.8	GRAY
283.6	CARBONDALE		GRAY SHALE	1.3	355.2	
282.3	CARBONDALE	HERRIN	COAL	6.3	356.5	
276.0	CARBONDALE		UNDERCLAY	2.7	362.8	GREEN

MAPID: 13500345000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630838 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.42264 **DATE COLLECTED:** 7 / 0 / 1955

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 382.5 **LOG TYPE:** Electric Log

SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
313.0	MODESTO	PIASA	LIMESTONE	4.0	334.0	
309.0	MODESTO		UNCLASSIFIED	4.0	338.0	
305.0	CARBONDALE		UNCLASSIFIED	12.0	342.0	
293.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	354.0	
289.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	358.0	
287.0	CARBONDALE		UNCLASSIFIED	2.5	360.0	
284.5	CARBONDALE	BRERETON	LIMESTONE	8.0	362.5	
276.5	CARBONDALE	ANNA	BLACK SHALE	4.5	370.5	
272.0	CARBONDALE	HERRIN	COAL	7.5	375.0	

MAPID: 13500345000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' S line, 1650' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630838 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.42264 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 382.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
312.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	335.0	
309.0	MODESTO		MOTTLED SHALE	2.0	338.0	
307.0	CARBONDALE	DANVILLE	BLACK SHALE	6.0	340.0	
301.0	CARBONDALE		DARK GRAY SHALE	1.0	346.0	
300.0	CARBONDALE	GALUM	LIMESTONE & SHALE	1.0	347.0	
299.0	CARBONDALE		DARK GRAY SHALE	1.5	348.0	
297.5	CARBONDALE	ALLENBY	BLACK SHALE	0.5	349.5	
297.0	CARBONDALE		MOTTLED SHALE	13.0	350.0	
284.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	363.0	
282.0	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.5	365.0	
279.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.5	367.5	
277.0	CARBONDALE	LAWSON	SHALE	5.0	370.0	
272.0	CARBONDALE	HERRIN	COAL	7.0	375.0	

MAPID: 13500151000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 800' N line, 2450' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.652936 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.433882 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 379.5 **LOG TYPE:** Drillers Log

SOURCE: FARMERSVILLE COAL MG **WELL TYPE:** Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
260.0	CARBONDALE	HERRIN	COAL	8.5	371.0	

MAPID: 13500314000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1320' N line, 1320' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.648893 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.432482 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 364.6 **LOG TYPE:** Survey Core Study
SOURCE: PAUL WEIR COAL CO 2 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
306.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.7	316.0	
303.3	MODESTO		MOTTLED SHALE	1.8	318.7	
301.5	CARBONDALE	DANVILLE	BLACK SHALE	6.6	320.5	
294.9	CARBONDALE		DARK GRAY SHALE	0.8	327.1	
294.2	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	1.3	327.8	
292.9	CARBONDALE		DARK GRAY SHALE	1.8	329.1	
291.1	CARBONDALE	ALLENBY	BONE COAL	0.5	330.9	
290.6	CARBONDALE		MOTTLED SHALE	14.2	331.4	
276.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.3	345.6	UPPER BENCH
274.1	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.1	347.9	SHALE PARTING
272.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	350.0	LOWER BENCH
271.5	CARBONDALE	LAWSON	MOTTLED SHALE	0.4	350.5	
271.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.8	350.9	
270.3	CARBONDALE	ANNA	BLACK SHALE	4.8	351.7	
265.0	CARBONDALE	HERRIN	COAL	7.6	357.0	

MAPID: 13500314000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1320' N line, 1320' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.648893 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.432482 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 363.6 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO 2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
304.8	MODESTO	PIASA	LIMESTONE	2.7	317.2	
302.1	MODESTO		UNCLASSIFIED	4.3	319.9	
297.8	CARBONDALE		UNCLASSIFIED	13.2	324.2	
284.6	CARBONDALE	BANKSTON FORK	LIMESTONE	3.7	337.4	
280.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	341.1	
277.9	CARBONDALE		SHALE	2.8	344.1	
275.1	CARBONDALE	BRERETON	LIMESTONE	6.2	346.9	
268.9	CARBONDALE	ANNA	BLACK SHALE	2.9	353.1	
266.0	CARBONDALE	HERRIN	COAL	7.6	356.0	

MAPID: 13500314000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1320' N line, 1320' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.648893 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.432482 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.3 **LOGGED (FT.):** 424.6 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.6	CARBONDALE	HERRIN	COAL	7.5	356.7	

MAPID: 13500314000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1320' N line, 1320' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.648893 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.432482 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 622.3 **LOGGED (FT.):** 364.2 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.6	CARBONDALE	HERRIN	COAL	7.5	356.7	

MAPID: 13500314000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 1320' N line, 1320' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.648893 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.432482 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 622.3 **LOGGED (FT.):** 424.6 **LOG TYPE:** Drillers Log

SOURCE: PAUL WIER CO 2 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
622.3	PLEISTOCENE		SOIL	1.0	0.0	
621.3	PLEISTOCENE		CLAY	2.7	1.0	GRAY
618.6	PLEISTOCENE		CLAY	1.0	3.7	GRAY
617.6	PLEISTOCENE		GLACIAL DRIFT	6.3	4.7	GRAY
611.3	PLEISTOCENE		CLAY	0.4	11.0	
610.9	PLEISTOCENE		CLAY	0.6	11.4	BROWN
610.3	PLEISTOCENE		SAND & GRAVEL	15.5	12.0	
594.8	PLEISTOCENE		CLAY & GRAVEL	14.3	27.5	GREEN
580.5	PLEISTOCENE		GLACIAL DRIFT	13.9	41.8	GRAY
566.6	PLEISTOCENE		CLAY & SHALE	12.5	55.7	
554.1			LIMESTONE	5.3	68.2	GREEN
548.8			GRAY SHALE	2.3	73.5	
546.5			BLACK SHALE	5.5	75.8	
541.0			UNDERCLAY	5.8	81.3	GRAY
535.2			SHALE WITH LIMESTONE	7.6	87.1	
527.6	BOND	CARTHAGE	LIMESTONE	4.8	94.7	GRAY
522.9	MODESTO		GREEN SHALE	16.4	99.4	
506.5	MODESTO		LIMESTONE	1.9	115.8	GRAY
504.5	MODESTO		SHALE	0.3	117.8	
504.2	MODESTO		GRAY SHALE	0.8	118.1	
503.4	MODESTO		LIMESTONE	0.8	118.9	GRAY
502.5	MODESTO		SILTSTONE & SHALE	0.3	119.8	
502.2	MODESTO		GRAY SHALE	1.3	120.1	
501.0	MODESTO		SANDSTONE	3.0	121.3	GREEN
498.0	MODESTO		GRAY SHALE	0.2	124.3	
497.8	MODESTO		GRAY SHALE	27.8	124.5	
470.0	MODESTO		SANDSTONE	0.3	152.3	
469.7	MODESTO		SILTY SHALE	6.3	152.6	
463.5	MODESTO		SHALY LIMESTONE	2.6	158.8	GRAY
460.9	MODESTO		GRAY SHALE	4.5	161.4	
456.4	MODESTO		SHALY LIMESTONE	1.0	165.9	
455.4	MODESTO		GRAY SHALE	3.3	166.9	
452.0	MODESTO	CHAPEL	COAL	1.0	170.3	
451.0	MODESTO		UNDERCLAY	1.8	171.3	GRAY
449.3	MODESTO		GREEN SHALE	3.2	173.0	
446.1	MODESTO		GREEN SHALE	8.9	176.2	
437.2	MODESTO		GRAY SHALE	46.0	185.1	
391.2	MODESTO		GRAY SHALE	63.7	231.1	
327.5	MODESTO		BLACK SHALE	0.3	294.8	

327.2	MODESTO		UNDERCLAY	0.9	295.1	
326.3			GREEN SHALE	7.5	296.0	
318.8			SANDSTONE	2.5	303.5	
316.3			GRAY SHALE	4.8	306.0	
311.5			GRAY SHALE	1.3	310.8	
310.1			SHALY LIMESTONE	0.9	312.2	
309.2			SHALY LIMESTONE	2.9	313.1	
306.3			SHALY LIMESTONE	2.7	316.0	
303.6			GREEN SHALE	1.8	318.7	
301.8			GRAY SHALE	6.6	320.5	
295.2			LIMESTONE	0.3	327.1	
295.0			GRAY SHALE	0.8	327.3	
294.2			SHALY LIMESTONE	1.2	328.1	
293.0			GRAY SHALE	1.4	329.3	
291.6			SHALE	0.4	330.7	
291.2			GRAY SHALE	9.9	331.1	
281.3			GRAY SHALE	0.3	341.0	
281.0			GRAY SHALE	5.5	341.3	
275.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	346.8	
273.0	CARBONDALE		SHALE	0.1	349.3	
272.9	CARBONDALE	BRERETON	LIMESTONE	3.8	349.4	
269.1	CARBONDALE		GRAY SHALE	1.8	353.2	
267.3	CARBONDALE	ANNA	BLACK SHALE	1.1	355.0	
266.2	CARBONDALE	HERRIN	COAL	7.6	356.1	
258.6	CARBONDALE		UNDERCLAY	2.2	363.7	
256.5	CARBONDALE		LIMESTONE & CLAY	5.3	365.8	
251.1	CARBONDALE		GRAY SHALE	3.0	371.2	
248.1	CARBONDALE		GREEN SHALE	3.6	374.2	
244.5	CARBONDALE		GREEN SHALE	2.5	377.8	
242.0	CARBONDALE		LIMESTONE	2.0	380.3	GRAY
240.0	CARBONDALE		GREEN SHALE	2.3	382.3	
237.8	CARBONDALE		GRAY SHALE	8.6	384.5	
229.2	CARBONDALE		LIMESTONE	1.0	393.1	GRAY
228.2	CARBONDALE		BLACK SHALE	6.5	394.1	
221.7	CARBONDALE	HOUCHIN CREEK	COAL	3.0	400.6	
218.7	CARBONDALE		UNDERCLAY	3.8	403.6	GRAY
214.9	CARBONDALE		SHALE WITH LIMESTONE	10.3	407.4	
204.5	CARBONDALE		GRAY SHALE	0.6	417.8	
204.0	CARBONDALE		SHALE WITH LIMESTONE	1.0	418.3	
203.0	CARBONDALE		COAL	0.2	419.3	
202.8	CARBONDALE		SHALY SANDSTONE	4.2	419.5	GRAY

MAPID: 13500344000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.645274 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.426148 **DATE COLLECTED:** 8 / 0 / 1955
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 486.0 **LOG TYPE:** Electric Log
SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
261.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	374.0	
252.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	383.0	THIN OR ABSENT
220.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	415.0	
149.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	486.0	

MAPID: 13500344000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.645274 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.426148 **DATE COLLECTED:** 8 / 0 / 1955
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 377.0 **LOG TYPE:** Electric Log
SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
307.0	MODESTO	PIASA	LIMESTONE	3.0	328.0	
304.0	MODESTO		UNCLASSIFIED	3.0	331.0	
301.0	CARBONDALE		UNCLASSIFIED	14.0	334.0	
287.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	348.0	
282.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	353.0	
280.0	CARBONDALE		UNCLASSIFIED	2.0	355.0	
278.0	CARBONDALE	BRERETON	LIMESTONE	9.0	357.0	
269.0	CARBONDALE	ANNA	BLACK SHALE	4.0	366.0	
265.0	CARBONDALE	HERRIN	COAL	7.0	370.0	

MAPID: 13501500000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.653366 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.428829 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 376.0 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-6-63 **WELL TYPE:** Coal Test
COMMENT: CORE# C-6413;SEE COAL SEC. MAP#6-168

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
270.0	CARBONDALE	HERRIN	COAL	8.1	365.0	

MAPID: 13501500000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.653366 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.428829 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 373.3 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-6-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
298.7	MODESTO	PIASA	LIMESTONE	1.0	336.3	
297.7	MODESTO		UNCLASSIFIED	2.0	337.3	
295.7	CARBONDALE	DANVILLE	COAL	0.3	339.3	
295.4	CARBONDALE		UNCLASSIFIED	10.6	339.6	
284.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	350.2	
283.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	352.0	
281.0	CARBONDALE		SHALE	1.6	354.0	
279.4	CARBONDALE	BRERETON	LIMESTONE	5.6	355.6	
273.8	CARBONDALE	ANNA	BLACK SHALE	3.8	361.2	
270.0	CARBONDALE	HERRIN	COAL	8.3	365.0	

MAPID: 13501500000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.653366 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.428829 **DATE COLLECTED:** 9 / 9 / 1963

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 373.3 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-6-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
270.0	CARBONDALE	HERRIN	COAL	8.3	365.0	

MAPID: 13501501000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671749 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.421387 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 381.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-7-63 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.5	MODESTO	PIASA	LIMESTONE W/ SHALE	5.1	338.5	
296.4	MODESTO		DARK GRAY SHALE	0.4	343.6	
296.0	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	1.2	344.0	
294.8	CARBONDALE		DARK GRAY SHALE	3.5	345.2	
291.3	CARBONDALE	ALLENBY	BONE COAL	0.4	348.7	
290.9	CARBONDALE		GRAY SHALE	3.4	349.1	
287.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	16.3	352.5	
271.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.0	368.8	
270.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	369.8	
269.0	CARBONDALE	LAWSON	DARK GRAY SHALE	2.0	371.0	
267.0	CARBONDALE	HERRIN	COAL	8.8	373.0	

MAPID: 13501501000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671749 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421387 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 381.8 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-7-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.2	MODESTO	PIASA	LIMESTONE	2.9	336.8	
300.3	MODESTO		UNCLASSIFIED	1.0	339.7	
299.3	CARBONDALE		UNCLASSIFIED	13.8	340.7	
285.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	354.5	
280.5	CARBONDALE	ANVIL ROCK	SANDSTONE	0.7	359.5	
279.8	CARBONDALE		SHALE	2.3	360.2	
277.5	CARBONDALE	BRERETON	LIMESTONE	7.3	362.5	
270.2	CARBONDALE	ANNA	BLACK SHALE	3.2	369.8	
267.0	CARBONDALE	HERRIN	COAL	8.8	373.0	

MAPID: 13501501000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671749 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.421387 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 384.0 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-7-63 **WELL TYPE:** Coal Test
COMMENT: CORE #C-6414;SEE COAL SEC. MAP #6-168

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
267.4	CARBONDALE	HERRIN	COAL	8.8	372.6	

MAPID: 13501501000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671749 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.421387 **DATE COLLECTED:** 8 / 0 / 1963
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 380.8 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-7-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
268.0	CARBONDALE	HERRIN	COAL	8.8	372.0	

MAPID: 13501501000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671749 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421387 **DATE COLLECTED:** 8 / 0 / 1963

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 384.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CORP C763 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
632.0	PLEISTOCENE		UNCONSOLIDATED	38.3	8.0	
593.7			GRAY SHALE	46.2	46.3	
547.5			LIMESTONE	8.8	92.5	
538.7			SHALE	6.8	101.3	
532.0			SHALE WITH LIMESTONE	10.6	108.0	
521.4			SANDSTONE	3.4	118.6	GRAY
518.0			SLATY SHALE	3.3	122.0	
514.7			CALCAREOUS SHALE	18.4	125.3	
496.2			SANDSTONE	7.3	143.8	
489.0			SANDY SHALE	21.7	151.0	
467.3			GRAY SHALE	18.7	172.7	
448.7			CALCAREOUS SHALE	5.7	191.3	
443.0			SHALY COAL	2.0	197.0	
441.0			UNDERCLAY	1.5	199.0	
439.5			GRAY SHALE	25.8	200.5	
413.7			SANDSTONE	4.7	226.3	BR-GR
409.0			BROWN SHALE	24.0	231.0	
385.0			GRAY SHALE	37.0	255.0	
348.0			SHALE/COAL	5.0	292.0	
343.0			SANDSTONE	7.0	297.0	GREEN
336.0			GRAY SHALE	15.0	304.0	
321.0			GRAY SHALE	17.5	319.0	
303.5			LIMESTONE	0.8	336.5	
302.7			SHALE	0.3	337.3	MULTI
302.3			LIMESTONE	1.3	337.7	
301.0			DARK SHALE	1.3	339.0	
299.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	340.3	
297.5	CARBONDALE	BANKSTON FORK	LIMESTONE	10.1	342.5	
287.4	CARBONDALE		GRAY SHALE	9.6	352.6	
277.8	CARBONDALE	BRERETON	LIMESTONE	3.4	362.2	
274.4	CARBONDALE		CLAYSTONE & SILTSTONE	3.9	365.6	GR-GY
270.5	CARBONDALE		BLACK SHALE	3.1	369.5	
267.4	CARBONDALE	HERRIN	COAL	8.8	372.6	
258.7	CARBONDALE		UNDERCLAY	2.7	381.3	

MAPID: 13501553000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 60' S line, 0' W line of NW SE NE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.667351 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.43069 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 398.2 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-1-65 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
252.3	CARBONDALE	HERRIN	COAL	6.7	387.7	

MAPID: 13501553000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 60' S line, 0' W line of NW SE NE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.667351 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.43069 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 395.7 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-1-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
294.6	MODESTO	PIASA	LIMESTONE	6.0	345.4	
288.6	MODESTO		UNCLASSIFIED	4.0	351.4	
284.6	CARBONDALE		UNCLASSIFIED	17.6	355.4	
267.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	373.0	
263.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.6	376.5	
261.9	CARBONDALE		SHALE	2.5	378.1	
259.4	CARBONDALE	BRERETON	LIMESTONE	6.0	380.6	
253.4	CARBONDALE	ANNA	BLACK SHALE	1.4	386.6	
252.0	CARBONDALE	HERRIN	COAL	7.7	388.0	

MAPID: 13501553000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 60' S line, 0' W line of NW SE NE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.667351 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.43069 **DATE COLLECTED:** 12 / 8 / 1965
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 395.4 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-1-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
252.3	CARBONDALE	HERRIN	COAL	7.7	387.7	

MAPID: 13501553000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 60' S line, 0' W line of NW SE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.667351 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.43069 **DATE COLLECTED:** 12 / 8 / 1965

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 398.2 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL MINING CO. C165 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
640.0	PLEISTOCENE		SANDY CLAY	32.0	0.0	
608.0			SANDY SHALE	69.0	32.0	
539.0			LIMESTONE	12.0	101.0	
527.0			BLACK SHALE	9.0	113.0	
518.0			SANDSTONE	16.0	122.0	
502.0			SHALE	67.0	138.0	
435.0			BLACK SHALE	4.0	205.0	
431.0	MODESTO	CHAPEL	COAL	1.0	209.0	
430.0	MODESTO		UNDERCLAY	3.0	210.0	
427.0	MODESTO		SANDSTONE	57.0	213.0	
370.0	MODESTO		SANDY SHALE	37.0	270.0	
333.0	MODESTO		GRAY SHALE	3.0	307.0	
330.0	MODESTO		SILTY, SANDY SHALE	7.0	310.0	
323.0	MODESTO		SHALE	8.0	317.0	
315.0	MODESTO		SILTY SHALE	4.5	325.0	
310.5	MODESTO		DARK SHALE	1.5	329.5	
309.0	MODESTO		SILTY SHALE	6.0	331.0	
303.0	MODESTO		SHALE	2.0	337.0	MULTI
301.0	MODESTO		DARK SHALE	6.0	339.0	
295.0	MODESTO		LIMESTONE	6.0	345.0	
289.0	MODESTO		SANDY SHALE	4.0	351.0	
285.0	MODESTO		DARK SHALE	5.0	355.0	
280.0	MODESTO		SHALE WITH LIMESTONE	1.0	360.0	
279.0	MODESTO	PIASA	LIMESTONE	1.0	361.0	GREEN
278.0			SHALE	2.0	362.0	
276.0			CLAYSTONE & SILTSTONE	7.8	364.0	
268.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.6	371.8	
264.7	CARBONDALE		SOFT SHALE	1.7	375.3	
263.0	CARBONDALE	BRERETON	SHALY LIMESTONE	5.0	377.0	
258.0	CARBONDALE	BRERETON	LIMESTONE	3.3	382.0	
254.7	CARBONDALE		BLACK SHALE	1.7	385.3	
253.0	CARBONDALE	HERRIN	COAL	7.3	387.0	#6
245.7	CARBONDALE		UNDERCLAY	1.0	394.3	
244.7	CARBONDALE		LIMESTONE & CONGLOMERATE	1.8	395.3	

MAPID: 13501554000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 60' S line, 0' W line of NW NW SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681387 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.426871 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 382.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-2-65 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.7	CARBONDALE	HERRIN	COAL	7.6	373.3	

MAPID: 13501554000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 60' S line, 0' W line of NW NW SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681387 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.426871 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 380.6 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-2-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
296.5	MODESTO	PIASA	LIMESTONE	3.0	343.5	
293.5	MODESTO		UNCLASSIFIED	3.0	346.5	
290.5	CARBONDALE		UNCLASSIFIED	11.0	349.5	
279.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	360.5	
277.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	362.5	
276.3	CARBONDALE		SHALE	1.2	363.7	
275.1	CARBONDALE	BRERETON	LIMESTONE	5.7	364.9	
269.4	CARBONDALE	ANNA	BLACK SHALE	2.4	370.6	
267.0	CARBONDALE	HERRIN	COAL	7.6	373.0	

MAPID: 13501554000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 60' S line, 0' W line of NW NW SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681387 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.426871 **DATE COLLECTED:** 12 / 9 / 1965
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 380.9 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-2-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.7	CARBONDALE	HERRIN	COAL	7.6	373.3	

MAPID: 13501558000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2640' S line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681416 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.428514 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 359.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-9-65 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
326.0	MODESTO	PIASA	LIMESTONE	5.0	314.0	
321.0	CARBONDALE		SHALE	2.0	319.0	
319.0	CARBONDALE	GALUM	LIMESTONE	6.0	321.0	
313.0	CARBONDALE		CLAYSTONE	10.0	327.0	
303.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.4	337.0	UPPER BENCH
301.6	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	7.7	338.4	SHALE PARTING
293.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	346.1	LOWER BENCH
291.9	CARBONDALE	LAWSON	MOTTLED SHALE	0.4	348.1	
291.5	CARBONDALE	ANNA	BLACK SHALE	1.3	348.5	
287.0	CARBONDALE	HERRIN	COAL	6.8	353.0	

MAPID: 13501558000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2640' S line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681416 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.428514 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 359.8 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-9-65 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
319.2	MODESTO	PIASA	LIMESTONE	6.0	320.8	
313.2	MODESTO		UNCLASSIFIED	4.8	326.8	
308.4	CARBONDALE		UNCLASSIFIED	7.2	331.6	
301.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	338.8	
295.2	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	344.8	
293.4	CARBONDALE		SHALE	2.0	346.6	
291.4	CARBONDALE	BRERETON	LIMESTONE	2.7	348.6	
288.7	CARBONDALE	ANNA	BLACK SHALE	1.7	351.3	
287.0	CARBONDALE	HERRIN	COAL	6.8	353.0	

MAPID: 13501558000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2640' S line, 0' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681416 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.428514 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 361.3 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-9-65 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.8	CARBONDALE	HERRIN	COAL	6.8	353.2	

MAPID: 13501558000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2640' S line, 0' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681416 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.428514 **DATE COLLECTED:** 12 / 17 / 1965
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 360.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-9-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.8	CARBONDALE	HERRIN	COAL	6.8	353.2	

MAPID: 13501558000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 2640' S line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681416 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.428514 **DATE COLLECTED:** 12 / 17 / 1965

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 361.3 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL MINING CO. C965 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		SANDY CLAY	29.0	0.0	
611.0			SANDY SHALE	17.0	29.0	
594.0			SANDSTONE	20.0	46.0	
574.0			SANDY SHALE	11.0	66.0	
563.0			LIMESTONE	9.0	77.0	
554.0			BLACK SHALE	8.0	86.0	
546.0	BOND	CARTHAGE	SHALY LIMESTONE	10.0	94.0	
536.0	MODESTO		SILTY, SANDY SHALE	66.0	104.0	
470.0	MODESTO	CHAPEL	SHALY COAL	4.0	170.0	BLACK
466.0	MODESTO		SANDY SHALE	101.0	174.0	
365.0	MODESTO		BLACK SHALE	5.0	275.0	
360.0	MODESTO		SANDY SHALE	34.0	280.0	
326.0	MODESTO	PIASA	LIMESTONE	5.0	314.0	
321.0	MODESTO	PIASA	SHALE	2.0	319.0	
319.0	MODESTO	PIASA	LIMESTONE	6.0	321.0	
313.0			SHALE	4.8	327.0	
308.2			CLAYSTONE & SILTSTONE	3.2	331.8	
305.0			SHALE	4.0	335.0	
301.0			LIMESTONE	1.0	339.0	
300.0			SHALE	1.5	340.0	
298.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	341.5	
294.7	CARBONDALE	BANKSTON FORK	SHALE	3.8	345.3	
291.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	349.0	
290.7	CARBONDALE		SHALE	0.3	349.3	
290.5	CARBONDALE	BRERETON	LIMESTONE	2.2	349.5	
288.3	CARBONDALE		SHALE	0.3	351.7	
288.0	CARBONDALE		BLACK SHALE	1.0	352.0	
287.0	CARBONDALE	HERRIN	COAL	6.7	353.0	#6
280.3	CARBONDALE		UNDERCLAY	0.8	359.7	
279.5	CARBONDALE		LIMESTONE & CONGLOMERATE	1.0	360.5	

MAPID: 13522343000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.699242 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.434903 **DATE COLLECTED:** 6 / 13 / 1978
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 364.7 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED 5-C-78 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.2	356.5	

MAPID: 13522343000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.699242 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.434903 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 365.5 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED 5-C-78 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.2	356.5	

MAPID: 13522343000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.699242 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.434903 **DATE COLLECTED:** 6 / 13 / 1978

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 365.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL CO. 5C78 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
-	PLEISTOCENE		GLACIAL DRIFT	11.0	7.0	
-	PLEISTOCENE		GRAVEL	2.0	18.0	
-	PLEISTOCENE		ROCK	0.5	20.0	
-	PLEISTOCENE		CLAY & GRAVEL	22.5	20.5	
-			SANDSTONE	1.0	43.0	
-			GRAY SHALE	27.5	44.0	
-			SANDSTONE	0.5	71.5	
-			GRAY SHALE	5.0	72.0	
-			SANDSTONE	0.8	77.0	
-			GRAY SHALE	4.2	77.8	
-			SLATY SHALE	0.8	82.0	
-			GRAY SHALE	19.2	82.8	
-			LIMESTONE	2.0	102.0	
-			GRAY SHALE	4.3	104.0	
-			LIMESTONE	5.4	108.3	
-			GRAY SHALE	11.3	113.7	
-			SHALE/SANDSTONE/LIMESTONE	4.0	125.0	
-			GRAY SHALE	29.0	129.0	
-			SANDSTONE/SHALE	17.0	158.0	
-			GRAY SHALE	41.0	175.0	
-			SANDSTONE	7.0	216.0	
-			GRAY SHALE	13.0	223.0	
-			SANDSTONE	4.0	236.0	
-			GRAY SHALE	4.5	240.0	
-			SANDSTONE	8.5	244.5	
-			GRAY SHALE	13.0	253.0	
-			SANDSTONE	4.0	266.0	
-			GRAY SHALE	21.0	270.0	
-			SANDSTONE	3.0	291.0	
-			GRAY SHALE	4.0	294.0	
-			SANDSTONE	3.0	298.0	
-			SHALE	16.0	301.0	
-			SANDSTONE	2.0	317.0	
-			SHALE	19.0	319.0	
-			SANDSTONE	6.0	338.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	344.0	
-	CARBONDALE		SHALE	2.2	348.0	

-	CARBONDALE	BRERETON	LIMESTONE	4.3	350.2	
-	CARBONDALE		DARK GRAY SHALE	2.0	354.5	
-	CARBONDALE	HERRIN	COAL	8.2	356.5	#6
-	CARBONDALE		CLAYSTONE & SILTSTONE	0.5	364.7	

MAPID: 13522344000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.689599 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.422088 **DATE COLLECTED:** 8 / 29 / 1978

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 369.9 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED 8-C-78 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.1	361.8	

MAPID: 13522344000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.689599 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.422088 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 375.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED 8-C-78 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.1	361.8	

MAPID: 13522344000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.689599 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.422088 **DATE COLLECTED:** 8 / 29 / 1978

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 375.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL CO. 8C78 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNCONSOLIDATED	10.0	0.0	
-			GLACIAL DRIFT	24.0	10.0	
-			GRAY SHALE	2.0	34.0	
-			SANDSTONE	3.0	36.0	
-			GRAY SHALE	6.0	39.0	
-			SANDSTONE	1.0	45.0	
-			SHALE	19.0	46.0	GY-BRN
-			GRAY SHALE	2.0	65.0	
-			SANDSTONE	1.5	67.0	
-			GRAY SHALE	5.5	68.5	
-			SHALY SANDSTONE	4.0	74.0	GRAY
-			SANDSTONE	12.0	78.0	
-			GRAY SHALE	17.0	90.0	
-			GRAY SHALE	13.0	107.0	
-			GRAY SHALE	18.0	120.0	
-			GRAY SHALE	38.0	138.0	
-			SANDSTONE	16.0	176.0	
-			SHALY SANDSTONE	12.0	192.0	GRAY
-			GRAY SHALE	16.0	204.0	
-			GRAY SHALE	33.0	220.0	
-			SANDSTONE	6.0	253.0	
-			GRAY SHALE	32.0	259.0	
-			GRAY SHALE	13.0	291.0	
-			SANDSTONE	5.0	304.0	
-			SHALY SANDSTONE	36.0	309.0	GRAY
-			CLAYSTONE & SILTSTONE	1.7	345.0	GRN-GY
-			MUDSTONE	2.0	346.7	GRN-GY
-			SANDY SHALE	0.5	348.7	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	0.6	349.2	GRAY
-	CARBONDALE	BANKSTON FORK	CLAYSTONE	0.8	349.8	GRN-GY
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.2	350.6	LT GY
-	CARBONDALE		MOTTLED SHALE	2.2	352.8	
-	CARBONDALE		MOTTLED SHALE	2.3	355.0	
-	CARBONDALE	BRERETON	LIMESTONE	4.5	357.3	GRAY
-	CARBONDALE	HERRIN	COAL	2.9	361.8	#6
-	CARBONDALE	HERRIN	CORE LOSS	0.3	364.7	
-	CARBONDALE	HERRIN	COAL	4.9	365.0	#6
-	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	369.9	GRAY
-	CARBONDALE		LIMESTONE	0.4	370.7	GRAY

-	CARBONDALE	CALCAREOUS CLAYSTONE	1.9	371.1	GREEN
-	CARBONDALE	LIMESTONE	0.5	373.0	GRAY
-	CARBONDALE	MUDSTONE	1.2	373.5	MULTI
-	CARBONDALE	CORE LOSS	0.3	374.7	

MAPID: 13501555000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681169 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.413938 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 365.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-3-65 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.0	MODESTO	PIASA	LIMESTONE	2.5	317.0	
300.5	MODESTO		MOTTLED SHALE	4.5	319.5	
296.0	CARBONDALE	DANVILLE	BLACK SHALE	2.2	324.0	
293.8	CARBONDALE		DARK GRAY SHALE	0.8	326.2	
293.0	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	0.9	327.0	
292.1	CARBONDALE		MOTTLED SHALE	18.8	327.9	
273.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.8	346.7	UPPER BENCH
270.5	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.5	349.5	SHALE PARTING
268.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.1	352.0	LOWER BENCH
265.0	CARBONDALE	LAWSON	MOTTLED SHALE	3.1	355.0	
263.0	CARBONDALE	HERRIN	COAL	8.3	357.0	

MAPID: 13501555000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681169 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.413938 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 365.3 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-3-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
303.3	MODESTO	PIASA	LIMESTONE	5.2	316.7	
298.1	MODESTO		UNCLASSIFIED	4.7	321.9	
293.4	CARBONDALE	DANVILLE	COAL	0.9	326.6	
292.5	CARBONDALE		UNCLASSIFIED	15.8	327.5	
276.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.9	343.3	
271.8	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	348.2	
270.5	CARBONDALE		SHALE	1.3	349.5	
269.2	CARBONDALE	BRERETON	LIMESTONE	3.1	350.8	
266.1	CARBONDALE	ANNA	BLACK SHALE	3.1	353.9	
263.0	CARBONDALE	HERRIN	COAL	8.3	357.0	

MAPID: 13501555000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681169 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.413938 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 367.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-3-65 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
262.7	CARBONDALE	HERRIN	COAL	8.3	357.3	

MAPID: 13501555000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681169 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.413938 **DATE COLLECTED:** 12 / 10 / 1965
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 365.6 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-3-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
262.7	CARBONDALE	HERRIN	COAL	8.3	357.3	

MAPID: 13501555000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681169 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.413938 **DATE COLLECTED:** 12 / 10 / 1965

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 367.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL MINING CO. C365 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
620.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
608.0	PLEISTOCENE		SAND	29.0	12.0	
579.0			SANDSTONE	25.0	41.0	
554.0			SANDY SHALE	9.0	66.0	
545.0			LIMESTONE	9.0	75.0	
536.0			BLACK SHALE	12.0	84.0	
524.0			SHALY LIMESTONE	10.0	96.0	
514.0			SANDY SHALE	69.0	106.0	
445.0			BLACK SHALE	4.0	175.0	
441.0			SHALY SANDSTONE	36.0	179.0	
405.0			SILTY, SANDY SHALE	65.0	215.0	
340.0			DARK SHALE	5.0	280.0	
335.0			SANDY SHALE	32.0	285.0	
303.0			LIMESTONE	2.5	317.0	
300.5			SHALE	1.3	319.5	
299.2			LIMESTONE	1.4	320.8	
297.8			SHALE	1.8	322.2	GR-GY
296.0			DARK SHALE	2.2	324.0	
293.8			LIMESTONE	0.8	326.2	
293.1			SHALE	1.8	326.9	
291.2	MODESTO	PIASA	LIMESTONE	0.6	328.8	
290.7	MODESTO	PIASA	SHALE	6.7	329.3	
284.0			CLAYSTONE & SILTSTONE	8.0	336.0	
276.0			SHALY LIMESTONE	2.0	344.0	
274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	346.0	
271.0	CARBONDALE		SHALE	2.0	349.0	
269.0	CARBONDALE	BRERETON	LIMESTONE	4.9	351.0	
264.1	CARBONDALE		BLACK SHALE	1.3	355.9	
262.7	CARBONDALE	HERRIN	COAL	8.3	357.3	#6
254.5	CARBONDALE		UNDERCLAY	0.5	365.5	
254.0	CARBONDALE		LIMESTONE W/ SHALE	1.0	366.0	

MAPID: 13521699000C **VERSION:** 1 **PROJECT:** LUMP

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2700' S line, 50' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.700011 **GEOLOGIST:** J. MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.4138 **DATE COLLECTED:** 1 / 25 / 1966

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 361.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-4-66 **WELL TYPE:** Coal Test

COMMENT: PERMIT 5; CROWN III MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
648.0	PLEISTOCENE		CLAY	16.0	0.0	
632.0	BOND		SANDSTONE	20.0	16.0	SOFT
612.0	BOND		SANDY SHALE	40.0	36.0	
572.0	BOND	CARTHAGE	LIMESTONE	14.0	76.0	
558.0	MODESTO		BLACK SHALE	4.0	90.0	
554.0	MODESTO		SANDY SHALE	12.0	94.0	
542.0	MODESTO	MACOUPIN	LIMESTONE	6.0	106.0	
536.0	MODESTO		BLACK SHALE	4.0	112.0	
532.0	MODESTO		SANDY SHALE	36.0	116.0	
496.0	MODESTO	CHAPEL	COAL	3.0	152.0	SLATY
493.0	MODESTO		SANDSTONE	20.0	155.0	
473.0	MODESTO		BLACK SHALE	5.0	175.0	
468.0	MODESTO		SANDY SHALE	15.0	180.0	
453.0	MODESTO		SANDSTONE	40.0	195.0	
413.0	MODESTO		SANDY SHALE	17.0	235.0	
396.0	MODESTO		BLACK SHALE	5.0	252.0	
391.0	MODESTO		SANDSTONE	28.0	257.0	
363.0	MODESTO		SANDY SHALE	15.0	285.0	
348.0	MODESTO		BLACK SHALE	5.0	300.0	
343.0	MODESTO		SANDY SHALE	12.0	305.0	
331.0	MODESTO		LIMESTONE	3.5	317.0	
327.5	MODESTO		SHALE	5.5	320.5	
322.0	MODESTO		LIMESTONE	2.0	326.0	
320.0			SANDY SHALE	4.0	328.0	
316.0			CLAYSTONE	5.0	332.0	
311.0			LIMESTONE	0.5	337.0	
310.5	CARBONDALE		SHALE	2.3	337.5	STRIPED
308.2	CARBONDALE		LIMESTONE	0.5	339.8	
307.7	CARBONDALE		SHALE	1.2	340.3	
306.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	341.5	
302.5	CARBONDALE		SHALE	1.5	345.5	STRIPED
301.0	CARBONDALE	BRERETON	LIMESTONE	1.4	347.0	
299.6	CARBONDALE	ANNA	SHALE	2.9	348.4	DARK
296.7	CARBONDALE	HERRIN	COAL	8.5	351.3	
288.2	CARBONDALE		UNDERCLAY	1.0	359.8	
287.2	CARBONDALE		LIMESTONE	0.2	360.8	

MAPID: 13522027000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** SE NE NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.69192 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.418393 **DATE COLLECTED:** 3 / 24 / 1976

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 371.8 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED CII-19-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
275.2	CARBONDALE	HERRIN	COAL	7.0	364.8	

MAPID: 13522027000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** SE NE NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.69192 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.418393 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED CII-19-76 **WELL TYPE:** Coal Test

COMMENT: CORE NO C11203; STRIP LOG MISSING

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
275.2	CARBONDALE	HERRIN	COAL	7.0	364.8	

MAPID: 13522027000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** SE NE NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.69192 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.418393 **DATE COLLECTED:** 3 / 24 / 1976

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED CII1976 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
631.0	PLEISTOCENE		CLAY	20.0	9.0	BRN
611.0			SHALY SANDSTONE	4.5	29.0	
606.5			SILTY, SANDY SHALE	7.5	33.5	
599.0			SHALY SANDSTONE	28.0	41.0	
571.0			GREEN SHALE	15.5	69.0	
555.5			LIMESTONE	4.5	84.5	
551.0			CALCAREOUS SHALE	6.0	89.0	
545.0			DARK SHALE	7.0	95.0	
538.0			BLACK SHALE	3.5	102.0	
534.5			GREEN SHALE	3.5	105.5	
531.0			GREEN SHALE	4.0	109.0	
527.0			SHALY SANDSTONE	5.5	113.0	
521.5			CALCAREOUS SANDSTONE	2.0	118.5	
519.5			BLACK SHALE	3.0	120.5	
516.5			GREEN SHALE	7.5	123.5	
509.0			SHALE	20.0	131.0	
489.0			SILTY, SANDY SHALE	28.5	151.0	
460.5			BLACK SHALE	4.5	179.5	
456.0			SHALE	2.0	184.0	
454.0			SILTY SHALE	5.0	186.0	
449.0			SHALE/SANDSTONE/LIMESTONE	28.5	191.0	
420.5			CALCAREOUS SANDSTONE	2.5	219.5	
418.0			SILTY, SANDY SHALE	31.5	222.0	
386.5			SHALE	40.0	253.5	
346.5			GREEN SHALE	5.5	293.5	
341.0			CALCAREOUS SHALE	8.5	299.0	
332.5			LIMESTONE	1.5	307.5	BRN
331.0			SANDY SHALE	13.0	309.0	
318.0			BLACK SHALE	1.5	322.0	
316.5			GREEN SHALE	0.5	323.5	
316.0			CALCAREOUS SHALE	3.0	324.0	
313.0			GREEN SHALE	1.0	327.0	
312.0			LIMESTONE	2.7	328.0	
309.3			GREEN SHALE	2.5	330.7	
306.8			DARK SHALE	1.9	333.2	
304.9			GREEN SHALE	0.4	335.1	

304.5	MODESTO	PIASA	LIMESTONE W/ SHALE	2.4	335.5	BRN
302.2			GREEN SHALE	0.8	337.8	
301.4			CALCAREOUS SHALE	1.1	338.6	
300.3			SILTY, SANDY SHALE	2.8	339.7	
297.5			CALCAREOUS SHALE	5.9	342.5	
291.6			SANDY SHALE	0.9	348.4	
290.7			CALCAREOUS SHALE	0.4	349.3	
290.3			LIMESTONE	2.5	349.7	
287.8			GREEN SHALE	3.0	352.2	
284.8			LIMESTONE	2.3	355.2	
282.5			SHALE	0.1	357.5	
282.4			CALCAREOUS SHALE	2.1	357.6	
280.4	CARBONDALE	BRERETON	LIMESTONE	3.9	359.6	
276.5	CARBONDALE		GREEN SHALE	0.5	363.5	
276.0	CARBONDALE		GREEN SHALE	0.7	364.0	
275.4	CARBONDALE	ANNA	BLACK SHALE	0.2	364.6	
275.2	CARBONDALE	HERRIN	COAL	7.0	364.8	#6
268.2	CARBONDALE		GREEN SHALE	1.9	371.8	
266.4	CARBONDALE		GREEN SHALE	2.1	373.6	
264.3	CARBONDALE		CALCAREOUS SHALE	0.3	375.7	
264.0	CARBONDALE		LIMESTONE	2.2	376.0	
261.8	CARBONDALE		CORE LOSS	0.8	378.2	

MAPID: 13501495000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662295 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.414259 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 400.1 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-8-63 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
276.0	MODESTO	PIASA	LIMESTONE	2.0	354.0	
274.0	MODESTO		DARK GRAY SHALE	11.7	356.0	
262.3	CARBONDALE	DANVILLE	BONE COAL	0.3	367.7	
262.0	CARBONDALE		MOTTLED SHALE	0.3	368.0	
261.7	CARBONDALE	GALUM	LIMESTONE W/ SHALE	2.5	368.3	
259.2	CARBONDALE		MOTTLED SHALE	0.9	370.8	
258.3	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.2	371.7	
258.1	CARBONDALE		CLAYSTONE	0.8	371.9	
257.3	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	9.8	372.7	UPPER BENCH
247.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.3	382.4	SHALE PARTING
246.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.2	383.7	LOWER BENCH
241.1	CARBONDALE	LAWSON	MOTTLED SHALE	0.2	388.9	
240.9	CARBONDALE	ANNA	BLACK SHALE	3.3	389.1	
238.0	CARBONDALE	HERRIN	COAL	8.1	392.0	

MAPID: 13501495000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662295 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.414259 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 400.1 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-8-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
277.2	MODESTO	PIASA	LIMESTONE	2.3	352.8	
274.9	MODESTO		UNCLASSIFIED	3.4	355.1	
271.5	CARBONDALE		UNCLASSIFIED	9.3	358.5	
262.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	367.8	
259.7	CARBONDALE	ANVIL ROCK	SANDSTONE	4.6	370.3	
255.1	CARBONDALE		SHALE	4.0	374.9	
251.1	CARBONDALE	BRERETON	LIMESTONE	9.7	378.9	
241.4	CARBONDALE	ANNA	BLACK SHALE	3.4	388.6	
238.0	CARBONDALE	HERRIN	COAL	8.1	392.0	

MAPID: 13501495000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662295 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.414259 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-8-63 **WELL TYPE:** Coal Test
COMMENT: CORE#C-6415;SEE COAL SEC. MAP#6-145&145A

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
237.7	CARBONDALE	HERRIN	COAL	8.1	392.3	

MAPID: 13501495000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662295 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.414259 **DATE COLLECTED:** 8 / 0 / 1963
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 400.4 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-8-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
237.7	CARBONDALE	HERRIN	COAL	8.1	392.3	

MAPID: 13501495000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662295 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.414259 **DATE COLLECTED:** 8 / 0 / 1963

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C863 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.0	PLEISTOCENE		SANDY CLAY	106.5	0.0	
523.5			LIMESTONE	4.5	106.5	
519.0			SLATY SHALE	13.0	111.0	
506.0			LIMESTONE W/ SHALE	5.0	124.0	
501.0			GREEN SHALE	6.7	129.0	
494.3			SANDSTONE	3.3	135.7	GR-GY
491.0			DARK SHALE	5.0	139.0	
486.0			SHALE & SANDSTONE	21.0	144.0	
465.0			SHALE	38.0	165.0	
427.0			SLATY SHALE	8.5	203.0	
418.5			GRAY SHALE	7.5	211.5	
411.0			SANDSTONE	8.3	219.0	GRAY
402.7			SANDY SHALE	13.4	227.3	
389.2			SILTY SHALE	24.5	240.8	
364.7			SANDY SHALE	19.8	265.3	
345.0			GRAY SHALE	21.5	285.0	
323.5			GRAY SHALE	2.3	306.5	
321.2			GRAY SHALE	26.3	308.8	
295.0			CALCAREOUS SHALE	6.0	335.0	
289.0			SANDY SHALE	5.7	341.0	
283.3			CALCAREOUS SHALE	6.8	346.7	
276.6			LIMESTONE	2.3	353.4	
274.3			SLATY SHALE	12.3	355.7	
262.0	MODESTO	PIASA	LIMESTONE	2.7	368.0	
259.3	CARBONDALE		CLAYSTONE & SILTSTONE	13.0	370.7	GREEN
246.3	CARBONDALE	BRERETON	LIMESTONE	5.3	383.7	
241.1	CARBONDALE	ANNA	BLACK SHALE	3.4	388.9	
237.7	CARBONDALE	HERRIN	COAL	8.1	392.3	

MAPID: 13521700000C **VERSION:** 1 **PROJECT:** LUMP

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 50' S line, 2600' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671799 **GEOLOGIST:** J. MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.406828 **DATE COLLECTED:** 12 / 6 / 1949

SURFACE ELEVATION (FT.): 633.1 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO PW-8-49 **WELL TYPE:** Coal Test

COMMENT: PERMIT 5; CROWN III MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
633.1	PLEISTOCENE		SAND/CLAY	69.0	0.0	
564.1	PLEISTOCENE		SAND & GRAVEL	5.0	69.0	
559.1	PLEISTOCENE		CLAY	14.0	74.0	
545.1	BOND	CARTHAGE	LIMESTONE	6.8	88.0	WITH SHALE
538.3	BOND	CARTHAGE	SHALE	0.5	94.8	GREENISH GRAY
537.8	BOND	CARTHAGE	LIMESTONE	0.1	95.3	
537.8	MODESTO		SHALE	2.2	95.3	GREENISH GRAY WEAK
535.6	MODESTO		BLACK SHALE	4.4	97.5	
531.2	MODESTO		LIMESTONE	0.3	101.9	
530.9	MODESTO		UNDERCLAY	6.8	102.2	
524.1	MODESTO		LIMESTONE & SHALE	2.3	109.0	
521.8	MODESTO		SHALE	5.9	111.3	LS ZONES & NODS
515.9	MODESTO	MACOUPIN	SHALY LIMESTONE	2.8	117.2	
513.2	MODESTO		FOSSILIFEROUS SHALE	1.4	119.9	CALC
511.8	MODESTO		BLACK SHALE	2.4	121.3	
509.3	MODESTO		CALCAREOUS SHALE	1.1	123.8	
508.3	MODESTO		BLACK SHALE	0.1	124.8	
508.2	MODESTO		UNDERCLAY	5.9	124.9	
502.3	MODESTO		GRAY SHALE	1.2	130.8	WITH LIMESTONE NODULES
501.1	MODESTO		SHALEY CLAYSTONE	4.7	132.0	WITH LIMESTONE NODULES
496.4	MODESTO		CALCAREOUS SHALE	1.2	136.7	INTERLAMINATED GRAY SHALE AND SANDY LS
495.3	MODESTO		SANDY LIMESTONE	0.4	137.8	
494.8	MODESTO		CALCAREOUS SHALE	4.0	138.3	GRAY SHALE AND SANDY LIMESTONE
490.8	MODESTO		SANDSTONE	3.0	142.3	WITH SHALE
487.8	MODESTO		SHALE	16.9	145.3	WITH SANDSTONE LAMINATIONS, DARK GRAY
470.9	MODESTO		CALCAREOUS SANDSTONE	1.0	162.2	WITH GRAY SHALE LAMS
470.0	MODESTO		SHALE	0.1	163.1	CALC FRAGS
469.8	MODESTO		SHALE	18.5	163.3	
451.3	MODESTO		FOSSILIFEROUS LIMESTONE	1.8	181.8	
449.6	MODESTO		BLACK SHALE	7.3	183.5	
442.3	MODESTO	CRAMER	LIMESTONE	0.3	190.8	
442.0	MODESTO		CALCAREOUS SHALE	0.3	191.1	FOSSILIFEROUS
441.7	MODESTO	CHAPEL	COAL	0.7	191.4	
441.0	MODESTO		UNDERCLAY	3.9	192.1	
437.1	MODESTO		SANDY LIMESTONE	0.9	196.0	
436.2	MODESTO		UNDERCLAY	2.4	196.9	
433.8	MODESTO		SHALE	1.2	199.3	WITH LIMESTONE NODULES

432.6	MODESTO		SANDY LIMESTONE	1.0	200.5	
431.6	MODESTO		SHALY SANDSTONE	1.1	201.5	CALCAREOUS
430.5	MODESTO		SANDSTONE	0.9	202.6	COARSE
429.6	MODESTO		SANDY SHALE	2.7	203.5	WITH SANDSTONE LAMINATIONS
426.9	MODESTO		SHALE	0.2	206.2	DARK GRAY
426.8	MODESTO		SANDY SHALE	2.6	206.3	WITH SAND
424.2	MODESTO		SANDSTONE	1.9	208.9	WITH SHALE
422.3	MODESTO		GRAY SHALE	4.0	210.8	
418.3	MODESTO		SANDSTONE	10.6	214.8	WITH BLACK SHALE PARTINGS
407.7	MODESTO		SANDY SHALE	26.6	225.4	
381.1	MODESTO		GRAY SHALE	27.8	252.0	
353.3	MODESTO		SHALE	5.3	279.8	DARK GRAY TO BLACK
348.0	MODESTO		GRAY SHALE	0.3	285.1	
347.7	MODESTO		BLACK SHALE	0.3	285.4	
347.3	MODESTO		LIMESTONE	0.1	285.8	
347.3	MODESTO		BLACK SHALE	2.6	285.8	
344.7	MODESTO		UNDERCLAY	2.8	288.4	
341.8	MODESTO		SHALE	19.8	291.3	GREENISH GRAY LS NODS SS LAMS
322.1	MODESTO		SHALE	1.4	311.0	
320.7	MODESTO		SANDY SHALE	1.0	312.4	LS NODS
319.7	MODESTO		SANDY SHALE	4.8	313.4	LS NODS
314.8	MODESTO		SANDSTONE	0.3	318.3	
314.5	MODESTO		SANDY SHALE	2.5	318.6	LS NODS
312.0	MODESTO		SHALY SANDSTONE	0.8	321.1	
311.2	MODESTO		SHALE	1.1	321.9	
310.1	MODESTO		CORE LOSS	5.6	323.0	
304.5	MODESTO		SHALE	1.2	328.6	WITH LIMESTONE NODULES
303.3	MODESTO	PIASA	LIMESTONE	2.3	329.8	
301.0	MODESTO	PIASA	SHALE	0.3	332.1	PARTING; GREENISH
300.8	MODESTO	PIASA	LIMESTONE	1.3	332.3	
299.5	CARBONDALE		BLACK SHALE	2.0	333.6	
297.5	CARBONDALE		BLACK SHALE	4.3	335.6	
293.3	CARBONDALE		SHALE	1.4	339.8	
291.8	CARBONDALE		LIMESTONE	0.1	341.3	
291.8	CARBONDALE		SHALE	0.3	341.3	
291.5	CARBONDALE		LIMESTONE	0.1	341.6	
291.4	CARBONDALE		SHALE	0.3	341.7	
291.1	CARBONDALE		LIMESTONE	1.2	342.0	
289.9	CARBONDALE		SHALE	1.0	343.2	WITH LIMESTONE NODULES
288.9	CARBONDALE		LIMESTONE	1.0	344.2	
287.9	CARBONDALE		SHALEY CLAYSTONE	2.5	345.2	
285.4	CARBONDALE		SHALE	1.8	347.7	CALC. TOWARDS BASE
283.6	CARBONDALE		SHALEY CLAYSTONE	4.3	349.5	
279.3	CARBONDALE		SHALE	2.3	353.8	CALC NODULES
277.0	CARBONDALE		SHALE	2.9	356.1	
274.1	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	359.0	WITH SHALE
270.3	CARBONDALE		SHALE	1.3	362.8	LIGHT GREEN

269.0	CARBONDALE		LIMESTONE	0.4	364.1	
268.6	CARBONDALE		SHALE	0.3	364.5	LIGHT GREEN
268.3	CARBONDALE	BRERETON	LIMESTONE	2.4	364.8	
265.8	CARBONDALE	ENERGY	SHALE	2.3	367.3	DARK LAMINATED
263.6	CARBONDALE	HERRIN	COAL	1.6	369.5	
262.0	CARBONDALE	HERRIN	PYRITE	0.0	371.1	
261.9	CARBONDALE	HERRIN	COAL	0.9	371.2	
261.0	CARBONDALE	HERRIN	GRAY SHALE	0.1	372.1	
260.9	CARBONDALE	HERRIN	COAL	2.1	372.2	
258.9	CARBONDALE	HERRIN	FUSAIN	0.0	374.2	
258.8	CARBONDALE	HERRIN	COAL	0.4	374.3	
258.5	CARBONDALE	HERRIN	SHALE	0.1	374.6	PYRITIZED (BB)
258.4	CARBONDALE	HERRIN	COAL	0.6	374.7	
257.9	CARBONDALE	HERRIN	GRAY SHALE	0.0	375.2	
257.8	CARBONDALE	HERRIN	COAL	2.3	375.3	
255.6	CARBONDALE		UNDERCLAY	1.0	377.5	
254.6	CARBONDALE		LIMESTONE	1.0	378.5	
253.6	CARBONDALE		UNCLASSIFIED	0.5	379.5	LEFT IN HOLE

MAPID: 13500315000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.653425 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.421575 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 394.9 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 4 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
293.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.8	344.0	
292.2	MODESTO		MOTTLED SHALE	1.8	344.8	
290.4	CARBONDALE	DANVILLE	BLACK SHALE	5.5	346.6	
284.9	CARBONDALE		MOTTLED SHALE	1.3	352.1	
283.7	CARBONDALE	GALUM	NODULAR LIMESTONE	1.7	353.3	
282.0	CARBONDALE		MOTTLED SHALE	3.1	355.0	
278.9	CARBONDALE	ALLENBY	BONE COAL	0.3	358.1	
278.6	CARBONDALE		CLAYSTONE & SHALE	9.7	358.4	
269.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	368.0	
266.0	CARBONDALE	LAWSON	MOTTLED SHALE	0.9	371.0	
265.0	CARBONDALE	CONANT	LIMESTONE	0.3	372.0	
264.7	CARBONDALE		MOTTLED SHALE	1.6	372.3	
263.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.5	373.9	
262.6	CARBONDALE	ANNA	BLACK SHALE	2.9	374.4	
250.0	CARBONDALE	HERRIN	COAL	7.9	387.0	

MAPID: 13500315000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.653425 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.421575 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 387.9 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO 4 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
296.4	MODESTO	PIASA	LIMESTONE	5.5	340.6	
290.9	MODESTO		UNCLASSIFIED	4.3	346.1	
286.6	CARBONDALE		UNCLASSIFIED	11.0	350.4	
275.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	361.4	
272.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.8	364.2	
269.0	CARBONDALE		SHALE	2.7	368.0	
266.3	CARBONDALE	BRERETON	LIMESTONE	6.4	370.7	
259.9	CARBONDALE	ANNA	BLACK SHALE	2.9	377.1	
257.0	CARBONDALE	HERRIN	COAL	7.9	380.0	

MAPID: 13500315000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.653425 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.421575 **DATE COLLECTED:** 12 / 0 / 1949
SURFACE ELEVATION (FT.): 636.9 **LOGGED (FT.):** 387.5 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO 4 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
257.3	CARBONDALE	HERRIN	COAL	7.9	379.6	

MAPID: 13500315000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.653425 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421575 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 636.9 **LOGGED (FT.):** 388.9 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 4 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
636.9	PLEISTOCENE		UNCONSOLIDATED	25.0	0.0	
611.9	PLEISTOCENE		SAND	4.0	25.0	
607.9	PLEISTOCENE		CLAY	6.0	29.0	
601.9			GRAY SHALE	45.0	35.0	
556.9			SANDSTONE	12.0	80.0	
544.9			LIMESTONE	3.8	92.0	GRAY
541.1			SHALY LIMESTONE	6.6	95.8	GRAY
534.6			GRAY SHALE	1.3	102.3	
533.3			GRAY SHALE	3.3	103.6	
530.1			BLACK SHALE	1.9	106.8	
528.1			CONCRETION	0.5	108.8	
527.6			BLACK SHALE	0.7	109.3	
527.0			UNDERCLAY	4.8	109.9	GRAY
522.1	BOND	CARTHAGE	LIMESTONE	2.5	114.8	GREEN
519.6	MODESTO		SHALE WITH LIMESTONE	3.8	117.3	
515.8	MODESTO		SHALY LIMESTONE	1.4	121.1	
514.4	MODESTO		SHALE	1.3	122.5	
513.1	MODESTO		SHALY LIMESTONE	2.9	123.8	
510.2	MODESTO		GREEN SHALE	0.7	126.7	
509.6	MODESTO		CLAYSTONE & SILTSTONE	1.2	127.3	GRAY
508.4	MODESTO		LIMESTONE	1.3	128.5	GREEN
507.1	MODESTO		CLAYSTONE & SILTSTONE	6.6	129.8	BLUE
500.6	MODESTO		GRAY SHALE	1.7	136.3	
498.9	MODESTO		GREEN SHALE	1.3	138.0	
497.6	MODESTO		LIMESTONE	0.1	139.3	GRAY
497.6	MODESTO		SHALE	1.8	139.3	
495.8	MODESTO		GRAY SHALE	4.0	141.1	
491.8	MODESTO		SANDSTONE	2.3	145.1	GREEN
489.6	MODESTO		SANDSTONE	5.5	147.3	GREEN
484.1	MODESTO		SANDSTONE	0.3	152.8	
483.7	MODESTO		GRAY SHALE	13.4	153.2	
470.3	MODESTO		GRAY SHALE	21.6	166.6	
448.7	MODESTO		GRAY SHALE	4.4	188.2	
444.3	MODESTO		BLACK SHALE	2.3	192.6	
442.0	MODESTO	CHAPEL	COAL	0.8	194.9	
441.1	MODESTO		UNDERCLAY	3.1	195.8	GRAY
438.1			SHALE WITH LIMESTONE	3.2	198.8	
434.9			UNDERCLAY	0.8	202.0	GRAY
434.1			SHALE	1.7	202.8	

432.4			GREEN SHALE	1.9	204.5	
430.5			SHALY SANDSTONE	6.2	206.4	GREEN
424.3			GREEN SHALE	0.8	212.6	
423.6			GRAY SHALE	2.6	213.3	
421.0			SHALY SANDSTONE	2.1	215.9	GREEN
418.9			SHALY SANDSTONE	6.8	218.0	GRAY
412.1			GRAY SHALE	25.7	224.8	
386.5			SHALY SANDSTONE	2.9	250.4	GRAY
383.6			GRAY SHALE	35.3	253.3	
348.2			GRAY SHALE	3.5	288.7	
344.7			HARD SHALE	1.4	292.2	
343.3			GRAY SHALE	0.9	293.6	
342.4			UNDERCLAY	3.7	294.5	GRAY
338.7			GREEN SHALE	10.4	298.2	
328.3			GRAY SHALE	4.4	308.6	
323.9			GRAY SHALE	2.1	313.0	
321.8			GRAY SHALE	1.2	315.1	
320.6			BLACK SHALE	0.3	316.3	
320.3			UNDERCLAY	4.3	316.6	GRAY
316.0			SHALE WITH LIMESTONE	8.2	320.9	
307.8			GRAY SHALE	5.6	329.1	
302.2			BLACK SHALE	0.3	334.7	
302.0			GREEN SHALE	1.3	334.9	
300.7			GRAY SHALE	1.1	336.2	
299.6			LIMESTONE	3.3	337.3	GRAY
296.4			GREEN SHALE	0.8	340.5	
295.6			GREEN SHALE	0.8	341.3	
294.8			BLACK SHALE	6.3	342.1	
288.6			GRAY SHALE	0.8	348.3	
287.8			BLACK SHALE	0.1	349.1	
287.7			CONCRETION	0.1	349.2	
287.6			GRAY SHALE	0.3	349.3	
287.4			LIMESTONE	0.2	349.5	BROWN
287.2			BLACK SHALE	0.1	349.7	
287.1			LIMESTONE	1.4	349.8	
285.7			GRAY SHALE	1.3	351.2	
284.5			GRAY SHALE	0.8	352.4	
283.7			GRAY SHALE	1.2	353.2	
282.6			GRAY SHALE	9.5	354.3	
273.1			GRAY SHALE	1.2	363.8	
271.9			LIMESTONE	1.1	365.0	GRAY
270.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	366.1	GRAY
268.1	CARBONDALE		GREEN SHALE	3.5	368.8	
264.6	CARBONDALE	BRERETON	LIMESTONE	0.6	372.3	GRAY
264.1	CARBONDALE	BRERETON	SHALE	0.3	372.8	
263.7	CARBONDALE	BRERETON	LIMESTONE	0.3	373.2	BROWN
263.5	CARBONDALE		GREEN SHALE	0.3	373.4	
263.1	CARBONDALE	ANNA	BLACK SHALE	1.6	373.8	

261.6	CARBONDALE	ANNA	DARK SHALE	0.3	375.3	
261.3	CARBONDALE	HERRIN	COAL	5.8	375.6	
255.6	CARBONDALE		UNDERCLAY	0.3	381.3	GRAY
255.3	CARBONDALE		LIMESTONE	0.6	381.6	GRAY
254.7	CARBONDALE		SHALE WITH LIMESTONE	0.4	382.2	
254.3	CARBONDALE		LIMESTONE	0.4	382.6	GRAY
253.9	CARBONDALE		CORE LOSS	0.2	383.0	LEFT IN HOLE

MAPID: 13500340000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.656524 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.413317 **DATE COLLECTED:** 7 / 0 / 1955

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 385.5 **LOG TYPE:** Electric Log

SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
301.0	MODESTO	PIASA	LIMESTONE	3.0	336.0	
298.0	MODESTO		UNCLASSIFIED	3.0	339.0	
295.0	CARBONDALE		UNCLASSIFIED	13.0	342.0	
282.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	355.0	
278.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	359.0	
275.5	CARBONDALE		UNCLASSIFIED	2.5	361.5	
273.0	CARBONDALE	BRERETON	LIMESTONE	9.0	364.0	
264.0	CARBONDALE	ANNA	BLACK SHALE	4.0	373.0	
260.0	CARBONDALE	HERRIN	COAL	8.5	377.0	

MAPID: 13500007000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634491 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421692 **DATE COLLECTED:** 7 / 0 / 1937

SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** 382.3 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
289.5	CARBONDALE	BRERETON	LIMESTONE	6.3	362.5	
283.2	CARBONDALE	ANNA	BLACK SHALE	5.2	368.8	
278.0	CARBONDALE	HERRIN	COAL	8.3	374.0	

MAPID: 13500007000C **VERSION:** 2 **PROJECT:** NCRDS87

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634491 **GEOLOGIST:** WEIBEL

CONFIDENTIAL: N **LATITUDE:** 39.421692 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 652.9 **LOGGED (FT.):** 385.0 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
652.9			UNCONSOLIDATED	40.0	0.0	
612.9	BOND		CLAYSTONE	8.0	40.0	
604.9	BOND		SHALE	41.0	48.0	
563.9	BOND	CARTHAGE	LIMESTONE	10.0	89.0	
553.9	MODESTO		GRAY SHALE	2.0	99.0	
551.9	MODESTO		BLACK SHALE	7.0	101.0	
544.9	MODESTO		GRAY SHALE	3.0	108.0	
541.9	MODESTO		LIMESTONE	5.0	111.0	
536.9	MODESTO		GRAY SHALE	9.0	116.0	
527.9	MODESTO		BLACK SHALE	3.0	125.0	
524.9	MODESTO		GRAY SHALE	13.0	128.0	
511.9	MODESTO		LIMESTONE	3.0	141.0	
508.9	MODESTO		GRAY SHALE	5.0	144.0	
503.9	MODESTO		LIMESTONE	1.0	149.0	
502.9	MODESTO		SHALE	63.0	150.0	
439.9	MODESTO		COAL	0.3	213.0	
439.6	MODESTO		SANDSTONE	29.7	213.3	
409.9	MODESTO		SHALE	49.0	243.0	
360.9	MODESTO		BLACK SHALE	1.0	292.0	
359.9	MODESTO		COAL	0.2	293.0	
359.7	MODESTO		SHALE	46.8	293.2	
312.9	MODESTO		BLACK SHALE	23.0	340.0	
289.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	363.0	
285.9	CARBONDALE		SHALE	0.3	367.0	
285.6	CARBONDALE	BRERETON	LIMESTONE	2.0	367.3	
283.6	CARBONDALE		SHALE	4.0	369.3	
279.6	CARBONDALE	ANNA	BLACK SHALE	1.2	373.3	
278.4	CARBONDALE	HERRIN	COAL	8.4	374.5	
270.0	CARBONDALE		SHALE	2.1	382.9	

MAPID: 13500007000C **VERSION:** 3 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634491 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.421692 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 652.9 **LOGGED (FT.):** 385.0 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #9 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
652.9			SOIL	4.0	0.0	
648.9			CLAY	26.0	4.0	
622.9			SAND & GRAVEL	10.0	30.0	
612.9			CLAY	8.0	40.0	
604.9	BOND		SHALE	41.0	48.0	
563.9	BOND	CARTHAGE	LIMESTONE	10.0	89.0	
553.9	MODESTO		BLACK SHALE	12.0	99.0	SH GRAY TOP 2' & BASAL 3'
541.9	MODESTO		LIMESTONE	5.0	111.0	
536.9	MODESTO		SHALE	9.0	116.0	
527.9	MODESTO		BLACK SHALE	3.0	125.0	
524.9	MODESTO		SHALE	13.0	128.0	
511.9	MODESTO		LIMESTONE	3.0	141.0	
508.9	MODESTO		SHALE	5.0	144.0	
503.9	MODESTO		LIMESTONE	1.0	149.0	
502.9	MODESTO		SHALE	63.0	150.0	
439.9	MODESTO	CHAPEL	COAL	0.3	213.0	
439.6	MODESTO		SANDSTONE	29.7	213.3	
409.9	MODESTO		SHALE	49.0	243.0	
360.9	MODESTO		BLACK SHALE	1.0	292.0	
359.9	MODESTO		COAL	0.2	293.0	
359.7	MODESTO		SHALE	9.8	293.2	
349.9	MODESTO		SHALE	16.0	303.0	W/ LS PEBBLES
333.9	MODESTO		SHALE	8.0	319.0	
325.9	CARBONDALE		SHALE	36.0	327.0	W/ LS PEBBLES
289.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	363.0	
285.9	CARBONDALE		SHALE	0.3	367.0	
285.6	CARBONDALE		LIMESTONE	2.0	367.3	
283.6	CARBONDALE		SHALE	4.0	369.3	
279.6	CARBONDALE	ANNA	BLACK SHALE	1.2	373.3	
278.4	CARBONDALE	HERRIN	COAL	8.3	374.5	
270.1	CARBONDALE		SHALE	2.2	382.8	

MAPID: 13500007000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634491 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.421692 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 652.9 **LOGGED (FT.):** 385.0 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #9 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
652.9	PLEISTOCENE		SOIL	4.0	0.0	
648.9	PLEISTOCENE		CLAY	26.0	4.0	
622.9	PLEISTOCENE		SAND & GRAVEL	10.0	30.0	
612.9	PLEISTOCENE		CLAY	8.0	40.0	
604.9	BOND		GRAY SHALE	13.0	48.0	
591.9	BOND		SANDSTONE/SHALE	28.0	61.0	AND MICA
563.9	BOND	CARTHAGE	LIMESTONE	10.0	89.0	
553.9	MODESTO		GRAY SHALE	2.0	99.0	
551.9	MODESTO		BLACK SHALE	7.0	101.0	
544.9	MODESTO		GRAY SHALE	3.0	108.0	
541.9	MODESTO		LIMESTONE	5.0	111.0	
536.9	MODESTO		GRAY SHALE	9.0	116.0	
527.9	MODESTO		BLACK SHALE	3.0	125.0	
524.9	MODESTO		GRAY SHALE	13.0	128.0	
511.9	MODESTO		LIMESTONE	3.0	141.0	GRITTY
508.9	MODESTO		GRAY SHALE	5.0	144.0	
503.9	MODESTO		LIMESTONE	1.0	149.0	
502.9	MODESTO		ARGILACEOUS SHALE	10.0	150.0	
492.9	MODESTO		BLACK SHALE	30.0	160.0	GRITTY, W/ LS PYRITES
462.9	MODESTO		ARGILACEOUS SHALE	23.0	190.0	
439.9	MODESTO	CHAPEL	COAL	0.3	213.0	
439.6	MODESTO		SANDSTONE	29.7	213.3	
409.9	MODESTO		ARGILACEOUS SHALE	49.0	243.0	
360.9	MODESTO		BLACK SHALE	1.0	292.0	
359.9	MODESTO		COAL	0.2	293.0	
359.7	MODESTO		ARGILACEOUS SHALE	9.8	293.2	
349.9	MODESTO		BLACK SHALE	16.0	303.0	WITH LIMESTONE (PYRITES) PEBBLES
333.9	MODESTO		ARGILACEOUS SHALE	8.0	319.0	
325.9	MODESTO		BLACK SHALE	13.0	327.0	WITH LS PEBBLES
312.9	MODESTO		BLACK SHALE	23.0	340.0	WITH LS PEBBLES
289.9	CARBONDALE		LIMESTONE	4.0	363.0	
285.9	CARBONDALE		BLACK SHALE	0.3	367.0	
285.6	CARBONDALE	BRERETON	LIMESTONE	2.0	367.3	
283.6	CARBONDALE	ANNA	ARGILACEOUS SHALE	4.0	369.3	
279.6	CARBONDALE	ANNA	BLACK SHALE	1.2	373.3	
278.4	CARBONDALE	HERRIN	COAL	8.3	374.5	LOG ALSO SAYS COAL #6 269'11"IN COMMENTS
270.1	CARBONDALE		ARGILACEOUS SHALE	2.2	382.8	

MAPID: 13500316000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634338 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.421695 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 383.8 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 12 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	5.5	332.0	
305.5	MODESTO		MOTTLED SHALE	2.7	337.5	
302.8	CARBONDALE	DANVILLE	BLACK SHALE	6.2	340.2	
296.7	CARBONDALE		DARK GRAY SHALE	0.8	346.3	
295.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.5	347.1	
295.4	CARBONDALE		CALCAREOUS SHALE	0.9	347.6	
294.4	CARBONDALE	ALLENBY	BLACK SHALE	0.7	348.6	
293.8	CARBONDALE		MOTTLED SHALE	14.1	349.2	
279.7	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	12.6	363.3	
267.1	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	375.9	
265.9	CARBONDALE	ANNA	BLACK SHALE	1.0	377.1	
266.0	CARBONDALE	HERRIN	COAL	6.8	377.0	

MAPID: 13500316000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634338 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421695 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 382.9 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 12 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
308.8	MODESTO	PIASA	LIMESTONE	3.5	333.2	
305.3	MODESTO		UNCLASSIFIED	5.2	336.7	
300.1	CARBONDALE		UNCLASSIFIED	9.1	341.9	
291.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.1	351.0	
284.9	CARBONDALE	ANVIL ROCK	SANDSTONE	4.1	357.1	
280.8	CARBONDALE		SHALE	5.0	361.2	
275.8	CARBONDALE	BRERETON	LIMESTONE	7.6	366.2	
268.2	CARBONDALE	ANNA	BLACK SHALE	2.2	373.8	
266.0	CARBONDALE	HERRIN	COAL	6.9	376.0	

MAPID: 13500316000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634338 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.421695 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 642.5 **LOGGED (FT.):** 384.0 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 12 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.4	CARBONDALE	HERRIN	COAL	6.9	377.1	

MAPID: 13500316000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634338 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421695 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 642.5 **LOGGED (FT.):** 386.4 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 12 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.5	PLEISTOCENE		CLAY	23.0	0.0	
619.5	PLEISTOCENE		SAND	3.0	23.0	
616.5	PLEISTOCENE		CLAY	34.0	26.0	
582.5	PLEISTOCENE		SAND & GRAVEL	2.0	60.0	
580.5	PLEISTOCENE		CLAY & SHALE	7.0	62.0	
573.5			SANDSTONE	8.4	69.0	
565.1			SANDSTONE	5.8	77.4	BROWN
559.3			SANDSTONE	0.2	83.2	
559.2			SANDSTONE	0.8	83.3	GREEN
558.3			CONGLOMERATE	7.8	84.2	BROWN
550.5			CONCRETION	0.3	92.0	BROWN
550.2			SANDSTONE	0.7	92.3	BROWN
549.6			CONGLOMERATE	0.4	92.9	
549.2	BOND	CARTHAGE	SHALY LIMESTONE	3.5	93.3	GREEN
545.7	MODESTO		SHALE WITH LIMESTONE	1.8	96.8	
543.8	MODESTO		GRAY SHALE	2.0	98.7	
541.8	MODESTO		GRAY SHALE	0.2	100.7	
541.7	MODESTO		BLACK SHALE	5.6	100.8	
536.1	MODESTO		UNDERCLAY	5.5	106.4	GREEN
530.6	MODESTO		LIMESTONE CONCRETION	0.3	111.9	GRAY
530.3	MODESTO		SHALE WITH LIMESTONE	7.4	112.2	
522.9	MODESTO		GRAY SHALE	3.2	119.6	
519.7	MODESTO		GREEN SHALE	0.9	122.8	
518.8	MODESTO		GRAY SHALE	0.7	123.7	
518.1	MODESTO		GRAY SHALE	2.0	124.4	
516.1	MODESTO		BLACK SHALE	0.1	126.4	
516.1	MODESTO		UNDERCLAY & LIMESTONE	9.2	126.4	GREEN
506.9	MODESTO		SHALE WITH LIMESTONE	2.5	135.6	
504.4	MODESTO		SHALY SANDSTONE	0.3	138.1	GREEN
504.1	MODESTO		SHALY SANDSTONE	1.3	138.4	GREEN
502.9	MODESTO		SANDSTONE	0.8	139.6	
502.1	MODESTO		SHALY SANDSTONE	1.6	140.4	
500.6	MODESTO		SANDSTONE	0.9	141.9	GRAY
499.6	MODESTO		SHALY SANDSTONE	2.9	142.9	GREEN
496.7	MODESTO		SHALY SANDSTONE	2.3	145.8	GREEN
494.4	MODESTO		SHALY SANDSTONE	2.2	148.1	GRAY
492.2	MODESTO		BLACK SHALE	2.2	150.3	
490.1	MODESTO		GRAY SHALE	27.8	152.4	

462.2	MODESTO		GRAY SHALE	12.8	180.3	
449.5	MODESTO		GRAY SHALE	6.7	193.0	
442.8	MODESTO		GRAY SHALE	3.0	199.7	
439.8	MODESTO		GRAY SHALE	2.3	202.7	
437.6	MODESTO	CHAPEL	COAL	0.8	204.9	
436.8	MODESTO		UNDERCLAY	2.1	205.7	GRAY
434.7	MODESTO		SILTY SHALE	2.0	207.8	
432.7	MODESTO		SHALY LIMESTONE	1.3	209.8	GREEN
431.5	MODESTO		SHALE WITH LIMESTONE	2.2	211.0	
429.3	MODESTO		GREEN SHALE	4.9	213.2	
424.4	MODESTO		GREEN SHALE	4.3	218.1	
420.1	MODESTO		GRAY SHALE	6.2	222.4	
413.9	MODESTO		SHALY SANDSTONE	23.7	228.6	GRAY
390.2	MODESTO		GRAY SHALE	6.0	252.3	
384.2	MODESTO		GRAY SHALE	24.5	258.3	
359.7	MODESTO		GRAY SHALE	17.8	282.8	
342.0	MODESTO		GRAY SHALE	2.6	300.5	
339.4	MODESTO		GRAY SHALE	1.1	303.1	
338.3	MODESTO		GRAY SHALE	1.0	304.2	
337.3	MODESTO		COAL	0.1	305.2	
337.2	MODESTO		UNDERCLAY	3.5	305.3	GREEN
333.7	MODESTO		GREEN SHALE	5.7	308.8	
328.1	MODESTO		GRAY SHALE	10.3	314.4	
317.7	MODESTO		GRAY SHALE	1.9	324.8	
315.8	MODESTO		GRAY SHALE	1.3	326.7	
314.6	MODESTO		UNDERCLAY	3.6	327.9	GREEN
311.0	MODESTO		SHALE WITH LIMESTONE	2.7	331.5	
308.3	MODESTO		GREEN SHALE	4.8	334.2	
303.5	MODESTO		GRAY SHALE	0.6	339.0	
302.9	MODESTO		SHALE	0.5	339.6	
302.4	MODESTO		GRAY SHALE	0.3	340.1	
302.1	MODESTO		SHALE WITH LIMESTONE	2.3	340.4	
299.8	MODESTO		LIMESTONE	3.0	342.7	GREEN
296.8	MODESTO		GRAY SHALE	0.5	345.7	
296.3	MODESTO		GREEN SHALE	0.4	346.2	
295.9	MODESTO		SHALE	0.3	346.6	
295.6	MODESTO		GREEN SHALE	0.4	346.9	
295.2	MODESTO		GREEN SHALE	1.7	347.3	
293.6	MODESTO		BLACK SHALE	7.0	348.9	
286.6	MODESTO		GRAY SHALE	0.8	355.9	
285.8	MODESTO	PIASA	LIMESTONE	0.3	356.7	GRAY
285.6	CARBONDALE		GRAY SHALE	0.4	356.9	
285.1	CARBONDALE		GRAY SHALE	0.8	357.4	
284.3	CARBONDALE		GRAY SHALE	0.8	358.2	
283.5	CARBONDALE		GRAY SHALE	2.5	359.0	
281.0	CARBONDALE		SHALE WITH LIMESTONE	0.3	361.5	
280.7	CARBONDALE		CLAYSTONE & SILTSTONE	5.6	361.8	GREEN
275.1	CARBONDALE		SHALE WITH LIMESTONE	3.6	367.4	

271.6	CARBONDALE		LIMESTONE	0.3	370.9	GRAY
271.2	CARBONDALE		GREEN SHALE	4.3	371.3	
267.0	CARBONDALE		GREEN SHALE	0.6	375.5	
266.4	CARBONDALE		GREEN SHALE	0.3	376.1	
266.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	376.3	BROWN
264.4	CARBONDALE		SHALE WITH LIMESTONE	2.8	378.1	
261.7	CARBONDALE		GREEN SHALE	0.3	380.8	
261.3	CARBONDALE		SHALE	0.4	381.2	
260.9	CARBONDALE		GREEN SHALE	1.2	381.6	
259.7	CARBONDALE		GRAY SHALE	2.0	382.8	
257.7	CARBONDALE		GRAY SHALE	1.3	384.8	
256.4	CARBONDALE	HERRIN	COAL	6.9	386.1	
249.5	CARBONDALE		UNDERCLAY	1.3	393.0	GRAY
248.2	CARBONDALE		SHALE WITH LIMESTONE	1.3	394.3	

MAPID: 13501494000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.644029 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.421603 **DATE COLLECTED:** 7 / 0 / 1963

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 370.3 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-5-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
270.8	CARBONDALE	HERRIN	COAL	8.1	362.2	

MAPID: 13501494000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.644029 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421603 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 370.1 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-5-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
312.0	MODESTO	PIASA	LIMESTONE	4.3	321.0	
307.7	MODESTO		UNCLASSIFIED	4.5	325.3	
303.2	CARBONDALE		UNCLASSIFIED	12.0	329.8	
291.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	341.8	
288.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	344.8	
284.6	CARBONDALE		SHALE	1.8	348.4	
282.8	CARBONDALE	BRERETON	LIMESTONE	9.3	350.2	
273.5	CARBONDALE	ANNA	BLACK SHALE	2.5	359.5	
271.0	CARBONDALE	HERRIN	COAL	8.1	362.0	

MAPID: 13501494000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.644029 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421603 **DATE COLLECTED:** 7 / 0 / 1963

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 371.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C563 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
633.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
625.0	PLEISTOCENE		CLAY & GRAVEL	84.5	8.0	
540.5			GRAY SHALE	28.5	92.5	
512.0			SLATY SHALE	2.0	121.0	
510.0			SHALE	3.0	123.0	GR-GY
507.0			SHALY SANDSTONE	15.0	126.0	GRAY
492.0			SANDY SHALE	37.0	141.0	
455.0			DARK SHALE	2.5	178.0	
452.5	MODESTO	CHAPEL	COAL	0.5	180.5	
452.0	MODESTO		GRAY SHALE	29.0	181.0	
423.0	MODESTO		SANDY SHALE	69.5	210.0	
353.5	MODESTO		SLATY SHALE	2.5	279.5	
351.0	MODESTO		GRAY SHALE	13.8	282.0	
337.2	MODESTO		LIMESTONE	0.8	295.8	TAN
336.3	MODESTO		GRAY SHALE	3.8	296.7	
332.5	MODESTO		SLATY SHALE	2.5	300.5	
330.0	MODESTO		VARRIGATED SHALE	5.0	303.0	
325.0	MODESTO		SHALY SANDSTONE	13.0	308.0	
312.0	MODESTO		LIMESTONE	4.3	321.0	TAN
307.7	MODESTO		CALCAREOUS SHALE	3.5	325.3	
304.2	MODESTO		SLATY SHALE	6.2	328.8	
298.0	MODESTO	PIASA	LIMESTONE	1.4	335.0	
296.6	CARBONDALE		DARK SHALE	2.3	336.4	
294.2	CARBONDALE		GRAY SHALE	13.0	338.8	
281.2	CARBONDALE		GRAY SHALE	1.4	351.8	
273.8	CARBONDALE	BRERETON	LIMESTONE	6.5	359.2	
273.3	CARBONDALE		CLAYSTONE & SILTSTONE	1.3	359.7	
272.0	CARBONDALE	ANNA	HARD SHALE	1.2	361.0	362
270.8	CARBONDALE	HERRIN	COAL	8.1	362.2	
262.7	CARBONDALE		UNDERCLAY	0.8	370.3	

MAPID: 13501523000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1320' S line, 130' W line of SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.643434 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.41062 **DATE COLLECTED:** 0 / 0 / 1963
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 405.0 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-10-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.2	CARBONDALE	HERRIN	COAL	7.2	397.8	

MAPID: 13501523000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1320' S line, 130' W line of SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.643434 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.41062 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 405.2 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-10-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
286.6	MODESTO	PIASA	LIMESTONE	3.2	353.4	
283.4	MODESTO		UNCLASSIFIED	5.9	356.6	
277.5	CARBONDALE		UNCLASSIFIED	10.6	362.5	
266.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	373.1	
261.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	378.9	
257.6	CARBONDALE		SHALE	3.6	382.4	
254.0	CARBONDALE	BRERETON	LIMESTONE	8.8	386.0	
245.2	CARBONDALE	ANNA	BLACK SHALE	3.2	394.8	
242.0	CARBONDALE	HERRIN	COAL	7.2	398.0	

MAPID: 13501523000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** 1320' S line, 130' W line of SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.643434 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.41062 **DATE COLLECTED:** 0 / 0 / 1963

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 397.6 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CORP C1063 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
290.0			CLAYSTONE & SILTSTONE	0.7	350.0	
289.3			LIMESTONE	0.5	350.7	
288.8			CLAYSTONE & SILTSTONE	1.8	351.2	GRAY
287.0			LIMESTONE	3.2	353.0	GRAY
283.8			CLAYSTONE & SILTSTONE	0.4	356.2	GREEN
283.4			GRAY SHALE	1.1	356.6	
282.3			BLACK SHALE	1.4	357.7	
280.9			CORE LOSS	3.3	359.1	DRILLERS NOTE 3'3" CORE LOSS
277.7			CLAYSTONE & SILTSTONE	0.8	362.3	GRAY
276.8			CLAYSTONE & SILTSTONE	0.5	363.2	
276.3			GRAY SHALE	0.9	363.7	
275.4			BLACK SHALE	0.4	364.6	
275.0			LIMESTONE	0.4	365.0	
274.6			BLACK SHALE	0.3	365.4	
274.3			CLAYSTONE & SILTSTONE	1.4	365.7	GRAY
272.9			LIMESTONE	0.4	367.1	GRAY
272.5			CLAYSTONE & SILTSTONE	0.8	367.5	GRAY
271.7			CLAYSTONE & SILTSTONE	0.8	368.3	GR-GY
270.8			BLACK SHALE	0.3	369.2	
270.6			CLAYSTONE & SILTSTONE	0.3	369.4	GRAY
270.3			CLAYSTONE & SILTSTONE	3.0	369.7	GRAY
267.3			CLAYSTONE & SILTSTONE	2.8	372.7	
264.6			CORE LOSS	1.2	375.4	DRILLERS NOTE 1'2" CORE LOSS
263.4			CLAYSTONE & SILTSTONE	1.8	376.6	
261.6			CLAYSTONE & SILTSTONE	2.0	378.4	GRAY
259.6			CORE LOSS	0.8	380.4	DRILLERS NOTE 10" CORE LOSS
258.7			GRAY SHALE	0.5	381.3	
258.2			CLAYSTONE & SILTSTONE	2.6	381.8	GRAY
255.7			CLAYSTONE & SILTSTONE	1.0	384.3	
254.7			LIMESTONE	1.3	385.3	GRAY
253.4			LIMESTONE	2.4	386.6	GRAY
251.0			CLAYSTONE & SILTSTONE	0.5	389.0	GRAY
250.5			CLAYSTONE & SILTSTONE	1.0	389.5	GRAY
249.5			LIMESTONE	0.6	390.5	GRAY
248.9			CLAYSTONE & SILTSTONE	0.9	391.1	GRAY
248.0			NO RECORD	2.4	392.0	
245.6			BLACK SHALE	0.9	394.4	
244.7			CORE LOSS	1.8	395.3	
242.9			BLACK SHALE	6.0	397.1	

MAPID: 13500317000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 35' S line, 25' E line of SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.61553 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.407346 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 354.1 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 11 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
335.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.8	308.0	
332.2	MODESTO		MOTTLED SHALE	2.5	310.8	
329.7	CARBONDALE	DANVILLE	DARK GRAY SHALE	5.7	313.3	
324.0	CARBONDALE		CLAYSTONE & SHALE	0.4	319.0	
323.6	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	1.0	319.4	
322.6	CARBONDALE		MOTTLED SHALE	1.3	320.4	
321.3	CARBONDALE	ALLENBY	BONE COAL	0.3	321.7	
321.1	CARBONDALE		MOTTLED SHALE	11.5	321.9	
309.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.6	333.4	UPPER BENCH
309.0	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	2.1	334.0	SHALE PARTING
306.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.9	336.1	LOWER BENCH
304.0	CARBONDALE	LAWSON	SHALE	1.0	339.0	
303.0	CARBONDALE	CONANT	LIMESTONE	0.8	340.0	
302.3	CARBONDALE		GRAY SHALE	0.6	340.7	
301.7	CARBONDALE	BRERETON	LIMESTONE	1.0	341.3	
300.7	CARBONDALE	ANNA	MOTTLED SHALE	3.3	342.3	
296.0	CARBONDALE	HERRIN	COAL	7.1	347.0	

MAPID: 13500317000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 35' S line, 25' E line of SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.61553 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.407346 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 353.1 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 11 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
337.0	MODESTO	PIASA	LIMESTONE	2.8	306.0	
334.2	MODESTO		UNCLASSIFIED	4.2	308.8	
330.0	CARBONDALE		UNCLASSIFIED	14.1	313.0	
315.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	327.1	
313.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	329.9	
309.8	CARBONDALE	CONANT	LIMESTONE	0.6	333.2	
309.2	CARBONDALE		SHALE	2.1	333.8	
307.1	CARBONDALE	BRERETON	LIMESTONE	6.8	335.9	
300.3	CARBONDALE	ANNA	BLACK SHALE	3.3	342.7	
297.0	CARBONDALE	HERRIN	COAL	7.1	346.0	

MAPID: 13500317000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 35' S line, 25' E line of SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.61553 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.407346 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 643.3 **LOGGED (FT.):** 354.1 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 11 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
296.3	CARBONDALE	HERRIN	COAL	7.1	347.0	

MAPID: 13500317000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 35' S line, 25' E line of SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.61553 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.407346 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 643.3 **LOGGED (FT.):** 356.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 11 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
643.3	PLEISTOCENE		SOIL	3.0	0.0	
640.3	PLEISTOCENE		CLAY	16.5	3.0	
623.8			SANDSTONE	9.0	19.5	
614.8			SHALE	16.0	28.5	
598.8			SANDSTONE	17.0	44.5	
581.8			SHALY SANDSTONE	4.2	61.5	GRAY
577.6			SANDSTONE	0.6	65.7	GRAY
577.0			SHALY SANDSTONE	0.2	66.3	
576.9			SILTY SHALE	2.7	66.4	
574.2			SHALY LIMESTONE	5.6	69.1	BLUE
568.6			SHALE WITH LIMESTONE	0.9	74.7	
567.7			UNDERCLAY	0.2	75.6	GRAY
567.5			GRAY SHALE	1.2	75.8	
566.4			BLACK SHALE	6.2	76.9	
560.2			LIMESTONE	0.3	83.1	GRAY
560.0			UNDERCLAY	3.8	83.3	GRAY
556.1			SHALE WITH LIMESTONE	7.3	87.2	
548.8			SILTSTONE	0.8	94.5	GREEN
548.0			SHALE WITH LIMESTONE	3.8	95.3	
544.1			GREEN SHALE	0.7	99.2	
543.5			GRAY SHALE	1.4	99.8	
542.0			UNDERCLAY & LIMESTONE	4.6	101.3	GRAY
537.5			SHALE WITH LIMESTONE	4.1	105.8	
533.4			GREEN SHALE	0.3	109.9	
533.0			GREEN SHALE	0.3	110.3	
532.7			SANDSTONE	6.3	110.6	GREEN
526.5			SHALY SANDSTONE	1.6	116.8	
524.9			GREEN SHALE	3.1	118.4	
521.8			GRAY SHALE	8.5	121.5	
513.3			GRAY SHALE	17.5	130.0	
495.8			GRAY SHALE	12.1	147.5	
483.7			GRAY SHALE	4.9	159.6	
478.8			GRAY SHALE	2.0	164.5	
476.8			GRAY SHALE	5.3	166.5	
471.5	MODESTO	CHAPEL	COAL	1.3	171.8	
470.2	MODESTO		UNDERCLAY	1.3	173.1	GRAY
469.0	MODESTO		SHALE WITH LIMESTONE	4.7	174.3	
464.3	MODESTO		GRAY SHALE	10.2	179.0	

454.1	MODESTO		GRAY SHALE	57.3	189.2	
396.8	MODESTO		GRAY SHALE	12.5	246.5	
384.3	MODESTO		CONCRETION	0.2	259.0	
384.1	MODESTO		GRAY SHALE	1.8	259.2	
382.4	MODESTO		GRAY SHALE	0.5	260.9	
381.9	MODESTO		GRAY SHALE	0.2	261.4	
381.7	MODESTO		UNDERCLAY & LIMESTONE	3.4	261.6	GRAY
378.3	MODESTO		GREEN SHALE	4.1	265.0	
374.2	MODESTO		SHALE	11.7	269.1	
362.5	MODESTO		GRAY SHALE	1.0	280.8	
361.5	MODESTO		UNDERCLAY	4.1	281.8	BROWN
357.5	MODESTO		SHALE	0.9	285.8	RED/YL
356.5	MODESTO		SHALE	1.1	286.8	R/BLU/YL
355.5	MODESTO		GREEN SHALE	10.7	287.8	
344.8	MODESTO		GREEN SHALE	1.3	298.5	
343.5	MODESTO		SHALE WITH LIMESTONE	2.9	299.8	
340.6	MODESTO		BROWN SHALE	1.4	302.7	
339.2	MODESTO		GREEN SHALE	0.3	304.1	
338.9	MODESTO		SHALE WITH LIMESTONE	0.5	304.4	
338.4	MODESTO		GREEN SHALE	1.4	304.9	
337.0	MODESTO		GRAY SHALE	3.0	306.3	
334.0	MODESTO		LIMESTONE	1.0	309.3	GRAY
333.0	MODESTO		GREEN SHALE	3.4	310.3	
329.5	MODESTO		GRAY SHALE	5.2	313.8	
324.4	MODESTO		LIMESTONE	0.3	318.9	BROWN
324.1	MODESTO		SHALE	0.2	319.2	
324.0	MODESTO		GREEN SHALE	0.5	319.3	
323.5	MODESTO		LIMESTONE	0.7	319.8	BROWN
322.8	MODESTO		GRAY SHALE	1.0	320.5	
321.8	MODESTO		GRAY SHALE	0.7	321.5	
321.1	MODESTO		GRAY SHALE	1.2	322.2	
320.0	MODESTO	PIASA	SHALY LIMESTONE	2.0	323.3	GRAY
318.0	CARBONDALE		GRAY SHALE	3.5	325.3	
314.5	CARBONDALE		GREEN SHALE	2.1	328.8	
312.4	CARBONDALE		SHALE WITH LIMESTONE	1.3	330.9	
311.0	CARBONDALE		GREEN SHALE	1.8	332.3	
309.2	CARBONDALE		SHALY LIMESTONE	0.8	334.1	GRAY
308.5	CARBONDALE		GREEN SHALE	0.3	334.8	
308.1	CARBONDALE		SHALY LIMESTONE	0.3	335.2	GRAY
307.9	CARBONDALE		SHALE WITH LIMESTONE	2.2	335.4	
305.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	337.6	GRAY
303.5	CARBONDALE		GREEN SHALE	0.7	339.8	
302.8	CARBONDALE		GRAY SHALE	0.3	340.5	
302.5	CARBONDALE	BRERETON	LIMESTONE	0.8	340.8	GRAY
301.7	CARBONDALE	BRERETON	GRAY SHALE	0.6	341.6	
301.1	CARBONDALE	BRERETON	LIMESTONE	1.0	342.2	GRAY
300.1	CARBONDALE	ANNA	BLACK SHALE	3.3	343.2	

296.8	CARBONDALE	HERRIN	COAL	7.1	346.5	
289.7	CARBONDALE		GRAY SHALE	0.2	353.6	
289.5	CARBONDALE		UNDERCLAY	1.6	353.8	GREEN
288.0	CARBONDALE		UNDERCLAY & LIMESTONE	0.5	355.3	GREEN

MAPID: 13501493000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.624943 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.421785 **DATE COLLECTED:** 7 / 0 / 1963

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 375.6 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-4-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
274.6	CARBONDALE	HERRIN	COAL	7.2	368.4	

MAPID: 13501493000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.624943 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421785 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 375.2 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-4-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
315.4	MODESTO	PIASA	LIMESTONE	2.5	327.6	
312.9	MODESTO		UNCLASSIFIED	7.8	330.1	
305.1	CARBONDALE	DANVILLE	COAL	0.3	337.9	
304.8	CARBONDALE		UNCLASSIFIED	9.3	338.2	
295.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	347.5	
289.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	353.8	
286.9	CARBONDALE		SHALE	1.8	356.1	
285.1	CARBONDALE	BRERETON	LIMESTONE	7.2	357.9	
277.9	CARBONDALE	ANNA	BLACK SHALE	2.9	365.1	
275.0	CARBONDALE	HERRIN	COAL	7.2	368.0	

MAPID: 13501493000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW NW NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.624943 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421785 **DATE COLLECTED:** 7 / 0 / 1963

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 378.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C463 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
643.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
637.0	PLEISTOCENE		CLAY & GRAVEL	44.0	6.0	
593.0			LIMESTONE	3.0	50.0	BRN
590.0			GREEN SHALE	18.0	53.0	
572.0			SANDSTONE	9.5	71.0	GRAY
562.5			SHALE WITH LIMESTONE	6.8	80.5	
555.7			LIMESTONE	8.3	87.3	
547.5			GRAY SHALE	8.0	95.5	
539.5			GRAY SHALE	3.8	103.5	
535.7			GRAY SHALE	11.7	107.3	
524.0			CALCAREOUS SHALE	21.7	119.0	
502.3			SANDY SHALE	15.1	140.7	
487.2			GRAY SHALE	40.3	155.8	
447.0			SHALE WITH LIMESTONE	5.0	196.0	
442.0			GRAY SHALE	54.7	201.0	
387.3			CALCAREOUS SHALE	31.3	255.7	
356.0			CALCAREOUS SHALE	5.0	287.0	
351.0			COAL	2.5	292.0	
348.5			GRAY SHALE	4.0	294.5	
344.5			SANDY SHALE	10.5	298.5	
334.0			SLATY SHALE	4.0	309.0	
330.0			VARRIGATED SHALE	4.5	313.0	
325.5			SHALY SANDSTONE	8.8	317.5	GRAY
316.7			CALCAREOUS SHALE	2.2	326.3	
314.5			LIMESTONE	2.5	328.5	
312.0			CALCAREOUS SHALE	3.0	331.0	
309.0			SLATY SHALE	5.4	334.0	
303.6			CALCAREOUS SHALE	1.2	339.4	
302.4	MODESTO	PIASA	LIMESTONE	1.3	340.6	
301.2	CARBONDALE		GRAY SHALE	6.5	341.8	
294.7	CARBONDALE		CLAYSTONE & SILTSTONE	6.4	348.3	GRAY
288.2	CARBONDALE		SHALE	2.3	354.8	GR-GY
286.0	CARBONDALE		GRAY SHALE	1.8	357.0	
284.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	358.8	
280.8	CARBONDALE		SHALE	0.7	362.2	GR-GY
280.2	CARBONDALE	BRERETON	LIMESTONE	2.8	362.8	
277.3	CARBONDALE	ANNA	DARK SHALE	2.8	365.7	
274.6	CARBONDALE	HERRIN	COAL	7.2	368.4	
267.4	CARBONDALE		UNDERCLAY	2.4	375.6	

MAPID: 13501496000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW SW SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.624767 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.410854 **DATE COLLECTED:** 7 / 0 / 1963

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 359.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C1263 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
632.0	PLEISTOCENE		SAND & GRAVEL	127.7	8.0	
504.3			SANDSTONE/SHALE	25.3	135.7	
479.0			GRAY SHALE	17.0	161.0	
462.0			GRAY SHALE	17.0	178.0	
445.0			SANDSTONE	15.0	195.0	GRAY
430.0			SANDY SHALE	65.0	210.0	
365.0			GRAY SHALE	5.5	275.0	
359.5			DARK SHALE	2.0	280.5	
357.5			GRAY SHALE	4.0	282.5	
353.5			SANDSTONE	15.5	286.5	GRAY
338.0			DARK SHALE	5.0	302.0	
333.0			VARRIGATED SHALE	4.0	307.0	
329.0			SHALY SANDSTONE	9.0	311.0	GRAY
320.0			LIMESTONE	5.3	320.0	TAN
314.7			SHALE	3.7	325.3	MULTI
311.0			DARK SHALE	4.3	329.0	
306.7			LIMESTONE	3.5	333.3	TAN
303.2			SHALE WITH LIMESTONE	1.9	336.8	
301.2			GRAY SHALE	7.4	338.8	
293.8			CLAYSTONE & SILTSTONE	3.6	346.2	GR-GY
290.2			LIMESTONE	3.1	349.8	
287.2			LAMINATED SHALE	0.5	352.8	
286.7			LIMESTONE	0.5	353.3	
286.2			LAMINATED SHALE	0.2	353.8	
286.0			LIMESTONE W/ SHALE	0.7	354.0	DARK
285.3	CARBONDALE	ANNA	BLACK SHALE	4.2	354.7	
281.2	CARBONDALE	HERRIN	COAL	8.3	358.8	CORE LOSS 1"
272.8	CARBONDALE		UNDERCLAY	0.9	367.2	
271.9	CARBONDALE		LIMESTONE	1.9	368.1	

MAPID: 13501496000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' W line of NW SW SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.624767 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.410854 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 367.3 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-12-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.2	MODESTO	PIASA	LIMESTONE	5.3	319.8	
297.9	MODESTO		UNCLASSIFIED	3.7	325.1	
294.2	CARBONDALE		UNCLASSIFIED	12.3	328.8	
281.9	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	341.1	
278.9	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	344.1	
276.4	CARBONDALE		SHALE	2.8	346.6	
273.6	CARBONDALE	BRERETON	LIMESTONE	4.9	349.4	
268.7	CARBONDALE	ANNA	BLACK SHALE	4.7	354.3	
264.0	CARBONDALE	HERRIN	COAL	8.3	359.0	

MAPID: 13501498000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' E line of NE SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606238 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.410949 **DATE COLLECTED:** 8 / 0 / 1963

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 379.9 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-14-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.2	CARBONDALE	HERRIN	COAL	8.1	371.8	

MAPID: 13501498000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' E line of NE SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606238 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.410949 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 379.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-14-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
323.0	MODESTO	PIASA	LIMESTONE	5.0	327.0	
318.0	MODESTO		UNCLASSIFIED	8.0	332.0	
310.0	CARBONDALE		UNCLASSIFIED	12.5	340.0	
297.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.3	352.5	
293.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	356.8	
289.9	CARBONDALE		SHALE	2.4	360.1	
287.5	CARBONDALE	BRERETON	LIMESTONE	7.8	362.5	
279.7	CARBONDALE	ANNA	BLACK SHALE	1.7	370.3	
278.0	CARBONDALE	HERRIN	COAL	7.5	372.0	

MAPID: 13501498000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 0' N line, 0' E line of NE SE SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606238 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.410949 **DATE COLLECTED:** 8 / 0 / 1963

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 381.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C1463 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
642.0	PLEISTOCENE		UNCONSOLIDATED	23.0	8.0	
619.0			SANDSTONE	21.0	31.0	BRN
598.0			SHALY SANDSTONE	29.3	52.0	GRAY
568.7			DARK SHALE	3.2	81.3	
565.5			SHALE	2.5	84.5	BLU-GY
563.0			SANDSTONE	4.3	87.0	
558.7			LIMESTONE	6.2	91.3	
552.5			SILTY SHALE	1.0	97.5	
551.5			SLATY SHALE	2.5	98.5	
549.0			GRAY SHALE	19.0	101.0	
530.0			SLATY SHALE	3.5	120.0	
526.5			GRAY SHALE	1.5	123.5	
525.0			LIMESTONE	3.0	125.0	
522.0			SHALY SANDSTONE	16.3	128.0	
505.7			GRAY SHALE	35.7	144.3	
470.0			GRAY SHALE	9.0	180.0	
461.0			SLATY SHALE	6.3	189.0	
454.7			SANDY SHALE	64.8	195.3	
390.0			GRAY SHALE	43.5	260.0	
346.5			SHALE	10.5	303.5	MULTI
336.0			CALCAREOUS SHALE	12.0	314.0	
324.0			LIMESTONE	3.0	326.0	
321.0			CALCAREOUS SHALE	11.0	329.0	
310.0			DARK SHALE	7.0	340.0	
303.0			LIMESTONE	0.5	347.0	
302.5			SHALE WITH LIMESTONE	2.5	347.5	
300.0			CALCAREOUS SHALE	6.0	350.0	
294.0			CLAYSTONE	5.7	356.0	GR-GY
288.3			SHALE WITH LIMESTONE	0.5	361.7	
287.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.7	362.2	
284.2	CARBONDALE	BANKSTON FORK	GRAY SHALE	0.6	365.8	
283.6	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	366.4	
283.2	CARBONDALE		CALCAREOUS SHALE	0.9	366.8	
282.3	CARBONDALE	BRERETON	LIMESTONE	2.4	367.7	
279.9	CARBONDALE	BRERETON	SHALY LIMESTONE	1.7	370.1	DARK
278.2	CARBONDALE	HERRIN	COAL	8.1	371.8	
270.2	CARBONDALE		UNDERCLAY	1.2	379.8	

MAPID: 13501492000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 0' N line, 0' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606447 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.421928 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 368.2 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-3-63 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
320.0	MODESTO	PIASA	LIMESTONE	2.5	322.0	
317.5	MODESTO		MOTTLED SHALE	4.0	324.5	
313.5	CARBONDALE	DANVILLE	DARK GRAY SHALE	4.0	328.5	
309.5	CARBONDALE	GALUM	LIMESTONE	1.6	332.5	
307.9	CARBONDALE		LIMESTONE W/ SHALE	1.3	334.1	
306.6	CARBONDALE	ALLENBY	BONE COAL	0.2	335.4	
306.4	CARBONDALE		CLAYSTONE	1.0	335.6	
305.4	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.6	336.6	UPPER BENCH
296.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.2	345.2	SHALE PARTING
290.7	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.8	351.3	LOWER BENCH
286.8	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	355.2	
285.3	CARBONDALE	BRERETON	LIMESTONE	1.7	356.7	
283.7	CARBONDALE	ANNA	DARK GRAY SHALE	3.0	358.3	
281.0	CARBONDALE	HERRIN	COAL	7.2	361.0	

MAPID: 13501492000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 0' N line, 0' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606447 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.421928 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 368.2 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-3-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
320.5	MODESTO	PIASA	LIMESTONE	2.5	321.5	
318.0	MODESTO		UNCLASSIFIED	4.0	324.0	
314.0	CARBONDALE		UNCLASSIFIED	12.1	328.0	
301.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.7	340.1	
297.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	344.8	
294.1	CARBONDALE		SHALE	3.1	347.9	
291.0	CARBONDALE	BRERETON	LIMESTONE	7.0	351.0	
284.0	CARBONDALE	ANNA	BLACK SHALE	3.0	358.0	
281.0	CARBONDALE	HERRIN	COAL	7.2	361.0	

MAPID: 13501492000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 0' N line, 0' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606447 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.421928 **DATE COLLECTED:** 6 / 26 / 1963

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 368.2 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-3-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.0	CARBONDALE	HERRIN	COAL	7.2	361.0	

MAPID: 13501492000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 12 **QUARTERS/FOOTAGES:** 0' N line, 0' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606447 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.421928 **DATE COLLECTED:** 6 / 26 / 1963

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 369.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C363 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
624.0	PLEISTOCENE		GRAVEL	66.0	18.0	
558.0	PLEISTOCENE		GLACIAL DRIFT	21.0	84.0	
537.0			LIMESTONE & CONGLOMERATE	1.0	105.0	
536.0			DARK SHALE	2.0	106.0	
534.0			CALCAREOUS SHALE	12.0	108.0	
522.0			SHALE	15.0	120.0	
507.0			GRAY SHALE	35.0	135.0	
472.0			GRAY SHALE	35.0	170.0	
437.0			SANDY SHALE	40.0	205.0	
397.0			INTERBEDDED SANDSTONE	8.0	245.0	
389.0			SHALY SANDSTONE	15.0	253.0	GRAY
374.0			GRAY SHALE	42.0	268.0	
332.0			SHALE WITH LIMESTONE	7.0	310.0	
325.0			SHALE	4.5	317.0	MULTI
320.5			LIMESTONE	2.5	321.5	
318.0			SHALE	4.0	324.0	MULTI
314.0			SLATY SHALE	4.0	328.0	
310.0	MODESTO	PIASA	LIMESTONE	1.7	332.0	
308.3	MODESTO	PIASA	LIMESTONE W/ SHALE	12.3	333.7	
296.0	CARBONDALE		CALCAREOUS SHALE	4.6	346.0	
291.4	CARBONDALE	BANKSTON FORK	LIMESTONE	2.2	350.6	
289.2	CARBONDALE	BANKSTON FORK	CLAYSTONE & SILTSTONE	0.2	352.8	GR-GY
289.1	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	352.9	GRAY
288.6	CARBONDALE	BANKSTON FORK	CLAYSTONE & SILTSTONE	0.7	353.4	GR-GY
287.9	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	354.1	GRAY
287.2	CARBONDALE		GRAY SHALE	1.5	354.8	
285.7	CARBONDALE	BRERETON	LIMESTONE	1.7	356.3	GRAY
284.0	CARBONDALE		SLATY SHALE	3.0	358.0	
281.0	CARBONDALE	HERRIN	COAL	7.2	361.0	
273.8	CARBONDALE		UNDERCLAY	0.8	368.2	

MAPID: 13522553000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2550' N line, 1290' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.592122 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.400306 **DATE COLLECTED:** 6 / 11 / 1975

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-29 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0			UNCONSOLIDATED	29.0	0.0	
621.0	BOND		SHALY SANDSTONE	61.0	29.0	
560.0	BOND		SHALE	5.0	90.0	
555.0	BOND	CARTHAGE	LIMESTONE	8.0	95.0	
547.0	MODESTO		BLACK SHALE	4.0	103.0	
543.0	MODESTO		SHALE	15.0	107.0	
528.0	MODESTO		SHALY LIMESTONE	10.0	122.0	
518.0	MODESTO		SHALE	2.0	132.0	
516.0	MODESTO		LIMESTONE	1.0	134.0	
515.0	MODESTO		BLACK SHALE	4.0	135.0	
511.0	MODESTO		GRAY SHALE	6.0	139.0	
505.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	145.0	
500.0	MODESTO		GRAY SHALE	69.0	150.0	
431.0	MODESTO		BLACK SHALE	4.0	219.0	
427.0	MODESTO		SHALE	4.0	223.0	
423.0	MODESTO	CHAPEL	COAL	2.0	227.0	
421.0	MODESTO		GRAY SHALE	89.0	229.0	
332.0	MODESTO		BLACK SHALE	4.0	318.0	
328.0	MODESTO		SHALE	2.0	322.0	
326.0	MODESTO		GRAY SHALE	10.0	324.0	
316.0	MODESTO		SHALY LIMESTONE	5.0	334.0	
311.0	MODESTO		SHALE	4.0	339.0	
307.0	MODESTO	PIASA	LIMESTONE	6.0	343.0	
301.0	MODESTO		SHALE	10.0	349.0	
291.0			LIMESTONE	3.0	359.0	
288.0	CARBONDALE		GRAY SHALE	3.0	362.0	
285.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.0	365.0	
281.0	CARBONDALE	BANKSTON FORK	SHALE	2.0	369.0	
279.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	371.0	
276.0	CARBONDALE		SHALE	2.0	374.0	
274.0	CARBONDALE	BRERETON	LIMESTONE	4.5	376.0	
269.5	CARBONDALE	ANNA	BLACK SHALE	4.2	380.5	
265.3	CARBONDALE	HERRIN	COAL	8.3	384.7	
257.0	CARBONDALE		UNDERCLAY	2.5	393.0	
254.5	CARBONDALE		LIMESTONE	1.5	395.5	
253.0	CARBONDALE		SHALE	3.0	397.0	

MAPID: 13522554000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1290' N line, 1350' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.601324 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.403746 **DATE COLLECTED:** 8 / 31 / 1977

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-63 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
647.0			UNCONSOLIDATED	20.0	0.0	
627.0	BOND		SILTSTONE/SANDSTONE	20.0	20.0	
607.0	BOND		SANDSTONE/SHALE	39.0	40.0	
568.0	BOND	CARTHAGE	LIMESTONE	6.0	79.0	
562.0	MODESTO		BLACK SHALE	4.5	85.0	
557.5	MODESTO		GRAY SHALE	8.5	89.5	
549.0	MODESTO		SHALY LIMESTONE	3.0	98.0	
546.0	MODESTO		GRAY SHALE	5.0	101.0	
541.0	MODESTO		CALCAREOUS SANDSTONE	4.0	106.0	
537.0	MODESTO		BLACK SHALE	3.5	110.0	
533.5	MODESTO		SHALE	3.5	113.5	
530.0	MODESTO	CARLINVILLE	SHALY LIMESTONE	3.5	117.0	
526.5	MODESTO		SHALE & SANDSTONE	35.5	120.5	
491.0	MODESTO		GRAY SHALE	24.5	156.0	
466.5	MODESTO		LIMESTONE	1.5	180.5	
465.0	MODESTO		SHALE	7.0	182.0	
458.0	MODESTO	CHAPEL	COAL	1.0	189.0	
457.0	MODESTO		SANDY SHALE	19.0	190.0	
438.0	MODESTO		GRAY SHALE	80.0	209.0	
358.0	MODESTO		SHALE	1.0	289.0	
357.0	MODESTO		GRAY SHALE	4.0	290.0	
353.0	MODESTO		SHALE	9.0	294.0	
344.0	MODESTO		SANDY SHALE	7.0	303.0	
337.0	MODESTO		CALCAREOUS SHALE	15.0	310.0	
322.0	MODESTO	PIASA	LIMESTONE	1.5	325.0	
320.5	MODESTO		GRAY SHALE	1.5	326.5	
319.0	MODESTO		BLACK SHALE	3.0	328.0	
316.0			SHALE	6.0	331.0	
310.0			LIMESTONE	1.5	337.0	
308.5			GRAY SHALE	2.5	338.5	
306.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	9.0	341.0	
297.0	CARBONDALE		SHALE	2.0	350.0	
295.0	CARBONDALE	BRERETON	LIMESTONE	4.0	352.0	
291.0	CARBONDALE		SHALE	3.3	356.0	
287.7	CARBONDALE		SHALE	3.1	359.3	
284.6	CARBONDALE	HERRIN	COAL	9.1	362.4	
275.5	CARBONDALE		UNDERCLAY	2.0	371.5	
273.5	CARBONDALE		UNDERCLAY	0.6	373.5	

272.9	CARBONDALE	LIMESTONE	1.3	374.1
271.6	CARBONDALE	LIMESTONE	4.6	375.4
267.0	CARBONDALE	GRAY SHALE	3.5	380.0
263.5	CARBONDALE	SHALY LIMESTONE	4.5	383.5
259.0	CARBONDALE	GRAY SHALE	2.0	388.0

MAPID: 13500008000C **VERSION:** 1 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** NW SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.62236 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.398056 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 654.3 **LOGGED (FT.):** 361.5 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #10 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
654.3			SOIL	4.0	0.0	
650.3			CLAY	17.0	4.0	
633.3	BOND		SHALE	48.0	21.0	
585.3	BOND	CARTHAGE	LIMESTONE	8.0	69.0	
577.3	MODESTO		SHALE	1.0	77.0	
576.3	MODESTO		BLACK SHALE	4.0	78.0	
572.3	MODESTO		SHALE	18.0	82.0	
554.3	MODESTO		BLACK SHALE	1.0	100.0	
553.3	MODESTO		SHALE	56.0	101.0	
497.3	MODESTO		SHALE	22.0	157.0	W/ LS PEBBLES
475.3	MODESTO		BLACK SHALE	1.0	179.0	
474.3	MODESTO	CHAPEL	COAL	1.0	180.0	
473.3	MODESTO		BLACK SHALE	4.0	181.0	
469.3	MODESTO		SHALE	105.0	185.0	
364.3	MODESTO		BLACK SHALE	3.0	290.0	
361.3	MODESTO		SHALE	9.0	293.0	
352.3	MODESTO		SHALE	9.5	302.0	W/ LS PEBBLES
342.8	MODESTO	PIASA	LIMESTONE	1.5	311.5	
341.3	MODESTO		SHALE	17.0	313.0	
324.3	CARBONDALE		SHALE	2.0	330.0	W/ LS BEDS
322.3	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	332.0	
318.8	CARBONDALE		SHALE	6.7	335.5	
312.1	CARBONDALE	BRERETON	LIMESTONE	3.5	342.2	
308.6	CARBONDALE	BRERETON	SHALE	0.6	345.7	
308.0	CARBONDALE	BRERETON	LIMESTONE	1.8	346.3	
306.3	CARBONDALE	ANNA	BLACK SHALE	2.1	348.0	
304.2	CARBONDALE	HERRIN	COAL	8.2	350.1	
296.0	CARBONDALE		SHALE	3.3	358.3	W/ LS

MAPID: 13500008000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** NW SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.62236 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.398056 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** 348.2 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
352.5	MODESTO	PIASA	LIMESTONE	1.5	301.5	
351.0	MODESTO		UNCLASSIFIED	4.5	303.0	
346.5	CARBONDALE		UNCLASSIFIED	12.5	307.5	
334.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	320.0	
328.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.3	325.5	
325.2	CARBONDALE		UNCLASSIFIED	3.3	328.8	
321.9	CARBONDALE	BRERETON	LIMESTONE	5.8	332.1	
316.1	CARBONDALE	ANNA	BLACK SHALE	2.1	337.9	
314.0	CARBONDALE	HERRIN	COAL	8.2	340.0	

MAPID: 13500008000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** NW SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.62236 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.398056 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 654.3 **LOGGED (FT.):** 361.5 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #10 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
654.3	PLEISTOCENE		SOIL	4.0	0.0	
650.3	PLEISTOCENE		CLAY	17.0	4.0	
633.3	BOND		GRAY SHALE	9.0	21.0	
624.3	BOND		SHALE	6.0	30.0	
618.3	BOND		GRAY SHALE	14.0	36.0	
604.3	BOND		SHALE	10.0	50.0	
594.3	BOND		GRAY SHALE	9.0	60.0	
585.3	BOND	CARTHAGE	LIMESTONE	8.0	69.0	
577.3	MODESTO		GRAY SHALE	1.0	77.0	
576.3	MODESTO		BLACK SHALE	4.0	78.0	
572.3	MODESTO		GRAY SHALE	18.0	82.0	
554.3	MODESTO		BLACK SHALE	1.0	100.0	
553.3	MODESTO		GRAY SHALE	7.0	101.0	
546.3	MODESTO		SANDSTONE/SHALE	12.0	108.0	AND MICA
534.3	MODESTO		GRAY SHALE	37.0	120.0	
497.3	MODESTO		ARGILACEOUS SHALE	22.0	157.0	WITH LS PEBBLES
475.3	MODESTO		BLACK SHALE	1.0	179.0	
474.3	MODESTO	CHAPEL	COAL	1.0	180.0	
473.3	MODESTO		BLACK SHALE	4.0	181.0	
469.3	MODESTO		ARGILACEOUS SHALE	12.0	185.0	GRITTY
457.3	MODESTO		ARGILACEOUS SHALE	83.0	197.0	
374.3	MODESTO		ARGILACEOUS SHALE	9.0	280.0	GRITTY
365.3	MODESTO		ARGILACEOUS SHALE	1.0	289.0	WITH LS
364.3	MODESTO		BLACK SHALE	3.0	290.0	
361.3	MODESTO		ARGILACEOUS SHALE	9.0	293.0	RED AND YELLOW, SOFT
352.3	MODESTO		BLACK SHALE	9.5	302.0	WITH LS PEBBLES
342.8	MODESTO	PIASA	LIMESTONE	1.5	311.5	
341.3	MODESTO		BLACK SHALE	17.0	313.0	
324.3	CARBONDALE		BLACK SHALE	2.0	330.0	W/ LAYERS OF LS
322.3	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	332.0	
318.8	CARBONDALE		BLACK SHALE	6.7	335.5	
312.1	CARBONDALE	BRERETON	LIMESTONE	3.5	342.2	
308.6	CARBONDALE	BRERETON	SHALE	0.6	345.7	
308.0	CARBONDALE	BRERETON	LIMESTONE	1.8	346.3	
306.3	CARBONDALE	ANNA	BLACK SHALE	2.1	348.0	
304.2	CARBONDALE	HERRIN	COAL	8.2	350.1	LOG ALSO SAYS COAL #6 296' IN COMMENTS
296.0	CARBONDALE		ARGILACEOUS SHALE	3.3	358.3	WITH LS

MAPID: 13500764000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW NE
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.614235 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.40268 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 463.0 **LOG TYPE:** Electric Log
SOURCE: PURE OIL CO. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
347.0	MODESTO	PIASA	UNCLASSIFIED	-	297.0	
297.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	347.0	
284.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	360.0	THIN OR ABSENT
250.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	394.0	
181.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	463.0	

MAPID: 13500764000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW NE
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.614235 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.40268 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 351.5 **LOG TYPE:** Electric Log
SOURCE: PURE OIL CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
339.3	MODESTO	PIASA	LIMESTONE	3.3	304.7	
336.0	MODESTO		UNCLASSIFIED	3.5	308.0	
332.5	CARBONDALE		UNCLASSIFIED	12.5	311.5	
320.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	324.0	
315.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	328.5	
313.0	CARBONDALE		UNCLASSIFIED	2.5	331.0	
310.5	CARBONDALE	BRERETON	LIMESTONE	8.5	333.5	
302.0	CARBONDALE	ANNA	BLACK SHALE	3.0	342.0	
299.0	CARBONDALE	HERRIN	COAL	6.5	345.0	

MAPID: 13501497000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SW NW
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.62469 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.399881 **DATE COLLECTED:** 7 / 0 / 1963
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 373.3 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-13-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.7	CARBONDALE	HERRIN	COAL	8.0	365.3	

MAPID: 13501497000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SW NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.62469 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.399881 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 373.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-13-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
315.4	MODESTO	PIASA	LIMESTONE	2.5	328.6	
312.9	MODESTO		UNCLASSIFIED	4.0	331.1	
308.9	CARBONDALE	DANVILLE	COAL	0.6	335.1	
308.3	CARBONDALE		UNCLASSIFIED	7.0	335.7	
301.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	342.7	
297.3	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	346.7	
293.3	CARBONDALE		SHALE	3.9	350.7	
289.4	CARBONDALE	BRERETON	LIMESTONE	7.3	354.6	
282.1	CARBONDALE	ANNA	BLACK SHALE	3.1	361.9	
279.0	CARBONDALE	HERRIN	COAL	8.0	365.0	

MAPID: 13501497000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SW NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.62469 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.399881 **DATE COLLECTED:** 7 / 24 / 1963

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 375.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C1363 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
644.0	PLEISTOCENE		UNCONSOLIDATED	0.5	0.0	
643.5	PLEISTOCENE		CLAY & GRAVEL	61.5	0.5	
582.0			SHALY SANDSTONE	0.5	62.0	GRAY
581.5			LIMESTONE	30.7	62.5	
550.8			DARK SHALE	6.8	93.2	
544.0			GRAY SHALE	4.5	100.0	
539.5			LIMESTONE W/ SHALE	9.0	104.5	GR-GY
530.5			SHALY SANDSTONE	4.0	113.5	GRAY
526.5			DARK SHALE	2.5	117.5	
524.0			SANDY SHALE	15.0	120.0	
509.0			SANDY SHALE	38.5	135.0	
470.5			GRAY SHALE	25.5	173.5	
445.0			GRAY SHALE	11.0	199.0	
434.0			SANDY SHALE	60.0	210.0	
374.0			GRAY SHALE	15.3	270.0	
358.7			SLATY SHALE	2.2	285.3	
356.5			CALCAREOUS SHALE	13.5	287.5	
343.0			SANDY SHALE	2.0	301.0	
341.0			SHALE	7.0	303.0	MULTI
334.0			GRAY SHALE	12.5	310.0	
321.5			LIMESTONE	2.0	322.5	TAN
319.5			SHALE	4.3	324.5	MULTI
315.2			LIMESTONE	2.5	328.8	TAN
312.7			SLATY SHALE	4.5	331.3	
308.2	MODESTO	PIASA	LIMESTONE W/ SHALE	4.0	335.8	
304.2			CLAYSTONE & SILTSTONE	11.2	339.8	GRAY
292.9			GRAY SHALE	3.8	351.1	
289.1			LIMESTONE	0.6	354.9	
288.5			GRAY SHALE	1.5	355.5	
287.0	CARBONDALE	BRERETON	LIMESTONE	5.3	357.0	
281.7	CARBONDALE	ANNA	SHALE	3.1	362.3	
278.7	CARBONDALE	HERRIN	COAL	8.0	365.3	
270.7	CARBONDALE		UNDERCLAY	1.7	373.3	

MAPID: 13501499000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606086 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.400001 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 357.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-15-63 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
326.0	MODESTO	PIASA	LIMESTONE	1.8	321.0	
324.2	MODESTO		CALCAREOUS SHALE	1.8	322.8	
322.5	CARBONDALE	DANVILLE	BLACK SHALE	2.5	324.5	
320.0	CARBONDALE	GALUM	LIMESTONE	2.3	327.0	
317.7	CARBONDALE		GRAY SHALE	5.7	329.3	
312.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.6	335.0	UPPER BENCH
307.4	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.1	339.6	SHALE PARTING
305.3	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	341.7	LOWER BENCH
299.0	CARBONDALE	ANNA	BLACK SHALE	2.3	348.0	
297.0	CARBONDALE	HERRIN	COAL	7.8	350.0	

MAPID: 13501499000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606086 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.400001 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 358.8 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-15-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
339.0	MODESTO	PIASA	LIMESTONE	4.0	308.0	
335.0	MODESTO		UNCLASSIFIED	4.0	312.0	
331.0	CARBONDALE		UNCLASSIFIED	9.0	316.0	
322.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.3	325.0	
317.7	CARBONDALE	ANVIL ROCK	SANDSTONE	5.2	329.3	
312.5	CARBONDALE		SHALE	5.3	334.5	
307.2	CARBONDALE	BRERETON	LIMESTONE	8.1	339.8	
299.1	CARBONDALE	ANNA	BLACK SHALE	2.1	347.9	
297.0	CARBONDALE	HERRIN	COAL	8.8	350.0	

MAPID: 13501499000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606086 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.400001 **DATE COLLECTED:** 8 / 0 / 1963

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 358.7 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-15-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
297.1	CARBONDALE	HERRIN	COAL	8.8	349.9	

MAPID: 13501499000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606086 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.400001 **DATE COLLECTED:** 8 / 0 / 1963

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 361.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CO C1563 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
647.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
639.0	PLEISTOCENE		UNCONSOLIDATED	24.0	8.0	
615.0			SANDSTONE	21.0	32.0	BRN
594.0			SANDSTONE	17.0	53.0	GRAY
577.0			LIMESTONE	7.0	70.0	GRAY
570.0			SLATY SHALE	10.5	77.0	
559.5			SANDY SHALE	16.8	87.5	
542.7			SLATY SHALE	3.7	104.3	
539.0			GRAY SHALE	66.0	108.0	
473.0			SLATY SHALE	8.0	174.0	
465.0			SHALE/COAL	3.0	182.0	
462.0			GREEN SHALE	12.0	185.0	
450.0			SANDY SHALE	43.8	197.0	
406.2			GRAY SHALE	26.3	240.8	
380.0			SHALE	25.5	267.0	
354.5			SHALE	17.5	292.5	MULTI
337.0			CALCAREOUS SHALE	11.0	310.0	
326.0	MODESTO	PIASA	LIMESTONE	1.8	321.0	
324.2			CALCAREOUS SHALE	1.8	322.8	
322.5			SLATY SHALE	2.5	324.5	
320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	327.0	BRN
317.7	CARBONDALE		SHALE	7.2	329.3	GR-GY
310.5	CARBONDALE		SHALE WITH LIMESTONE	9.5	336.5	
301.0	CARBONDALE	BRERETON	LIMESTONE	1.6	346.0	
299.4	CARBONDALE		GRAY SHALE	0.3	347.6	
299.2	CARBONDALE	ANNA	BLACK SHALE	2.1	347.8	
297.1	CARBONDALE	HERRIN	COAL	8.8	349.9	
288.3	CARBONDALE		UNDERCLAY	2.3	358.7	

MAPID: 13500318000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 50' N line, 35' W line of NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634157 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.406954 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 382.8 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 9 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
305.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.7	336.0	
302.3	MODESTO		MOTTLED SHALE	2.3	338.7	
300.1	CARBONDALE	DANVILLE	BLACK SHALE	3.4	340.9	
296.7	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	1.3	344.3	
295.4	CARBONDALE		MOTTLED SHALE	5.3	345.6	
290.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	14.1	350.9	UPPER BENCH
276.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.1	365.0	SHALE PARTING
272.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	368.1	LOWER BENCH
268.9	CARBONDALE	LAWSON	DARK GRAY SHALE	1.3	372.1	
267.7	CARBONDALE	ANNA	BLACK SHALE	1.7	373.3	
266.0	CARBONDALE	HERRIN	COAL	7.8	375.0	

MAPID: 13500318000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 50' N line, 35' W line of NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634157 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.406954 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 381.8 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 9 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
305.9	MODESTO	PIASA	LIMESTONE	2.7	335.1	
303.2	MODESTO		UNCLASSIFIED	3.9	337.8	
299.3	CARBONDALE		UNCLASSIFIED	10.9	341.7	
288.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.4	352.6	
285.0	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	356.0	
281.7	CARBONDALE		SHALE	2.1	359.3	
279.6	CARBONDALE	BRERETON	LIMESTONE	9.7	361.4	
269.9	CARBONDALE	ANNA	BLACK SHALE	2.9	371.1	
267.0	CARBONDALE	HERRIN	COAL	7.8	374.0	

MAPID: 13500318000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 50' N line, 35' W line of NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634157 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.406954 **DATE COLLECTED:** 0 / 0 / 1949

SURFACE ELEVATION (FT.): 640.7 **LOGGED (FT.):** 382.4 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 9 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.1	CARBONDALE	HERRIN	COAL	7.8	374.6	

MAPID: 13500318000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 50' N line, 35' W line of NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634157 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.406954 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 640.7 **LOGGED (FT.):** 383.6 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 9 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
640.7	PLEISTOCENE		CLAY	12.0	0.0	
628.7	PLEISTOCENE		SAND	11.0	12.0	
617.7	PLEISTOCENE		CLAY	44.0	23.0	
573.7			SANDSTONE	21.7	67.0	GRAY
552.0			SANDSTONE	0.4	88.7	
551.6			SANDSTONE	0.5	89.1	GREEN
551.1			SANDSTONE	0.6	89.6	
550.5			SHALY SANDSTONE	0.5	90.2	GREEN
550.0			SHALY SANDSTONE	0.7	90.7	GRAY
549.4			NO RECORD	1.0	91.3	LOSS
548.4			SHALY LIMESTONE	1.5	92.3	GREEN
546.9			GREEN SHALE	1.2	93.8	
545.7			GRAY SHALE	0.8	95.0	
544.9			BLACK SHALE	6.1	95.8	
538.8			LIMESTONE	0.3	101.9	GRAY
538.5			BLACK SHALE	0.2	102.2	
538.4			UNDERCLAY	4.3	102.3	GRAY
534.0			SHALE WITH LIMESTONE	8.1	106.7	
525.9			GREEN SHALE	2.8	114.8	
523.1			GREEN SHALE	0.3	117.6	
522.9			BLACK SHALE	0.4	117.8	
522.4			BLACK SHALE	1.3	118.3	
521.1			UNDERCLAY	5.0	119.6	GREEN
516.1			SHALE WITH LIMESTONE	6.6	124.6	
509.5			SILTY SHALE	5.4	131.2	
504.1			GRAY SHALE	0.7	136.6	
503.4			SANDSTONE	1.1	137.3	GRAY
502.4			GRAY SHALE	2.1	138.3	
500.3			SANDSTONE	0.9	140.4	
499.4			SHALE	1.3	141.3	
498.1			SHALY SANDSTONE	2.7	142.6	GRAY
495.4			SANDSTONE	0.5	145.3	GRAY
494.9			SHALY SANDSTONE	11.4	145.8	GRAY
483.5			GRAY SHALE	15.8	157.2	
467.7			GRAY SHALE	10.5	173.0	
457.2			GRAY SHALE	6.7	183.5	
450.5			GRAY SHALE	1.5	190.2	
449.0			GRAY SHALE	1.3	191.7	
447.7			BLACK SHALE	1.8	193.0	

445.9			GRAY SHALE	1.8	194.8	
444.2	MODESTO	CHAPEL	COAL	1.2	196.5	
443.0	MODESTO		UNDERCLAY	1.5	197.7	GRAY
441.5	MODESTO		SHALE WITH LIMESTONE	0.3	199.2	
441.2	MODESTO		GREEN SHALE	2.6	199.5	
438.6	MODESTO		GREEN SHALE	1.6	202.1	
437.0	MODESTO		SHALE WITH LIMESTONE	2.5	203.7	
434.5	MODESTO		GREEN SHALE	3.8	206.2	
430.7	MODESTO		GRAY SHALE	6.1	210.0	
424.6	MODESTO		GRAY SHALE	1.3	216.1	
423.4	MODESTO		GRAY SHALE	0.5	217.3	
422.9	MODESTO		GRAY SHALE	72.4	217.8	
350.4	MODESTO		GRAY SHALE	1.3	290.3	
349.1	MODESTO		SHALE WITH LIMESTONE	1.3	291.6	
347.9	MODESTO		SHALE WITH LIMESTONE	1.3	292.8	
346.5	MODESTO		GRAY SHALE	4.5	294.2	
342.0	MODESTO		GRAY SHALE	11.0	298.7	
331.0	MODESTO		BLACK SHALE	0.5	309.7	
330.5	MODESTO		GRAY SHALE	1.6	310.2	
328.9	MODESTO		BLACK SHALE	0.3	311.8	
328.6	MODESTO		UNDERCLAY	4.3	312.1	BROWN
324.4	MODESTO		SILTSTONE	2.2	316.3	BLUE
322.2	MODESTO		SILTSTONE/LIMESTONE	7.9	318.5	BLUE
314.3	MODESTO		SHALY SANDSTONE	0.6	326.4	GRAY
313.7	MODESTO		GRAY SHALE	3.1	327.0	
310.6	MODESTO		GREEN SHALE	1.0	330.1	
309.6	MODESTO		SHALE WITH LIMESTONE	2.3	331.1	
307.4	MODESTO		GREEN SHALE	1.1	333.3	
306.3	MODESTO		GRAY SHALE	1.3	334.4	
305.0	MODESTO		LIMESTONE	1.5	335.7	GRAY
303.5	MODESTO		GREEN SHALE	0.6	337.2	
302.9	MODESTO		GREEN SHALE	0.8	337.8	
302.1	MODESTO		NO RECORD	4.8	338.6	LOSS
297.4	MODESTO		GREEN SHALE	0.8	343.3	
296.6	MODESTO		GRAY SHALE	3.5	344.1	
293.1	MODESTO		LIMESTONE	0.3	347.6	BROWN
292.9	MODESTO		BLACK SHALE	0.1	347.8	
292.8	MODESTO		LIMESTONE	0.1	347.9	
292.7	MODESTO	PIASA	BLACK SHALE	0.1	348.0	
292.6	MODESTO	PIASA	LIMESTONE	0.8	348.1	BROWN
291.8	CARBONDALE		GRAY SHALE	3.2	348.9	
288.5	CARBONDALE		GRAY SHALE	1.0	352.2	
287.5	CARBONDALE		GRAY SHALE	0.3	353.2	
287.2	CARBONDALE		CLAYSTONE & SILTSTONE	0.6	353.5	GRAY
286.6	CARBONDALE		SHALY LIMESTONE	1.5	354.1	GRAY
285.1	CARBONDALE		GREEN SHALE	5.5	355.6	
279.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	361.1	GREEN
277.0	CARBONDALE		GREEN SHALE	1.1	363.7	

275.9	CARBONDALE		LIMESTONE	0.7	364.8	GRAY
275.3	CARBONDALE		SHALE	0.5	365.4	
274.8	CARBONDALE		LIMESTONE	0.4	365.9	GRAY
274.4	CARBONDALE		GREEN SHALE	0.7	366.3	
273.7	CARBONDALE	BRERETON	LIMESTONE	4.1	367.0	GRAY
269.6	CARBONDALE		GRAY SHALE	2.8	371.1	
266.8	CARBONDALE	HERRIN	COAL	7.8	373.9	
258.9	CARBONDALE		UNDERCLAY	1.4	381.8	GRAY

MAPID: 13500339000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.633046 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.398856 **DATE COLLECTED:** 7 / 0 / 1955

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 405.5 **LOG TYPE:** Electric Log

SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE	3.0	355.0	
283.0	MODESTO		UNCLASSIFIED	4.0	358.0	
279.0	CARBONDALE		UNCLASSIFIED	14.0	362.0	
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	376.0	
261.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	380.0	
259.0	CARBONDALE		UNCLASSIFIED	2.0	382.0	
257.0	CARBONDALE	BRERETON	LIMESTONE	10.0	384.0	
247.0	CARBONDALE	ANNA	BLACK SHALE	3.0	394.0	
244.0	CARBONDALE	HERRIN	COAL	8.5	397.0	

MAPID: 13501503000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.643763 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.399622 **DATE COLLECTED:** 8 / 1 / 1963

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 389.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-11-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
258.7	CARBONDALE	HERRIN	COAL	8.0	381.3	

MAPID: 13501503000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.643763 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.399622 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-11-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
302.1	MODESTO	PIASA	LIMESTONE	4.3	337.9	
297.8	MODESTO		UNCLASSIFIED	5.0	342.2	
292.8	CARBONDALE		UNCLASSIFIED	14.0	347.2	
278.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	361.2	
275.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	364.5	
273.5	CARBONDALE		SHALE	2.3	366.5	
271.2	CARBONDALE	BRERETON	LIMESTONE	9.9	368.8	
261.3	CARBONDALE	ANNA	BLACK SHALE	3.3	378.7	
258.0	CARBONDALE	HERRIN	COAL	8.0	382.0	

MAPID: 13501503000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.643763 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.399622 **DATE COLLECTED:** 8 / 1 / 1963

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 390.4 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CORP C1163 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
632.0	PLEISTOCENE		UNCONSOLIDATED	64.0	8.0	
568.0			LIMESTONE	3.3	72.0	BRN
564.7			GRAY SHALE	16.2	75.3	
548.5			LIMESTONE	8.8	91.5	TAN
539.7			DARK SHALE	7.7	100.3	
532.0			CALCAREOUS SHALE	33.5	108.0	
498.5			SHALY SANDSTONE	5.5	141.5	GRAY
493.0			SANDY SHALE	28.0	147.0	
465.0			GRAY SHALE	29.0	175.0	
436.0			GRAY SHALE	14.0	204.0	
422.0			SANDSTONE	8.0	218.0	GRAY
414.0			SANDY SHALE	23.7	226.0	
390.3			SANDY SHALE	49.3	249.7	
341.0			SHALE	23.0	299.0	GR-GY
318.0			SLATY SHALE	5.0	322.0	
313.0			GRAY SHALE	4.3	327.0	
308.7			SANDSTONE	3.7	331.3	GRAY
305.0			GREEN SHALE	0.2	335.0	
304.8			DARK SHALE	0.4	335.2	
304.4			CALCAREOUS SHALE	2.3	335.6	
302.2			LIMESTONE	4.3	337.8	
297.9			GREEN SHALE	2.9	342.1	
295.0			SLATY SHALE	7.1	345.0	
287.9			CALCAREOUS SHALE	14.2	352.1	
273.7			CALCAREOUS CLAYSTONE	4.2	366.3	
269.6			LIMESTONE	5.7	370.4	
263.9			CALCAREOUS SHALE	4.1	376.1	
259.8	CARBONDALE	ANNA	BLACK SHALE	1.6	380.2	
258.2	CARBONDALE	HERRIN	COAL	8.0	381.8	
250.2	CARBONDALE		UNDERCLAY	1.3	389.8	

MAPID: 13501502000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 0' N line, 0' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662196 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.406855 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 398.7 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-9-63 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
293.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.4	349.0	
289.6	MODESTO		DARK GRAY SHALE	9.0	352.4	
280.6	CARBONDALE	DANVILLE	BONE COAL	0.3	361.4	
280.3	CARBONDALE		CLAYSTONE	0.2	361.7	
280.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.7	361.8	
277.5	CARBONDALE		MOTTLED SHALE	14.5	364.5	
263.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.9	379.0	UPPER BENCH
258.1	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.5	383.9	SHALE PARTING
256.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.5	385.4	LOWER BENCH
256.1	CARBONDALE	LAWSON	SHALE	4.3	385.9	
251.7	CARBONDALE	ANNA	BLACK SHALE	0.6	390.3	
251.0	CARBONDALE	HERRIN	COAL	7.7	391.0	

MAPID: 13501502000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 0' N line, 0' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662196 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.406855 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 398.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-9-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
293.1	MODESTO	PIASA	LIMESTONE	3.4	348.9	
289.7	MODESTO		UNCLASSIFIED	5.3	352.3	
284.4	CARBONDALE		UNCLASSIFIED	10.5	357.6	
273.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	368.1	
271.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.6	370.9	
267.5	CARBONDALE		SHALE	4.4	374.5	
263.1	CARBONDALE	BRERETON	LIMESTONE	7.5	378.9	
255.6	CARBONDALE	ANNA	BLACK SHALE	4.6	386.4	
251.0	CARBONDALE	HERRIN	COAL	7.7	391.0	

MAPID: 13501502000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 0' N line, 0' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662196 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.406855 **DATE COLLECTED:** 9 / 6 / 1963
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 398.5 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-9-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.2	CARBONDALE	HERRIN	COAL	7.7	390.8	

MAPID: 13501502000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 0' N line, 0' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.662196 **GEOLOGIST:** UITEMP
CONFIDENTIAL: N **LATITUDE:** 39.406855 **DATE COLLECTED:** 9 / 6 / 1963
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 401.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN COAL CORP C963 **WELL TYPE:**
COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
642.0	PLEISTOCENE		UNCONSOLIDATED	128.5	0.0	
513.5			LIMESTONE	1.5	128.5	
512.0			DARK SHALE	4.3	130.0	
507.7			SANDY SHALE	55.7	134.3	
452.0			SANDY SHALE	40.8	190.0	
411.2			SANDY SHALE	29.6	230.8	
381.6			SANDY SHALE	42.6	260.4	
339.0			CALCAREOUS SHALE	27.3	303.0	
311.7			GRAY SHALE	15.3	330.3	
296.4			SHALE	3.2	345.6	GR-GY
293.2			LIMESTONE	3.6	348.8	
289.7			DARK SHALE	9.4	352.3	
280.2	MODESTO	PIASA	LIMESTONE W/ SHALE	1.3	361.8	
279.0			DARK SHALE	1.1	363.0	
277.9			GRAY SHALE	9.4	364.1	
268.5			CLAYSTONE & SILTSTONE	5.1	373.5	GR-GY
263.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	378.6	
258.2	CARBONDALE		SOFT SHALE	1.5	383.8	
256.7	CARBONDALE	BRERETON	LIMESTONE	1.3	385.3	
255.4	CARBONDALE		DARK SHALE	4.2	386.6	
251.2	CARBONDALE	HERRIN	COAL	7.7	390.8	
243.6	CARBONDALE		UNDERCLAY	2.6	398.4	

MAPID: 13522610000C **VERSION:** 1 **PROJECT:** LUMP

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2500' N line, 2500' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.65326 **GEOLOGIST:** J. MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.40001 **DATE COLLECTED:** 7 / 30 / 1980

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-6-80 **WELL TYPE:** Coal Test

COMMENT: PERMIT 5; CROWN III MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
639.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
631.0	PLEISTOCENE		CLAY	9.0	8.0	
622.0	PLEISTOCENE		SAND	52.0	17.0	
570.0	PLEISTOCENE		SAND & GRAVEL	10.0	69.0	
560.0	PLEISTOCENE		GLACIAL DRIFT	7.0	79.0	
553.0	PLEISTOCENE		SAND & GRAVEL	4.0	86.0	
549.0	PLEISTOCENE		GLACIAL DRIFT	3.0	90.0	
546.0	BOND	CARTHAGE	LIMESTONE	9.0	93.0	
537.0	MODESTO		SHALE	4.0	102.0	GREEN GRAY
533.0	MODESTO		SHALE	5.0	106.0	DARK GRAY TO BLACK
528.0	MODESTO		SHALE	21.0	111.0	WITH LIMESTONE NODULES; GREEN-GRAY
507.0	MODESTO		BLACK SHALE	3.0	132.0	WITH TRACE OF COAL
504.0	MODESTO		CLAYSTONE	2.0	135.0	
502.0	MODESTO	MACOUPIN	LIMESTONE	1.5	137.0	CORRELATION FROM LOG
500.5	MODESTO		SHALE	2.5	138.5	GREEN GRAY
498.0	MODESTO		GRAY SHALE	16.0	141.0	WITH SANDSTONE
482.0	MODESTO		SHALE	41.0	157.0	DARK GRAY
441.0	MODESTO		BLACK SHALE	3.0	198.0	
438.0	MODESTO	CRAMER	LIMESTONE	1.0	201.0	
437.0	MODESTO	CHAPEL	COAL	1.0	202.0	
436.0	MODESTO		CLAYSTONE	1.0	203.0	
435.0	MODESTO		GRAY SHALE	13.0	204.0	WITH LIMESTONE NODULES
422.0	MODESTO		GRAY SHALE	22.0	217.0	WITH SANDSTONE
400.0	MODESTO		GRAY SHALE	59.0	239.0	
341.0	MODESTO		GRAY SHALE	24.0	298.0	WITH SANDSTONE
317.0	MODESTO		BLACK SHALE	2.0	322.0	
315.0	MODESTO		GRAY SHALE	5.0	324.0	
310.0	MODESTO		SHALE	6.0	329.0	MULTICOLORED
304.0	MODESTO		GRAY SHALE	8.0	335.0	WITH SANDSTONE
296.0	MODESTO		LIMESTONE	1.0	343.0	
295.0	MODESTO		CALCAREOUS SHALE	2.0	344.0	
293.0	MODESTO	PIASA	LIMESTONE	2.5	346.0	
290.5	MODESTO		SHALE	3.5	348.5	GREEN GRAY
287.0	MODESTO		SHALE	4.2	352.0	DARK GRAY; CORING AT 354'
282.8	MODESTO		LIMESTONE	0.5	356.2	
282.3	MODESTO		CLAYSTONE	0.1	356.7	
282.2	CARBONDALE	DANVILLE	COAL	0.1	356.8	BONE
282.1	CARBONDALE		CLAYSTONE	0.1	356.9	

282.0	CARBONDALE		LIMESTONE	0.5	357.0	
281.5	CARBONDALE		CALCAREOUS SHALE	0.6	357.5	
280.9	CARBONDALE		LIMESTONE	0.5	358.1	
280.4	CARBONDALE		CALCAREOUS SHALE	1.6	358.6	SHELLS
278.8	CARBONDALE		LIMESTONE	0.2	360.2	CLOD WITH MANY SHELLS
278.6	CARBONDALE		SHALE	0.1	360.4	DARK GRAY TO BLACK
278.5	CARBONDALE		MUDSTONE	1.9	360.5	LS NODS
276.6	CARBONDALE		LIMESTONE	2.6	362.4	
274.0	CARBONDALE		CALCAREOUS CLAYSTONE	2.5	365.0	
271.5	CARBONDALE		LIMESTONE	0.7	367.5	
270.8	CARBONDALE		SHALE	2.2	368.2	WITH LIMESTONE NODULES
268.6	CARBONDALE		LIMESTONE	1.9	370.4	MEDIUM OLIVE GRAY
266.7	CARBONDALE		CLAYSTONE	1.1	372.3	WITH LIMESTONE NODULES
265.6	CARBONDALE		LIMESTONE	0.7	373.4	CLOD
264.9	CARBONDALE		LIMESTONE	3.3	374.1	
261.6	CARBONDALE		SHALE	0.4	377.4	FEW SHELLS
261.2	CARBONDALE		LIMESTONE	0.2	377.8	WITH SHALE
261.0	CARBONDALE		CLAYSTONE	1.5	378.0	
259.5	CARBONDALE	BRERETON	LIMESTONE	0.4	379.5	FEW SHELLS
259.1	CARBONDALE	BRERETON	GRAY SHALE	0.3	379.9	FEW SHELLS AND LIMESTONE NODS
258.8	CARBONDALE	BRERETON	LIMESTONE	1.5	380.2	FEW SHELLS
257.3	CARBONDALE	BRERETON	SHALE	0.1	381.7	GREEN-GRAY
257.2	CARBONDALE	ANNA	BLACK SHALE	1.0	381.8	SLATY
256.2	CARBONDALE	HERRIN	COAL	8.1	382.8	
248.1	CARBONDALE		CLAYSTONE	1.1	390.9	
247.1	CARBONDALE	HIGGINSVILLE	LIMESTONE	0.7	391.9	LIGHT GRAY NODULAR
246.4	CARBONDALE	HIGGINSVILLE	LIMESTONE	2.7	392.6	TAN-GRAY
243.7	CARBONDALE		SHALE	0.7	395.3	WITH LIMESTONE NODULES

MAPID: 13500319000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671624 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.406693 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 8 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
302.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	4.0	331.0	
298.0	MODESTO		MOTTLED SHALE	1.5	335.0	
296.5	CARBONDALE	DANVILLE	BLACK SHALE	1.2	336.5	
295.3	CARBONDALE		MOTTLED SHALE	4.3	337.7	
291.1	CARBONDALE	GALUM	NODULAR LIMESTONE	2.0	341.9	
289.1	CARBONDALE		CALCAREOUS SHALE	1.0	343.9	
288.1	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	22.8	344.9	
265.2	CARBONDALE	LAWSON	MOTTLED SHALE	0.3	367.8	
264.9	CARBONDALE	ANNA	BLACK SHALE	2.3	368.1	
262.0	CARBONDALE	HERRIN	COAL	8.0	371.0	

MAPID: 13500319000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671624 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.406693 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 377.0 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 8 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.2	MODESTO	PIASA	LIMESTONE	4.0	328.8	
300.2	MODESTO		UNCLASSIFIED	4.2	332.8	
296.0	CARBONDALE		UNCLASSIFIED	11.8	337.0	
284.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.4	348.8	
280.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	352.2	
277.8	CARBONDALE		SHALE	2.9	355.2	
274.9	CARBONDALE	BRERETON	LIMESTONE	8.3	358.1	
266.6	CARBONDALE	ANNA	BLACK SHALE	2.6	366.4	
264.0	CARBONDALE	HERRIN	COAL	8.0	369.0	

MAPID: 13500319000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671624 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.406693 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 633.1 **LOGGED (FT.):** 378.5 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 8 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
262.6	CARBONDALE	HERRIN	COAL	8.0	370.5	

MAPID: 13500319000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.671624 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.406693 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 633.1 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 8 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
633.1	PLEISTOCENE		SANDY CLAY	69.0	0.0	
564.1	PLEISTOCENE		SAND & GRAVEL	5.0	69.0	
559.1	PLEISTOCENE		CLAY	14.0	74.0	
545.1			SHALY LIMESTONE	6.8	88.0	
538.3			GREEN SHALE	0.5	94.8	
537.8			LIMESTONE	0.1	95.3	
537.8			GREEN SHALE	2.2	95.3	
535.6			BLACK SHALE	4.4	97.5	
531.2			LIMESTONE	0.3	101.9	GRAY
530.9			UNDERCLAY	6.8	102.2	GRAY
524.1			LIMESTONE	2.3	109.0	BLUE
521.8			SHALE WITH LIMESTONE	5.9	111.3	
515.9	BOND	CARTHAGE	SHALY LIMESTONE	2.8	117.2	GRAY
513.2	MODESTO		GRAY SHALE	1.4	119.9	
511.8	MODESTO		BLACK SHALE	2.4	121.3	
509.3	MODESTO		SHALE	1.1	123.8	
508.3	MODESTO		BLACK SHALE	0.1	124.8	
508.2	MODESTO		UNDERCLAY	5.9	124.9	GRAY
502.3	MODESTO		SHALE WITH LIMESTONE	1.2	130.8	
501.1	MODESTO		SHALE WITH LIMESTONE	4.7	132.0	
496.4	MODESTO		SHALE WITH LIMESTONE	1.2	136.7	
495.3	MODESTO		LIMESTONE	0.4	137.8	
494.8	MODESTO		SHALE WITH LIMESTONE	4.0	138.3	
490.8	MODESTO		SHALY SANDSTONE	3.0	142.3	GRAY
487.8	MODESTO		GRAY SHALE	16.9	145.3	
470.9	MODESTO		SHALY SANDSTONE	0.9	162.2	GRAY
470.0	MODESTO		SANDSTONE	0.1	163.1	BROWN
469.9	MODESTO		GRAY SHALE	0.1	163.2	
469.8	MODESTO		GRAY SHALE	11.8	163.3	
458.1	MODESTO		GRAY SHALE	6.8	175.0	
451.3	MODESTO		LIMESTONE	1.8	181.8	GRAY
449.6	MODESTO		BLACK SHALE	7.3	183.5	
442.3	MODESTO		LIMESTONE	0.3	190.8	GRAY
442.0	MODESTO		GRAY SHALE	0.3	191.1	
441.7	MODESTO	CHAPEL	COAL	0.7	191.4	
441.0	MODESTO		UNDERCLAY	3.9	192.1	GRAY
437.1	MODESTO		LIMESTONE	0.9	196.0	GRAY
436.2	MODESTO		UNDERCLAY	2.4	196.9	GRAY
433.8	MODESTO		SHALE WITH LIMESTONE	1.2	199.3	

432.6	MODESTO		LIMESTONE	1.0	200.5	GRAY
431.6	MODESTO		SANDSTONE	1.1	201.5	
430.5	MODESTO		SANDSTONE	0.9	202.6	GRAY
429.6	MODESTO		GREEN SHALE	2.7	203.5	
426.9	MODESTO		GRAY SHALE	0.2	206.2	
426.8	MODESTO		GRAY SHALE	2.6	206.3	
424.2	MODESTO		SHALY SANDSTONE	1.9	208.9	GRAY
422.3	MODESTO		GRAY SHALE	4.0	210.8	
418.3	MODESTO		SHALY SANDSTONE	10.6	214.8	GRAY
407.7	MODESTO		GRAY SHALE	26.6	225.4	
381.1	MODESTO		GRAY SHALE	27.8	252.0	
353.3	MODESTO		GRAY SHALE	5.3	279.8	
348.0	MODESTO		GRAY SHALE	0.3	285.1	
347.7	MODESTO		BLACK SHALE	0.3	285.4	
347.3	MODESTO		LIMESTONE	0.1	285.8	GRAY
347.3	MODESTO		BLACK SHALE	2.6	285.8	
344.7	MODESTO		UNDERCLAY	2.8	288.4	GRAY
341.8	MODESTO		SHALE WITH LIMESTONE	4.2	291.3	
337.7	MODESTO		GREEN SHALE	15.6	295.4	
322.1	MODESTO		GRAY SHALE	0.7	311.0	
321.4	MODESTO		BROWN SHALE	0.8	311.7	
320.7	MODESTO		SANDSTONE	1.0	312.4	GRAY
319.7	MODESTO		SHALE WITH LIMESTONE	4.8	313.4	
314.8	MODESTO		SANDSTONE	0.3	318.3	GRAY
314.5	MODESTO		SHALE WITH LIMESTONE	0.4	318.6	
314.1	MODESTO		GREEN SHALE	2.1	319.0	
312.0	MODESTO		SHALY SANDSTONE	0.8	321.1	GRAY
311.2	MODESTO		BROWN SHALE	0.3	321.9	
310.8	MODESTO		GREEN SHALE	0.8	322.3	
310.1	MODESTO		NO RECORD	5.6	323.0	LOSS
304.5	MODESTO		SHALE WITH LIMESTONE	1.2	328.6	
303.3	MODESTO		LIMESTONE	2.3	329.8	BROWN
301.0	MODESTO		GREEN SHALE	0.3	332.1	
300.8	MODESTO		LIMESTONE	1.3	332.3	
299.5	MODESTO		GREEN SHALE	1.7	333.6	
297.8	MODESTO		BROWN SHALE	0.3	335.3	
297.5	MODESTO		BLACK SHALE	4.3	335.6	
293.3	MODESTO		GRAY SHALE	1.4	339.8	
291.8	MODESTO	PIASA	LIMESTONE	0.1	341.3	BROWN
291.8	MODESTO	PIASA	SHALE	0.3	341.3	
291.5	MODESTO	PIASA	LIMESTONE	0.1	341.6	
291.4	MODESTO	PIASA	SHALE	0.3	341.7	
291.1	MODESTO	PIASA	LIMESTONE	1.2	342.0	BROWN
289.9	MODESTO	PIASA	SHALE WITH LIMESTONE	1.0	343.2	
288.9	CARBONDALE		LIMESTONE	1.0	344.2	
287.9	CARBONDALE		CLAYSTONE & SILTSTONE	2.5	345.2	GREEN
285.4	CARBONDALE		GRAY SHALE	0.7	347.7	
284.8	CARBONDALE		GREEN SHALE	1.2	348.3	

283.6	CARBONDALE		CLAYSTONE & SILTSTONE	4.3	349.5	GREEN
279.3	CARBONDALE		GREEN SHALE	2.3	353.8	
277.0	CARBONDALE		BROWN SHALE	2.9	356.1	
274.1	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	3.8	359.0	BROWN
270.3	CARBONDALE		GREEN SHALE	1.3	362.8	
269.0	CARBONDALE		LIMESTONE	0.4	364.1	BROWN
268.6	CARBONDALE		GREEN SHALE	0.3	364.5	
268.3	CARBONDALE	BRERETON	LIMESTONE	2.4	364.8	BROWN
265.8	CARBONDALE		GRAY SHALE	2.3	367.3	
263.6	CARBONDALE	HERRIN	COAL	8.0	369.5	
255.6	CARBONDALE		UNDERCLAY	1.0	377.5	GREEN
254.6	CARBONDALE		LIMESTONE	1.5	378.5	BROWN

MAPID: 13522555000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2600' N line, 1320' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.666868 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.399597 **DATE COLLECTED:** 6 / 20 / 1975

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-34 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0			UNCONSOLIDATED	129.0	0.0	
511.0	MODESTO		SHALE	5.0	129.0	
506.0	MODESTO		SHALY LIMESTONE	6.0	134.0	
500.0	MODESTO		BLACK SHALE	3.0	140.0	
497.0	MODESTO		GRAY SHALE	7.5	143.0	
489.5	MODESTO		LIMESTONE	1.0	150.5	
488.5	MODESTO		GRAY SHALE	20.5	151.5	
468.0	MODESTO		LIMESTONE	1.0	172.0	
467.0	MODESTO		GRAY SHALE	32.0	173.0	
435.0	MODESTO		BLACK SHALE	3.0	205.0	
432.0	MODESTO		SHALE	4.0	208.0	
428.0	MODESTO	CHAPEL	COAL	1.0	212.0	
427.0	MODESTO		GRAY SHALE	16.0	213.0	
411.0	MODESTO		GRAY SHALE	31.0	229.0	
380.0	MODESTO		GRAY SHALE	66.0	260.0	
314.0	MODESTO		BLACK SHALE	3.0	326.0	
311.0	MODESTO		SHALE	6.0	329.0	
305.0	MODESTO		LIMESTONE	13.0	335.0	
292.0	MODESTO		CALCAREOUS SHALE	4.0	348.0	
288.0	MODESTO	PIASA	LIMESTONE	3.5	352.0	
284.5	MODESTO		BLACK SHALE	7.5	355.5	
277.0	CARBONDALE	DANVILLE	COAL	1.0	363.0	
276.0	CARBONDALE		GRAY SHALE	19.0	364.0	
257.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	383.0	
254.5	CARBONDALE		GRAY SHALE	1.5	385.5	
253.0	CARBONDALE	BRERETON	LIMESTONE	2.0	387.0	
251.0	CARBONDALE	ANNA	BLACK SHALE	5.0	389.0	
246.0	CARBONDALE	HERRIN	COAL	8.0	394.0	
238.0	CARBONDALE		UNDERCLAY	2.0	402.0	
236.0	CARBONDALE		LIMESTONE	2.0	404.0	
234.0	CARBONDALE		GRAY SHALE	4.0	406.0	

MAPID: 13501621000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** SW SW SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.698691 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.392671 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 331.6 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED F-1-68 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.0	MODESTO	PIASA	LIMESTONE	3.1	292.0	
307.9	MODESTO		SILTY SHALE	1.4	295.1	
306.5	CARBONDALE	DANVILLE	DARK GRAY SHALE	2.0	296.5	
304.5	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.3	298.5	
302.2	CARBONDALE		DARK GRAY SHALE	5.4	300.8	
296.8	CARBONDALE	BANKSTON FORK	LIMESTONE	16.3	306.2	
280.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.3	322.4	
278.3	CARBONDALE	ANNA	DARK GRAY SHALE	1.3	324.7	
278.0	CARBONDALE	HERRIN	COAL	6.6	325.0	

MAPID: 13501621000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** SW SW SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.698691 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.392671 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 331.6 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F-1-68 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
309.2	MODESTO	PIASA	LIMESTONE	3.1	290.8	
306.1	MODESTO		UNCLASSIFIED	1.4	293.9	
304.7	CARBONDALE		UNCLASSIFIED	9.8	295.3	
294.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	305.1	
292.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.4	307.6	
289.0	CARBONDALE		SHALE	3.4	311.0	
285.6	CARBONDALE	BRERETON	LIMESTONE	9.3	314.4	
276.3	CARBONDALE	ANNA	BLACK SHALE	1.3	323.7	
275.0	CARBONDALE	HERRIN	COAL	6.6	325.0	

MAPID: 13501621000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.698691 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.392671 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 333.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-1-68 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC; CORE NO. C-7463

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
277.7	CARBONDALE	HERRIN	COAL	6.6	325.3	

MAPID: 13501621000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.698691 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.392671 **DATE COLLECTED:** 7 / 15 / 1968
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 330.9 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-1-68 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
277.7	CARBONDALE	HERRIN	COAL	5.6	325.3	

MAPID: 13501621000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** SW SW SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.698691 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.392671 **DATE COLLECTED:** 7 / 15 / 1968

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 333.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL MINING CO. F168 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
603.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
593.0	PLEISTOCENE		GLACIAL DRIFT	25.0	10.0	
568.0			SANDSTONE	14.2	35.0	
553.8			LIMESTONE	1.2	49.2	
552.7			CLAYSTONE & SILTSTONE	3.8	50.3	
548.8			GREEN SHALE	1.2	54.2	
547.7			LIMESTONE AND SANDSTONE	1.0	55.3	
546.7			GREEN SHALE	16.7	56.3	
530.0			LIMESTONE W/ SHALE	16.2	73.0	
513.8			DARK SHALE	1.5	89.2	
512.3			GREEN SHALE	5.0	90.7	
507.3			SHALE/SANDSTONE/LIMESTONE	8.3	95.7	
499.0			SANDSTONE	8.0	104.0	
491.0			SANDY SHALE	34.0	112.0	
457.0			DARK SHALE	16.0	146.0	
441.0			LIMESTONE	4.0	162.0	DARK
437.0			LIMESTONE AND SANDSTONE	1.0	166.0	
436.0			SANDSTONE	18.5	167.0	
417.5			SANDY SHALE	8.5	185.5	
409.0			SHALE	51.0	194.0	
358.0			DARK SHALE	0.5	245.0	
357.5			LIMESTONE	0.3	245.5	
357.2			DARK SHALE	1.2	245.8	
356.0			RED SHALE	2.5	247.0	
353.5			DARK SHALE	1.5	249.5	
352.0			COAL	0.5	251.0	
351.5			UNDERCLAY	0.5	251.5	
351.0			SANDY SHALE	7.5	252.0	
343.5			SHALE & SANDSTONE	4.2	259.5	
339.3			SHALE	18.3	263.7	
321.0			SHALY COAL	1.0	282.0	
320.0			CALCAREOUS SHALE	10.5	283.0	
309.5	MODESTO	PIASA	LIMESTONE	1.1	293.5	
308.4			SANDY SHALE	1.4	294.6	
307.0			DARK SHALE	2.0	296.0	
305.0			LIMESTONE	0.3	298.0	
304.7			LIMESTONE W/ SHALE	2.3	298.3	

302.4			CALCAREOUS SHALE	0.9	300.6	
301.5			GREEN SHALE	4.3	301.5	
297.2			CALCAREOUS SHALE	9.3	305.8	
288.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	315.0	
284.5	CARBONDALE		SHALE	4.0	318.5	
280.5	CARBONDALE	BRERETON	LIMESTONE	1.8	322.5	
278.7	CARBONDALE	ANNA	SHALE	0.6	324.3	
278.2	CARBONDALE	ANNA	BLACK SHALE	0.5	324.8	
277.7	CARBONDALE	HERRIN	COAL	6.6	325.3	
271.1	CARBONDALE		UNDERCLAY	0.3	331.9	GREEN
270.7	CARBONDALE		CALCAREOUS SHALE	0.8	332.3	

MAPID: 13522073000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** NE NE NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.691768 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.40551 **DATE COLLECTED:** 3 / 22 / 1976

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 359.5 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-20-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
273.2	CARBONDALE	HERRIN	COAL	7.7	351.8	

MAPID: 13522073000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** NE NE NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.691768 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.40551 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 369.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-20-76 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
273.3	CARBONDALE	HERRIN	COAL	7.7	351.7	

MAPID: 13522073000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** NE NE NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.691768 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.40551 **DATE COLLECTED:** 3 / 22 / 1976

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 369.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED CII2076 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
625.0	PLEISTOCENE		UNCONSOLIDATED	9.5	0.0	
615.5	PLEISTOCENE		CLAY	13.5	9.5	BRN
602.0	PLEISTOCENE		UNCONSOLIDATED	10.5	23.0	
591.5			SHALE	4.0	33.5	
587.5			SANDY SHALE	2.5	37.5	
585.0			SANDSTONE	11.5	40.0	
573.5			GREEN SHALE	12.5	51.5	
561.0			SHALE & SANDSTONE	4.0	64.0	
557.0			GREEN SHALE	3.5	68.0	
553.5			LIMESTONE W/ SHALE	6.5	71.5	
547.0			GREEN SHALE	2.5	78.0	
544.5			BLACK SHALE	7.5	80.5	
537.0			GREEN SHALE	6.0	88.0	
531.0			CALCAREOUS SHALE	4.5	94.0	
526.5			SHALE/SANDSTONE/LIMESTONE	8.5	98.5	
518.0			BLACK SHALE	2.5	107.0	
515.5			GREEN SHALE	4.5	109.5	
511.0			CALCAREOUS SHALE	4.5	114.0	
506.5			SHALE/SANDSTONE/LIMESTONE	21.5	118.5	
485.0			GREEN SHALE	22.0	140.0	
463.0			SHALE	1.0	162.0	
462.0			RED SHALE	10.0	163.0	
452.0	MODESTO	CHAPEL	COAL	1.0	173.0	
451.0	MODESTO		GREEN SHALE	3.5	174.0	
447.5	MODESTO		CALCAREOUS SHALE	2.5	177.5	
445.0	MODESTO		GREEN SHALE	4.0	180.0	
441.0	MODESTO		SHALE	66.0	184.0	
375.0	MODESTO		SILTY SHALE	24.5	250.0	
350.5	MODESTO		SHALE	33.5	274.5	
317.0	MODESTO		GREEN SHALE	4.5	308.0	
312.5	MODESTO		GREEN SHALE	2.5	312.5	
310.0	MODESTO		LIMESTONE	0.5	315.0	
309.5			GREEN SHALE	7.0	315.5	
302.5			GREEN SHALE	5.0	322.5	
297.5			SANDY SHALE	12.5	327.5	
285.0			CALCAREOUS SHALE	1.5	340.0	
283.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	341.5	
281.0	CARBONDALE		GREEN SHALE	2.5	344.0	

278.5	CARBONDALE		CALCAREOUS SHALE	1.5	346.5	
277.0	CARBONDALE	BRERETON	LIMESTONE	2.4	348.0	
274.6	CARBONDALE	ANNA	DARK SHALE	1.4	350.4	
273.2	CARBONDALE	HERRIN	COAL	7.7	351.8	#6
265.5	CARBONDALE		UNDERCLAY/SHALE	1.4	359.5	GREEN
264.2	CARBONDALE		GREEN SHALE	2.6	360.8	
261.6	CARBONDALE		LIMESTONE	0.3	363.4	
261.3	CARBONDALE		GREEN SHALE	3.8	363.7	
257.5	CARBONDALE		LIMESTONE	0.3	367.5	
257.2	CARBONDALE		CORE LOSS	1.2	367.8	

MAPID: 13522345000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** NE NE SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682174 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.398243 **DATE COLLECTED:** 7 / 18 / 1978

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 381.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL CO. 16C78 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
-	PLEISTOCENE		GLACIAL DRIFT	76.0	7.0	
-			GRAY SHALE	7.0	83.0	
-			SANDSTONE	1.0	90.0	
-			COAL	1.0	91.0	
-			GRAY SHALE	3.0	92.0	
-			SANDSTONE	10.0	95.0	
-			GRAY SHALE	4.0	105.0	
-			SLATY SHALE	6.0	109.0	
-			GRAY SHALE	9.0	115.0	
-			SANDSTONE	4.0	124.0	
-			GRAY SHALE	3.0	128.0	
-			SANDSTONE	4.0	131.0	
-			BLACK SHALE	4.0	135.0	
-			GRAY SHALE	45.0	139.0	
-			GRAY SHALE	7.0	184.0	
-			GRAY SHALE	8.0	191.0	
-			BLACK SHALE	8.0	199.0	
-			GRAY SHALE	11.0	207.0	
-			GRAY SHALE	7.0	218.0	
-			BLACK SHALE	2.0	225.0	
-			GRAY SHALE	5.0	227.0	
-			BLACK SHALE	2.0	232.0	
-			GRAY SHALE	26.0	234.0	
-			GRAY SHALE	30.0	260.0	
-			GRAY SHALE	21.0	290.0	
-			SHALY SANDSTONE	21.0	311.0	GRAY
-			GRAY SHALE	12.5	332.0	
-			LIMESTONE	0.3	344.5	TAN
-			SHALE	0.3	344.8	GR-GY
-			LIMESTONE	0.9	345.1	TAN
-			SHALE WITH LIMESTONE	0.4	346.0	
-			LIMESTONE	0.7	346.4	TAN
-			SHALE WITH LIMESTONE	2.4	347.1	
-			LIMESTONE	1.0	349.5	TAN
-			CALCAREOUS SHALE	1.3	350.5	
-			CORE LOSS	0.2	351.8	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.2	352.0	TAN
-	CARBONDALE	BANKSTON FORK	GREEN SHALE	1.5	353.2	

-	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	1.6	354.7	GREEN
-	CARBONDALE		GREEN SHALE	0.3	356.3	
-	CARBONDALE		CORE LOSS	2.4	356.6	
-	CARBONDALE		LIMESTONE	0.2	359.0	TAN
-	CARBONDALE		GRAY SHALE	2.4	359.2	
-	CARBONDALE		LIMESTONE	2.9	361.6	
-	CARBONDALE		SOFT SHALE	1.7	364.5	
-	CARBONDALE	BRERETON	LIMESTONE	0.5	366.2	TAN
-	CARBONDALE	BRERETON	CORE LOSS	0.3	366.7	
-	CARBONDALE	BRERETON	LIMESTONE	0.7	367.0	TAN
-	CARBONDALE	BRERETON	SOFT SHALE	0.3	367.7	
-	CARBONDALE	BRERETON	LIMESTONE	1.4	368.0	TAN
-	CARBONDALE		SOFT SHALE	0.2	369.4	
-	CARBONDALE		SLATY SHALE	1.1	369.6	
-	CARBONDALE	HERRIN	COAL	1.2	370.7	#6
-	CARBONDALE		CORE LOSS	6.5	371.9	MOSTLY COAL
-	CARBONDALE		SOFT SHALE	2.6	378.4	

MAPID: 13522345000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** NE NE SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682174 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.398243 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 381.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED 16-C-78 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.7	370.7	

MAPID: 13522611000C **VERSION:** 1 **PROJECT:** LUMP

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2300' N line, 200' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681713 **GEOLOGIST:** J. MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.400174 **DATE COLLECTED:** 7 / 24 / 1980

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 387.4 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-4-80 **WELL TYPE:** Coal Test

COMMENT: PERMIT 5; CROWN III MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
639.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
632.0	PLEISTOCENE		GLACIAL DRIFT	65.0	7.0	
567.0	BOND		SANDY SHALE	16.0	72.0	
551.0	BOND		SANDSTONE	8.0	88.0	
543.0	BOND	CARTHAGE	LIMESTONE	8.0	96.0	
535.0	MODESTO		SHALE	3.0	104.0	DARK GRAY
532.0	MODESTO		BLACK SHALE	3.0	107.0	
529.0	MODESTO	MACOUPIN	LIMESTONE	1.0	110.0	UNCERTAIN CORRELATION
528.0	MODESTO		CLAYSTONE	2.0	111.0	
526.0	MODESTO		LIMESTONE	1.0	113.0	
525.0	MODESTO		GRAY SHALE	15.0	114.0	WITH SANDSTONE
510.0	MODESTO		GRAY SHALE	18.0	129.0	
492.0	MODESTO		GRAY SHALE	43.0	147.0	WITH SANDSTONE
449.0	MODESTO		BLACK SHALE	2.0	190.0	
447.0	MODESTO	CHAPEL	COAL	2.0	192.0	
445.0	MODESTO		CLAYSTONE	2.0	194.0	
443.0	MODESTO		GRAY SHALE	16.0	196.0	
427.0	MODESTO		GRAY SHALE	115.0	212.0	WITH SANDSTONE
312.0	CARBONDALE	DANVILLE	COAL	1.0	327.0	
311.0	CARBONDALE		CLAYSTONE	2.0	328.0	
309.0	CARBONDALE		GRAY SHALE	7.0	330.0	
302.0	CARBONDALE		LIMESTONE	2.0	337.0	
300.0	CARBONDALE		SHALE	2.5	339.0	GREEN GRAY
297.5	CARBONDALE		LIMESTONE	1.5	341.5	
296.0	CARBONDALE		SHALE	5.0	343.0	GREEN GRAY
291.0	CARBONDALE		GRAY SHALE	1.5	348.0	
289.5	CARBONDALE		LIMESTONE	1.0	349.5	
288.5	CARBONDALE		GRAY SHALE	0.5	350.5	
288.0	CARBONDALE		LIMESTONE	1.0	351.0	
287.0	CARBONDALE		GRAY SHALE	3.0	352.0	
284.0	CARBONDALE		CALCAREOUS SHALE	4.0	355.0	
280.0	CARBONDALE		SHALE	8.0	359.0	LIGHT GREEN-GRAY
272.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	367.0	
269.0	CARBONDALE		SHALE	3.0	370.0	GREEN GRAY
266.0	CARBONDALE	BRERETON	LIMESTONE	2.3	373.0	
263.7	CARBONDALE	BRERETON	SHALE	0.4	375.3	GREEN-GRAY
263.3	CARBONDALE	ANNA	BLACK SHALE	1.5	375.7	
261.9	CARBONDALE	HERRIN	COAL	0.8	377.1	
261.1	CARBONDALE	HERRIN	SHALE	0.0	377.9	

261.1	CARBONDALE	HERRIN	COAL	0.4	377.9	
260.7	CARBONDALE	HERRIN	SHALE	0.0	378.3	PYRITIC
260.7	CARBONDALE	HERRIN	COAL	0.7	378.3	
260.1	CARBONDALE	HERRIN	SHALE	0.1	378.9	PYRITIC
260.0	CARBONDALE	HERRIN	COAL	1.1	379.0	
258.9	CARBONDALE	HERRIN	SHALE	0.0	380.1	DARK GRAY
258.9	CARBONDALE	HERRIN	COAL	1.3	380.1	
257.6	CARBONDALE	HERRIN	PYRITE	0.1	381.4	
257.5	CARBONDALE	HERRIN	COAL	0.6	381.5	
257.0	CARBONDALE	HERRIN	SHALE	0.1	382.0	
256.9	CARBONDALE	HERRIN	BONE COAL	0.1	382.1	PYRITIC
256.8	CARBONDALE	HERRIN	COAL	0.8	382.2	
256.0	CARBONDALE	HERRIN	PYRITE	0.0	383.0	
256.0	CARBONDALE	HERRIN	COAL	0.9	383.0	
255.1	CARBONDALE	HERRIN	FUSAIN	0.1	383.9	CALCAREOUS
255.0	CARBONDALE	HERRIN	COAL	0.4	384.0	
254.6	CARBONDALE		CLAYSTONE	0.4	384.4	
254.2	CARBONDALE	HIGGINSVILLE	LIMESTONE	1.8	384.8	
252.5	CARBONDALE		CLAYSTONE	0.8	386.5	
251.7	CARBONDALE		CORE LOSS	0.1	387.3	

MAPID: 13501202000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.689023 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.379977 **DATE COLLECTED:** 1 / 0 / 1961

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 367.0 **LOG TYPE:** Electric Log

SOURCE: WAITUKAITIS, JOSEPH **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
318.0	MODESTO	PIASA	LIMESTONE	5.0	319.0	
313.0	MODESTO		UNCLASSIFIED	5.0	324.0	
308.0	CARBONDALE		UNCLASSIFIED	16.0	329.0	
292.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	345.0	
288.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	349.0	
287.0	CARBONDALE		UNCLASSIFIED	1.0	350.0	
286.0	CARBONDALE	BRERETON	LIMESTONE	8.0	351.0	
278.0	CARBONDALE	ANNA	BLACK SHALE	2.0	359.0	
276.0	CARBONDALE	HERRIN	COAL	6.0	361.0	

MAPID: 13501202000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 19 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.689023 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.379977 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 367.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.0	MODESTO	PIASA	LIMESTONE	18.0	319.0	
300.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	337.0	
298.0	CARBONDALE		GRAY SHALE	6.0	339.0	
292.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	345.0	
287.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	350.0	
278.0	CARBONDALE	ANNA	BLACK SHALE	2.0	359.0	
276.0	CARBONDALE	HERRIN	COAL	6.0	361.0	

MAPID: 13501620000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 0' S line, 660' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.678428 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.377264 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-2-68 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.0	MODESTO	PIASA	LIMESTONE	2.0	351.0	
287.0	MODESTO		MOTTLED SHALE	5.0	353.0	
282.0	CARBONDALE	DANVILLE	BONE COAL	0.5	358.0	
281.5	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	3.5	358.5	
278.0	CARBONDALE		CALCAREOUS SHALE	2.5	362.0	
275.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.7	364.5	UPPER BENCH
274.8	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	2.7	365.2	SHALE PARTING
272.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	7.8	367.8	LOWER BENCH
264.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	375.6	
262.1	CARBONDALE	ANNA	BLACK SHALE	0.8	377.9	
251.0	CARBONDALE	HERRIN	COAL	7.0	389.0	

MAPID: 13501620000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 0' S line, 660' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.678428 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.377264 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED F-2-68 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
287.8	MODESTO	PIASA	LIMESTONE	2.0	351.2	
285.8	MODESTO		UNCLASSIFIED	5.0	353.2	
280.8	CARBONDALE	DANVILLE	COAL	0.5	358.2	
280.3	CARBONDALE		UNCLASSIFIED	10.5	358.7	
269.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	369.2	
266.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	372.2	
263.8	CARBONDALE		SHALE	2.7	375.2	
261.1	CARBONDALE	BRERETON	LIMESTONE	7.8	377.9	
253.3	CARBONDALE	ANNA	BLACK SHALE	3.3	385.7	
250.0	CARBONDALE	HERRIN	COAL	7.0	389.0	

MAPID: 13501620000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 0' S line, 660' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.678428 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.377264 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 399.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-2-68 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC; CORE NO. C-7464

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.0	CARBONDALE	HERRIN	COAL	7.0	389.0	

MAPID: 13501620000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 0' S line, 660' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.678428 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.377264 **DATE COLLECTED:** 7 / 22 / 1968
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-2-68 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.0	CARBONDALE	HERRIN	COAL	7.0	389.0	

MAPID: 13501620000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 0' S line, 660' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.678428 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.377264 **DATE COLLECTED:** 7 / 22 / 1968

SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 399.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL MINING CO. F268 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
670.0	PLEISTOCENE		GLACIAL DRIFT	84.0	0.0	
586.0			SANDSTONE	6.0	84.0	
580.0			GRAY SHALE	30.0	90.0	
550.0			CALCAREOUS SHALE	16.6	120.0	
533.4	BOND	CARTHAGE	LIMESTONE W/ SHALE	3.5	136.6	
529.9	MODESTO		GREEN SHALE	1.9	140.1	
528.0	MODESTO		SHALE/COAL	3.0	142.0	
525.0	MODESTO		SANDY SHALE	51.5	145.0	
473.5	MODESTO		GRAY SHALE	18.5	196.5	
455.0	MODESTO	CHAPEL	SHALY COAL	3.3	215.0	DARK
451.7	MODESTO		SANDY SHALE	66.7	218.3	
385.0	MODESTO		SHALE	18.0	285.0	GR-GY
367.0	MODESTO		CALCAREOUS SHALE	4.5	303.0	
362.5	MODESTO		SHALE/COAL	0.5	307.5	
362.0	MODESTO		CALCAREOUS SHALE	4.3	308.0	
357.7	MODESTO		SANDY SHALE	13.7	312.3	
344.0	MODESTO		SHALE WITH LIMESTONE	8.0	326.0	
336.0	MODESTO		DARK SHALE	1.5	334.0	
334.5	MODESTO		SHALE WITH LIMESTONE	15.5	335.5	
319.0	MODESTO	PIASA	LIMESTONE	2.0	351.0	
317.0	MODESTO		SHALE	5.0	353.0	GR-GY
312.0	CARBONDALE	DANVILLE	SHALY COAL	0.5	358.0	#7
311.5	CARBONDALE		LIMESTONE W/ SHALE	3.5	358.5	
308.0	CARBONDALE		CALCAREOUS SHALE	12.5	362.0	
295.5	CARBONDALE		CALCAREOUS SHALE	3.5	374.5	
292.0	CARBONDALE	BANKSTON FORK	LIMESTONE/MUDSTONE	3.3	378.0	
288.7	CARBONDALE		SHALE	2.2	381.3	GR-GY
286.6	CARBONDALE	BRERETON	LIMESTONE	2.0	383.4	
284.6	CARBONDALE	BRERETON	LIMESTONE	0.3	385.4	
284.2	CARBONDALE		SLATY SHALE	1.3	385.8	
283.0	CARBONDALE	ANNA	BLACK SHALE	2.0	387.0	
281.0	CARBONDALE	HERRIN	COAL	6.9	389.0	
274.1	CARBONDALE		UNDERCLAY	1.6	395.9	
272.5	CARBONDALE		LIMESTONE W/ SHALE	1.5	397.5	

MAPID: 13522028000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.679754 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.390921 **DATE COLLECTED:** 3 / 29 / 1976

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 377.7 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-21-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.0	CARBONDALE	HERRIN	COAL	8.7	369.0	

MAPID: 13522028000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.679754 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.390921 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 383.5 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-21-76 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC; CORE NO. C11204

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.0	CARBONDALE	HERRIN	COAL	8.7	369.0	

MAPID: 13522028000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.679754 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.390921 **DATE COLLECTED:** 3 / 29 / 1976

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 383.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED CII2176 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
634.0	PLEISTOCENE		UNCONSOLIDATED	10.5	0.0	
623.5	PLEISTOCENE		GLACIAL DRIFT	137.5	10.5	
486.0			SILTY, SANDY SHALE	28.0	148.0	
458.0			SHALE	4.0	176.0	
454.0			BLACK SHALE	3.5	180.0	
450.5			LIMESTONE	1.0	183.5	
449.5			GREEN SHALE	2.0	184.5	
447.5			GREEN SHALE	5.5	186.5	
442.0	MODESTO	CHAPEL	COAL	1.0	192.0	
441.0	MODESTO		GREEN SHALE	1.5	193.0	
439.5	MODESTO		GREEN SHALE	3.5	194.5	
436.0	MODESTO		SHALE & SANDSTONE	41.5	198.0	
394.5	MODESTO		SILTY SHALE	33.5	239.5	
361.0	MODESTO		GREEN SHALE	9.0	273.0	
352.0	MODESTO		RED SHALE	3.5	282.0	
348.5	MODESTO		GREEN SHALE	1.5	285.5	
347.0	MODESTO		GREEN SHALE	6.5	287.0	
340.5	MODESTO		SHALE & SANDSTONE	19.5	293.5	
321.0	MODESTO		RED SHALE	1.5	313.0	
319.5	MODESTO		BLACK SHALE	1.5	314.5	
318.0	MODESTO		GREEN SHALE	8.5	316.0	
309.5	MODESTO		CALCAREOUS SHALE	4.5	324.5	
305.0	MODESTO		GREEN SHALE	2.0	329.0	
303.0	MODESTO		LIMESTONE	3.5	331.0	
299.5	MODESTO		GREEN SHALE	5.5	334.5	
294.0	MODESTO	PIASA	LIMESTONE	4.5	340.0	BROWN
289.5			CALCAREOUS SHALE	9.0	344.5	
280.5			GREEN SHALE	4.0	353.5	
276.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	357.5	
274.1	CARBONDALE		GREEN SHALE	0.5	359.9	
273.6	CARBONDALE		LIMESTONE	0.3	360.4	
273.3	CARBONDALE		GREEN SHALE	1.6	360.7	
271.7	CARBONDALE	BRERETON	LIMESTONE	0.4	362.3	
271.3	CARBONDALE		SHALE WITH LIMESTONE	1.7	362.7	
269.6	CARBONDALE		SILTY SHALE	1.5	364.4	
268.1	CARBONDALE		RED SHALE	3.1	365.9	
265.0	CARBONDALE	HERRIN	COAL	8.7	369.0	#6
256.3	CARBONDALE		CLAY & COAL	0.3	377.7	GREEN
256.0	CARBONDALE		SHALE & CONGLOMERATE	3.7	378.0	

252.3	CARBONDALE	LIMESTONE	0.4	381.7
251.9	CARBONDALE	CORE LOSS	1.4	382.1

MAPID: 13522029000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663273 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.39119 **DATE COLLECTED:** 3 / 31 / 1976

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 429.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-22-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
260.2	CARBONDALE	HERRIN	COAL	8.4	381.8	
215.2	CARBONDALE	HOUCHIN CREEK	COAL	3.0	426.8	

MAPID: 13522029000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663273 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.39119 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 433.5 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-22-76 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC; CORE NO. C11205

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
260.2	CARBONDALE	HERRIN	COAL	8.7	381.8	
215.2	CARBONDALE	HOUCHIN CREEK	COAL	3.0	426.8	

MAPID: 13522029000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663273 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.39119 **DATE COLLECTED:** 3 / 31 / 1976

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 433.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED CII2276 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0	PLEISTOCENE		UNCONSOLIDATED	10.5	0.0	
631.5	PLEISTOCENE		CLAY	8.5	10.5	BROWN
623.0	PLEISTOCENE		GLACIAL DRIFT	78.0	19.0	
545.0			LIMESTONE	9.5	97.0	
535.5			GREEN SHALE	7.5	106.5	
528.0			RED SHALE	2.5	114.0	
525.5			GREEN SHALE	3.5	116.5	
522.0			CALCAREOUS SHALE	10.5	120.0	
511.5			RED SHALE	2.0	130.5	
509.5			GREEN SHALE	8.5	132.5	
501.0			SHALE	31.5	141.0	
469.5			SHALE & SANDSTONE	113.5	172.5	
356.0			SHALE	8.0	286.0	
348.0			RED SHALE	2.5	294.0	
345.5			GRAY SHALE	1.5	296.5	
344.0			SANDY SHALE	23.0	298.0	
321.0			RED SHALE	2.5	321.0	
318.5			SHALE	3.5	323.5	
315.0			SHALE & SANDSTONE	5.0	327.0	
310.0			SHALE	9.5	332.0	GR-GY
300.5			LIMESTONE	2.5	341.5	
298.0			SHALE	3.5	344.0	GR-GY
294.5			DARK SHALE	4.5	347.5	
290.0	MODESTO	PIASA	LIMESTONE	3.5	352.0	
286.5			GREEN SHALE	3.5	355.5	
283.0			CALCAREOUS SHALE	8.2	359.0	
274.8			LIMESTONE	0.5	367.2	
274.3			CALCAREOUS SHALE	3.5	367.7	
270.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	371.2	
266.8	CARBONDALE		GREEN SHALE	1.2	375.2	
265.6	CARBONDALE		LIMESTONE	0.5	376.4	
265.1	CARBONDALE		CALCAREOUS SHALE	0.4	376.9	
264.8	CARBONDALE	BRERETON	LIMESTONE	1.5	377.2	
263.3	CARBONDALE		CALCAREOUS SHALE	0.1	378.7	
263.2	CARBONDALE		DARK SHALE	1.6	378.8	
262.6	CARBONDALE		CORE LOSS	0.7	379.4	
261.9	CARBONDALE	ANNA	BLACK SHALE	1.7	380.1	
260.2	CARBONDALE	HERRIN	COAL	8.4	381.8	#6
251.8	CARBONDALE		UNDERCLAY/SHALE	0.5	390.2	GREEN

251.3	CARBONDALE		SHALE & CONGLOMERATE	1.9	390.7	
249.5	CARBONDALE		GREEN SHALE	1.4	392.5	
248.1	CARBONDALE		SILTSTONE	0.7	393.9	
247.5	CARBONDALE		LIMESTONE W/ SHALE	2.9	394.5	GREEN
244.6	CARBONDALE		CALCAREOUS SHALE	2.9	397.4	
241.7	CARBONDALE		SHALE & SANDSTONE	4.0	400.3	
237.7	CARBONDALE		LIMESTONE W/ SHALE	2.4	404.3	
235.3	CARBONDALE		SILTY, SANDY SHALE	11.8	406.7	
223.5	CARBONDALE		LIMESTONE	0.4	418.5	
223.1	CARBONDALE		DARK SHALE	3.7	418.9	
219.4	CARBONDALE		LIMESTONE	1.1	422.6	
218.4	CARBONDALE		RED SHALE	3.2	423.6	
215.2	CARBONDALE	HOUCHIN CREEK	COAL	3.0	426.8	
212.2	CARBONDALE		UNDERCLAY	2.7	429.8	GREEN
209.5	CARBONDALE		CORE LOSS	1.0	432.5	

MAPID: 13500009000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 660' S line, 660' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.641186 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.379492 **DATE COLLECTED:** 11 / 0 / 1902

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 377.6 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR MINING CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
302.5	MODESTO	PIASA	LIMESTONE	3.0	333.5	
299.5	MODESTO		UNCLASSIFIED	5.5	336.5	
294.0	CARBONDALE	DANVILLE	COAL	0.3	342.0	
293.7	CARBONDALE		UNCLASSIFIED	7.2	342.3	
286.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	349.5	
282.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	353.5	
279.0	CARBONDALE		UNCLASSIFIED	3.0	357.0	
276.0	CARBONDALE	BRERETON	LIMESTONE	7.5	360.0	
268.5	CARBONDALE	ANNA	BLACK SHALE	2.5	367.5	
266.0	CARBONDALE	HERRIN	COAL	7.6	370.0	

MAPID: 13500009000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 660' S line, 660' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.641186 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.379492 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 377.6 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.0	MODESTO	PIASA	LIMESTONE	3.0	333.0	
300.0	MODESTO		DARK GRAY SHALE	5.5	336.0	
294.5	CARBONDALE	DANVILLE	COAL	0.3	341.5	
294.2	CARBONDALE	GALUM	LIMESTONE	2.2	341.8	
292.0	CARBONDALE		GRAY SHALE	2.5	344.0	
289.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.5	346.5	
283.0	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	6.5	353.0	
276.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	7.5	359.5	
269.0	CARBONDALE	LAWSON	DARK GRAY SHALE	1.0	367.0	
268.0	CARBONDALE	ANNA	BLACK SHALE	1.5	368.0	
266.0	CARBONDALE	HERRIN	COAL	7.6	370.0	

MAPID: 13500009000C **VERSION:** 3 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 660' S line, 660' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.641186 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.379492 **DATE COLLECTED:** 11 / 24 / 1902

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: A.W. CRAWFORD OPT., #7 **WELL TYPE:** Coal Test

COMMENT: ESTIMATED ELEV. FROM BASE MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
636.0			CLAY	12.0	0.0	
624.0			SANDY CLAY	6.0	12.0	
618.0			CLAY	42.0	18.0	
576.0			CLAY & GRAVEL	19.0	60.0	
557.0	BOND		SHALE	1.5	79.0	
555.5	BOND		COAL	0.3	80.5	
555.2	BOND		UNDERCLAY	2.3	80.8	
553.0	BOND		SHALE	3.0	83.0	
550.0	BOND	CARTHAGE	LIMESTONE	7.0	86.0	
543.0	MODESTO		SHALE	4.0	93.0	
539.0	MODESTO		SANDY SHALE	7.0	97.0	
532.0	MODESTO		SHALE	2.0	104.0	
530.0	MODESTO		CALCAREOUS SHALE	5.0	106.0	
525.0	MODESTO	MACOUPIN	LIMESTONE	9.0	111.0	
516.0	MODESTO		CALCAREOUS SHALE	4.0	120.0	
512.0	MODESTO		SHALE	2.0	124.0	
510.0	MODESTO		UNDERCLAY	6.0	126.0	
504.0	MODESTO		LIMESTONE	2.0	132.0	
502.0	MODESTO		SANDY SHALE	24.0	134.0	
478.0	MODESTO		SHALE	37.0	158.0	
441.0	MODESTO	CHAPEL	COAL	1.8	195.0	
439.2	MODESTO		UNDERCLAY	3.2	196.8	
436.0	MODESTO		SANDY SHALE	30.0	200.0	
406.0	MODESTO		SHALE	58.0	230.0	
348.0	MODESTO		UNDERCLAY	4.0	288.0	
344.0	MODESTO		LIMESTONE W/ SHALE	8.0	292.0	
336.0	MODESTO		SANDY SHALE	27.0	300.0	
309.0	MODESTO		CALCAREOUS SHALE	6.0	327.0	
303.0	MODESTO	PIASA	LIMESTONE	3.0	333.0	
300.0	MODESTO		SHALE	5.5	336.0	
294.5	CARBONDALE	DANVILLE	COAL	0.3	341.5	
294.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.2	341.8	
292.0	CARBONDALE	BANKSTON FORK	SHALE	2.5	344.0	
289.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	346.5	
288.0	CARBONDALE		CALCAREOUS SHALE	1.0	348.0	
287.0	CARBONDALE		LIMESTONE	4.0	349.0	
283.0	CARBONDALE		CALCAREOUS SHALE	6.5	353.0	
276.5	CARBONDALE	BRERETON	LIMESTONE	3.5	359.5	
273.0	CARBONDALE	BRERETON	CALCAREOUS SHALE	1.5	363.0	

271.5	CARBONDALE	BRERETON	LIMESTONE	2.5	364.5
269.0	CARBONDALE		SHALE	1.0	367.0
268.0	CARBONDALE	ANNA	BLACK SHALE	1.5	368.0
266.5	CARBONDALE	HERRIN	COAL	7.6	369.5
258.9	CARBONDALE		UNDERCLAY	0.4	377.1
258.5	CARBONDALE		LIMESTONE	2.5	377.5

MAPID: 13500009000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 660' S line, 660' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.641186 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.379492 **DATE COLLECTED:** 11 / 24 / 1902

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: WILMINGTON STAR COAL CO. #7 **WELL TYPE:** Coal Test

COMMENT: LOG READS ELEV 636 EST.ELEV.BASEMAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
636.0	PLEISTOCENE		CLAY	12.0	0.0	
624.0	PLEISTOCENE		SANDY CLAY	6.0	12.0	
618.0	PLEISTOCENE		CLAY	42.0	18.0	
576.0	PLEISTOCENE		CLAY	19.0	60.0	GRAVELLY
557.0	BOND		DARK SHALE	1.5	79.0	
555.5	BOND		COAL	0.3	80.5	
555.2	BOND		UNDERCLAY	2.3	80.8	
553.0	BOND		BLUE SHALE	3.0	83.0	
550.0	BOND	CARTHAGE	LIMESTONE	7.0	86.0	
543.0	MODESTO		DARK SHALE	4.0	93.0	
539.0	MODESTO		SANDY SHALE	7.0	97.0	
532.0	MODESTO		DARK SHALE	2.0	104.0	
530.0	MODESTO		SHALE WITH LIMESTONE	5.0	106.0	
525.0	MODESTO		LIMESTONE	9.0	111.0	
516.0	MODESTO		SHALE WITH LIMESTONE	4.0	120.0	
512.0	MODESTO		DARK SHALE	2.0	124.0	
510.0	MODESTO		UNDERCLAY	6.0	126.0	
504.0	MODESTO		LIMESTONE	2.0	132.0	
502.0	MODESTO		SANDY SHALE	24.0	134.0	
478.0	MODESTO		BLUE SHALE	37.0	158.0	
441.0	MODESTO	CHAPEL	COAL	1.8	195.0	
439.2	MODESTO		UNDERCLAY	3.2	196.8	
436.0	MODESTO		SANDY SHALE	30.0	200.0	
406.0	MODESTO		DARK SHALE	58.0	230.0	
348.0	MODESTO		UNDERCLAY	4.0	288.0	
344.0	MODESTO		LIMESTONE W/ SHALE	8.0	292.0	
336.0	MODESTO		SANDY SHALE	27.0	300.0	
309.0	MODESTO		SHALE WITH LIMESTONE	6.0	327.0	
303.0	MODESTO	PIASA	LIMESTONE	3.0	333.0	
300.0	MODESTO		SHALE	5.5	336.0	DULL
294.5	CARBONDALE	DANVILLE	COAL	0.3	341.5	
294.2	CARBONDALE		LIMESTONE	2.2	341.8	
292.0	CARBONDALE		LIGHT SHALE	2.5	344.0	
289.5	CARBONDALE		LIMESTONE	1.5	346.5	
288.0	CARBONDALE		SHALE WITH LIMESTONE	1.0	348.0	
287.0	CARBONDALE		LIMESTONE	4.0	349.0	
283.0	CARBONDALE		SHALE WITH LIMESTONE	6.5	353.0	
276.5	CARBONDALE		LIMESTONE	3.5	359.5	
273.0	CARBONDALE		SHALE WITH LIMESTONE	1.5	363.0	

271.5	CARBONDALE	BRERETON	LIMESTONE	2.5	364.5
269.0	CARBONDALE	ANNA	DARK SHALE	1.0	367.0
268.0	CARBONDALE	ANNA	BLACK SHALE	1.5	368.0
266.5	CARBONDALE	HERRIN	COAL	7.6	369.5
258.9	CARBONDALE		UNDERCLAY	0.4	377.1
258.5	CARBONDALE		LIMESTONE	2.5	377.5

MAPID: 13501269000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.642412 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.384065 **DATE COLLECTED:** 4 / 0 / 1962

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 384.3 **LOG TYPE:** Electric Log

SOURCE: KROHN, WM. H. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
315.0	MODESTO	PIASA	LIMESTONE	3.0	336.0	
312.0	MODESTO		UNCLASSIFIED	3.0	339.0	
309.0	CARBONDALE		UNCLASSIFIED	14.0	342.0	
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	356.0	
291.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	360.0	
288.0	CARBONDALE		UNCLASSIFIED	3.0	363.0	
285.0	CARBONDALE	BRERETON	LIMESTONE	8.0	366.0	
277.0	CARBONDALE	ANNA	BLACK SHALE	4.0	374.0	
273.0	CARBONDALE	HERRIN	COAL	6.3	378.0	

MAPID: 13522556000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1257' S line, 672' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.641161 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.38114 **DATE COLLECTED:** 8 / 30 / 1977

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 392.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-55 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.0			UNCONSOLIDATED	60.0	0.0	
570.0	BOND		GRAY SHALE	24.0	60.0	
546.0	BOND	CARTHAGE	LIMESTONE	10.0	84.0	
536.0	MODESTO		BLACK SHALE	5.0	94.0	
531.0	MODESTO		LIMESTONE	2.0	99.0	
529.0	MODESTO		GRAY SHALE	10.0	101.0	
519.0	MODESTO		SHALY LIMESTONE	8.0	111.0	
511.0	MODESTO		LIMESTONE AND SANDSTONE	4.0	119.0	
507.0	MODESTO		BLACK SHALE	3.0	123.0	
504.0	MODESTO		GRAY SHALE	6.0	126.0	
498.0	MODESTO	CARLINVILLE	SHALY LIMESTONE	3.5	132.0	
494.5	MODESTO		GRAY SHALE	10.0	135.5	
484.5	MODESTO		GRAY SHALE	3.5	145.5	
481.0	MODESTO		GRAY SHALE	37.5	149.0	
443.5	MODESTO		SHALY LIMESTONE	1.5	186.5	
442.0	MODESTO		BLACK SHALE	3.0	188.0	
439.0	MODESTO		SHALE	6.0	191.0	
433.0	MODESTO	CHAPEL	COAL	1.0	197.0	
432.0	MODESTO		SANDY SHALE	42.0	198.0	
390.0	MODESTO		SILTY SHALE	64.0	240.0	
326.0	MODESTO		BLACK SHALE	2.0	304.0	
324.0	MODESTO		SHALE	4.0	306.0	
320.0	MODESTO		SANDY SHALE	15.0	310.0	
305.0	MODESTO	PIASA	SHALY LIMESTONE	6.5	325.0	
298.5	MODESTO		CALCAREOUS SHALE	7.0	331.5	
291.5	CARBONDALE	DANVILLE	COAL	1.5	338.5	
290.0	CARBONDALE		LIMESTONE	2.0	340.0	
288.0	CARBONDALE		GRAY SHALE	3.0	342.0	
285.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	10.0	345.0	
275.0	CARBONDALE		SHALE	2.5	355.0	
272.5	CARBONDALE	BRERETON	LIMESTONE	3.0	357.5	
269.5	CARBONDALE	BRERETON	SHALE	0.2	360.5	
269.3	CARBONDALE	BRERETON	LIMESTONE	4.2	360.7	
265.1	CARBONDALE		SHALE	1.2	364.9	
263.9	CARBONDALE	ANNA	BLACK SHALE	2.5	366.1	
261.4	CARBONDALE	HERRIN	COAL	8.4	368.6	
253.0	CARBONDALE		UNDERCLAY	2.0	377.0	
251.1	CARBONDALE		LIMESTONE	4.5	378.9	

246.6	CARBONDALE	GRAY SHALE	4.6	383.4
242.0	CARBONDALE	LIMESTONE	1.0	388.0
241.0	CARBONDALE	CALCAREOUS SHALE	3.0	389.0

MAPID: 13522557000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2445' N line, 1920' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.617814 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.385826 **DATE COLLECTED:** 6 / 14 / 1974

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-13 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
647.0			UNCONSOLIDATED	40.0	0.0	
607.0	BOND		GRAY SHALE	39.0	40.0	
568.0	BOND	CARTHAGE	LIMESTONE	9.0	79.0	
559.0	MODESTO		BLACK SHALE	4.0	88.0	
555.0	MODESTO		GRAY SHALE	28.0	92.0	
527.0	MODESTO		BLACK SHALE	4.0	120.0	
523.0	MODESTO		GRAY SHALE	70.0	124.0	
453.0	MODESTO	CHAPEL	COAL	1.0	194.0	
452.0	MODESTO		SHALY SANDSTONE	19.0	195.0	
433.0	MODESTO		GRAY SHALE	84.0	214.0	
349.0	MODESTO		BLACK SHALE	2.0	298.0	
347.0	MODESTO		GRAY SHALE	26.0	300.0	
321.0	MODESTO	PIASA	LIMESTONE	6.0	326.0	
315.0	MODESTO		SHALE	2.0	332.0	
313.0	MODESTO		BLACK SHALE	4.0	334.0	
309.0			GRAY SHALE	5.0	338.0	
304.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	343.0	
301.0	CARBONDALE		GRAY SHALE	12.0	346.0	
289.0	CARBONDALE	BRERETON	LIMESTONE	10.0	358.0	
279.0	CARBONDALE	ANNA	BLACK SHALE	2.0	368.0	
277.0	CARBONDALE	HERRIN	COAL	8.0	370.0	
269.0	CARBONDALE		UNDERCLAY	8.0	378.0	

MAPID: 13522558000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 520' S line, 198' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606517 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.379358 **DATE COLLECTED:** 9 / 2 / 1977

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-53 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	42.0	0.0	
603.0	BOND		GRAY SHALE	25.0	42.0	
578.0	BOND	CARTHAGE	LIMESTONE	8.0	67.0	
570.0	MODESTO		BLACK SHALE	2.0	75.0	
568.0	MODESTO		GRAY SHALE	19.0	77.0	
549.0	MODESTO		SANDY LIMESTONE	4.0	96.0	
545.0	MODESTO		SANDSTONE	4.0	100.0	
541.0	MODESTO		GRAY SHALE	6.0	104.0	
535.0	MODESTO	MACOUPIN	LIMESTONE	1.0	110.0	
534.0	MODESTO		BLACK SHALE	2.5	111.0	
531.5	MODESTO	WOMAC	COAL	1.0	113.5	
530.5	MODESTO		GRAY SHALE	5.0	114.5	
525.5	MODESTO	CARLINVILLE	SHALY LIMESTONE	2.5	119.5	
523.0	MODESTO		GRAY SHALE	17.0	122.0	
506.0	MODESTO		SANDY SHALE	41.0	139.0	
465.0	MODESTO		BLACK SHALE	3.0	180.0	
462.0	MODESTO		SHALE	7.0	183.0	
455.0	MODESTO	CHAPEL	COAL	1.0	190.0	
454.0	MODESTO		GRAY SHALE	4.0	191.0	
450.0	MODESTO		SANDSTONE	5.0	195.0	
445.0	MODESTO		SANDY SHALE	5.0	200.0	
440.0	MODESTO		GRAY SHALE	85.0	205.0	
355.0	MODESTO		BLACK SHALE	2.0	290.0	
353.0	MODESTO		SHALE	6.0	292.0	
347.0	MODESTO		GRAY SHALE	10.5	298.0	
336.5	MODESTO	PIASA	LIMESTONE	4.5	308.5	
332.0	MODESTO		SHALE	10.0	313.0	
322.0	CARBONDALE	DANVILLE	COAL	1.5	323.0	
320.5	CARBONDALE		GRAY SHALE	3.5	324.5	
317.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	328.0	
313.5	CARBONDALE		GRAY SHALE	1.5	331.5	
312.0	CARBONDALE	BRERETON	LIMESTONE	7.0	333.0	
305.0	CARBONDALE	ANNA	BLACK SHALE	7.5	340.0	
297.5	CARBONDALE	HERRIN	COAL	8.5	347.5	
289.0	CARBONDALE		UNDERCLAY	3.5	356.0	
285.5	CARBONDALE		SHALY LIMESTONE	3.5	359.5	
282.0	CARBONDALE		GRAY SHALE	3.0	363.0	
279.0	CARBONDALE		SHALY LIMESTONE	4.0	366.0	
275.0	CARBONDALE		GRAY SHALE	10.0	370.0	

MAPID: 13500763000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.604631 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.378846 **DATE COLLECTED:** 3 / 0 / 1953

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 369.5 **LOG TYPE:** Electric Log

SOURCE: WIRTH EDWARD LEE **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
326.5	MODESTO	PIASA	LIMESTONE	4.0	318.5	
322.5	MODESTO		UNCLASSIFIED	3.5	322.5	
319.0	CARBONDALE		UNCLASSIFIED	11.0	326.0	
308.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	337.0	
303.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	341.5	
300.5	CARBONDALE		UNCLASSIFIED	3.0	344.5	
297.5	CARBONDALE	BRERETON	LIMESTONE	8.0	347.5	
289.5	CARBONDALE	ANNA	BLACK SHALE	6.5	355.5	
283.0	CARBONDALE	HERRIN	COAL	7.5	362.0	

MAPID: 13500763000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.604631 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.378846 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 372.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
324.0	MODESTO	PIASA	LIMESTONE	4.0	321.0	
320.0	CARBONDALE		DARK GRAY SHALE	10.0	325.0	
310.0	CARBONDALE	GALUM	LIMESTONE & SHALE	4.0	335.0	
306.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	339.0	
305.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	340.0	
301.0	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	7.0	344.0	
294.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	351.0	
286.0	CARBONDALE	LAWSON	SHALE	6.0	359.0	
280.0	CARBONDALE	HERRIN	COAL	7.5	365.0	

MAPID: 13522597000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1260' N line, 2630' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.596593 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.389122 **DATE COLLECTED:** 6 / 1 / 1979

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 415.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-24-8C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0			UNCONSOLIDATED	54.0	0.0	
596.0	BOND		SANDSTONE	36.0	54.0	
560.0	BOND		GRAY SHALE	4.0	90.0	
556.0	BOND	CARTHAGE	LIMESTONE	8.0	94.0	
548.0	MODESTO		BLACK SHALE	2.0	102.0	
546.0	MODESTO		GRAY SHALE	19.0	104.0	
527.0	MODESTO		LIMESTONE	7.5	123.0	
519.5	MODESTO		SANDSTONE	10.0	130.5	
509.5	MODESTO		SANDY SHALE	9.5	140.5	
500.0	MODESTO	CARLINVILLE	LIMESTONE	3.5	150.0	
496.5	MODESTO		GRAY SHALE	60.5	153.5	
436.0	MODESTO		LIMESTONE	2.0	214.0	
434.0	MODESTO		SHALE	3.0	216.0	
431.0	MODESTO		CALCAREOUS SHALE	6.0	219.0	
425.0	MODESTO	CHAPEL	COAL	1.0	225.0	
424.0	MODESTO		SANDY SHALE	100.0	226.0	
324.0	MODESTO		BLACK SHALE	2.0	326.0	
322.0	MODESTO		SHALE	4.0	328.0	
318.0	MODESTO		SANDY SHALE	12.0	332.0	
306.0	MODESTO		LIMESTONE	4.0	344.0	
302.0	MODESTO		SHALE	10.5	348.0	
291.5	MODESTO	PIASA	LIMESTONE	2.0	358.5	
289.5			CALCAREOUS SHALE	17.0	360.5	
272.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	377.5	
268.0	CARBONDALE		GRAY SHALE	1.5	382.0	
266.5	CARBONDALE	BRERETON	LIMESTONE	2.5	383.5	
264.0	CARBONDALE	ANNA	BLACK SHALE	1.5	386.0	
262.5	CARBONDALE	HERRIN	COAL	7.8	387.5	
254.7	CARBONDALE		CALCAREOUS SHALE	1.9	395.3	
252.8	CARBONDALE		GRAY SHALE	1.3	397.2	
251.5	CARBONDALE		CALCAREOUS SHALE	4.5	398.5	
247.0	CARBONDALE		SHALY LIMESTONE	2.0	403.0	
245.0	CARBONDALE		CALCAREOUS SHALE	2.0	405.0	
243.0	CARBONDALE		GRAY SHALE	8.0	407.0	

MAPID: 13522559000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 45' S line, 387' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.60411 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.363241 **DATE COLLECTED:** 9 / 1 / 1977

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-52 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	66.0	0.0	
579.0	BOND		SANDY SHALE	12.0	66.0	
567.0	BOND	CARTHAGE	LIMESTONE	6.0	78.0	
561.0	MODESTO		GRAY SHALE	22.0	84.0	
539.0	MODESTO		COAL	1.0	106.0	
538.0	MODESTO		SHALE	4.5	107.0	
533.5	MODESTO		LIMESTONE	2.5	111.5	
531.0	MODESTO		GRAY SHALE	13.0	114.0	
518.0	MODESTO		BLACK SHALE	3.0	127.0	
515.0	MODESTO		GRAY SHALE	7.0	130.0	
508.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	137.0	
503.0	MODESTO		SANDSTONE	3.5	142.0	
499.5	MODESTO		SANDY SHALE	51.0	145.5	
448.5	MODESTO		LIMESTONE	1.5	196.5	
447.0	MODESTO		BLACK SHALE	2.0	198.0	
445.0	MODESTO		GRAY SHALE	9.5	200.0	
435.5	MODESTO	CHAPEL	COAL	1.5	209.5	
434.0	MODESTO		GRAY SHALE	20.0	211.0	
414.0	MODESTO		SANDSTONE	7.0	231.0	
407.0	MODESTO		SANDY SHALE	52.0	238.0	
355.0	MODESTO		GRAY SHALE	4.0	290.0	
351.0	MODESTO		SHALY LIMESTONE	6.0	294.0	
345.0	MODESTO		GRAY SHALE	10.0	300.0	
335.0	MODESTO		BLACK SHALE	2.0	310.0	
333.0	MODESTO		GRAY SHALE	6.0	312.0	
327.0	MODESTO		SANDY SHALE	10.0	318.0	
317.0	MODESTO	PIASA	LIMESTONE	3.0	328.0	
314.0	MODESTO		SHALE	11.0	331.0	
303.0			CALCAREOUS SHALE	6.0	342.0	
297.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	348.0	
293.5	CARBONDALE		GRAY SHALE	3.5	351.5	
290.0	CARBONDALE	BRERETON	SHALY LIMESTONE	8.0	355.0	
282.0	CARBONDALE	ANNA	BLACK SHALE	2.9	363.0	
279.1	CARBONDALE	HERRIN	COAL	8.2	365.9	
270.9	CARBONDALE		UNDERCLAY	1.8	374.1	
269.1	CARBONDALE		UNDERCLAY	1.9	375.9	
267.2	CARBONDALE		CORE LOSS	0.3	377.8	
267.0	CARBONDALE		LIMESTONE	2.0	378.0	
265.0	CARBONDALE		GRAY SHALE	10.0	380.0	

MAPID: 13500646000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.616225 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.371274 **DATE COLLECTED:** 3 / 0 / 1957

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 397.0 **LOG TYPE:** Electric Log

SOURCE: DUNNILL, JOHN F. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
308.5	MODESTO	PIASA	LIMESTONE	3.5	346.5	
305.0	MODESTO		UNCLASSIFIED	3.0	350.0	
302.0	CARBONDALE		UNCLASSIFIED	14.5	353.0	
287.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	367.5	
282.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	373.0	
279.5	CARBONDALE		UNCLASSIFIED	2.5	375.5	
277.0	CARBONDALE	BRERETON	LIMESTONE	8.5	378.0	
268.5	CARBONDALE	ANNA	BLACK SHALE	3.5	386.5	
265.0	CARBONDALE	HERRIN	COAL	7.0	390.0	

MAPID: 13501106000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.613828 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.369314 **DATE COLLECTED:** 8 / 0 / 1958

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Electric Log

SOURCE: DUNNILL, JOHN F. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.8	MODESTO	PIASA	LIMESTONE	3.0	341.2	
298.8	MODESTO		UNCLASSIFIED	4.0	344.2	
294.8	CARBONDALE		UNCLASSIFIED	13.5	348.2	
281.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.8	361.7	
277.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	365.5	
276.0	CARBONDALE		UNCLASSIFIED	1.5	367.0	
274.5	CARBONDALE	BRERETON	LIMESTONE	7.0	368.5	
267.5	CARBONDALE	ANNA	BLACK SHALE	6.5	375.5	
261.0	CARBONDALE	HERRIN	COAL	8.0	382.0	

MAPID: 13501106000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.613828 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.369314 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 393.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
306.0	MODESTO	PIASA	LIMESTONE W/ SHALE	11.0	337.0	
295.0	CARBONDALE		DARK GRAY SHALE	10.0	348.0	
285.0	CARBONDALE	GALUM	LIMESTONE	2.0	358.0	
283.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	360.0	
282.0	CARBONDALE		CALCAREOUS SHALE	11.0	361.0	
271.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	372.0	
266.0	CARBONDALE	LAWSON	SHALE	6.0	377.0	
257.0	CARBONDALE	HERRIN	COAL	7.5	386.0	

MAPID: 13501168000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.618618 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.37316 **DATE COLLECTED:** 12 / 0 / 1959

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 394.0 **LOG TYPE:** Electric Log

SOURCE: DUNNILL, JOHN F. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
305.5	MODESTO	PIASA	LIMESTONE	3.5	345.5	
302.0	MODESTO		UNCLASSIFIED	4.0	349.0	
298.0	CARBONDALE		UNCLASSIFIED	15.0	353.0	
283.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	368.0	
280.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	371.0	
278.5	CARBONDALE		UNCLASSIFIED	1.5	372.5	
277.0	CARBONDALE	BRERETON	LIMESTONE	7.0	374.0	
270.0	CARBONDALE	ANNA	BLACK SHALE	5.0	381.0	
265.0	CARBONDALE	HERRIN	COAL	8.0	386.0	

MAPID: 13522444000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2605' N line, 1365' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.619577 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.370616 **DATE COLLECTED:** 5 / 23 / 1979

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 415.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-26-15C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	62.0	0.0	
583.0	BOND		GRAY SHALE	12.0	62.0	
571.0	BOND		SANDSTONE	40.0	74.0	
531.0	BOND	CARTHAGE	LIMESTONE	9.0	114.0	
522.0	MODESTO		GRAY SHALE	9.5	123.0	
512.5	MODESTO	MACOUPIN	LIMESTONE	2.0	132.5	
510.5	MODESTO		BLACK SHALE	2.5	134.5	
508.0	MODESTO	WOMAC	COAL	1.0	137.0	
507.0	MODESTO		SHALE	5.5	138.0	
501.5	MODESTO	CARLINVILLE	LIMESTONE	4.5	143.5	
497.0	MODESTO		GRAY SHALE	53.0	148.0	
444.0	MODESTO		LIMESTONE	1.0	201.0	
443.0	MODESTO		BLACK SHALE	2.0	202.0	
441.0	MODESTO		GRAY SHALE	9.5	204.0	
431.5	MODESTO	CHAPEL	COAL	1.5	213.5	
430.0	MODESTO		GRAY SHALE	2.0	215.0	
428.0	MODESTO		SANDSTONE	19.0	217.0	
409.0	MODESTO		SANDY SHALE	24.0	236.0	
385.0	MODESTO		GRAY SHALE	47.0	260.0	
338.0	MODESTO		BLACK SHALE	1.0	307.0	
337.0	MODESTO		GRAY SHALE	42.0	308.0	
295.0	MODESTO	PIASA	LIMESTONE	2.0	350.0	
293.0	MODESTO		SHALE	4.5	352.0	
288.5	CARBONDALE	DANVILLE	COAL	1.5	356.5	
287.0	CARBONDALE		GRAY SHALE	17.0	358.0	
270.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	375.0	
267.0	CARBONDALE		SHALE	5.0	378.0	
262.0	CARBONDALE	ANNA	BLACK SHALE	2.8	383.0	
259.2	CARBONDALE	HERRIN	COAL	8.4	385.8	
250.8	CARBONDALE		UNDERCLAY	0.3	394.2	
250.5	CARBONDALE		CORE LOSS	0.5	394.5	
250.0	CARBONDALE		SHALY LIMESTONE	2.0	395.0	
248.0	CARBONDALE		CALCAREOUS SHALE	12.0	397.0	
236.0	CARBONDALE		LIMESTONE	2.0	409.0	
234.0	CARBONDALE		GRAY SHALE	4.0	411.0	

MAPID: 13522560000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 390' S line, 1850' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.612084 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.364051 **DATE COLLECTED:** 6 / 13 / 1974

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 406.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-10 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	58.0	0.0	
587.0	BOND		SANDSTONE	65.0	58.0	
522.0	BOND	CARTHAGE	LIMESTONE	3.0	123.0	
519.0	MODESTO		SANDY SHALE	11.0	126.0	
508.0	MODESTO	MACOUPIN	LIMESTONE	2.0	137.0	
506.0	MODESTO		BLACK SHALE	1.5	139.0	
504.5	MODESTO	WOMAC	COAL	0.5	140.5	
504.0	MODESTO		SANDY SHALE	8.0	141.0	
496.0	MODESTO	CARLINVILLE	LIMESTONE	7.0	149.0	
489.0	MODESTO		SHALE	54.0	156.0	
435.0	MODESTO		SHALE	10.0	210.0	
425.0	MODESTO	CHAPEL	COAL	2.0	220.0	
423.0	MODESTO		GRAY SHALE	106.0	222.0	
317.0	MODESTO		BLACK SHALE	2.0	328.0	
315.0	MODESTO		GRAY SHALE	5.0	330.0	
310.0	MODESTO		LIMESTONE	7.0	335.0	
303.0	MODESTO		GRAY SHALE	4.0	342.0	
299.0	MODESTO	PIASA	LIMESTONE	4.0	346.0	
295.0	MODESTO		GRAY SHALE	9.0	350.0	
286.0	CARBONDALE	DANVILLE	COAL	3.0	359.0	
283.0	CARBONDALE		CALCAREOUS SHALE	4.0	362.0	
279.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	366.0	
275.0	CARBONDALE		SHALE	3.0	370.0	
272.0	CARBONDALE	BRERETON	SHALY LIMESTONE	9.0	373.0	
263.0	CARBONDALE	ANNA	BLACK SHALE	5.0	382.0	
258.0	CARBONDALE	HERRIN	COAL	8.0	387.0	
250.0	CARBONDALE		UNDERCLAY	3.0	395.0	
247.0	CARBONDALE		LIMESTONE	6.0	398.0	
241.0	CARBONDALE		GRAY SHALE	2.0	404.0	

MAPID: 13522561000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 390' S line, 1850' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.612084 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.364051 **DATE COLLECTED:** 6 / 14 / 1974

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-74-10C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	74.0	0.0	
571.0	BOND		SANDSTONE	48.0	74.0	
523.0	BOND	CARTHAGE	LIMESTONE	4.0	122.0	
519.0	MODESTO		SANDY SHALE	12.0	126.0	
507.0	MODESTO	MACOUPIN	LIMESTONE	2.0	138.0	
505.0	MODESTO	WOMAC	BLACK SHALE	3.0	140.0	
502.0	MODESTO		SANDY SHALE	6.0	143.0	
496.0	MODESTO	CARLINVILLE	LIMESTONE	7.0	149.0	
489.0	MODESTO		GRAY SHALE	52.0	156.0	
437.0	MODESTO		SHALE	11.0	208.0	
426.0	MODESTO	CHAPEL	COAL	3.0	219.0	
423.0	MODESTO		GRAY SHALE	107.0	222.0	
316.0	MODESTO		BLACK SHALE	2.0	329.0	
314.0	MODESTO		GRAY SHALE	5.0	331.0	
309.0	MODESTO		LIMESTONE	8.0	336.0	
301.0	MODESTO		GRAY SHALE	4.0	344.0	
297.0	MODESTO	PIASA	LIMESTONE	3.0	348.0	
294.0	MODESTO		GRAY SHALE	9.0	351.0	
285.0	CARBONDALE	DANVILLE	COAL	2.0	360.0	
283.0	CARBONDALE		GRAY SHALE	5.0	362.0	
278.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	367.0	
273.0	CARBONDALE		GRAY SHALE	4.0	372.0	
269.0	CARBONDALE	BRERETON	SHALY LIMESTONE	8.0	376.0	
261.0	CARBONDALE	ANNA	BLACK SHALE	2.0	384.0	
259.0	CARBONDALE	HERRIN	COAL	7.3	386.0	
251.7	CARBONDALE		UNDERCLAY	2.4	393.3	
249.4	CARBONDALE		CORE LOSS	0.4	395.6	

MAPID: 13500762000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.625567 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.369119 **DATE COLLECTED:** 6 / 0 / 1944

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 414.5 **LOG TYPE:** Electric Log

SOURCE: TEXACO, INC. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.1	MODESTO	PIASA	LIMESTONE	4.0	361.9	
283.1	MODESTO		UNCLASSIFIED	3.0	365.9	
280.1	CARBONDALE		UNCLASSIFIED	15.0	368.9	
265.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	383.9	
259.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.3	389.4	
256.3	CARBONDALE		UNCLASSIFIED	3.3	392.7	
253.0	CARBONDALE	BRERETON	LIMESTONE	8.5	396.0	
244.5	CARBONDALE	ANNA	BLACK SHALE	3.5	404.5	
241.0	CARBONDALE	HERRIN	COAL	6.5	408.0	

MAPID: 13500762000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.625567 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.369119 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 649.0 **LOGGED (FT.):** 415.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.0	MODESTO	PIASA	LIMESTONE	5.0	362.0	
282.0	CARBONDALE		DARK GRAY SHALE	6.0	367.0	
276.0	CARBONDALE	GALUM	LIMESTONE & SHALE	4.0	373.0	
272.0	CARBONDALE		SHALE	18.0	377.0	
254.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	395.0	
247.0	CARBONDALE	LAWSON	SHALE	4.0	402.0	
241.0	CARBONDALE	HERRIN	COAL	7.0	408.0	

MAPID: 13522562000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 1340' N line, 1190' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.639201 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.373982 **DATE COLLECTED:** 6 / 12 / 1975

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-30 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	91.0	0.0	
554.0	BOND		SANDSTONE	14.0	91.0	
540.0	BOND		LIMESTONE	2.0	105.0	
538.0	BOND		GRAY SHALE	7.0	107.0	
531.0	BOND	CARTHAGE	SHALY LIMESTONE	6.0	114.0	
525.0	BOND	CARTHAGE	SHALE	1.0	120.0	
524.0	BOND	CARTHAGE	SHALY LIMESTONE	11.0	121.0	
513.0	MODESTO		GRAY SHALE	4.0	132.0	
509.0	MODESTO	MACOUPIN	LIMESTONE	1.0	136.0	
508.0	MODESTO		BLACK SHALE	2.0	137.0	
506.0	MODESTO	WOMAC	COAL	2.0	139.0	
504.0	MODESTO		GRAY SHALE	7.0	141.0	
497.0	MODESTO	CARLINVILLE	LIMESTONE	4.0	148.0	
493.0	MODESTO		SHALY SANDSTONE	14.0	152.0	
479.0	MODESTO		GRAY SHALE	37.0	166.0	
442.0	MODESTO		BLACK SHALE	3.0	203.0	
439.0	MODESTO		GRAY SHALE	9.0	206.0	
430.0	MODESTO	CHAPEL	COAL	1.0	215.0	
429.0	MODESTO		GRAY SHALE	114.0	216.0	
315.0	MODESTO		LIMESTONE	1.0	330.0	
314.0	MODESTO		BLACK SHALE	4.0	331.0	
310.0	MODESTO		GRAY SHALE	22.0	335.0	
288.0	MODESTO	PIASA	LIMESTONE	2.5	357.0	
285.5	MODESTO		SHALE	9.0	359.5	
276.5	CARBONDALE	DANVILLE	COAL	1.5	368.5	
275.0	CARBONDALE		GRAY SHALE	18.0	370.0	
257.0	CARBONDALE	BRERETON	SHALY LIMESTONE	6.0	388.0	
251.0	CARBONDALE	ANNA	BLACK SHALE	4.0	394.0	
247.0	CARBONDALE	HERRIN	COAL	7.7	398.0	
239.3	CARBONDALE		UNDERCLAY	2.8	405.7	
236.5	CARBONDALE		LIMESTONE	1.5	408.5	

MAPID: 13500780000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.660665 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.369237 **DATE COLLECTED:** 6 / 0 / 1957
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 409.0 **LOG TYPE:** Electric Log
SOURCE: STELLE JOHN **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.5	MODESTO	PIASA	LIMESTONE	4.0	360.5	
278.5	MODESTO		UNCLASSIFIED	4.0	364.5	
274.5	CARBONDALE		UNCLASSIFIED	12.5	368.5	
262.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	381.0	
258.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	384.5	
256.0	CARBONDALE		UNCLASSIFIED	2.5	387.0	
253.5	CARBONDALE	BRERETON	LIMESTONE	9.0	389.5	
244.5	CARBONDALE	ANNA	BLACK SHALE	3.5	398.5	
241.0	CARBONDALE	HERRIN	COAL	7.0	402.0	

MAPID: 13500780000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.660665 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.369237 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 408.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.0	MODESTO	PIASA	LIMESTONE	4.0	360.0	
278.0	CARBONDALE		DARK GRAY SHALE	6.0	364.0	
272.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	370.0	
271.0	CARBONDALE		SHALE	18.0	371.0	
253.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	389.0	
251.0	CARBONDALE	BANKSTON FORK	SHALE	3.0	391.0	
248.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	394.0	
245.0	CARBONDALE	LAWSON	SHALE	3.0	397.0	
242.0	CARBONDALE	HERRIN	COAL	8.0	400.0	

MAPID: 13500780000C **VERSION:** 3 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.660665 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.369237 **DATE COLLECTED:** 6 / 0 / 1957
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 510.0 **LOG TYPE:** Electric Log
SOURCE: STELLE JOHN **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
283.0	MODESTO	PIASA	UNCLASSIFIED	-	360.0	
239.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	404.0	
223.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	420.0	THIN OR ABSENT
200.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	443.0	
175.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	468.0	
133.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	510.0	

MAPID: 13500265000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 1902' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.673699 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.363697 **DATE COLLECTED:** 10 / 0 / 1940
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 376.0 **LOG TYPE:** Electric Log
SOURCE: MCFARLAND, ROLLA J. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
296.0	MODESTO	PIASA	LIMESTONE	4.0	334.0	
292.0	MODESTO		UNCLASSIFIED	3.0	338.0	
289.0	CARBONDALE		UNCLASSIFIED	10.0	341.0	
279.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	351.0	
276.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	354.0	
275.0	CARBONDALE		UNCLASSIFIED	1.0	355.0	
274.0	CARBONDALE	BRERETON	LIMESTONE	7.0	356.0	
267.0	CARBONDALE	ANNA	BLACK SHALE	7.0	363.0	
260.0	CARBONDALE	HERRIN	COAL	6.0	370.0	

MAPID: 13500266000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 150' S line, 150' E line of NE NE
QUADRANGLE: ATWATER **LONGITUDE:** -89.66244 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.374184 **DATE COLLECTED:** 0 / 0 / 1940
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 385.0 **LOG TYPE:** Electric Log
SOURCE: BRAINERD, GEO. E. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.0	MODESTO	PIASA	LIMESTONE	3.0	350.0	
284.0	MODESTO		UNCLASSIFIED	3.0	353.0	
281.0	CARBONDALE		UNCLASSIFIED	9.0	356.0	
272.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	365.0	
269.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	368.0	
268.0	CARBONDALE		UNCLASSIFIED	1.0	369.0	
267.0	CARBONDALE	BRERETON	LIMESTONE	7.0	370.0	
260.0	CARBONDALE	ANNA	BLACK SHALE	3.0	377.0	
257.0	CARBONDALE	HERRIN	COAL	5.0	380.0	

MAPID: 13501194000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW NW
QUADRANGLE: ATWATER **LONGITUDE:** -89.679537 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.374537 **DATE COLLECTED:** 4 / 0 / 1961
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 375.0 **LOG TYPE:** Electric Log
SOURCE: WAITUKAITIS, JOSEPH **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.0	MODESTO	PIASA	LIMESTONE	4.0	336.0	
300.0	MODESTO		UNCLASSIFIED	4.0	340.0	
296.0	CARBONDALE		UNCLASSIFIED	12.0	344.0	
284.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	356.0	
281.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	359.0	
279.5	CARBONDALE		UNCLASSIFIED	1.5	360.5	
278.0	CARBONDALE	BRERETON	LIMESTONE	8.0	362.0	
270.0	CARBONDALE	ANNA	BLACK SHALE	3.0	370.0	
267.0	CARBONDALE	HERRIN	COAL	2.0	373.0	

MAPID: 13500217000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: ATWATER **LONGITUDE:** -89.681636 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.363652 **DATE COLLECTED:** 8 / 0 / 1940

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 650.0 **LOG TYPE:** Drillers Log

SOURCE: F. HARLEY CARROLL #1 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE AND ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
-	PLEISTOCENE		GLACIAL DRIFT	65.0	15.0	
-	PLEISTOCENE		SAND	10.0	80.0	AND WATER
-	BOND		LIMESTONE	4.0	90.0	
-			SANDSTONE	46.0	94.0	
-			SANDSTONE	5.0	140.0	
-			SANDSTONE	25.0	145.0	
-			LIMESTONE	5.0	170.0	
-			SANDSTONE	20.0	175.0	
-			BLACK LIMESTONE	4.0	195.0	
-			SANDSTONE	6.0	199.0	
-			SANDY LIMESTONE	5.0	205.0	
-			SANDSTONE	90.0	210.0	
-	MODESTO	PIASA	LIMESTONE	25.0	300.0	
-	MODESTO		BLACK SHALE	15.0	325.0	
-	CARBONDALE		SHALE	12.0	340.0	
-	CARBONDALE	HERRIN	COAL	4.0	352.0	
-			SANDSTONE	9.0	356.0	
-			LIMESTONE	7.0	365.0	
-			BLACK SHALE	23.0	372.0	AND LIME SHELLS
-			SHALE	5.0	395.0	
-			SANDSTONE	5.0	400.0	
-			SANDSTONE	25.0	405.0	
-			SANDSTONE	45.0	430.0	
-			BLACK SHALE	10.0	475.0	AND LIME SHELLS
-			LIGHT SHALE	30.0	485.0	
-			SANDSTONE	5.0	515.0	
-			SHALE	55.0	520.0	
-			SANDSTONE	25.0	575.0	SHOW OF OIL
-			SANDY SHALE	10.0	600.0	
-			BLACK SHALE	2.0	610.0	
-			SHALE WITH LIMESTONE	18.0	612.0	BLACK LIME
-			SHALE	20.0	630.0	

MAPID: 13500217000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: ATWATER **LONGITUDE:** -89.681636 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.363652 **DATE COLLECTED:** 8 / 0 / 1940
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: CARROLL HARLEY H **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	9.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	9.0		
-	CARBONDALE	ANNA	BLACK SHALE	3.0		
-	CARBONDALE	HERRIN	COAL	4.0		

MAPID: 13500218000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 980' N line, 253' W line
QUADRANGLE: ATWATER **LONGITUDE:** -89.698643 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.374545 **DATE COLLECTED:** 7 / 0 / 1940
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: BAKER, E. C. & SONS **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	8.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	9.0		
-	CARBONDALE	ANNA	BLACK SHALE	3.0		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13501167000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE
QUADRANGLE: ATWATER **LONGITUDE:** -89.681804 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.370901 **DATE COLLECTED:** 9 / 0 / 1959
SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 368.0 **LOG TYPE:** Electric Log
SOURCE: JORDAN JAMES **WELL TYPE:** Producer-Oil
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.0	MODESTO	PIASA	LIMESTONE	4.0	320.0	
314.0	MODESTO		UNCLASSIFIED	3.0	324.0	
311.0	CARBONDALE		UNCLASSIFIED	13.0	327.0	
298.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	340.0	
293.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	345.0	
290.0	CARBONDALE		UNCLASSIFIED	3.0	348.0	
287.0	CARBONDALE	BRERETON	LIMESTONE	9.0	351.0	
278.0	CARBONDALE	ANNA	BLACK SHALE	2.0	360.0	
276.0	CARBONDALE	HERRIN	COAL	6.0	362.0	

MAPID: 13501208000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE NE SE
QUADRANGLE: ATWATER **LONGITUDE:** -89.68172 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.367268 **DATE COLLECTED:** 6 / 0 / 1961
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: WAITUKAITIS, JOSEPH **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	3.5		
-	CARBONDALE		UNCLASSIFIED	10.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	9.0		
-	CARBONDALE	ANNA	BLACK SHALE	4.0		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13522528000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** NE NE SW

QUADRANGLE: ATWATER **LONGITUDE:** -89.691206 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.369069 **DATE COLLECTED:** 5 / 31 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 368.9 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED GB-5-79 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.2	360.7	

MAPID: 13522528000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** NE NE SW

QUADRANGLE: ATWATER **LONGITUDE:** -89.691206 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.369069 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 369.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED GB-5-79 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.2	360.7	

MAPID: 13522528000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** NE NE SW

QUADRANGLE: ATWATER **LONGITUDE:** -89.691206 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.369069 **DATE COLLECTED:** 5 / 31 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 369.8 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED GB579 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
-	PLEISTOCENE		GLACIAL DRIFT	18.0	10.0	
-	PLEISTOCENE		GLACIAL DRIFT	42.0	28.0	
-			SANDSTONE/SHALE	40.0	70.0	
-			GRAY SHALE	14.0	110.0	
-			BLACK SHALE	3.0	124.0	
-			GRAY SHALE	153.0	127.0	
-			BLACK SHALE	4.0	280.0	
-			GRAY SHALE	40.5	284.0	
-			LIMESTONE	3.7	324.5	
-			GRAY SHALE	4.9	328.2	
-	MODESTO	PIASA	LIMESTONE	4.4	333.1	
-			GRAY SHALE	5.7	337.5	
-			LIMESTONE	0.6	343.2	
-			GRAY SHALE	6.8	343.8	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	3.7	350.6	
-	CARBONDALE		GRAY SHALE	1.2	354.3	
-	CARBONDALE	BRERETON	LIMESTONE	2.8	355.5	
-	CARBONDALE	ANNA	BLACK SHALE	1.7	358.3	
-	CARBONDALE		SLATY SHALE	0.7	360.0	
-	CARBONDALE	HERRIN	COAL	8.2	360.7	#6
-	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	368.8	GRAY
-	CARBONDALE		LIMESTONE	0.8	369.0	

MAPID: 13522528000C **VERSION:** 4 **PROJECT:** LUMP

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** NE NE SW

QUADRANGLE: ATWATER **LONGITUDE:** -89.691206 **GEOLOGIST:** J. MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.369069 **DATE COLLECTED:** 10 / 2 / 1979

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-2-79 **WELL TYPE:** Coal Test

COMMENT: PERMIT 5; CROWN III MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
646.0	PLEISTOCENE		SAND & GRAVEL	18.0	4.0	
628.0	PLEISTOCENE		GLACIAL DRIFT	0.5	22.0	WITH TRACE OF COAL
627.5			GRAY SHALE	6.5	22.5	
621.0			GRAY SHALE	34.0	29.0	WITH SANDSTONE
587.0			SANDSTONE	4.0	63.0	SOFT
583.0			GRAY SHALE	10.0	67.0	WITH SANDSTONE
573.0			SANDSTONE	2.0	77.0	HARD
571.0			GRAY SHALE	4.0	79.0	WITH SANDSTONE
567.0			GRAY SHALE	8.0	83.0	
559.0			SANDSTONE	1.0	91.0	
558.0			GRAY SHALE	4.0	92.0	WITH SANDSTONE
554.0			SANDSTONE	2.0	96.0	WITH LIMESTONE
552.0			SHALE	2.0	98.0	WITH SANDSTONE AND LIMESTONE, GREEN-GRAY
550.0			SHALE	5.0	100.0	GREEN GRAY
545.0			BLACK SHALE	3.5	105.0	SLATY
541.5			GRAY SHALE	3.5	108.5	
538.0			SHALE	2.0	112.0	WITH SANDSTONE AND LIMESTONE, GREEN-GRAY
536.0			SHALE	5.0	114.0	GREEN GRAY
531.0			SHALE	3.0	119.0	GREEN GRAY
528.0			SANDSTONE	2.0	122.0	WITH LIMESTONE
526.0			BLACK SHALE	3.0	124.0	
523.0			SHALE	1.0	127.0	DARK GRAY
522.0			GRAY SHALE	8.0	128.0	
514.0			SHALE	9.0	136.0	WITH LIMESTONE BANDS; GREEN-GRAY
505.0			GRAY SHALE	3.0	145.0	WITH BROWN SANDSTONE
502.0			GRAY SHALE	14.0	148.0	WITH SANDSTONE
488.0			GRAY SHALE	11.0	162.0	
477.0			GRAY SHALE	19.0	173.0	WITH SANDSTONE
458.0			SANDSTONE	3.0	192.0	
455.0			GRAY SHALE	2.0	195.0	WITH SANDSTONE
453.0			SHALE	3.0	197.0	DARK GRAY
450.0			BLACK SHALE	1.5	200.0	
448.5	MODESTO	CHAPEL	COAL	0.5	201.5	
448.0	MODESTO		SANDY SHALE	11.0	202.0	
437.0	MODESTO		GRAY SHALE	8.0	213.0	WITH SANDSTONE
429.0	MODESTO		SANDSTONE	1.0	221.0	
428.0	MODESTO		GRAY SHALE	82.0	222.0	WITH SANDSTONE BEDS

346.0	MODESTO		SHALE	13.0	304.0	DARK GRAY
333.0	MODESTO		BLACK SHALE	1.0	317.0	
332.0	CARBONDALE	DANVILLE	COAL	1.0	318.0	
331.0	CARBONDALE		GRAY SHALE	5.0	319.0	WITH SANDSTONE
326.0	CARBONDALE		SANDSTONE	2.0	324.0	SOFT
324.0	CARBONDALE		GRAY SHALE	6.0	326.0	WITH SANDSTONE
318.0	CARBONDALE		SHALE	2.0	332.0	GREEN GRAY
316.0	CARBONDALE		SHALE	6.0	334.0	WITH SANDSTONE AND LIMESTONE, GREEN-GRAY
310.0	CARBONDALE		SANDSTONE	1.0	340.0	
309.0	CARBONDALE		GRAY SHALE	7.0	341.0	WITH SANDSTONE BEDS
302.0	CARBONDALE		GRAY SHALE	1.0	348.0	WITH LIMESTONE
301.0	CARBONDALE		SHALE	3.0	349.0	LIGHT GREEN-GRAY
298.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	352.0	
295.0	CARBONDALE		GRAY SHALE	3.0	355.0	WITH SANDSTONE
292.0	CARBONDALE		GRAY SHALE	1.0	358.0	WITH LIMESTONE
291.0	CARBONDALE	BRERETON	LIMESTONE	3.0	359.0	
288.0	CARBONDALE	ANNA	BLACK SHALE	4.0	362.0	
284.0	CARBONDALE	HERRIN	COAL	8.6	366.0	
275.4	CARBONDALE		CLAYSTONE	1.4	374.6	FIRM
274.0	CARBONDALE		CLAYSTONE	3.0	376.0	WITH LIMESTONE
271.0	CARBONDALE		CLAYSTONE	1.0	379.0	SOFT

MAPID: 13500220000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 349' S line, 162' E line of NW

QUADRANGLE: ATWATER **LONGITUDE:** -89.690417 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.356356 **DATE COLLECTED:** 9 / 0 / 1940

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: LAIN OIL & GAS CO **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	7.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0		
-	CARBONDALE		UNCLASSIFIED	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	8.0		
-	CARBONDALE	ANNA	BLACK SHALE	2.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13500273000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 100' N line, 100' E line of SE SE
QUADRANGLE: ATWATER **LONGITUDE:** -89.680765 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.351474 **DATE COLLECTED:** 11 / 0 / 1940
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: THARPE L C **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	10.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	1.5		
-	CARBONDALE	BRERETON	LIMESTONE	7.0		
-	CARBONDALE	ANNA	BLACK SHALE	3.0		
-	CARBONDALE	HERRIN	COAL	5.0		

MAPID: 13500293000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 327' S line, 326' W line of SE NE
QUADRANGLE: ATWATER **LONGITUDE:** -89.683971 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.356311 **DATE COLLECTED:** 0 / 0 / 1940
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: BRAINERD, GEO. E. **WELL TYPE:** Plugged and/or Abandoned
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	12.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	1.0		
-	CARBONDALE	BRERETON	LIMESTONE	9.0		
-	CARBONDALE	HERRIN	COAL	8.0		

MAPID: 13501218000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 1650' S line, 2310' E line
QUADRANGLE: ATWATER **LONGITUDE:** -89.688626 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.352629 **DATE COLLECTED:** 8 / 0 / 1961
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: FRANK'S PETROLEUM **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	15.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	10.0		
-	CARBONDALE	ANNA	BLACK SHALE	4.0		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 13501218000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 1650' S line, 2310' E line
QUADRANGLE: ATWATER **LONGITUDE:** -89.688626 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.352629 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 378.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
329.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	326.0	
323.0	CARBONDALE		DARK GRAY SHALE	5.0	332.0	
318.0	CARBONDALE	GALUM	LIMESTONE & SHALE	6.0	337.0	
312.0	CARBONDALE		SHALE	20.0	343.0	
292.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	363.0	
287.0	CARBONDALE	LAWSON	SHALE	4.0	368.0	
283.0	CARBONDALE	HERRIN	COAL	6.0	372.0	

MAPID: 13522563000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2035' S line, 1158' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.695114 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.353681 **DATE COLLECTED:** 8 / 17 / 1977

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 391.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-41 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
625.0			UNCONSOLIDATED	102.0	0.0	
523.0	MODESTO		BLACK SHALE	4.5	102.0	
518.5	MODESTO		CALCAREOUS SHALE	1.5	106.5	
517.0	MODESTO		GRAY SHALE	10.0	108.0	
507.0	MODESTO		CALCAREOUS SHALE	13.5	118.0	
493.5	MODESTO		SHALY LIMESTONE	1.5	131.5	
492.0	MODESTO		BLACK SHALE	5.0	133.0	
487.0	MODESTO		GRAY SHALE	7.5	138.0	
479.5	MODESTO		GRAY SHALE	4.5	145.5	
475.0	MODESTO		SHALY LIMESTONE	5.3	150.0	
469.7	MODESTO		GRAY SHALE	28.7	155.3	
441.0	MODESTO		LIMESTONE	2.0	184.0	
439.0	MODESTO		BLACK SHALE	2.0	186.0	
437.0	MODESTO		GRAY SHALE	19.0	188.0	
418.0	MODESTO	CHAPEL	COAL	1.0	207.0	
417.0	MODESTO		GRAY SHALE	2.5	208.0	
414.5	MODESTO		CALCAREOUS SANDSTONE	5.5	210.5	
409.0	MODESTO		GRAY SHALE	80.0	216.0	
329.0	MODESTO		CALCAREOUS SHALE	4.0	296.0	
325.0	MODESTO		GRAY SHALE	19.0	300.0	
306.0	MODESTO		BLACK SHALE	3.0	319.0	
303.0	MODESTO		GRAY SHALE	5.0	322.0	
298.0	MODESTO		LIMESTONE	2.0	327.0	
296.0	MODESTO		CALCAREOUS SHALE	6.4	329.0	
289.6	MODESTO	PIASA	LIMESTONE	3.5	335.4	
286.1	MODESTO		SHALE	4.1	338.9	
282.0	CARBONDALE	DANVILLE	COAL	2.0	343.0	
280.0	CARBONDALE		SHALE	6.0	345.0	
274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	351.0	
269.5	CARBONDALE		SHALE	1.6	355.5	
268.0	CARBONDALE	BRERETON	SHALY LIMESTONE	9.0	357.0	
259.0	CARBONDALE	ANNA	BLACK SHALE	2.4	366.0	
256.6	CARBONDALE	HERRIN	COAL	7.7	368.4	
248.9	CARBONDALE		UNDERCLAY	1.3	376.1	
247.6	CARBONDALE		SHALY LIMESTONE	6.2	377.4	
241.5	CARBONDALE		CALCAREOUS SHALE	1.8	383.5	
239.7	CARBONDALE		GRAY SHALE	5.7	385.3	

MAPID: 13522718000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.698006 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.34897 **DATE COLLECTED:** 5 / 24 / 1984

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 630.0 **LOG TYPE:** Drillers Log

SOURCE: DONALD E. CURTIS, INC. #1 **WELL TYPE:** Unsuccessful or Unknown Results

COMMENT: COAL FROM PLUGGING AFFIDAVIT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.0	CARBONDALE	HERRIN	COAL	4.0	370.0	ONLY LOGGED COAL

MAPID: 13500275000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 660' N line, 100' W line of SW

QUADRANGLE: ATWATER **LONGITUDE:** -89.68006 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.353595 **DATE COLLECTED:** 11 / 0 / 1940

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 361.0 **LOG TYPE:** Electric Log

SOURCE: THARPE L C **WELL TYPE:** Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
294.0	MODESTO	PIASA	LIMESTONE	5.0	322.0	
289.0	MODESTO		UNCLASSIFIED	3.0	327.0	
286.0	CARBONDALE		UNCLASSIFIED	9.0	330.0	
277.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	339.0	
273.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	343.0	
271.5	CARBONDALE		UNCLASSIFIED	1.5	344.5	
270.0	CARBONDALE	BRERETON	LIMESTONE	7.0	346.0	
263.0	CARBONDALE	ANNA	BLACK SHALE	3.0	353.0	
260.0	CARBONDALE	HERRIN	COAL	5.0	356.0	

MAPID: 13501489000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE SW
QUADRANGLE: ATWATER **LONGITUDE:** -89.674519 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.348999 **DATE COLLECTED:** 3 / 0 / 1948
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: PARKER ETAL **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	9.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	6.0		
-	CARBONDALE	ANNA	BLACK SHALE	4.0		
-	CARBONDALE	HERRIN	COAL	5.0		

MAPID: 13501521000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' E line
QUADRANGLE: ATWATER **LONGITUDE:** -89.662909 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.361937 **DATE COLLECTED:** 6 / 22 / 1962
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 620.0 **LOG TYPE:** Drillers Log
SOURCE: W. C. STRIBLING #1 **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT: INFO FROM PLUGGING AFFADAVIT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
200.0	CARBONDALE	HERRIN	COAL	5.0	420.0	ONLY LOGGED COAL

MAPID: 13522445000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** SE SW NE

QUADRANGLE: ATWATER **LONGITUDE:** -89.648998 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.356512 **DATE COLLECTED:** 5 / 23 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 423.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED GB479 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
-	PLEISTOCENE		GLACIAL DRIFT	29.0	10.0	
-	PLEISTOCENE		GLACIAL DRIFT	11.0	39.0	BLU-GY
-	PLEISTOCENE		GLACIAL DRIFT	28.0	50.0	
-	PLEISTOCENE		GLACIAL DRIFT	47.0	78.0	
-			SANDY SHALE	5.0	125.0	
-			SHALY SANDSTONE	10.0	130.0	GRAY
-			GRAY SHALE	16.0	140.0	
-			GRAY SHALE	4.0	156.0	
-			SLATY SHALE	3.8	160.0	
-			GRAY SHALE	16.2	163.8	
-			GRAY SHALE	30.0	180.0	
-			GRAY SHALE	9.0	210.0	
-			GRAY SHALE	1.2	219.0	
-			SLATY SHALE	3.8	220.2	
-			GRAY SHALE	12.3	224.0	
-			COAL	0.7	236.3	
-			GRAY SHALE	7.0	237.0	
-			GRAY SHALE	83.0	244.0	
-			BLACK SHALE	2.2	327.0	
-			GRAY SHALE	29.4	329.2	
-			GRAY SHALE	14.0	358.6	
-	MODESTO	PIASA	LIMESTONE	3.2	372.6	
-			SHALE WITH LIMESTONE	10.4	375.8	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	386.2	
-	CARBONDALE		SHALE/SANDSTONE/LIMESTONE	8.5	388.0	
-	CARBONDALE		LIMESTONE	3.4	396.5	
-	CARBONDALE		SHALE/SANDSTONE/LIMESTONE	2.1	399.9	
-	CARBONDALE	BRERETON	LIMESTONE	4.0	402.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.1	406.0	
-	CARBONDALE	ANNA	SLATY SHALE	0.9	408.1	
-	CARBONDALE	HERRIN	COAL	9.0	409.0	
-	CARBONDALE		CLAYSTONE & SILTSTONE	3.9	418.0	
-	CARBONDALE		NODULAR LIMESTONE	1.1	421.9	GRAY
-	CARBONDALE		CLAYSTONE & SILTSTONE	0.7	423.0	GRAY

MAPID: 13522445000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** SE SW NE

QUADRANGLE: ATWATER **LONGITUDE:** -89.648998 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.356512 **DATE COLLECTED:** 5 / 23 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 418.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED GB-4-79 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	9.0	409.0	

MAPID: 13522450000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 63' N line, 210' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.642443 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.362781 **DATE COLLECTED:** 5 / 22 / 1979

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 423.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-34-9C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0			UNCONSOLIDATED	68.0	0.0	
582.0	BOND		SANDY SHALE	20.0	68.0	
562.0	BOND		SANDSTONE	10.0	88.0	
552.0	BOND		GRAY SHALE	3.0	98.0	
549.0	BOND	CARTHAGE	LIMESTONE	7.0	101.0	
542.0	MODESTO		GRAY SHALE	1.0	108.0	
541.0	MODESTO		BLACK SHALE	2.5	109.0	
538.5	MODESTO		GRAY SHALE	33.0	111.5	
505.5	MODESTO		LIMESTONE	2.0	144.5	
503.5	MODESTO		BLACK SHALE	2.5	146.5	
501.0	MODESTO		GRAY SHALE	17.0	149.0	
484.0	MODESTO		SANDSTONE	1.0	166.0	
483.0	MODESTO		GRAY SHALE	39.0	167.0	
444.0	MODESTO		LIMESTONE	1.0	206.0	
443.0	MODESTO		BLACK SHALE	2.0	207.0	
441.0	MODESTO		SHALE	5.0	209.0	
436.0	MODESTO		LIMESTONE	1.0	214.0	
435.0	MODESTO		GRAY SHALE	5.5	215.0	
429.5	MODESTO	CHAPEL	COAL	1.0	220.5	
428.5	MODESTO		GRAY SHALE	5.5	221.5	
423.0	MODESTO		GRAY SHALE	83.0	227.0	
340.0	MODESTO		GRAY SHALE	8.0	310.0	
332.0	MODESTO		SANDY SHALE	21.0	318.0	
311.0	MODESTO		BLACK SHALE	2.5	339.0	
308.5	MODESTO		SANDY SHALE	16.3	341.5	
292.2	MODESTO	PIASA	LIMESTONE	2.7	357.8	
289.5	MODESTO		GRAY SHALE	8.0	360.5	
281.5	CARBONDALE	DANVILLE	COAL	1.0	368.5	
280.5	CARBONDALE		GRAY SHALE	6.5	369.5	
274.0	CARBONDALE		CALCAREOUS SHALE	10.5	376.0	
263.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	386.5	
260.5	CARBONDALE		GRAY SHALE	1.5	389.5	
259.0	CARBONDALE	BRERETON	LIMESTONE	3.0	391.0	
256.0	CARBONDALE	ANNA	BLACK SHALE	4.2	394.0	
251.8	CARBONDALE	HERRIN	COAL	7.9	398.2	
243.9	CARBONDALE		SHALE	0.5	406.1	
243.4	CARBONDALE		CORE LOSS	0.5	406.6	
243.0	CARBONDALE		GRAY SHALE	1.0	407.0	
242.0	CARBONDALE		LIMESTONE	15.0	408.0	

MAPID: 13522564000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1550' S line, 95' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.642931 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.352614 **DATE COLLECTED:** 6 / 12 / 1974

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 447.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-9 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0			UNCONSOLIDATED	123.0	0.0	
519.0	BOND	CARTHAGE	LIMESTONE	9.0	123.0	
510.0	MODESTO		SILTY SHALE	25.0	132.0	
485.0	MODESTO	MACOUPIN	LIMESTONE	1.0	157.0	
484.0	MODESTO	WOMAC	BLACK SHALE	2.0	158.0	
482.0	MODESTO		SILTY SHALE	4.0	160.0	
478.0	MODESTO	CARLINVILLE	SHALY LIMESTONE	9.0	164.0	
469.0	MODESTO		GRAY SHALE	41.0	173.0	
428.0	MODESTO		LIMESTONE	2.0	214.0	
426.0	MODESTO		BLACK SHALE	5.0	216.0	
421.0	MODESTO		LIMESTONE	3.0	221.0	
418.0	MODESTO		GRAY SHALE	9.0	224.0	
409.0	MODESTO	CHAPEL	COAL	2.0	233.0	
407.0	MODESTO		GRAY SHALE	87.0	235.0	
320.0	MODESTO		LIMESTONE	2.0	322.0	
318.0	MODESTO		GRAY SHALE	26.0	324.0	
292.0	MODESTO		BLACK SHALE	2.0	350.0	
290.0	MODESTO		GRAY SHALE	6.0	352.0	
284.0	MODESTO	PIASA	LIMESTONE	12.0	358.0	
272.0			GRAY SHALE	13.0	370.0	
259.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	383.0	
251.0	CARBONDALE		GRAY SHALE	18.0	391.0	
233.0	CARBONDALE	HERRIN	COAL	8.0	409.0	
225.0	CARBONDALE		UNDERCLAY	2.0	417.0	
223.0	CARBONDALE		LIMESTONE	5.0	419.0	
218.0	CARBONDALE		GRAY SHALE	5.0	424.0	
213.0	CARBONDALE		LIMESTONE	5.0	429.0	
208.0	CARBONDALE		GRAY SHALE	13.0	434.0	

MAPID: 13522565000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1334' S line, 2622' W line

QUADRANGLE: ATWATER **LONGITUDE:** -89.633952 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.352025 **DATE COLLECTED:** 8 / 31 / 1977

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 460.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL RI-77-44 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0			UNCONSOLIDATED	132.0	0.0	
510.0	BOND		GRAY SHALE	6.0	132.0	
504.0	BOND	CARTHAGE	SHALY LIMESTONE	4.0	138.0	
500.0	MODESTO		GRAY SHALE	15.0	142.0	
485.0	MODESTO	MACOUPIN	LIMESTONE	2.0	157.0	
483.0	MODESTO	WOMAC	BLACK SHALE	4.5	159.0	
478.5	MODESTO		GRAY SHALE	5.5	163.5	
473.0	MODESTO	CARLINVILLE	LIMESTONE	6.0	169.0	
467.0	MODESTO		SANDY SHALE	10.0	175.0	
457.0	MODESTO		GRAY SHALE	36.0	185.0	
421.0	MODESTO		LIMESTONE	1.0	221.0	
420.0	MODESTO		BLACK SHALE	2.0	222.0	
418.0	MODESTO		GRAY SHALE	4.5	224.0	
413.5	MODESTO		LIMESTONE	4.5	228.5	
409.0	MODESTO		GRAY SHALE	7.0	233.0	
402.0	MODESTO	CHAPEL	COAL	1.5	240.0	
400.5	MODESTO		SANDY SHALE	101.5	241.5	
299.0	MODESTO		SHALE	6.0	343.0	
293.0	MODESTO		BLACK SHALE	2.0	349.0	
291.0	MODESTO		SANDY SHALE	18.0	351.0	
273.0	MODESTO	PIASA	LIMESTONE	3.0	369.0	
270.0	MODESTO		BLACK SHALE	5.0	372.0	
265.0	CARBONDALE	DANVILLE	COAL	3.0	377.0	
262.0	CARBONDALE		SHALE	7.0	380.0	
255.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	387.0	
250.0	CARBONDALE		CALCAREOUS SHALE	6.0	392.0	
244.0	CARBONDALE		SHALE	2.0	398.0	
242.0	CARBONDALE	ENERGY	GRAY SHALE	23.0	400.0	
219.0	CARBONDALE	HERRIN	COAL	8.0	423.0	
211.0	CARBONDALE		UNDERCLAY	2.0	431.0	
209.0	CARBONDALE		LIMESTONE	1.0	433.0	
208.0	CARBONDALE		GRAY SHALE	26.0	434.0	

MAPID: 13500761000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.618227 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.354789 **DATE COLLECTED:** 9 / 0 / 1944

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 397.5 **LOG TYPE:** Electric Log

SOURCE: CENT PIPELINE OIL **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
310.5	MODESTO	PIASA	LIMESTONE	3.0	336.5	
307.5	MODESTO		UNCLASSIFIED	2.5	339.5	
305.0	CARBONDALE		UNCLASSIFIED	9.0	342.0	
296.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	351.0	
291.0	CARBONDALE	ENERGY	UNCLASSIFIED	35.0	356.0	
256.0	CARBONDALE	HERRIN	COAL	6.5	391.0	

MAPID: 13500761000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.618227 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.354789 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
306.0	MODESTO	PIASA	LIMESTONE	3.0	341.0	
303.0	MODESTO		SHALE	12.0	344.0	
291.0	CARBONDALE	DANVILLE	COAL	4.0	356.0	
287.0	CARBONDALE	ENERGY	SHALE	33.0	360.0	
252.0	CARBONDALE	HERRIN	COAL	5.0	395.0	

MAPID: 13522342000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 100' S line, 2628' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.614584 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.348725 **DATE COLLECTED:** 7 / 10 / 1978

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 415.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-15 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0			UNCONSOLIDATED	77.0	0.0	
565.0	BOND		GRAY SHALE	34.0	77.0	
531.0	BOND	CARTHAGE	SANDY LIMESTONE	6.0	111.0	
525.0	MODESTO		GRAY SHALE	15.0	117.0	
510.0	MODESTO	MACOUPIN	LIMESTONE	3.0	132.0	
507.0	MODESTO		BLACK SHALE	2.0	135.0	
505.0	MODESTO	WOMAC	COAL	1.0	137.0	
504.0	MODESTO		SANDY SHALE	5.0	138.0	
499.0	MODESTO	CARLINVILLE	LIMESTONE	6.5	143.0	
492.5	MODESTO		SANDY SHALE	10.5	149.5	
482.0	MODESTO		GRAY SHALE	36.0	160.0	
446.0	MODESTO		LIMESTONE	2.0	196.0	
444.0	MODESTO		BLACK SHALE	2.0	198.0	
442.0	MODESTO		SHALE	3.0	200.0	
439.0	MODESTO		LIMESTONE	1.5	203.0	
437.5	MODESTO		GRAY SHALE	11.0	204.5	
426.5	MODESTO	CHAPEL	COAL	1.0	215.5	
425.5	MODESTO		SANDY SHALE	19.0	216.5	
406.5	MODESTO		GRAY SHALE	69.5	235.5	
337.0	MODESTO		SANDY SHALE	21.0	305.0	
316.0	MODESTO		BLACK SHALE	2.0	326.0	
314.0	MODESTO		SHALE	5.0	328.0	
309.0	MODESTO		SANDY SHALE	8.0	333.0	
301.0	MODESTO	PIASA	LIMESTONE	3.0	341.0	
298.0	MODESTO		SHALE	4.0	344.0	
294.0	CARBONDALE		GRAY SHALE	5.5	348.0	
288.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	353.5	
285.0	CARBONDALE	ENERGY	GRAY SHALE	36.0	357.0	
249.0	CARBONDALE	HERRIN	COAL	1.5	393.0	
247.5	CARBONDALE	HERRIN	SHALE	2.3	394.5	
245.2	CARBONDALE	HERRIN	CORE LOSS	0.2	396.8	
245.0	CARBONDALE	HERRIN	GRAY SHALE	4.0	397.0	
241.0	CARBONDALE	HERRIN	COAL	4.0	401.0	
237.0	CARBONDALE		SHALE	6.0	405.0	
231.0	CARBONDALE		LIMESTONE	2.0	411.0	
229.0	CARBONDALE		GRAY SHALE	1.0	413.0	
228.0	CARBONDALE		LIMESTONE	1.0	414.0	

MAPID: 13500760000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.597163 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.356782 **DATE COLLECTED:** 3 / 0 / 1953

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 371.5 **LOG TYPE:** Electric Log

SOURCE: WIRTH EDWARD LEE **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
329.0	MODESTO	PIASA	LIMESTONE	3.0	314.0	
326.0	MODESTO		UNCLASSIFIED	3.0	317.0	
323.0	CARBONDALE		UNCLASSIFIED	10.0	320.0	
313.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	330.0	
309.0	CARBONDALE	ENERGY	UNCLASSIFIED	31.0	334.0	
278.0	CARBONDALE	HERRIN	COAL	6.5	365.0	

MAPID: 13500760000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.597163 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.356782 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 372.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
336.0	MODESTO	PIASA	LIMESTONE W/ SHALE	11.0	307.0	
325.0	MODESTO		SHALE	12.0	318.0	
313.0	CARBONDALE	DANVILLE	COAL	4.0	330.0	
309.0	CARBONDALE	ENERGY	SHALE	32.0	334.0	
277.0	CARBONDALE	HERRIN	COAL	6.0	366.0	

MAPID: 13522446000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2602' S line, 27' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.605265 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.355731 **DATE COLLECTED:** 5 / 23 / 1979

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 425.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-79-36-7C **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0			UNCONSOLIDATED	117.0	0.0	
528.0	BOND	CARTHAGE	LIMESTONE	3.0	117.0	
525.0	MODESTO		GRAY SHALE	15.0	120.0	
510.0	MODESTO	MACOUPIN	LIMESTONE	2.0	135.0	
508.0	MODESTO		BLACK SHALE	2.5	137.0	
505.5	MODESTO	WOMAC	COAL	1.0	139.5	
504.5	MODESTO		GRAY SHALE	5.5	140.5	
499.0	MODESTO		SANDSTONE	7.5	146.0	
491.5	MODESTO		SANDY SHALE	50.5	153.5	
441.0	MODESTO		LIMESTONE	1.3	204.0	
439.7	MODESTO		BLACK SHALE	1.7	205.3	
438.0	MODESTO		SHALE	4.0	207.0	
434.0	MODESTO		LIMESTONE	1.0	211.0	
433.0	MODESTO		SHALE	9.5	212.0	
423.5	MODESTO	CHAPEL	COAL	1.5	221.5	
422.0	MODESTO		GRAY SHALE	11.0	223.0	
411.0	MODESTO		SANDSTONE	10.0	234.0	
401.0	MODESTO		SANDY SHALE	84.0	244.0	
317.0	MODESTO		BLACK SHALE	2.0	328.0	
315.0	MODESTO		GRAY SHALE	15.0	330.0	
300.0	MODESTO	PIASA	LIMESTONE	2.0	345.0	
298.0	MODESTO		SHALE	6.0	347.0	
292.0	CARBONDALE		SHALE	8.0	353.0	
284.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.4	361.0	
280.6	CARBONDALE	ENERGY	GRAY SHALE	32.6	364.4	
248.0	CARBONDALE	ENERGY	SHALE	2.1	397.0	
245.9	CARBONDALE	HERRIN	COAL	5.7	399.1	
240.2	CARBONDALE		CLAYSTONE & SHALE	1.8	404.8	
238.4	CARBONDALE		LIMESTONE	0.3	406.6	
238.1	CARBONDALE		CORE LOSS	0.2	406.9	
238.0	CARBONDALE		LIMESTONE	4.0	407.0	
234.0	CARBONDALE		GRAY SHALE	6.0	411.0	
228.0	CARBONDALE		LIMESTONE	3.5	417.0	
224.5	CARBONDALE		GRAY SHALE	4.5	420.5	

MAPID: 13522566000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: MONTGOMERY **TWP/RNG:** 11N 5W **SECTION:** 36 **QUARTERS/FOOTAGES:** 2355' N line, 215' E line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.587438 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.356715 **DATE COLLECTED:** 6 / 16 / 1974

SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-74-15 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
638.0			UNCONSOLIDATED	67.0	0.0	
571.0	BOND	CARTHAGE	LIMESTONE	7.0	67.0	
564.0	MODESTO		GRAY SHALE	22.0	74.0	
542.0	MODESTO		SANDY LIMESTONE	5.0	96.0	
537.0	MODESTO		GRAY SHALE	13.0	101.0	
524.0	MODESTO		SHALY LIMESTONE	4.0	114.0	
520.0	MODESTO		BLACK SHALE	4.0	118.0	
516.0	MODESTO		GRAY SHALE	50.0	122.0	
466.0	MODESTO		SANDSTONE	2.0	172.0	
464.0	MODESTO		GRAY SHALE	15.0	174.0	
449.0	MODESTO		BLACK SHALE	2.0	189.0	
447.0	MODESTO		GRAY SHALE	116.0	191.0	
331.0	MODESTO		BLACK SHALE	2.0	307.0	
329.0	MODESTO		GRAY SHALE	10.0	309.0	
319.0	MODESTO	PIASA	LIMESTONE	2.0	319.0	
317.0			SHALE	11.0	321.0	
306.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	332.0	
302.0	CARBONDALE	ENERGY	GRAY SHALE	28.0	336.0	
274.0	CARBONDALE	HERRIN	COAL	3.0	364.0	
271.0	CARBONDALE		CLAYSTONE & SHALE	6.0	367.0	
265.0	CARBONDALE	HERRIN	COAL	5.0	373.0	
260.0	CARBONDALE		CLAYSTONE & SHALE	4.0	378.0	
256.0	CARBONDALE		LIMESTONE	2.0	382.0	
254.0	CARBONDALE		GRAY SHALE	6.0	384.0	

MAPID: 13501090000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 11' N line, 149' W line of NW NW NW

QUADRANGLE: PAWNEE **LONGITUDE:** -89.551866 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.52455 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 343.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 10-1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
276.0	CARBONDALE	HERRIN	COAL	7.3	336.0	

MAPID: 13501091000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 10' N line, 1393' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.547432 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.524555 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 10-2 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
295.6	MODESTO		SHALE	9.0	318.4	
286.6	CARBONDALE	DANVILLE	COAL WITH SHALE PARTINGS	2.5	327.4	
284.1	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.3	329.9	
283.8	CARBONDALE		CALCAREOUS SHALE	1.7	330.2	
282.1	CARBONDALE	ALLENBY	BONE COAL	0.2	331.9	
281.9	CARBONDALE		CLAYSTONE	1.9	332.1	
280.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.8	334.0	UPPER BENCH
274.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.4	339.8	SHALE PARTING
273.8	CARBONDALE	BANKSTON FORK	LIMESTONE AND SANDSTONE	0.5	340.2	LOWER BENCH
273.3	CARBONDALE	LAWSON	GRAY SHALE	1.3	340.7	
272.0	CARBONDALE	LAWSON	SILTSTONE	4.3	342.0	
267.7	CARBONDALE	LAWSON	MOTTLED SHALE	3.2	346.3	
264.5	CARBONDALE	LAWSON	DARK GRAY SHALE	1.3	349.5	
263.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.8	350.8	
257.3	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	356.7	
257.0	CARBONDALE	HERRIN	COAL	7.5	357.0	

MAPID: 13501091000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 10' N line, 1393' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.547432 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.524555 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 10-2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
300.5	MODESTO	PIASA	LIMESTONE	5.0	313.5	
295.5	MODESTO		UNCLASSIFIED	9.0	318.5	
286.5	CARBONDALE	DANVILLE	COAL	2.5	327.5	
284.0	CARBONDALE		UNCLASSIFIED	4.1	330.0	
279.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	334.1	
273.2	CARBONDALE	ANVIL ROCK	SANDSTONE	6.8	340.8	
266.4	CARBONDALE	CONANT	LIMESTONE	1.0	347.6	
265.4	CARBONDALE		SHALE	2.4	348.6	
263.0	CARBONDALE	BRERETON	LIMESTONE	5.7	351.0	
257.3	CARBONDALE	ANNA	BLACK SHALE	0.3	356.7	
257.0	CARBONDALE	HERRIN	COAL	7.5	357.0	

MAPID: 13501091000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 4 **QUARTERS/FOOTAGES:** 10' N line, 1393' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.547432 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.524555 **DATE COLLECTED:** 11 / 5 / 1957
SURFACE ELEVATION (FT.): 613.9 **LOGGED (FT.):** 5.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 10-2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
277.9	CARBONDALE	HERRIN	COAL	7.5	336.0	

MAPID: 13500343000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587803 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.49594 **DATE COLLECTED:** 7 / 0 / 1955

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 348.0 **LOG TYPE:** Electric Log

SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
323.0	MODESTO	PIASA	LIMESTONE	3.0	307.0	
320.0	MODESTO		UNCLASSIFIED	3.0	310.0	
317.0	CARBONDALE	DANVILLE	COAL	1.0	313.0	
316.0	CARBONDALE		UNCLASSIFIED	9.0	314.0	
307.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	323.0	
302.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	328.0	
300.0	CARBONDALE		UNCLASSIFIED	1.5	330.0	
298.5	CARBONDALE	BRERETON	LIMESTONE	7.0	331.5	
291.5	CARBONDALE	ANNA	BLACK SHALE	1.5	338.5	
290.0	CARBONDALE	HERRIN	COAL	8.0	340.0	

MAPID: 13500343000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587803 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.49594 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 354.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
324.0	MODESTO	PIASA	LIMESTONE & SHALE	9.0	306.0	
315.0	MODESTO		DARK GRAY SHALE	5.0	315.0	
310.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	320.0	
308.0	CARBONDALE	GALUM	LIMESTONE	1.0	322.0	
307.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	323.0	
306.0	CARBONDALE		SHALE	6.0	324.0	
300.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	330.0	
296.0	CARBONDALE	LAWSON	SHALE	1.0	334.0	
295.0	CARBONDALE	LAWSON	BLACK SHALE	2.0	335.0	
293.0	CARBONDALE	LAWSON	SANDSTONE	6.0	337.0	
287.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	343.0	
285.0	CARBONDALE	ANNA	BLACK SHALE	2.0	345.0	
283.0	CARBONDALE	HERRIN	COAL	7.0	347.0	

MAPID: 13501113000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 42' N line, 27' W line of NW NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.552129 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.509697 **DATE COLLECTED:** 0 / 0 / 1958
SURFACE ELEVATION (FT.): 624.6 **LOGGED (FT.):** 377.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 3 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
254.8	CARBONDALE	HERRIN	COAL	8.0	369.8	

MAPID: 13501113000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 42' N line, 27' W line of NW NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.552129 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.509697 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 3 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
283.4	MODESTO	PIASA	LIMESTONE	4.8	341.6	
278.6	MODESTO		UNCLASSIFIED	2.8	346.4	
275.8	CARBONDALE		UNCLASSIFIED	6.3	349.2	
269.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	355.5	
264.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	360.8	
262.2	CARBONDALE		SHALE	3.0	362.8	
259.2	CARBONDALE	BRERETON	LIMESTONE	4.8	365.8	
254.4	CARBONDALE	ANNA	BLACK SHALE	0.4	370.6	
254.0	CARBONDALE	HERRIN	COAL	8.0	371.0	

MAPID: 13501114000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 71' S line, 13' W line of SW SW SW
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.551894 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.495481 **DATE COLLECTED:** 0 / 0 / 1958
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 374.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 4 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
263.4	CARBONDALE	HERRIN	COAL	7.9	366.6	

MAPID: 13501114000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 71' S line, 13' W line of SW SW SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.551894 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.495481 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 374.9 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 4 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
292.1	MODESTO	PIASA	LIMESTONE	2.5	337.9	
289.6	MODESTO		UNCLASSIFIED	2.0	340.4	
287.6	CARBONDALE		UNCLASSIFIED	5.0	342.4	
282.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	347.4	
277.3	CARBONDALE	ANVIL ROCK	SANDSTONE	1.4	352.7	
275.9	CARBONDALE	CONANT	LIMESTONE	0.9	354.1	
275.0	CARBONDALE		SHALE	7.3	355.0	
267.7	CARBONDALE	BRERETON	LIMESTONE	3.8	362.3	
263.9	CARBONDALE	ANNA	BLACK SHALE	0.9	366.1	
263.0	CARBONDALE	HERRIN	COAL	7.9	367.0	

MAPID: 13501115000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 22' S line, 50' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.533204 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.495388 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 377.9 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 5 **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.4	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	15.0	348.6	
267.4	CARBONDALE		BLACK SHALE	1.8	363.6	
265.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.3	365.4	
261.2	CARBONDALE	ANNA	BLACK SHALE	0.3	369.8	
261.0	CARBONDALE	HERRIN	COAL	7.9	370.0	

MAPID: 13501115000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 22' S line, 50' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.533204 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.495388 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 377.8 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 5 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
284.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	346.1	
278.9	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	352.1	
274.9	CARBONDALE	CONANT	LIMESTONE	1.5	356.1	
273.4	CARBONDALE		SHALE	6.9	357.6	
266.5	CARBONDALE	BRERETON	LIMESTONE	4.3	364.5	
262.2	CARBONDALE	ANNA	BLACK SHALE	1.2	368.8	
261.0	CARBONDALE	HERRIN	COAL	7.8	370.0	

MAPID: 13501115000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 9 **QUARTERS/FOOTAGES:** 22' S line, 50' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.533204 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.495388 **DATE COLLECTED:** 0 / 0 / 1958

SURFACE ELEVATION (FT.): 630.9 **LOGGED (FT.):** 391.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 5 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
248.5	CARBONDALE	HERRIN	COAL	8.6	382.4	

MAPID: 13501527000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 13' S line, 2578' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.542522 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.4806 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 352.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-27-64 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
327.0	MODESTO	PIASA	LIMESTONE	1.3	308.0	
325.7	MODESTO		DARK GRAY SHALE	11.2	309.3	
314.5	CARBONDALE		CALCAREOUS SHALE	7.0	320.5	
307.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	327.5	
299.7	CARBONDALE	LAWSON	GRAY SHALE	8.2	335.3	
291.5	CARBONDALE	BRERETON	LIMESTONE	1.0	343.5	
290.5	CARBONDALE	ANNA	DARK GRAY SHALE	4.4	344.5	
290.0	CARBONDALE	HERRIN	COAL	7.7	345.0	

MAPID: 13501527000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 16 **QUARTERS/FOOTAGES:** 13' S line, 2578' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.542522 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.4806 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 352.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-27-64 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
330.9	MODESTO	PIASA	LIMESTONE	1.3	304.1	
329.6	MODESTO		UNCLASSIFIED	6.2	305.4	
323.4	CARBONDALE		UNCLASSIFIED	12.0	311.6	
311.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	323.6	
303.6	CARBONDALE	ANVIL ROCK	SANDSTONE	4.1	331.4	
299.5	CARBONDALE		SHALE	4.1	335.5	
295.4	CARBONDALE	BRERETON	LIMESTONE	1.0	339.6	
294.4	CARBONDALE	ANNA	BLACK SHALE	4.4	340.6	
290.0	CARBONDALE	HERRIN	COAL	7.7	345.0	

MAPID: 13500001000C **VERSION:** 1 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.558975 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.493382 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 370.0 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #4 **WELL TYPE:** Coal Test

COMMENT: NO ELEV. GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			SOIL	4.0	0.0	
-			CLAY	14.0	4.0	
-			SAND & GRAVEL	8.0	18.0	
-	BOND		SHALE	48.0	26.0	
-	BOND	CARTHAGE	LIMESTONE	10.0	74.0	
-	MODESTO		SHALE	14.0	84.0	
-	MODESTO	MACOUPIN	LIMESTONE	8.0	98.0	
-	MODESTO		SHALE	22.0	106.0	
-	MODESTO		LIMESTONE	2.0	128.0	
-	MODESTO		SHALE	48.0	130.0	
-	MODESTO	CARLINVILLE	LIMESTONE	6.0	178.0	
-	MODESTO		SHALE	124.0	184.0	
-	MODESTO		SHALE	2.0	308.0	
-	MODESTO		SHALE	25.8	310.0	W/ BASAL 1.25'
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.6	335.8	
-	CARBONDALE	BANKSTON FORK	SHALE	0.3	337.3	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	337.7	
-	CARBONDALE		SHALE	0.7	339.3	
-	CARBONDALE		LIMESTONE	4.0	340.0	
-	CARBONDALE		BLACK SHALE	1.0	344.0	
-	CARBONDALE		CALCAREOUS SHALE	1.0	345.0	
-	CARBONDALE		SHALE	2.5	346.0	
-	CARBONDALE	BRERETON	LIMESTONE	0.2	348.5	
-	CARBONDALE	ANNA	BLACK SHALE	6.1	348.7	
-	CARBONDALE	HERRIN	COAL	7.0	354.8	
-	CARBONDALE		SHALE	1.8	361.8	
-	CARBONDALE		LIMESTONE	6.0	363.5	
-	CARBONDALE		SHALE	0.5	369.5	

MAPID: 13500001000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.558975 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.493382 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE		UNCLASSIFIED	5.8		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.6		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	4.0		
-	CARBONDALE	BRERETON	LIMESTONE	8.7		
-	CARBONDALE	ANNA	BLACK SHALE	6.1		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13500001000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.558975 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.493382 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 370.0 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #4 **WELL TYPE:** Coal Test

COMMENT: DATE AND ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		SOIL	4.0	0.0	
-	PLEISTOCENE		CLAY	14.0	4.0	
-	PLEISTOCENE		SAND & GRAVEL	8.0	18.0	
-	BOND		GRAY SHALE	10.0	26.0	
-	BOND		SANDSTONE/SHALE	15.0	36.0	AND MICA
-	BOND		GRAY SHALE	23.0	51.0	
-	BOND	CARTHAGE	LIMESTONE	10.0	74.0	
-	MODESTO		DARK SHALE	1.5	84.0	
-	MODESTO		BLACK SHALE	4.0	85.5	
-	MODESTO		SANDSTONE/SHALE	8.5	89.5	AND MICA
-	MODESTO		LIMESTONE	8.0	98.0	
-	MODESTO		GRAY SHALE	22.0	106.0	
-	MODESTO		LIMESTONE	2.0	128.0	
-	MODESTO		ARGILACEOUS SHALE	48.0	130.0	
-	MODESTO		LIMESTONE	6.0	178.0	
-	MODESTO		GRAY SHALE	124.0	184.0	
-	MODESTO		DARK SHALE	2.0	308.0	
-	MODESTO		GRAY SHALE	20.0	310.0	
-	CARBONDALE		SHALE & CLAYSTONE	4.5	330.0	HARD
-	CARBONDALE		ARGILACEOUS SHALE	1.3	334.5	AND LIME
-	CARBONDALE		LIMESTONE	1.6	335.8	
-	CARBONDALE		ARGILACEOUS SHALE	0.3	337.3	SOFT
-	CARBONDALE		LIMESTONE	1.7	337.7	
-	CARBONDALE		ARGILACEOUS SHALE	0.7	339.3	HARD
-	CARBONDALE	BRERETON	LIMESTONE	4.0	340.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	344.0	
-	CARBONDALE	ANNA	LIMESTONE & SHALE	1.0	345.0	
-	CARBONDALE	ANNA	ARGILACEOUS SHALE	2.5	346.0	HARD
-	CARBONDALE	ANNA	LIMESTONE	0.2	348.5	
-	CARBONDALE	ANNA	BLACK SHALE	6.1	348.7	HARD
-	CARBONDALE	HERRIN	COAL	7.0	354.8	
-	CARBONDALE		ARGILACEOUS SHALE	1.8	361.8	HARD
-	CARBONDALE		LIMESTONE	6.0	363.5	
-	CARBONDALE		ARGILACEOUS SHALE	0.5	369.5	

MAPID: 13501526000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 12' S line, 2606' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.561268 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.480529 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 382.9 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-25-63 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
291.6	CARBONDALE		MOTTLED SHALE	5.7	341.4	
285.9	CARBONDALE		MOTTLED SHALE	0.5	347.1	
285.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.7	347.5	UPPER BENCH
283.8	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.7	349.2	SHALE PARTING
283.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.6	349.9	LOWER BENCH
277.5	CARBONDALE	LAWSON	CLAYSTONE	4.3	355.5	
273.3	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	5.5	359.7	
267.8	CARBONDALE	LAWSON	SHALE	2.1	365.2	
265.7	CARBONDALE		DARK GRAY SHALE	1.3	367.3	
264.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.7	368.5	
259.7	CARBONDALE	ANNA	BLACK SHALE	1.8	373.3	
258.0	CARBONDALE	HERRIN	COAL	7.9	375.0	

MAPID: 13501526000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 12' S line, 2606' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.561268 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.480529 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 382.9 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-25-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.2	CARBONDALE		UNCLASSIFIED	3.7	345.8	
283.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.9	349.5	
275.6	CARBONDALE	ANVIL ROCK	SANDSTONE	5.2	357.4	
270.4	CARBONDALE		SHALE	5.8	362.6	
264.6	CARBONDALE	BRERETON	LIMESTONE	4.7	368.4	
259.9	CARBONDALE	ANNA	BLACK SHALE	1.9	373.1	
258.0	CARBONDALE	HERRIN	COAL	7.9	375.0	

MAPID: 13501526000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 17 **QUARTERS/FOOTAGES:** 12' S line, 2606' W line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.561268 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.480529 **DATE COLLECTED:** 0 / 0 / 1963
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 383.2 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-25-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
257.7	CARBONDALE	HERRIN	COAL	7.9	375.3	

MAPID: 13501531000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 14' S line, 2256' W line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587814 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.487656 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 377.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-26-64 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
301.9	CARBONDALE		GRAY SHALE	11.5	333.1	
290.4	CARBONDALE		MOTTLED SHALE	3.0	344.6	
287.4	CARBONDALE		GRAY SHALE	3.0	347.6	
284.4	CARBONDALE	BANKSTON FORK	LIMESTONE	8.2	350.6	
276.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.8	358.8	
274.4	CARBONDALE	LAWSON	SILTSTONE	2.5	360.6	
271.9	CARBONDALE	BRERETON	LIMESTONE	2.9	363.1	
269.0	CARBONDALE	ANNA	BLACK SHALE	3.0	366.0	
266.0	CARBONDALE	HERRIN	COAL	8.0	369.0	

MAPID: 13501531000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 14' S line, 2256' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587814 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.487656 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 376.8 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-26-64 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.8	MODESTO		UNCLASSIFIED	6.5	333.2	
295.3	CARBONDALE		UNCLASSIFIED	11.0	339.7	
284.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.1	350.7	
276.2	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	358.8	
274.4	CARBONDALE		SHALE	2.5	360.6	
271.9	CARBONDALE	BRERETON	LIMESTONE	2.9	363.1	
269.0	CARBONDALE	ANNA	BLACK SHALE	3.0	366.0	
266.0	CARBONDALE	HERRIN	COAL	7.8	369.0	

MAPID: 13501531000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 18 **QUARTERS/FOOTAGES:** 14' S line, 2256' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.587814 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.487656 **DATE COLLECTED:** 1 / 6 / 1964

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 377.1 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-26-64 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.7	CARBONDALE	HERRIN	COAL	7.8	369.3	

MAPID: 13501507000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.532381 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.458661 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 386.4 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-24-63 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
293.2	MODESTO		CLAYSTONE & SHALE	10.0	346.8	
283.2	CARBONDALE		CLAYSTONE	0.3	356.8	
282.8	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.5	357.2	
282.3	CARBONDALE		CLAYSTONE	0.1	357.7	
282.2	CARBONDALE		CLAYSTONE	6.4	357.8	
275.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	364.2	
272.8	CARBONDALE	LAWSON	SHALE & SILTSTONE	5.6	367.2	
267.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.1	372.8	
265.2	CARBONDALE	ANNA	BLACK SHALE	3.2	374.8	
262.0	CARBONDALE	HERRIN	COAL	8.4	378.0	

MAPID: 13501507000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.532381 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.458661 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 386.4 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-24-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
293.7	MODESTO	PIASA	LIMESTONE	1.3	346.3	
292.4	MODESTO		UNCLASSIFIED	3.1	347.6	
289.3	CARBONDALE		UNCLASSIFIED	11.4	350.7	
277.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	362.1	
273.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	366.3	
271.2	CARBONDALE		SHALE	3.1	368.8	
268.1	CARBONDALE	BRERETON	LIMESTONE	2.3	371.9	
265.8	CARBONDALE	ANNA	BLACK SHALE	3.8	374.2	
262.0	CARBONDALE	HERRIN	COAL	8.4	378.0	

MAPID: 13501507000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.532381 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.458661 **DATE COLLECTED:** 10 / 9 / 1963
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 386.7 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-24-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
261.7	CARBONDALE	HERRIN	COAL	8.4	378.3	

MAPID: 13501508000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** SE SE NE
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.552469 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.459426 **DATE COLLECTED:** 10 / 8 / 1963
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 388.3 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-23-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
262.1	CARBONDALE	HERRIN	COAL	8.4	379.9	

MAPID: 13501508000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** SE SE NE
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.552469 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.459426 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 388.4 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-23-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.7	CARBONDALE	ANNA	BLACK SHALE	3.7	376.3	
262.0	CARBONDALE	HERRIN	COAL	8.4	380.0	

MAPID: 13501525000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 1980' S line, 20' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.570142 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.456546 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 393.1 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-22-63 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	1.9	354.0	
284.1	MODESTO		MOTTLED SHALE	3.3	355.9	
280.7	CARBONDALE	DANVILLE	BLACK SHALE	0.4	359.3	
280.3	CARBONDALE		DARK GRAY SHALE	1.1	359.7	
279.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.6	360.8	
278.7	CARBONDALE		SHALE	2.6	361.3	
276.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	8.2	363.9	UPPER BENCH
267.9	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	5.1	372.1	SHALE PARTING
262.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.8	377.2	LOWER BENCH
256.0	CARBONDALE	BRERETON	LIMESTONE	2.3	384.0	
253.7	CARBONDALE	ANNA	MOTTLED SHALE	0.3	386.3	
254.0	CARBONDALE	HERRIN	COAL	7.1	386.0	

MAPID: 13501525000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 1980' S line, 20' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.570142 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.456546 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 393.1 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-22-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
259.5	CARBONDALE	BRERETON	LIMESTONE	5.2	380.5	
254.3	CARBONDALE	ANNA	BLACK SHALE	0.3	385.7	
254.0	CARBONDALE	HERRIN	COAL	7.1	386.0	

MAPID: 13501525000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 29 **QUARTERS/FOOTAGES:** 1980' S line, 20' W line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.570142 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.456546 **DATE COLLECTED:** 10 / 24 / 1963
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 393.5 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-22-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
253.7	CARBONDALE	HERRIN	COAL	7.2	386.3	

MAPID: 13500002000C **VERSION:** 1 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.586095 **GEOLOGIST:** S.SROKA
CONFIDENTIAL: N **LATITUDE:** 39.449262 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 646.3 **LOGGED (FT.):** 387.0 **LOG TYPE:** Drillers Log
SOURCE: GEORG HIRSCH, #8 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
646.3			SOIL	4.0	0.0	
642.3			CLAY	66.0	4.0	
576.3			SAND & GRAVEL	12.0	70.0	
564.3	BOND		SHALE	4.0	82.0	
560.3	BOND	CARTHAGE	LIMESTONE	10.0	86.0	
550.3	MODESTO		SHALE	21.0	96.0	
529.3	MODESTO	MACOUPIN	LIMESTONE	4.0	117.0	
525.3	MODESTO		SHALE	89.0	121.0	W/ COAL PARTINGS BASAL 5'
436.3	MODESTO		SANDSTONE	15.0	210.0	
421.3	MODESTO		SHALE	91.0	225.0	
330.3	MODESTO		SHALE	7.0	316.0	
323.3	MODESTO		SHALE	42.0	323.0	
281.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	365.0	
276.3	CARBONDALE		SHALE	2.5	370.0	
273.8	CARBONDALE	BRERETON	LIMESTONE	1.2	372.5	
272.6	CARBONDALE		SHALE	2.9	373.7	
269.7	CARBONDALE	ANNA	BLACK SHALE	1.5	376.6	
268.2	CARBONDALE	HERRIN	COAL	8.0	378.1	
260.2	CARBONDALE		CLAYSTONE & SILTSTONE	0.9	386.1	

MAPID: 13500002000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.586095 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.449262 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.1	MODESTO	PIASA	LIMESTONE	5.0	342.9	
298.1	MODESTO		UNCLASSIFIED	4.0	347.9	
294.1	CARBONDALE		UNCLASSIFIED	13.0	351.9	
281.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	364.9	
276.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	369.9	
274.6	CARBONDALE		UNCLASSIFIED	1.0	371.4	
273.6	CARBONDALE	BRERETON	LIMESTONE	1.2	372.4	
272.4	CARBONDALE	ANNA	BLACK SHALE	4.4	373.6	
268.0	CARBONDALE	HERRIN	COAL	8.0	378.0	

MAPID: 13500002000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.586095 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.449262 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.3 **LOGGED (FT.):** 387.0 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #VIII **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
646.3	PLEISTOCENE		SOIL	4.0	0.0	
642.3	PLEISTOCENE		CLAY	66.0	4.0	
576.3	PLEISTOCENE		SAND & GRAVEL	12.0	70.0	
564.3	BOND		GRAY SHALE	4.0	82.0	
560.3	BOND	CARTHAGE	LIMESTONE	10.0	86.0	
550.3	MODESTO		DARK SHALE	5.0	96.0	
545.3	MODESTO		BLACK SHALE	3.0	101.0	
542.3	MODESTO		GRAY SHALE	13.0	104.0	
529.3	MODESTO		LIMESTONE	4.0	117.0	
525.3	MODESTO		DARK SHALE	4.0	121.0	
521.3	MODESTO		SOFT SHALE	45.0	125.0	
476.3	MODESTO		GRAY SHALE	10.0	170.0	
466.3	MODESTO		SANDSTONE/SHALE	10.0	180.0	AND MICA
456.3	MODESTO		GRAY SHALE	15.0	190.0	
441.3	MODESTO		SOFT SHALE	5.0	205.0	WITH COAL PARTINGS (?)
436.3	MODESTO		SANDSTONE	15.0	210.0	
421.3	MODESTO		SOFT SHALE	36.0	225.0	
385.3	MODESTO		GRAY SHALE	55.0	261.0	
330.3	MODESTO		RED SHALE	7.0	316.0	
323.3	MODESTO		GRAY SHALE	20.0	323.0	
303.3	MODESTO		BLACK SHALE	5.0	343.0	
298.3	CARBONDALE		GRAY SHALE	17.0	348.0	
281.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	365.0	
276.3	CARBONDALE		GRAY SHALE	2.5	370.0	
273.8	CARBONDALE	BRERETON	LIMESTONE	1.2	372.5	
272.6	CARBONDALE	ANNA	DARK SHALE	2.9	373.7	
269.7	CARBONDALE	ANNA	BLACK SHALE	1.5	376.6	
268.2	CARBONDALE	HERRIN	COAL	8.0	378.1	
260.2	CARBONDALE		CLAYSTONE	0.9	386.1	LOG READS 260'2" IN COMMENTS

MAPID: 13501506000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.579374 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.443804 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 386.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-21-63 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	4.5	343.0	
298.5	MODESTO		MOTTLED SHALE	0.7	347.5	
297.8	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	3.3	348.2	
294.6	CARBONDALE		DARK GRAY SHALE	4.8	351.4	
289.8	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	0.5	356.2	
289.3	CARBONDALE		CALCAREOUS SHALE	1.4	356.7	
287.9	CARBONDALE		CLAYSTONE & SHALE	2.3	358.1	
285.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	360.4	UPPER BENCH
281.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.4	364.4	SHALE PARTING
280.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	10.9	365.8	LOWER BENCH
269.2	CARBONDALE	ANNA	DARK GRAY SHALE	1.3	376.8	
268.0	CARBONDALE	HERRIN	COAL	8.3	378.0	

MAPID: 13501506000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.579374 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.443804 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 386.3 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-21-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.1	MODESTO	PIASA	LIMESTONE	4.5	342.9	
298.6	MODESTO		UNCLASSIFIED	3.9	347.4	
294.7	CARBONDALE		UNCLASSIFIED	14.5	351.3	
280.2	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	365.8	
274.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.4	371.1	
273.5	CARBONDALE		SHALE	0.9	372.5	
272.6	CARBONDALE	BRERETON	LIMESTONE	3.3	373.4	
269.3	CARBONDALE	ANNA	BLACK SHALE	1.3	376.7	
268.0	CARBONDALE	HERRIN	COAL	8.3	378.0	

MAPID: 13501506000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.579374 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.443804 **DATE COLLECTED:** 9 / 16 / 1963

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 386.7 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-21-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
267.6	CARBONDALE	HERRIN	COAL	8.3	378.4	

MAPID: 13501505000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.560388 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.443818 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 408.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-20-63 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	NODULAR LIMESTONE	2.5	364.0	
283.5	MODESTO		CLAYSTONE	2.9	366.5	
280.6	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.1	369.4	
279.5	CARBONDALE		DARK GRAY SHALE	6.4	370.5	
273.1	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	0.3	376.9	
272.7	CARBONDALE		CLAYSTONE	6.1	377.3	
266.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.5	383.3	UPPER BENCH
263.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.7	386.8	SHALE PARTING
261.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	388.5	LOWER BENCH
256.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	393.8	
255.2	CARBONDALE	BRERETON	LIMESTONE	3.8	394.8	
251.3	CARBONDALE	ANNA	DARK GRAY SHALE	3.1	398.7	
249.0	CARBONDALE	HERRIN	COAL	7.3	401.0	

MAPID: 13501505000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.560388 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.443818 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 409.3 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-20-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.5	MODESTO	PIASA	LIMESTONE	2.5	363.5	
284.0	MODESTO		UNCLASSIFIED	4.0	366.0	
280.0	CARBONDALE		UNCLASSIFIED	13.5	370.0	
266.5	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	383.5	
258.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	391.8	
255.9	CARBONDALE		SHALE	1.0	394.1	
254.9	CARBONDALE	BRERETON	LIMESTONE	3.8	395.1	
251.1	CARBONDALE	ANNA	BLACK SHALE	3.1	398.9	
248.0	CARBONDALE	HERRIN	COAL	7.3	402.0	

MAPID: 13501505000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.560388 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.443818 **DATE COLLECTED:** 9 / 23 / 1963
SURFACE ELEVATION (FT.): 649.5 **LOGGED (FT.):** 408.7 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-20-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
248.1	CARBONDALE	HERRIN	COAL	7.3	401.4	

MAPID: 13501504000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.541581 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.443936 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 400.2 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-19-63 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	1.4	359.0	
284.6	MODESTO		MOTTLED SHALE	0.8	360.4	
283.7	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	0.4	361.3	
283.3	CARBONDALE		DARK GRAY SHALE	9.2	361.7	
274.2	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	0.1	370.8	
274.0	CARBONDALE		CLAYSTONE	8.1	371.0	
265.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.8	379.1	UPPER BENCH
259.1	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.1	385.9	SHALE PARTING
258.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	387.0	LOWER BENCH
255.8	CARBONDALE	ANNA	DARK GRAY SHALE	2.5	389.2	
252.0	CARBONDALE	HERRIN	COAL	7.2	393.0	

MAPID: 13501504000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.541581 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.443936 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 400.2 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-19-63 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.3	MODESTO	PIASA	LIMESTONE	1.4	358.7	
284.9	MODESTO		UNCLASSIFIED	1.3	360.1	
283.6	CARBONDALE		UNCLASSIFIED	17.5	361.4	
266.1	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	378.9	
259.8	CARBONDALE	ANVIL ROCK	SANDSTONE	1.5	385.2	
258.3	CARBONDALE		SHALE	1.1	386.7	
257.2	CARBONDALE	BRERETON	LIMESTONE	2.3	387.8	
254.9	CARBONDALE	ANNA	BLACK SHALE	2.9	390.1	
252.0	CARBONDALE	HERRIN	COAL	7.2	393.0	

MAPID: 13501504000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 4W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.541581 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.443936 **DATE COLLECTED:** 9 / 26 / 1963
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 399.8 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-19-63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
252.4	CARBONDALE	HERRIN	COAL	7.2	392.6	

MAPID: 13522704000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 1 **QUARTERS/FOOTAGES:** 660' N line, 355' E line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.590816 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.522661 **DATE COLLECTED:** 8 / 26 / 1983
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 1900.0 **LOG TYPE:** Drillers Log
SOURCE: JOHN CAREY OIL CO., INC. #1 **WELL TYPE:** Unsuccessful or Unknown Results
COMMENT: COAL INFO IS FROM PLUGGING AFFADAVIT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
289.0	CARBONDALE	HERRIN	COAL	8.0	355.0	ONLY LOGGED COAL-INFO FROM PLUGGING AFFT

MAPID: 13522030000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** SE NW SE

QUADRANGLE: DIVERNON **LONGITUDE:** -89.632673 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.51383 **DATE COLLECTED:** 4 / 14 / 1976

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 350.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-28-76 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
626.0	PLEISTOCENE		CLAY	8.5	4.0	
617.5	PLEISTOCENE		CLAY	2.0	12.5	WITH GRAVEL
615.5	BOND		SHALE	5.5	14.5	WEATHERED
610.0	BOND		SANDSTONE	33.0	20.0	
577.0	BOND		GRAY SHALE	5.0	53.0	
572.0	BOND		COAL	0.5	58.0	
571.5	BOND		UNDERCLAY	2.5	58.5	
569.0	BOND		SILTY SHALE	7.0	61.0	
562.0	BOND		SHALE	1.5	68.0	FOSSILIFEROUS
560.5	BOND		GRAY SHALE	1.5	69.5	
559.0	BOND		SHALE	2.5	71.0	BLACK
556.5	BOND		GRAY SHALE	7.5	73.5	
549.0	BOND		SANDSTONE	1.5	81.0	CALCAREOUS
547.5	BOND		SHALE	0.5	82.5	GREEN GRAY
547.0	BOND	CARTHAGE	LIMESTONE	4.5	83.0	
542.5	MODESTO		SHALE	1.5	87.5	GREEN GRAY
541.0	MODESTO		SHALE	2.0	89.0	DARK
539.0	MODESTO		GRAY SHALE	3.5	91.0	
535.5	MODESTO		SANDY SHALE	56.5	94.5	
479.0	MODESTO		SILTY SHALE	11.0	151.0	
468.0	MODESTO	CHAPEL	COAL	0.5	162.0	
467.5	MODESTO		SHALE	5.5	162.5	GREEN GRAY
462.0	MODESTO		SHALE	21.0	168.0	SILTY TO SANDY
441.0	MODESTO	TRIVOLI	SANDSTONE	22.0	189.0	CALCAREOUS
419.0	MODESTO		SANDY SHALE	60.5	211.0	WITH SANDSTONE
358.5	MODESTO		SILTY SHALE	6.5	271.5	WITH SIDERITE
352.0	MODESTO		SHALE	2.5	278.0	MEDIUM DARK
349.5	MODESTO		SILTY SHALE	12.5	280.5	
337.0	MODESTO		SHALE	1.5	293.0	BLACK
335.5	MODESTO		SHALE	3.5	294.5	SILTY TO SANDY
332.0	MODESTO		SHALE	1.0	298.0	GREEN GRAY
331.0	MODESTO	PIASA	LIMESTONE	3.0	299.0	
328.0	CARBONDALE		SHALE	6.5	302.0	GREEN GRAY
321.5	CARBONDALE		LIMESTONE	2.5	308.5	BROWN
319.0	CARBONDALE		SHALE	3.0	311.0	GREEN GRAY
316.0	CARBONDALE		SILTSTONE	3.0	314.0	
313.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.2	317.0	CORING BEGAN AT 308.2
307.8	CARBONDALE	BANKSTON FORK	SHALE	0.4	322.2	GREEN GRAY

307.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.2	322.6	
307.3	CARBONDALE		SHALE	2.0	322.7	GREEN GRAY
305.3	CARBONDALE		LIMESTONE	0.6	324.7	
304.7	CARBONDALE		SILTY SHALE	0.5	325.3	CALCAREOUS
304.3	CARBONDALE		SHALE	3.3	325.7	SILTY TO SANDY
301.0	CARBONDALE		SHALE	0.3	329.0	FOSSILIFEROUS
300.7	CARBONDALE	BRERETON	LIMESTONE	4.5	329.3	
296.3	CARBONDALE	ANNA	SHALE	1.5	333.7	BLACK
294.8	CARBONDALE	HERRIN	COAL	9.0	335.2	
285.8	CARBONDALE		UNDERCLAY	1.9	344.2	
284.0	CARBONDALE		SHALE	0.7	346.0	CONGLOMERATE
283.3	CARBONDALE	HIGGINSVILLE	LIMESTONE	1.4	346.7	
281.9	CARBONDALE		ROCK	1.9	348.1	LEFT IN HOLE

MAPID: 13522030000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 3 **QUARTERS/FOOTAGES:** SE NW SE

QUADRANGLE: DIVERNON **LONGITUDE:** -89.632673 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.51383 **DATE COLLECTED:** 0 / 0 / 1976

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 344.2 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-28-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	9.0	335.2	

MAPID: 13522031000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: DIVERNON **LONGITUDE:** -89.647189 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.522999 **DATE COLLECTED:** 2 / 25 / 1976

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 342.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-4-76 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	SURFACE & CLAY
619.0	PLEISTOCENE		CLAY	7.5	11.0	
611.5	BOND		SHALE	4.5	18.5	WEATHERED
607.0	BOND		GRAY SHALE	5.5	23.0	
601.5	BOND		SHALE	16.5	28.5	SILTY TO SANDY
585.0	BOND		SHALE	1.5	45.0	CALCAREOUS
583.5	BOND		LIMESTONE	1.0	46.5	
582.5	BOND		COAL	0.5	47.5	
582.0	BOND		SHALE	3.5	48.0	GREEN GRAY
578.5	BOND		SANDY SHALE	3.5	51.5	
575.0	BOND		SILTY SHALE	4.0	55.0	
571.0	BOND		COAL	0.5	59.0	
570.5	BOND		SHALE	2.5	59.5	GREEN GRAY
568.0	BOND	CARTHAGE	LIMESTONE	5.5	62.0	
562.5	MODESTO		SHALE	1.5	67.5	GREEN GRAY
561.0	MODESTO		SHALE	1.0	69.0	MEDIUM DARK
560.0	MODESTO		SHALE	3.0	70.0	BLACK
557.0	MODESTO		SHALE	5.5	73.0	GREEN GRAY
551.5	MODESTO		SHALE	2.5	78.5	GREEN GRAY WITH LIMESTONE NODULES
549.0	MODESTO		SANDSTONE	6.0	81.0	CALCAREOUS
543.0	MODESTO		SHALE	2.0	87.0	GREEN GRAY
541.0	MODESTO		SHALE	1.5	89.0	BLACK
539.5	MODESTO		GRAY SHALE	7.0	90.5	
532.5	MODESTO		SANDY SHALE	72.0	97.5	
460.5	MODESTO		SHALE	2.5	169.5	BLACK
458.0	MODESTO	CHAPEL	COAL	0.5	172.0	
457.5	MODESTO		SHALE	1.5	172.5	GREEN GRAY
456.0	MODESTO		SHALE	5.0	174.0	GREEN GRAY WITH LIMESTONE NODULES
451.0	MODESTO		SANDY SHALE	3.0	179.0	WITH SANDSTONE
448.0	MODESTO		COAL	0.5	182.0	
447.5	MODESTO		SHALE	20.5	182.5	SILTY TO SANDY
427.0	MODESTO		LIMESTONE	2.0	203.0	BROWN, FOSSILIFEROUS
425.0	MODESTO		SILTY SHALE	6.0	205.0	
419.0	MODESTO		SANDY SHALE	56.0	211.0	WITH SANDSTONE
363.0	MODESTO		GRAY SHALE	6.0	267.0	WITH SIDERITE
357.0	MODESTO		SHALE	1.5	273.0	MEDIUM DARK
355.5	MODESTO		SHALE	14.5	274.5	SILTY TO SANDY
341.0	MODESTO		SILTY SHALE	2.5	289.0	
338.5	MODESTO		SHALE	1.5	291.5	BLACK

337.0	CARBONDALE	DANVILLE	COAL	0.5	293.0	
336.5	CARBONDALE		GRAY SHALE	6.0	293.5	
330.5	CARBONDALE		SHALE	7.0	299.5	CALCAREOUS
323.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	306.5	TAN LIGHT
322.5	CARBONDALE	BANKSTON FORK	SHALE	0.5	307.5	GREEN GRAY
322.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	308.0	BROWN
320.5	CARBONDALE	BANKSTON FORK	SHALE	0.5	309.5	DARK
320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	310.0	BROWN
319.0	CARBONDALE		SILTY SHALE	9.5	311.0	
309.5	CARBONDALE		LIMESTONE	3.1	320.5	CORING BEGAN AT 322.5'
306.4	CARBONDALE		SHALE	3.3	323.6	CALCAREOUS
303.1	CARBONDALE		SHALE	0.7	326.9	GREEN GRAY
302.4	CARBONDALE		LIMESTONE	0.4	327.6	
302.0	CARBONDALE		SHALE	1.6	328.0	GREEN GRAY
300.4	CARBONDALE		SILTY SHALE	2.5	329.6	
297.9	CARBONDALE		SHALE	1.1	332.1	BLACK
296.8	CARBONDALE	HERRIN	COAL	9.0	333.2	
287.9	CARBONDALE		GRAY SHALE	0.2	342.1	
287.7	CARBONDALE		ROCK	0.4	342.3	LEFT IN HOLE

MAPID: 13522031000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 4 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: DIVERNON **LONGITUDE:** -89.647189 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.522999 **DATE COLLECTED:** 0 / 0 / 1976

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 342.1 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C2-4-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
296.8	CARBONDALE	HERRIN	COAL	8.9	333.2	

MAPID: 13501671000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2565' S line, 14' E line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.66473 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.516033 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 347.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-06-69 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
336.6	MODESTO	PIASA	LIMESTONE/UNDERCLAY	10.5	303.4	
326.1	CARBONDALE	DANVILLE	DARK GRAY SHALE	4.0	313.9	
322.1	CARBONDALE		CLAYSTONE	2.7	317.9	
319.4	CARBONDALE		SILTY SHALE	2.7	320.6	
316.7	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	323.3	UPPER BENCH
310.9	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.2	329.1	SHALE PARTING
308.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.8	331.3	LOWER BENCH
307.9	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	4.3	332.1	
303.6	CARBONDALE	LAWSON	SILTSTONE	0.3	336.4	
303.2	CARBONDALE	LAWSON	MOTTLED SHALE	0.1	336.8	
303.2	CARBONDALE	LAWSON	BLACK SHALE	0.4	336.8	
302.7	CARBONDALE	LAWSON	DARK GRAY SHALE	1.8	337.3	
301.0	CARBONDALE	HERRIN	COAL	8.3	339.0	

MAPID: 13501671000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2565' S line, 14' E line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.66473 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.516033 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 347.3 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED CM-06-69 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
337.9	MODESTO	PIASA	LIMESTONE	5.5	302.1	
332.4	MODESTO		UNCLASSIFIED	5.0	307.6	
327.4	CARBONDALE		UNCLASSIFIED	9.3	312.6	
318.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	321.9	
312.3	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	327.7	
310.0	CARBONDALE	CONANT	LIMESTONE	0.8	330.0	
309.2	CARBONDALE	BRERETON	LIMESTONE	4.8	330.8	
304.4	CARBONDALE	ANNA	BLACK SHALE	3.4	335.6	
301.0	CARBONDALE	HERRIN	COAL	8.3	339.0	

MAPID: 13501671000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2565' S line, 14' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.66473 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.516033 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 352.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-06-69 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.2	CARBONDALE	HERRIN	COAL	8.3	338.8	

MAPID: 13501671000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2565' S line, 14' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.66473 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.516033 **DATE COLLECTED:** 7 / 3 / 1969
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 347.1 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-06-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.2	CARBONDALE	HERRIN	COAL	8.3	338.8	

MAPID: 13501671000C **VERSION:** 5 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2565' S line, 14' E line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.66473 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.516033 **DATE COLLECTED:** 7 / 2 / 1969

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 352.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-6-69 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
625.0	PLEISTOCENE		UNCONSOLIDATED	10.5	15.0	
614.5	BOND		GRAY SHALE	18.7	25.5	
595.8	BOND		LIMESTONE	0.5	44.2	FOSSILIFEROUS
595.3	BOND		COAL	0.3	44.7	
595.0	BOND		SANDY SHALE	12.3	45.0	
582.7	BOND	CARTHAGE	LIMESTONE	9.4	57.3	FOSSILIFEROUS
573.3	MODESTO		SHALE	2.8	66.7	
570.5	MODESTO		SANDY SHALE	10.3	69.5	WITH NODULES
560.2	MODESTO	MACOUPIN	SANDY LIMESTONE	4.1	79.8	FOSSILIFEROUS
556.2	MODESTO		SANDY SHALE	31.2	83.8	WITH SANDSTONE
525.0	MODESTO	CARLINVILLE	LIMESTONE	2.9	115.0	FOSSILIFEROUS
522.1	MODESTO		SANDY SHALE	38.3	117.9	
483.8	MODESTO	CRAMER	LIMESTONE	0.7	156.2	FOSSILIFEROUS
483.2	MODESTO	CHAPEL	COAL	0.5	156.8	
482.7	MODESTO	TRIVOLI	SANDSTONE	103.4	157.3	
379.2	MODESTO		SHALE	8.9	260.8	WITH SIDERITE
370.3	MODESTO		SHALE	3.3	269.7	CALCAREOUS, FOSSILIFEROUS
367.0	CARBONDALE	DANVILLE	COAL	0.7	273.0	
366.3	CARBONDALE		SANDY SHALE	19.3	273.7	
347.1	CARBONDALE		SHALE	1.0	292.9	DARK
346.1	CARBONDALE		GRAY SHALE	3.0	293.9	
343.1	CARBONDALE		SANDY SHALE	5.1	296.9	WITH NODULES
338.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.5	302.0	WITH SHALE PARTINGS
327.5	CARBONDALE		SHALE	4.0	312.5	DARK GRAY
323.5	CARBONDALE		CLAYSTONE	2.7	316.5	
320.8	CARBONDALE		SILTY SHALE	2.7	319.2	
318.2	CARBONDALE		LIMESTONE	5.3	321.8	CORING BEGAN AT 323'
312.9	CARBONDALE		SHALE	0.4	327.1	GREEN GRAY STRIPED
312.5	CARBONDALE		LIMESTONE	0.2	327.5	
312.3	CARBONDALE		SHALE	2.3	327.7	GREEN GRAY STRIPED
310.1	CARBONDALE		LIMESTONE	0.6	329.9	
309.5	CARBONDALE		SANDSTONE	4.9	330.5	
304.6	CARBONDALE	ENERGY	SHALE	3.4	335.4	DARK
301.2	CARBONDALE	HERRIN	COAL	8.3	338.8	
292.9	CARBONDALE		UNDERCLAY	0.6	347.1	
292.3	CARBONDALE		LIMESTONE & SHALE	4.3	347.7	CONGLOMERATE

MAPID: 13500387000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 405' W line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.700013 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.509542 **DATE COLLECTED:** 4 / 0 / 1965
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Electric Log
SOURCE: GRAEHLING & SHANAHAN **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
304.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	342.0	
286.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	360.0	THIN OR ABSENT
266.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	380.0	
250.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	396.0	
206.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	440.0	

MAPID: 13500387000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 405' W line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.700013 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.509542 **DATE COLLECTED:** 4 / 0 / 1965
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 346.0 **LOG TYPE:** Electric Log
SOURCE: GRAEHLING & SHANAHAN **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
346.5	MODESTO	PIASA	LIMESTONE	3.0	299.5	
343.5	MODESTO		UNCLASSIFIED	5.0	302.5	
338.5	CARBONDALE		UNCLASSIFIED	14.5	307.5	
324.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	322.0	
319.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	327.0	
317.0	CARBONDALE		UNCLASSIFIED	3.0	329.0	
314.0	CARBONDALE	BRERETON	LIMESTONE	5.0	332.0	
309.0	CARBONDALE	ANNA	BLACK SHALE	2.0	337.0	
307.0	CARBONDALE	HERRIN	COAL	7.0	339.0	

MAPID: 13501669000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 68' N line, 12' W line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.701727 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.52312 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 338.2 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-5-69 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
354.9	MODESTO	PIASA	LIMESTONE/UNDERCLAY	7.1	290.1	
347.8	CARBONDALE		CALCAREOUS SANDSTONE	6.3	297.2	
341.5	CARBONDALE		MOTTLED SHALE	4.0	303.5	
337.5	CARBONDALE	ALLENBY	BONE COAL	0.8	307.5	
336.7	CARBONDALE		GRAY SHALE	1.2	308.3	
335.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.5	309.4	UPPER BENCH
333.1	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.2	311.9	SHALE PARTING
330.9	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	314.1	LOWER BENCH
330.0	CARBONDALE	LAWSON	CLAYSTONE	0.4	315.0	
329.7	CARBONDALE	LAWSON	SANDSTONE	3.5	315.3	
326.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	2.4	318.8	
323.7	CARBONDALE	LAWSON	SILTSTONE	0.6	321.3	
323.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	321.8	
322.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.4	323.0	
317.6	CARBONDALE	ANNA	BLACK SHALE	2.6	327.4	
315.0	CARBONDALE	HERRIN	COAL	8.2	330.0	

MAPID: 13501669000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 68' N line, 12' W line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.701727 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.52312 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 338.2 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED CM-5-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
354.9	MODESTO	PIASA	LIMESTONE	7.1	290.1	
347.8	MODESTO		UNCLASSIFIED	3.1	297.2	
344.7	CARBONDALE		UNCLASSIFIED	9.1	300.3	
335.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	309.4	
330.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	314.9	
327.1	CARBONDALE	CONANT	LIMESTONE	0.9	317.9	
326.2	CARBONDALE		SHALE	4.2	318.8	
322.0	CARBONDALE	BRERETON	LIMESTONE	4.4	323.0	
317.6	CARBONDALE	ANNA	BLACK SHALE	2.6	327.4	
315.0	CARBONDALE	HERRIN	COAL	8.2	330.0	

MAPID: 13501669000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 68' N line, 12' W line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.701727 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.52312 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 342.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-5-69 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC; CORE NO. C-7628

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
315.2	CARBONDALE	HERRIN	COAL	8.2	329.8	

MAPID: 13501669000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 68' N line, 12' W line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.701727 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.52312 **DATE COLLECTED:** 6 / 25 / 1969
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 338.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-5-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
315.2	CARBONDALE	HERRIN	COAL	8.2	329.8	

MAPID: 13501669000C **VERSION:** 5 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 6 **QUARTERS/FOOTAGES:** 68' N line, 12' W line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.701727 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.52312 **DATE COLLECTED:** 6 / 25 / 1969

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 342.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL CO. C-5-69 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4;CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	SURFACE & CLAY
633.0	PLEISTOCENE		UNCONSOLIDATED	8.0	12.0	WITH GRAVEL
625.0	BOND		SHALE	6.0	20.0	WEATHERED
619.0	BOND		GRAY SHALE	18.3	26.0	
600.7	BOND		SANDY LIMESTONE	3.0	44.3	
597.7	BOND		SHALE	4.8	47.3	CALCAREOUS
593.0	BOND		SILTY SHALE	4.3	52.0	
588.7	BOND	CARTHAGE	SANDY LIMESTONE	9.4	56.3	
579.3	MODESTO		SHALE	1.9	65.7	DARK
577.4	MODESTO		SANDY SHALE	9.9	67.6	WITH NODULES
567.5	MODESTO	MACOUPIN	SANDY LIMESTONE	5.0	77.5	
562.5	MODESTO		SHALE	2.1	82.5	
560.4	MODESTO		SANDY SHALE	29.9	84.6	GREEN GRAY WITH NODULES
530.5	MODESTO		SANDY SHALE	48.5	114.5	
482.0	MODESTO		SHALE	1.2	163.0	FOSSILIFEROUS, DARK
480.8	MODESTO	CHAPEL	COAL	0.3	164.2	
480.5	MODESTO		SANDY SHALE	20.8	164.5	
459.7	MODESTO		LIMESTONE	1.0	185.3	
458.7	MODESTO		COAL	0.5	186.3	SLATEY
458.2	MODESTO	TRIVOLI	SANDSTONE	63.3	186.8	
394.9	MODESTO		SANDY SHALE	4.9	250.1	
390.0	MODESTO		SHALE	3.3	255.0	FOSSILIFEROUS
386.7	MODESTO		COAL	0.3	258.3	
386.5	MODESTO		SILTY SHALE	17.5	258.5	
369.0	MODESTO		SHALE	1.5	276.0	DARK
367.5	MODESTO		SHALE	3.4	277.5	MULTICOLOR
364.1	MODESTO		SANDY SHALE	9.0	280.9	WITH LIMESTONE NODULES
355.1	MODESTO	PIASA	LIMESTONE	7.1	289.9	ARGILLACEOUS
348.0	MODESTO		SANDSTONE	6.3	297.0	CALCAREOUS
341.7	MODESTO		SHALE	4.0	303.3	GREEN GRAY STRIPED
337.7	CARBONDALE	DANVILLE	COAL	0.8	307.3	WITH DARK SHALE
337.0	CARBONDALE		GRAY SHALE	1.2	308.0	
335.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	309.2	WITH SHALE, FOSSILIFEROUS; CORING AT 310
333.2	CARBONDALE	BANKSTON FORK	SHALE	2.1	311.8	GREEN GRAY STRIPED
331.2	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	313.8	
330.3	CARBONDALE	ANVIL ROCK	SANDSTONE	6.9	314.7	
323.4	CARBONDALE		SHALE	1.2	321.6	FOSSILIFEROUS
322.2	CARBONDALE	BRERETON	LIMESTONE	4.4	322.8	FOSSILIFEROUS, DARK GRAY

317.8	CARBONDALE	ANNA	SHALE	2.6	327.2	MEDIUM TO DARK GRAY
315.2	CARBONDALE	HERRIN	COAL	8.2	329.8	
307.1	CARBONDALE		UNDERCLAY	1.8	337.9	
305.2	CARBONDALE	HIGGINSVILLE	LIMESTONE	2.3	339.8	CONGLOMERATE

MAPID: 13501562000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2393' N line, 247' E line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.683948 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.502189 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 366.9 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-28-66 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
331.2	MODESTO	PIASA	LIMESTONE	3.0	318.8	
328.2	CARBONDALE		SHALE	3.0	321.8	
325.2	CARBONDALE	GALUM	LIMESTONE	1.0	324.8	
324.2	CARBONDALE		SANDSTONE	5.0	325.8	
319.2	CARBONDALE	ALLENBY	BLACK SHALE	1.5	330.8	
317.7	CARBONDALE		CLAYSTONE	4.2	332.3	
313.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.3	336.4	UPPER BENCH
309.3	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.1	340.7	SHALE PARTING
307.2	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	342.8	LOWER BENCH
306.9	CARBONDALE	LAWSON	MOTTLED SHALE	0.9	343.1	
306.0	CARBONDALE	LAWSON	SILTSTONE	0.7	344.0	
305.3	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	4.1	344.7	
301.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	348.8	
299.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.8	350.3	
294.0	CARBONDALE	ANNA	BLACK SHALE	3.0	356.0	
291.0	CARBONDALE	HERRIN	COAL	7.9	359.0	

MAPID: 13501562000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2393' N line, 247' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.683948 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.502189 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 366.9 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-28-66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
331.2	MODESTO	PIASA	LIMESTONE	3.0	318.8	
328.2	MODESTO		UNCLASSIFIED	3.0	321.8	
325.2	CARBONDALE		UNCLASSIFIED	11.5	324.8	
313.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.3	336.3	
309.4	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	340.6	
305.4	CARBONDALE	CONANT	LIMESTONE	1.0	344.6	
304.4	CARBONDALE		SHALE	4.6	345.6	
299.8	CARBONDALE	BRERETON	LIMESTONE	5.8	350.2	
294.0	CARBONDALE	ANNA	BLACK SHALE	3.0	356.0	
291.0	CARBONDALE	HERRIN	COAL	7.9	359.0	

MAPID: 13501562000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2393' N line, 247' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.683948 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.502189 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 370.0 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-28-66 **WELL TYPE:** Coal Test
COMMENT: CORE NO. C-6383;SEE COAL SEC. MAP#6-168

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
290.7	CARBONDALE	HERRIN	COAL	7.9	359.3	

MAPID: 13501562000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2393' N line, 247' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.683948 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.502189 **DATE COLLECTED:** 3 / 8 / 1966
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 367.2 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-28-66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
290.7	CARBONDALE	HERRIN	COAL	7.9	359.3	

MAPID: 13501562000C **VERSION:** 5 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 7 **QUARTERS/FOOTAGES:** 2393' N line, 247' E line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.683948 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.502189 **DATE COLLECTED:** 3 / 8 / 1966

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 370.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL CO. C-28-66 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4;CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		CLAY	12.0	0.0	
638.0	PLEISTOCENE		UNCONSOLIDATED	10.0	12.0	
628.0	BOND		SANDSTONE	4.0	22.0	
624.0	BOND		SANDY SHALE	15.0	26.0	
609.0	BOND		SANDSTONE	23.0	41.0	
586.0	BOND	CARTHAGE	LIMESTONE	9.0	64.0	
577.0	MODESTO		SHALE	4.0	73.0	BLACK
573.0	MODESTO		SHALE	9.0	77.0	
564.0	MODESTO	MACOUPIN	LIMESTONE	4.0	86.0	
560.0	MODESTO		SHALE	5.0	90.0	BLACK
555.0	MODESTO		SANDSTONE	29.0	95.0	WITH SHALE
526.0	MODESTO		SANDY SHALE	44.0	124.0	
482.0	MODESTO		SHALE	2.0	168.0	DARK
480.0	MODESTO	TRIVOLI	SANDSTONE	80.0	170.0	
400.0	MODESTO		SANDY SHALE	13.0	250.0	
387.0	MODESTO		SANDSTONE	18.0	263.0	
369.0	MODESTO		SHALE	4.0	281.0	DARK
365.0	MODESTO		SHALE	11.0	285.0	WITH HARD SEAMS
354.0	MODESTO		SILTY SHALE	8.0	296.0	
346.0	MODESTO		SHALE	2.0	304.0	BLACK
344.0	MODESTO		SANDSTONE	6.0	306.0	
338.0	MODESTO		SANDY SHALE	7.0	312.0	
331.0	MODESTO	PIASA	LIMESTONE	3.0	319.0	
328.0	MODESTO		SHALE	3.0	322.0	
325.0	MODESTO		LIMESTONE	1.0	325.0	BROWN
324.0	MODESTO		SANDSTONE	5.0	326.0	
319.0	CARBONDALE	DANVILLE	SHALE	1.5	331.0	BLACK
317.5	CARBONDALE		CLAYSTONE	4.3	332.5	
313.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	336.8	
310.0	CARBONDALE	BANKSTON FORK	SHALE	0.3	340.0	
309.7	CARBONDALE	BANKSTON FORK	LIMESTONE	0.7	340.3	
309.0	CARBONDALE	BANKSTON FORK	SHALE	2.0	341.0	STRIPED
307.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	343.0	
306.7	CARBONDALE		SILTY SHALE	1.5	343.3	
305.2	CARBONDALE	ANVIL ROCK	SANDSTONE	4.2	344.8	
301.0	CARBONDALE		SHALE	1.3	349.0	
299.7	CARBONDALE	BRERETON	LIMESTONE	5.8	350.3	
293.8	CARBONDALE	ANNA	SHALE	2.9	356.2	BLACK
290.9	CARBONDALE	HERRIN	COAL	8.0	359.1	

282.9	CARBONDALE	UNDERCLAY	2.9	367.1

MAPID: 13501563000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 495' E line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.666202 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.502566 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.5 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-27-66 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
319.0	MODESTO	PIASA	LIMESTONE	3.0	321.0	
316.0	CARBONDALE	DANVILLE	BLACK SHALE	1.5	324.0	
314.5	CARBONDALE		SILTY SHALE	4.5	325.5	
310.0	CARBONDALE	GALUM	LIMESTONE	5.0	330.0	
305.0	CARBONDALE		CLAYSTONE	3.0	335.0	
302.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.5	338.0	UPPER BENCH
297.5	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	3.7	342.5	SHALE PARTING
293.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.7	346.2	LOWER BENCH
293.2	CARBONDALE	LAWSON	MOTTLED SHALE	0.4	346.8	
292.7	CARBONDALE	LAWSON	SILTSTONE	0.4	347.3	
292.3	CARBONDALE	LAWSON	SANDSTONE	4.3	347.7	
288.0	CARBONDALE	LAWSON	SILTSTONE	1.4	352.0	
286.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.8	353.4	
285.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.8	354.2	
282.0	CARBONDALE	ANNA	BLACK SHALE	2.0	358.0	
280.0	CARBONDALE	HERRIN	COAL	7.5	360.0	

MAPID: 13501563000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 495' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.666202 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.502566 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.5 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-27-66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
319.0	MODESTO	PIASA	LIMESTONE	3.0	321.0	
316.0	MODESTO		UNCLASSIFIED	3.0	324.0	
313.0	CARBONDALE		UNCLASSIFIED	11.0	327.0	
302.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	338.0	
297.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.7	342.5	
293.8	CARBONDALE	CONANT	LIMESTONE	1.1	346.2	
292.7	CARBONDALE		SHALE	6.9	347.3	
285.8	CARBONDALE	BRERETON	LIMESTONE	4.0	354.2	
281.8	CARBONDALE	ANNA	BLACK SHALE	1.8	358.2	
280.0	CARBONDALE	HERRIN	COAL	7.5	360.0	

MAPID: 13501563000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 495' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.666202 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.502566 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 370.3 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-27-66 **WELL TYPE:** Coal Test
COMMENT: CORE #C-6382; SEE COAL SEC. MAP #6-168

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
280.0	CARBONDALE	HERRIN	COAL	7.5	360.0	

MAPID: 13501563000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 495' E line
QUADRANGLE: DIVERNON **LONGITUDE:** -89.666202 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.502566 **DATE COLLECTED:** 0 / 0 / 1966
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.5 **LOG TYPE:** Multiple log types
SOURCE: FREEMAN UNITED C-27-66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
280.0	CARBONDALE	HERRIN	COAL	7.5	360.0	

MAPID: 13501563000C **VERSION:** 5 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2310' N line, 495' E line

QUADRANGLE: DIVERNON **LONGITUDE:** -89.666202 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.502566 **DATE COLLECTED:** 3 / 10 / 1966

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 370.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-27-66 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		CLAY	14.0	0.0	
626.0	BOND		GRAY SHALE	38.0	14.0	
588.0	BOND		COAL	1.0	52.0	
587.0	BOND		SANDY SHALE	17.0	53.0	
570.0	BOND	CARTHAGE	LIMESTONE	6.0	70.0	
564.0	MODESTO		SHALE	4.0	76.0	BLACK
560.0	MODESTO		SHALE	11.0	80.0	
549.0	MODESTO	MACOUPIN	LIMESTONE	5.0	91.0	
544.0	MODESTO		SHALE	5.0	96.0	BLACK
539.0	MODESTO		SANDY SHALE	49.0	101.0	
490.0	MODESTO	CHAPEL	COAL	2.0	150.0	SLATEY
488.0	MODESTO		SHALE	13.0	152.0	
475.0	MODESTO		SANDSTONE	45.0	165.0	
430.0	MODESTO		SANDY SHALE	25.0	210.0	
405.0	MODESTO		SANDSTONE	35.0	235.0	
370.0	MODESTO		SHALE	6.0	270.0	BLACK
364.0	MODESTO		SANDSTONE	29.0	276.0	
335.0	MODESTO		SHALE	3.0	305.0	BLACK
332.0	MODESTO		SHALE	7.0	308.0	MULTICOLOR
325.0	MODESTO		SANDY SHALE	6.0	315.0	
319.0	MODESTO	PIASA	LIMESTONE	3.0	321.0	
316.0	CARBONDALE	DANVILLE	SHALE	1.5	324.0	BLACK
314.5	CARBONDALE		SANDY SHALE	4.5	325.5	
310.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	330.0	
305.0	CARBONDALE	BANKSTON FORK	CLAYSTONE	3.0	335.0	
302.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	338.0	CORING BEGAN AT 339
297.5	CARBONDALE		SHALE	3.5	342.5	STRIPED
294.0	CARBONDALE		LIMESTONE	0.8	346.0	
293.2	CARBONDALE		SHALE	1.3	346.8	
292.0	CARBONDALE	ANVIL ROCK	SANDSTONE	5.5	348.0	
286.5	CARBONDALE		SHALE	0.8	353.5	
285.7	CARBONDALE	BRERETON	LIMESTONE	4.0	354.3	
281.7	CARBONDALE	ANNA	SHALE	1.8	358.3	BLACK
280.0	CARBONDALE	HERRIN	COAL	7.5	360.0	
272.5	CARBONDALE		UNDERCLAY	2.2	367.5	
270.2	CARBONDALE	HIGGINSVILLE	LIMESTONE	0.8	369.8	CONGLOMERATE

MAPID: 13522070000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.672437 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.495209 **DATE COLLECTED:** 4 / 7 / 1976

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 377.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-2476 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
279.0	CARBONDALE	HERRIN	COAL	6.3	371.0	

MAPID: 13522070000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.672437 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.495209 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 383.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-2476 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC; CORE NO. C11207

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
279.0	CARBONDALE	HERRIN	COAL	6.3	371.0	

MAPID: 13522070000C **VERSION:** 3 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.672437 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.495209 **DATE COLLECTED:** 4 / 6 / 1976

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 381.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-24-76 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
645.0	PLEISTOCENE		CLAY	12.5	5.0	BROWN
632.5	BOND		SHALE	1.5	17.5	WEATHERED
631.0	BOND		GRAY SHALE	47.0	19.0	
584.0	BOND		SHALE	4.5	66.0	FOSSILIFEROUS
579.5	BOND		SHALE	14.5	70.5	GREEN GRAY
565.0	BOND	CARTHAGE	LIMESTONE	3.5	85.0	
561.5	MODESTO		SHALE	1.5	88.5	GREEN GRAY
560.0	MODESTO		SHALE	2.0	90.0	BLACK
558.0	MODESTO		SHALE	10.5	92.0	GREEN GRAY WITH LIMESTONE NODULES
547.5	MODESTO		SANDSTONE	3.5	102.5	
544.0	MODESTO		SHALE	2.5	106.0	BLACK
541.5	MODESTO		SHALE	5.5	108.5	GREEN GRAY WITH LIMESTONE NODULES
536.0	MODESTO	CARLINVILLE	LIMESTONE	5.5	114.0	
530.5	MODESTO		SANDY SHALE	21.5	119.5	WITH SANDSTONE
509.0	MODESTO		SHALE	42.0	141.0	SILTY TO SANDY
467.0	MODESTO		SHALE	2.5	183.0	MEDIUM DARK WITH SIDERITE
464.5	MODESTO		SHALE	1.5	185.5	BLACK
463.0	MODESTO	CHAPEL	COAL	0.5	187.0	
462.5	MODESTO		SHALE	9.0	187.5	GREEN GRAY WITH LIMESTONE NODULES
453.5	MODESTO		SANDY SHALE	57.0	196.5	WITH SANDSTONE
396.5	MODESTO	TRIVOLI	SANDSTONE	7.0	253.5	CALCAREOUS
389.5	MODESTO	TRIVOLI	SANDSTONE	29.0	260.5	
360.5	MODESTO		GRAY SHALE	5.0	289.5	WITH SIDERITE
355.5	MODESTO		SHALE	3.5	294.5	MEDIUM DARK
352.0	MODESTO		SHALE	3.5	298.0	GREEN GRAY
348.5	MODESTO		SILTSTONE	10.5	301.5	
338.0	MODESTO		SHALE	2.5	312.0	BLACK
335.5	MODESTO		SHALE	3.0	314.5	GREEN GRAY WITH LIMESTONE NODULES
332.5	MODESTO		LIMESTONE	2.5	317.5	
330.0	MODESTO		SILTSTONE	4.5	320.0	
325.5	MODESTO		SHALE	5.0	324.5	GREEN GRAY
320.5	MODESTO	PIASA	LIMESTONE	3.5	329.5	BEGIN CORING AT 330.2
317.0			SHALE	0.7	333.0	GREEN GRAY WITH LIMESTONE NODULES
316.4			SHALE	2.2	333.6	DARK WITH SIDERITE
314.2			SHALE	0.7	335.8	FOSSILIFEROUS
313.5			GRAY SHALE	0.6	336.5	
312.9			SHALE	0.4	337.1	CALCAREOUS

312.6			SHALE	0.4	337.4	CONGLOMERATE
312.2			LIMESTONE	1.6	337.8	
310.6			SHALE	1.0	339.4	CONGLOMERATE
309.6			SHALE	0.6	340.4	FOSSILIFEROUS
309.0			SHALE	0.4	341.0	MEDIUM DARK
308.7			SILTSTONE	6.5	341.3	
302.2			SHALE	5.4	347.8	GREEN GRAY WITH LIMESTONE NODULES
296.8			SHALE	0.4	353.2	GREEN GRAY WITH LIMESTONE NODULES
296.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	353.5	
292.4	CARBONDALE	BANKSTON FORK	SHALE	2.3	357.6	GREEN GRAY
290.1	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	359.9	
289.6	CARBONDALE		SHALE	0.6	360.4	SILTY TO SANDY
289.0	CARBONDALE	ANVIL ROCK	SANDSTONE	5.1	361.0	
283.9	CARBONDALE	BRERETON	LIMESTONE	3.2	366.1	
280.7	CARBONDALE	BRERETON	SHALE	0.2	369.3	GREEN GRAY
280.5	CARBONDALE	ANNA	SHALE	0.8	369.5	BLACK
279.8	CARBONDALE	ENERGY	SILTY SHALE	0.8	370.2	
279.0	CARBONDALE	HERRIN	COAL	6.3	371.0	
272.7	CARBONDALE		UNDERCLAY	1.5	377.3	
271.2	CARBONDALE		SHALE	1.5	378.8	CONGLOMERATE
269.7	CARBONDALE	HIGGINSVILLE	LIMESTONE	1.4	380.3	WITH SHALE LAMINATIONS

MAPID: 13522032000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW SW NW

QUADRANGLE: DIVERNON **LONGITUDE:** -89.644546 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.502738 **DATE COLLECTED:** 3 / 9 / 1976

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 369.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-13-76 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		UNCONSOLIDATED	12.5	0.0	SURFACE & CLAY
637.5	PLEISTOCENE		CLAY	6.0	12.5	
631.5	BOND		SHALE	4.5	18.5	WEATHERED
627.0	BOND		GRAY SHALE	3.5	23.0	
623.5	BOND		SANDY SHALE	4.5	26.5	
619.0	BOND		GRAY SHALE	26.5	31.0	
592.5	BOND		LIMESTONE	2.5	57.5	ARGILLACEOUS, FOSSILIFEROUS
590.0	BOND		SHALE	5.5	60.0	GREEN GRAY
584.5	BOND		GRAY SHALE	2.5	65.5	
582.0	BOND		SHALE	1.5	68.0	WITH COAL; BLACK
580.5	BOND		GRAY SHALE	9.5	69.5	
571.0	BOND	CARTHAGE	LIMESTONE	4.5	79.0	
566.5	MODESTO		SHALE	1.5	83.5	BLACK
565.0	MODESTO		GRAY SHALE	2.5	85.0	
562.5	MODESTO		SHALE	4.5	87.5	GREEN GRAY WITH LIMESTONE NODULES
558.0	MODESTO		SANDSTONE	4.5	92.0	CALCAREOUS
553.5	MODESTO		SHALE	9.0	96.5	GREEN GRAY
544.5	MODESTO		SHALE	3.0	105.5	CALCAREOUS, GREEN GRAY
541.5	MODESTO		SHALE	18.5	108.5	WITH SANDSTONE
523.0	MODESTO		SILTY SHALE	47.0	127.0	
476.0	MODESTO		SHALE	1.5	174.0	BLACK
474.5	MODESTO	CHAPEL	COAL	1.0	175.5	
473.5	MODESTO		GRAY SHALE	3.0	176.5	
470.5	MODESTO		SANDY SHALE	71.5	179.5	WITH SANDSTONE
399.0	MODESTO		SANDSTONE	3.0	251.0	CALCAREOUS
396.0	MODESTO		SILTY SHALE	10.5	254.0	WITH SIDERITE
385.5	MODESTO		SHALE	22.5	264.5	SILTY AND SANDY
363.0	MODESTO		SILTY SHALE	5.5	287.0	WITH SIDERITE
357.5	MODESTO		SHALE	2.5	292.5	MEDIUM DARK
355.0	MODESTO		GRAY SHALE	2.0	295.0	
353.0	MODESTO		SANDY SHALE	12.0	297.0	WITH SANDSTONE LAMINATIONS
341.0	MODESTO		SHALE	2.0	309.0	BLACK
339.0	MODESTO		GRAY SHALE	1.5	311.0	
337.5	MODESTO		SHALE	8.5	312.5	WITH LIMESTONE NODULES
329.0	MODESTO	PIASA	LIMESTONE	1.5	321.0	TAN
327.5	CARBONDALE		SHALE	5.5	322.5	GREEN GRAY
322.0	CARBONDALE		LIMESTONE	2.1	328.0	CORING BEGAN AT 329'
319.9	CARBONDALE		SHALE	0.4	330.1	GREEN GRAY

319.6	CARBONDALE		LIMESTONE	0.7	330.4	
318.9	CARBONDALE		SHALE	1.3	331.1	GREEN GRAY
317.7	CARBONDALE		SHALE	0.5	332.3	FOSSILF
317.2	CARBONDALE		SHALE	1.4	332.8	
315.8	CARBONDALE		SHALE	5.0	334.2	CALCAREOUS
310.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	339.2	
307.0	CARBONDALE		SHALE	2.2	343.0	GREEN GRAY
304.8	CARBONDALE		LIMESTONE	0.6	345.2	
304.3	CARBONDALE		SHALE	0.6	345.7	CALCAREOUS
303.7	CARBONDALE	ANVIL ROCK	SANDSTONE	5.6	346.3	
298.1	CARBONDALE		SANDY SHALE	0.8	351.9	
297.3	CARBONDALE	BRERETON	LIMESTONE	1.2	352.7	
296.1	CARBONDALE	ANNA	SHALE	3.0	353.9	BLACK
293.1	CARBONDALE		SHALE	0.2	356.9	DARK GRAY
292.9	CARBONDALE	HERRIN	COAL	9.1	357.1	
283.8	CARBONDALE		SHALE	0.5	366.2	GREEN GRAY
283.3	CARBONDALE		ROCK	2.3	366.7	LEFT IN HOLE

MAPID: 13522032000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW SW NW

QUADRANGLE: DIVERNON **LONGITUDE:** -89.644546 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.502738 **DATE COLLECTED:** 0 / 0 / 1976

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 366.2 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-13-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
292.9	CARBONDALE	HERRIN	COAL	9.1	357.1	

MAPID: 13500341000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 1650' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.620738 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.502944 **DATE COLLECTED:** 7 / 0 / 1955
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 350.0 **LOG TYPE:** Electric Log
SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
333.5	MODESTO	PIASA	LIMESTONE	3.5	302.5	
330.0	MODESTO		UNCLASSIFIED	5.5	306.0	
324.5	CARBONDALE	DANVILLE	COAL	1.0	311.5	
323.5	CARBONDALE		UNCLASSIFIED	9.5	312.5	
314.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	322.0	
309.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	327.0	
307.0	CARBONDALE		UNCLASSIFIED	2.0	329.0	
305.0	CARBONDALE	BRERETON	LIMESTONE	10.0	331.0	
295.0	CARBONDALE	ANNA	BLACK SHALE	3.0	341.0	
292.0	CARBONDALE	HERRIN	COAL	6.0	344.0	

MAPID: 13500341000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 1650' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.620738 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.502944 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 354.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
330.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	306.0	
323.0	MODESTO		DARK GRAY SHALE	8.0	313.0	
315.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	321.0	
314.0	CARBONDALE		CLAYSTONE	4.0	322.0	
310.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	326.0	
305.0	CARBONDALE	LAWSON	SHALE	4.0	331.0	
301.0	CARBONDALE	LAWSON	SANDSTONE	6.0	335.0	
295.0	CARBONDALE	BRERETON	LIMESTONE	3.5	341.0	
291.5	CARBONDALE	ANNA	BLACK SHALE	2.5	344.5	
289.0	CARBONDALE	HERRIN	COAL	7.0	347.0	

MAPID: 13522033000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 11 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: DIVERNON **LONGITUDE:** -89.625423 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.501007 **DATE COLLECTED:** 0 / 0 / 1976

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 397.4 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-3-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
238.8	CARBONDALE	HERRIN	COAL	3.2	394.2	

MAPID: 13500348000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.613601 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.493953 **DATE COLLECTED:** 8 / 0 / 1955

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 356.0 **LOG TYPE:** Electric Log

SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
328.1	MODESTO	PIASA	LIMESTONE	5.5	302.9	
322.6	MODESTO		UNCLASSIFIED	3.5	308.4	
319.1	CARBONDALE	DANVILLE	COAL	1.0	311.9	
318.1	CARBONDALE		UNCLASSIFIED	13.5	312.9	
304.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	326.4	
300.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.3	330.9	
297.8	CARBONDALE		UNCLASSIFIED	2.3	333.2	
295.5	CARBONDALE	BRERETON	LIMESTONE	11.5	335.5	
284.0	CARBONDALE	ANNA	BLACK SHALE	2.0	347.0	
282.0	CARBONDALE	HERRIN	COAL	7.0	349.0	

MAPID: 13500348000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.613601 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.493953 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 357.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
327.0	MODESTO	PIASA	LIMESTONE	5.0	304.0	
322.0	MODESTO		SHALE	15.0	309.0	
307.0	CARBONDALE	DANVILLE	BONE COAL	1.0	324.0	
306.0	CARBONDALE		CLAYSTONE	4.0	325.0	
302.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	329.0	
297.0	CARBONDALE	LAWSON	SHALE	4.0	334.0	
293.0	CARBONDALE	LAWSON	SANDSTONE	5.0	338.0	
288.0	CARBONDALE	LAWSON	SHALE	1.0	343.0	
287.0	CARBONDALE	BRERETON	LIMESTONE	4.0	344.0	
283.0	CARBONDALE	ANNA	BLACK SHALE	2.0	348.0	
281.0	CARBONDALE	HERRIN	COAL	7.0	350.0	

MAPID: 13522072000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 14 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.625265 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.486328 **DATE COLLECTED:** 3 / 11 / 1976

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 369.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-14-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.1	CARBONDALE	HERRIN	COAL	6.1	362.9	

MAPID: 13522694000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1300' N line, 1300' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.63112 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.490986 **DATE COLLECTED:** 6 / 24 / 1982

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 395.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C2-4-82 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
642.0	PLEISTOCENE		UNCONSOLIDATED	25.0	0.0	SURFACE AND TILL
617.0	BOND		SANDSTONE	51.0	25.0	
566.0	BOND		GRAY SHALE	5.0	76.0	
561.0	BOND		COAL	1.0	81.0	
560.0	BOND		GRAY SHALE	10.0	82.0	
550.0	BOND		SHALE	4.0	92.0	BLACK
546.0	BOND		GRAY SHALE	5.0	96.0	
541.0	BOND		SANDSTONE	11.0	101.0	MCWAIN MEMBER
530.0	MODESTO		SHALE	1.8	112.0	BLACK
528.2	MODESTO		GRAY SHALE	10.2	113.8	
518.0	MODESTO		SANDSTONE	30.0	124.0	WITH SHALE BANDS
488.0	MODESTO		SHALE	32.0	154.0	WITH SANDSTONE BANDS
456.0	MODESTO	CHAPEL	COAL	1.0	186.0	
455.0	MODESTO		GRAY SHALE	11.0	187.0	
444.0	MODESTO	TRIVOLI	SANDSTONE	93.0	198.0	WITH SHALE BANDS
351.0	MODESTO		GRAY SHALE	19.0	291.0	
332.0	MODESTO		SHALE	6.0	310.0	DARK GRAY
326.0	MODESTO		SHALE	2.0	316.0	BLACK
324.0	MODESTO		SANDSTONE	0.8	318.0	
323.2	MODESTO		GRAY SHALE	0.7	318.8	
322.5	MODESTO	PIASA	LIMESTONE	3.0	319.5	GRAYISH WHITE
319.5	CARBONDALE		GRAY SHALE	5.5	322.5	
314.0	CARBONDALE		LIMESTONE	2.0	328.0	BROWN
312.0	CARBONDALE		GRAY SHALE	5.5	330.0	
306.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	335.5	TAN
302.5	CARBONDALE		GRAY SHALE	6.0	339.5	
296.5	CARBONDALE	ANVIL ROCK	SANDSTONE	7.5	345.5	
289.0	CARBONDALE	ANNA	SHALE	1.4	353.0	BLACK
287.6	CARBONDALE	HERRIN	COAL	7.6	354.4	
280.0	CARBONDALE		GRAY SHALE	4.0	362.0	
276.0	CARBONDALE		LIMESTONE	0.8	366.0	
275.2	CARBONDALE		SHALE	1.7	366.8	
273.5	CARBONDALE		LIMESTONE	1.5	368.5	
272.0	CARBONDALE		SHALE	6.5	370.0	
265.5	CARBONDALE		LIMESTONE	3.0	376.5	
262.5	CARBONDALE		SHALE	14.8	379.5	
247.7	CARBONDALE		LIMESTONE	0.7	394.3	

MAPID: 13500209000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 267' S line, 250' E line of NE SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.646317 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.484305 **DATE COLLECTED:** 12 / 0 / 1940

SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log

SOURCE: HODD & BALDWIN **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	6.0		
-	CARBONDALE		UNCLASSIFIED	15.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	3.0		
-	CARBONDALE	BRERETON	LIMESTONE	5.0		
-	CARBONDALE	ANNA	BLACK SHALE	3.0		
-	CARBONDALE	HERRIN	COAL	7.0		

MAPID: 13522617000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2000' N line, 700' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.648033 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.489015 **DATE COLLECTED:** 7 / 30 / 1980

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 369.2 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C2-1-80 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
645.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	SURFACE CLAY
640.0	PLEISTOCENE		GLACIAL DRIFT	10.0	5.0	WITH COAL
630.0	PLEISTOCENE		CLAY	8.0	15.0	
622.0	BOND		SANDSTONE	1.0	23.0	
621.0	BOND		GRAY SHALE	12.0	24.0	
609.0	BOND		GRAY SHALE	34.0	36.0	WITH SANDSTONE
575.0	BOND		SHALE	1.0	70.0	BLACK
574.0	BOND		COAL	0.5	71.0	
573.5	BOND		GRAY SHALE	12.5	71.5	WITH SANDSTONE
561.0	BOND		SHALE	0.5	84.0	CALCAREOUS, HARD
560.5	BOND		SHALE	1.5	84.5	BLACK
559.0	BOND		COAL	1.0	86.0	
558.0	BOND		GRAY SHALE	3.0	87.0	
555.0	BOND		LIMESTONE	0.5	90.0	LIGHT BROWN
554.5	BOND		SHALE	4.5	90.5	WITH LIMESTONE NODULES
550.0	BOND	CARTHAGE	LIMESTONE	6.5	95.0	TAN
543.5	MODESTO		SHALE	3.5	101.5	GREEN GRAY
540.0	MODESTO		SHALE	2.0	105.0	BLACK
538.0	MODESTO		GRAY SHALE	4.0	107.0	
534.0	MODESTO		LIMESTONE	1.0	111.0	
533.0	MODESTO		SHALE	7.0	112.0	
526.0	MODESTO		LIMESTONE	1.0	119.0	LIGHT BROWN
525.0	MODESTO		GRAY SHALE	1.0	120.0	
524.0	MODESTO		LIMESTONE	0.5	121.0	LIGHT BROWN
523.5	MODESTO		GRAY SHALE	47.5	121.5	WITH SANDSTONE
476.0	MODESTO		SHALE	1.0	169.0	BLACK
475.0	MODESTO	CHAPEL	COAL	1.0	170.0	
474.0	MODESTO		CLAYSTONE	2.0	171.0	
472.0	MODESTO		GRAY SHALE	29.0	173.0	WITH SANDSTONE
443.0	MODESTO	TRIVOLI	SANDSTONE	73.0	202.0	WITH SHALE
370.0	MODESTO		GRAY SHALE	34.0	275.0	WITH SANDSTONE
336.0	MODESTO		SANDSTONE	11.8	309.0	WITH SHALE
324.2	MODESTO	PIASA	LIMESTONE	2.7	320.8	MEDIUM LIGHT GRAY TO TAN
321.5	MODESTO		SHALE	1.0	323.5	GREEN GRAY
320.5	CARBONDALE	DANVILLE	SHALE	1.0	324.5	BLACK
319.5	CARBONDALE		SHALE	4.5	325.5	DARK GRAY
315.0	CARBONDALE		SHALE	1.0	330.0	CALCAREOUS; BLACK
314.0	CARBONDALE		LIMESTONE	2.5	331.0	BROWN WITH SHALE BANDS

311.5	CARBONDALE		GRAY SHALE	2.5	333.5	
309.0	CARBONDALE		SANDSTONE	2.0	336.0	
307.0	CARBONDALE		SHALE	2.3	338.0	
304.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	340.3	LIGHT GRAY
300.7	CARBONDALE		SHALE	2.7	344.3	GREEN GRAY
298.0	CARBONDALE		LIMESTONE	0.5	347.0	LIGHT GRAY; CORING BEGAN AT 347 FEET
297.5	CARBONDALE		SHALE	0.8	347.5	
296.7	CARBONDALE	ANVIL ROCK	SANDSTONE	4.7	348.3	CALCAREOUS, SHALE LAMINATIONS
292.0	CARBONDALE		GRAY SHALE	1.0	353.0	WITH SANDSTONE LAMINATIONS
291.0	CARBONDALE		LIMESTONE	0.2	354.0	LIGHT GRAY, DENSE
290.8	CARBONDALE		SHALE	0.1	354.2	CALCAREOUS, FOSSILS
290.7	CARBONDALE	BRERETON	LIMESTONE	3.4	354.3	
287.3	CARBONDALE	BRERETON	SHALE	0.1	357.7	CALCAREOUS, MEDIUM DARK GRAY
287.2	CARBONDALE	ANNA	SHALE	1.6	357.8	BLACK
285.7	CARBONDALE	ANNA	SHALE	0.1	359.3	DARK GRAY WITH PYRITIC SHELLS AND NODULE
285.6	CARBONDALE	HERRIN	COAL	8.8	359.4	
276.8	CARBONDALE		CLAYSTONE	1.0	368.2	

MAPID: 13501564000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 247' S line, 247' E line of SE SE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.66498 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.487789 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Multiple log types

SOURCE: FREEMAN UNITED C-26-66 **WELL TYPE:** Coal Test

COMMENT: CORE #C-6381;SEE COAL SEC.MAP #6-168

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
255.7	CARBONDALE	HERRIN	COAL	10.1	399.3	

MAPID: 13501564000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 247' S line, 247' E line of SE SE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.66498 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.487789 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 408.7 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-26-66 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.2	MODESTO	PIASA	LIMESTONE	6.0	353.8	
295.2	MODESTO		UNCLASSIFIED	3.0	359.8	
292.2	CARBONDALE		UNCLASSIFIED	14.5	362.8	
277.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	377.3	
273.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.2	381.5	
270.3	CARBONDALE	CONANT	LIMESTONE	0.4	384.7	
269.9	CARBONDALE		SHALE	6.0	385.1	
263.9	CARBONDALE	BRERETON	LIMESTONE	4.2	391.1	
259.7	CARBONDALE	ANNA	BLACK SHALE	3.7	395.3	
256.0	CARBONDALE	HERRIN	COAL	9.7	399.0	

MAPID: 13501663000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 96' S line, 15' E line of SE SE SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663975 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.480094 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 402.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-09-69 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
262.6	CARBONDALE	HERRIN	COAL	8.4	387.4	

MAPID: 13501663000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 96' S line, 15' E line of SE SE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663975 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.480094 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 395.4 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED CM-09-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.8	MODESTO	PIASA	LIMESTONE	2.4	345.2	
302.4	MODESTO		UNCLASSIFIED	7.5	347.6	
294.9	CARBONDALE	DANVILLE	COAL	1.8	355.1	
293.1	CARBONDALE		UNCLASSIFIED	14.8	356.9	
278.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	371.7	
274.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	375.8	
270.9	CARBONDALE	CONANT	LIMESTONE	1.0	379.1	
269.9	CARBONDALE		SHALE	1.9	380.1	
268.0	CARBONDALE	BRERETON	LIMESTONE	4.0	382.0	
264.0	CARBONDALE	ANNA	BLACK SHALE	1.0	386.0	
263.0	CARBONDALE	HERRIN	COAL	8.4	387.0	

MAPID: 13501663000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 96' S line, 15' E line of SE SE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663975 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.480094 **DATE COLLECTED:** 6 / 9 / 1969
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 395.8 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-09-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
262.6	CARBONDALE	HERRIN	COAL	8.4	387.4	

MAPID: 13501663000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 96' S line, 15' E line of SE SE SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663975 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.480094 **DATE COLLECTED:** 6 / 9 / 1969

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 402.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-9-69 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
635.0	PLEISTOCENE		UNCONSOLIDATED	10.0	15.0	
625.0	BOND		SILTY SHALE	36.2	25.0	
588.8	BOND		SANDSTONE	50.0	61.2	MCWAIN MEMBER; WITH COAL PARTINGS
538.8	BOND	CARTHAGE	LIMESTONE	3.8	111.2	FOSSILIFEROUS
535.1	MODESTO		SHALE	2.3	114.9	BLACK
532.7	MODESTO		GRAY SHALE	3.8	117.3	WITH NODULES
529.0	MODESTO		SANDY SHALE	4.5	121.0	WITH NODULES
524.5	MODESTO	MACOUPIN	LIMESTONE	3.2	125.5	FOSSILIFEROUS
521.3	MODESTO		SHALE	24.5	128.7	GREEN GRAY WITH NODULES
496.8	MODESTO		SANDY SHALE	33.3	153.2	
463.5	MODESTO		SILTY SHALE	14.9	186.5	
448.6	MODESTO		SHALE	3.1	201.4	DARK
445.5	MODESTO	CHAPEL	COAL	1.0	204.5	
444.5	MODESTO		SANDY SHALE	32.8	205.5	WITH NODULES
411.7	MODESTO	TRIVOLI	SANDSTONE	53.3	238.3	
358.5	MODESTO		SANDY SHALE	21.1	291.5	
337.4	MODESTO		COAL	0.4	312.6	
337.0	MODESTO		SILTY SHALE	11.5	313.0	
325.5	MODESTO		SHALE	1.5	324.5	GREEN GRAY STRIPED
324.0	MODESTO		SHALE	1.2	326.0	DARK
322.8	MODESTO		SANDY SHALE	19.7	327.2	WITH NODULES
303.2	MODESTO		LIMESTONE	2.4	346.8	
300.7	MODESTO		SHALE	2.8	349.3	DK GREEN GRAY STRIPED
298.0	MODESTO		SHALE	4.8	352.0	DARK
293.2	MODESTO	PIASA	LIMESTONE	1.5	356.8	
291.7	CARBONDALE	DANVILLE	COAL	0.3	358.3	
291.5	CARBONDALE		LIMESTONE	1.0	358.5	
290.5	CARBONDALE		SHALE	4.5	359.5	GREEN GRAY WITH NODULES
286.0	CARBONDALE		CLAYSTONE	4.3	364.0	SHALEY
281.7	CARBONDALE		SANDY SHALE	0.8	368.3	
280.9	CARBONDALE		SHALE	0.7	369.1	CALCAREOUS, FOSSILIFEROUS
280.2	CARBONDALE		SANDY SHALE	3.5	369.8	WITH LIMESTONE NODULES
276.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	373.3	
272.7	CARBONDALE		SHALE	0.4	377.3	CALCAREOUS, FOSSILIFEROUS
272.2	CARBONDALE		SHALE	2.8	377.8	WITH SULFUR
269.4	CARBONDALE		LIMESTONE	1.0	380.6	FOSSILIFEROUS
268.4	CARBONDALE		SHALE	0.9	381.6	

267.5	CARBONDALE		SILTY SHALE	3.2	382.5	
264.3	CARBONDALE		SANDSTONE	0.8	385.7	WITH DARK SHALE AND COAL PARTINGS
263.6	CARBONDALE	ANNA	BLACK SHALE	1.0	386.4	
262.6	CARBONDALE	HERRIN	COAL	8.4	387.4	
254.2	CARBONDALE		UNDERCLAY	2.4	395.8	
251.7	CARBONDALE		LIMESTONE W/ SHALE	3.8	398.3	CONGLOMERATE

MAPID: 13501664000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 15' N line, 103' E line of NE NE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.664622 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.494359 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 402.5 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-7-69 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC; CORE NO. C-7629

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
268.8	CARBONDALE	HERRIN	COAL	9.0	388.2	

MAPID: 13501664000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 15' N line, 103' E line of NE NE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.664622 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.494359 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 397.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED CM-7-69 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
310.1	MODESTO	PIASA	LIMESTONE	3.0	346.9	
307.1	MODESTO		UNCLASSIFIED	3.2	349.9	
303.9	CARBONDALE		UNCLASSIFIED	13.0	353.1	
290.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	366.1	
286.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.6	370.6	
283.8	CARBONDALE	CONANT	LIMESTONE	0.8	373.2	
283.0	CARBONDALE		SHALE	5.4	374.0	
277.6	CARBONDALE	BRERETON	LIMESTONE	4.5	379.4	
273.1	CARBONDALE	ANNA	BLACK SHALE	4.1	383.9	
269.0	CARBONDALE	HERRIN	COAL	9.0	388.0	

MAPID: 13501664000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 15' N line, 103' E line of NE NE NE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.664622 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.494359 **DATE COLLECTED:** 6 / 4 / 1969
SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 397.2 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-7-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
268.8	CARBONDALE	HERRIN	COAL	9.0	388.2	

MAPID: 13501668000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 160' N line, 8' W line of NW NW SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682806 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.486423 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 382.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-12-69 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
286.6	CARBONDALE	HERRIN	COAL	8.7	368.4	

MAPID: 13501668000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 160' N line, 8' W line of NW NW SW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682806 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.486423 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 376.7 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED CM-12-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
329.3	MODESTO	PIASA	LIMESTONE	3.5	325.7	
325.8	MODESTO		UNCLASSIFIED	3.9	329.2	
321.9	CARBONDALE		UNCLASSIFIED	12.2	333.1	
309.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	345.3	
307.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.9	347.1	
306.0	CARBONDALE		SHALE	6.8	349.0	
299.2	CARBONDALE	BRERETON	LIMESTONE	11.8	355.8	
287.4	CARBONDALE	ANNA	BLACK SHALE	0.4	367.6	
287.0	CARBONDALE	HERRIN	COAL	8.7	368.0	

MAPID: 13501668000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 160' N line, 8' W line of NW NW SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682806 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.486423 **DATE COLLECTED:** 7 / 1 / 1969

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 377.1 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-12-69 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.6	CARBONDALE	HERRIN	COAL	8.7	368.4	

MAPID: 13501668000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 160' N line, 8' W line of NW NW SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682806 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.486423 **DATE COLLECTED:** 7 / 1 / 1969

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 382.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-12-69 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
655.0	PLEISTOCENE		UNCONSOLIDATED	19.0	0.0	
636.0	BOND		SHALE	7.0	19.0	SOFT WEATHERED
629.0	BOND		SANDSTONE	36.7	26.0	MCWAIN MEMBER
592.3	BOND		SANDY SHALE	20.7	62.7	
571.7	BOND	CARTHAGE	LIMESTONE	4.4	83.3	
567.2	MODESTO		SHALE	5.1	87.8	
562.2	MODESTO		SHALE	5.9	92.8	WITH NODULES
556.2	MODESTO	MACOUPIN	SANDY LIMESTONE	3.9	98.8	
552.3	MODESTO		SANDY SHALE	20.8	102.7	WITH NODULES
531.5	MODESTO		SANDY SHALE	54.8	123.5	
476.7	MODESTO	CRAMER	LIMESTONE	0.8	178.3	DARK
476.0	MODESTO		SHALE	2.3	179.0	DARK
473.7	MODESTO	CHAPEL	COAL	0.3	181.3	
473.5	MODESTO	TRIVOLI	SANDSTONE/SHALE	101.5	181.5	
372.0	MODESTO		SHALE	5.1	283.0	FOSSILIFEROUS
366.9	MODESTO		COAL	0.3	288.1	
366.6	MODESTO		SANDY SHALE	16.8	288.4	WITH NODULES
349.8	MODESTO		SHALE	1.3	305.2	DARK
348.5	MODESTO		SHALE	3.5	306.5	MULTICOLOR
345.0	MODESTO		SANDY SHALE	16.1	310.0	WITH NODULES
328.9	MODESTO		LIMESTONE	3.5	326.1	
325.4	MODESTO		SHALE	3.9	329.6	DARK,GREEN GRAY STRIPED
321.5	MODESTO	PIASA	LIMESTONE	1.6	333.5	
319.9	MODESTO		SANDY SHALE	6.0	335.1	WITH SANDSTONE
313.9	CARBONDALE	DANVILLE	COAL	0.4	341.1	
313.5	CARBONDALE		SHALE	5.1	341.5	GREEN GRAY WITH NODULES
308.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.6	346.6	
307.8	CARBONDALE		SHALE	0.3	347.2	FOSSILIFEROUS
307.5	CARBONDALE		GRAY SHALE	1.5	347.5	
306.0	CARBONDALE		SANDY SHALE	2.0	349.0	
304.0	CARBONDALE	ANVIL ROCK	SANDSTONE	5.5	351.0	
298.5	CARBONDALE		LIMESTONE	1.1	356.5	FOSSILIFEROUS
297.4	CARBONDALE		SILTY SHALE	3.0	357.6	
294.4	CARBONDALE	BRERETON	LIMESTONE	7.4	360.6	WITH SHALE
287.0	CARBONDALE	ANNA	SHALE	0.4	368.0	WITH COAL
286.6	CARBONDALE	HERRIN	COAL	8.7	368.4	
277.9	CARBONDALE		UNDERCLAY	1.8	377.1	
276.2	CARBONDALE		LIMESTONE & SHALE	3.2	378.8	CONGLOMERATE

MAPID: 13501670000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2626' S line, 2607' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673367 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.486951 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-08-69 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.7	MODESTO	PIASA	LIMESTONE	3.0	350.3	
301.7	MODESTO		DARK GRAY SHALE	6.0	353.3	
295.7	CARBONDALE	DANVILLE	BONE COAL	1.0	359.3	
294.7	CARBONDALE	GALUM	LIMESTONE	1.5	360.3	
293.2	CARBONDALE		SILTY SHALE	8.0	361.8	
285.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	369.8	UPPER BENCH
282.9	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.8	372.1	SHALE PARTING
281.1	CARBONDALE	BANKSTON FORK	LIMESTONE	0.6	373.9	LOWER BENCH
280.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.1	374.5	
280.4	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.7	374.6	
279.7	CARBONDALE	LAWSON	SILTSTONE	0.8	375.3	
278.9	CARBONDALE	LAWSON	SANDSTONE	5.0	376.1	
273.9	CARBONDALE	LAWSON	CLAYSTONE	0.0	381.1	
273.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.5	381.2	
269.3	CARBONDALE	ANNA	BLACK SHALE	4.3	385.7	
265.0	CARBONDALE	HERRIN	COAL	8.0	390.0	

MAPID: 13501670000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2626' S line, 2607' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673367 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.486951 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED CM-08-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
304.7	MODESTO	PIASA	LIMESTONE	3.0	350.3	
301.7	MODESTO		UNCLASSIFIED	3.0	353.3	
298.7	CARBONDALE		UNCLASSIFIED	13.5	356.3	
285.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	369.8	
282.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	372.1	
281.1	CARBONDALE	CONANT	LIMESTONE	0.6	373.9	
280.5	CARBONDALE		SHALE	6.7	374.5	
273.8	CARBONDALE	BRERETON	LIMESTONE	4.5	381.2	
269.3	CARBONDALE	ANNA	BLACK SHALE	4.3	385.7	
265.0	CARBONDALE	HERRIN	COAL	8.0	390.0	

MAPID: 13501670000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2626' S line, 2607' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673367 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.486951 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 402.5 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-08-69 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.0	CARBONDALE	HERRIN	COAL	8.0	390.0	

MAPID: 13501670000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2626' S line, 2607' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673367 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.486951 **DATE COLLECTED:** 7 / 1 / 1976
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED CM-08-69 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.0	CARBONDALE	HERRIN	COAL	8.0	390.0	

MAPID: 13522346000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.699931 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.493291 **DATE COLLECTED:** 7 / 6 / 1978
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 357.8 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED 4-C-78 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.8	350.0	

MAPID: 13522346000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 18 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.699931 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.493291 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 362.5 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED 4-C-78 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.8	350.0	

MAPID: 13501559000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673253 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.472417 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 379.3 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-20-66 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
312.6	CARBONDALE	ALLENBY	COAL	0.8	347.4	
311.8	CARBONDALE		CLAYSTONE	6.5	348.2	
305.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.3	354.7	UPPER BENCH
302.0	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	3.0	358.0	SHALE PARTING
299.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.5	361.0	LOWER BENCH
298.5	CARBONDALE	LAWSON	CLAYSTONE	0.7	361.5	
297.8	CARBONDALE	LAWSON	SANDSTONE	2.8	362.2	
295.0	CARBONDALE	LAWSON	SILTSTONE	0.5	365.0	
294.5	CARBONDALE	LAWSON	GRAY SHALE	0.4	365.5	
294.0	CARBONDALE	LAWSON	SILTSTONE	0.4	366.0	
293.6	CARBONDALE	BRERETON	LIMESTONE	3.9	366.4	
289.7	CARBONDALE	ANNA	CARBONACEOUS SHALE	1.7	370.3	
288.0	CARBONDALE	HERRIN	COAL	7.3	372.0	

MAPID: 13501559000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673253 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.472417 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-20-66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
312.8	CARBONDALE		UNCLASSIFIED	7.2	347.2	
305.6	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	354.4	
302.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	357.7	
299.3	CARBONDALE	CONANT	LIMESTONE	1.2	360.7	
298.1	CARBONDALE		SHALE	4.1	361.9	
294.0	CARBONDALE	BRERETON	LIMESTONE	3.9	366.0	
290.1	CARBONDALE	ANNA	BLACK SHALE	1.1	369.9	
289.0	CARBONDALE	HERRIN	COAL	8.0	371.0	

MAPID: 13501559000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673253 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.472417 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 376.8 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-20-66 **WELL TYPE:** Coal Test
COMMENT: CORE NO. C-6377;SEE COAL SEC. MAP #6-168

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.1	CARBONDALE	HERRIN	COAL	7.3	370.9	

MAPID: 13501559000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673253 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.472417 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 378.8 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-20-66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
288.5	CARBONDALE	HERRIN	COAL	7.3	371.5	

MAPID: 13522347000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681571 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.478685 **DATE COLLECTED:** 9 / 0 / 1978
SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 375.7 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED 3-C-78 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
287.5	CARBONDALE	HERRIN	COAL	7.2	368.5	

MAPID: 13522347000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681571 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.478685 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
287.5	CARBONDALE	HERRIN	COAL	7.2	368.5	

MAPID: 13522347000C **VERSION:** 3 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.681571 **GEOLOGIST:** J MCBETH
CONFIDENTIAL: N **LATITUDE:** 39.478685 **DATE COLLECTED:** 7 / 9 / 1978
SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED COAL MINING CO C2-3-78 **WELL TYPE:** Coal Test
COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
656.0			UNCLASSIFIED	354.5	0.0	LOG DOES NOT LIST
301.5	CARBONDALE	ANVIL ROCK	SANDSTONE	2.1	354.5	THIN SHALE LAMINATIONS
299.4	CARBONDALE		LIMESTONE	0.9	356.6	CONCRETION
298.5	CARBONDALE		SHALE	2.3	357.5	CALCAREOUS, FEW LIMESTONE NODULES
296.2	CARBONDALE	BRERETON	LIMESTONE	5.4	359.8	ARGILLACEOUS, SOME FOSSIL FRAGMENTS
290.8	CARBONDALE	BRERETON	SHALE	0.4	365.2	CALCAREOUS, MEDIUM DARK GRAY, FOSSILS
290.4	CARBONDALE	ANNA	SHALE	2.9	365.6	SLATY; BLACK
287.5	CARBONDALE	HERRIN	COAL	7.2	368.5	
280.3	CARBONDALE		CLAYSTONE	1.2	375.7	MEDIUM DARK GRAY
279.1	CARBONDALE		CLAYSTONE	1.1	376.9	
278.0	CARBONDALE		CLAYSTONE	0.7	378.0	
277.3	CARBONDALE		CORE LOSS	0.3	378.7	

MAPID: 13522071000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.646463 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.478993 **DATE COLLECTED:** 3 / 31 / 1976

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 407.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-23-76 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		UNCONSOLIDATED	9.5	0.0	SURFACE & CLAY
640.5	BOND		CLAY	5.0	9.5	BROWN
635.5	BOND		SHALE	8.5	14.5	WEATHERED
627.0	BOND		GRAY SHALE	3.5	23.0	
623.5	BOND		SANDSTONE	27.0	26.5	WITH SANDY SHALE
596.5	BOND		SANDY SHALE	5.5	53.5	
591.0	BOND		SANDSTONE	2.0	59.0	CALCAREOUS
589.0	BOND		COAL	0.5	61.0	
588.5	BOND		SHALE	3.5	61.5	GREEN GRAY
585.0	BOND		GRAY SHALE	12.0	65.0	
573.0	BOND		LIMESTONE	1.5	77.0	
571.5	BOND		SHALE	2.0	78.5	GREEN GRAY
569.5	BOND		SHALE	4.5	80.5	BLACK
565.0	BOND		UNDERCLAY	1.5	85.0	GRAY
563.5	BOND		SHALE	6.5	86.5	WITH NODULES
557.0	BOND		SANDSTONE	0.5	93.0	CALCAREOUS
556.5	BOND	CARTHAGE	LIMESTONE	3.5	93.5	
553.0	MODESTO		SHALE	1.5	97.0	GREENISH GRAY
551.5	MODESTO		GRAY SHALE	7.0	98.5	
544.5	MODESTO		SHALE	3.5	105.5	CALCAREOUS
541.0	MODESTO		SANDY SHALE	42.0	109.0	WITH SANDSTONE
499.0	MODESTO		GRAY SHALE	16.0	151.0	WITH SIDERITE
483.0	MODESTO		SHALE	2.5	167.0	DARK
480.5	MODESTO	CHAPEL	COAL	0.5	169.5	
480.0	MODESTO		GRAY SHALE	3.5	170.0	
476.5	MODESTO		SANDY SHALE	94.5	173.5	WITH SANDSTONE
382.0	MODESTO		SILTY SHALE	14.5	268.0	
367.5	MODESTO		COAL	0.5	282.5	
367.0	MODESTO		UNDERCLAY	1.5	283.0	
365.5	MODESTO		GRAY SHALE	8.0	284.5	WITH SIDERITE
357.5	MODESTO		SHALE	1.5	292.5	BLACK
356.0	MODESTO		UNDERCLAY	1.0	294.0	
355.0	MODESTO		SANDY SHALE	15.0	295.0	
340.0	MODESTO		SHALE	4.5	310.0	GREEN GRAY
335.5	MODESTO		LIMESTONE	1.5	314.5	
334.0	MODESTO		SHALE	2.0	316.0	GREEN GRAY
332.0	MODESTO		SHALE	7.5	318.0	DARK TO BLACK
324.5	MODESTO	PIASA	LIMESTONE	3.0	325.5	
321.5			SHALE	1.5	328.5	CLAYEY

320.0			SILTSTONE	10.0	330.0	WITH NODULES
310.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	340.0	
305.2	CARBONDALE		SHALE	0.9	344.8	CALCAREOUS
304.3	CARBONDALE		SHALE	3.3	345.7	GREEN GRAY
301.0	CARBONDALE		LIMESTONE	1.3	349.0	
299.7	CARBONDALE		GRAY SHALE	0.4	350.3	
299.3	CARBONDALE		SHALE	0.4	350.7	MEDIUM DARK
298.9	CARBONDALE	JAMESTOWN	COAL	1.0	351.1	WITH SHALE LAMINATIONS
298.0	CARBONDALE		GRAY SHALE	0.9	352.0	
297.1	CARBONDALE	BRERETON	LIMESTONE	0.6	352.9	FOSSILIFEROUS
296.5	CARBONDALE	ANNA	SHALE	0.2	353.5	BLACK
296.3	CARBONDALE	HERRIN	COAL	8.8	353.7	
287.5	CARBONDALE		GRAY SHALE	0.3	362.5	
287.3	CARBONDALE		UNDERCLAY	0.6	362.7	WITH NODULES
286.7	CARBONDALE		SILTSTONE	3.2	363.3	WITH NODULES
283.5	CARBONDALE	HIGGINSVILLE	LIMESTONE	4.0	366.5	
279.5	CARBONDALE		SHALE	4.5	370.5	GREEN GRAY WITH LIMESTONE NODULES
275.0	CARBONDALE		LIMESTONE	5.5	375.0	WITH SHALE LAMINATIONS
269.5	CARBONDALE		SILTSTONE	6.0	380.5	WITH NODULES
263.5	CARBONDALE		GRAY SHALE	2.7	386.5	
260.8	CARBONDALE		LIMESTONE	1.0	389.2	
259.8	CARBONDALE		SHALE	0.7	390.2	CALCAREOUS
259.1	CARBONDALE		SHALE	1.0	390.9	DARK
258.2	CARBONDALE	TURNER MINE	SHALE	5.7	391.8	BLACK
252.5	CARBONDALE		GRAY SHALE	1.3	397.5	WITH SIDERITE
251.3	CARBONDALE		GRAY SHALE	0.1	398.7	WITH PYRITE
251.2	CARBONDALE	SPRINGFIELD	COAL	3.0	398.8	
248.2	CARBONDALE		UNDERCLAY	0.8	401.8	
247.4	CARBONDALE		SHALE	2.6	402.6	CONGLOMERATE
244.8	CARBONDALE		ROCK	1.8	405.2	LEFT IN HOLE

MAPID: 13522071000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.646463 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.478993 **DATE COLLECTED:** 4 / 6 / 1976

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 401.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CII-23-76 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
296.3	CARBONDALE	HERRIN	COAL	8.8	353.7	
251.2	CARBONDALE	HOUCHIN CREEK	COAL	3.0	398.8	

MAPID: 13522621000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 21 **QUARTERS/FOOTAGES:** 2600' S line, 50' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.663672 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.472395 **DATE COLLECTED:** 8 / 6 / 1980

SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** 392.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL CO. C2-3-80 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
659.0	PLEISTOCENE		UNCONSOLIDATED	3.0	0.0	
656.0	PLEISTOCENE		CLAY	2.0	3.0	
654.0	PLEISTOCENE		GLACIAL DRIFT	30.0	5.0	SANDY
624.0	BOND		GRAY SHALE	5.0	35.0	
619.0	BOND		GRAY SHALE	8.0	40.0	WTIH SOFT SANDSTONE
611.0	BOND		SHALE	1.0	48.0	BLACK
610.0	BOND		COAL	0.5	49.0	
609.5	BOND		GRAY SHALE	7.5	49.5	WITH SANDSTONE
602.0	BOND		GRAY SHALE	22.0	57.0	
580.0	BOND		COAL	1.0	79.0	
579.0	BOND		GRAY SHALE	26.0	80.0	
553.0	BOND		LIMESTONE	0.5	106.0	
552.5	BOND		SHALE	2.0	106.5	BLUE GRAY
550.5	BOND	CARTHAGE	LIMESTONE	5.5	108.5	
545.0	MODESTO		SHALE	1.0	114.0	GREEN GRAY
544.0	MODESTO		SHALE	6.0	115.0	DARK GRAY TO BLACK
538.0	MODESTO		GRAY SHALE	3.0	121.0	WITH SANDSTONE BANDS
535.0	MODESTO		LIMESTONE	1.0	124.0	LIGHT BROWN
534.0	MODESTO		GRAY SHALE	5.0	125.0	WITH SANDSTONE BANDS
529.0	MODESTO		LIMESTONE	3.0	130.0	LIGHT BROWN, HARD
526.0	MODESTO		GRAY SHALE	45.0	133.0	
481.0	MODESTO		GRAY SHALE	10.0	178.0	WITH SANDSTONE BANDS
471.0	MODESTO		SHALE	2.0	188.0	BLACK
469.0	MODESTO	CHAPEL	COAL	1.0	190.0	
468.0	MODESTO		CLAYSTONE	2.0	191.0	
466.0	MODESTO		GRAY SHALE	85.0	193.0	WITH SANDSTONE
381.0	MODESTO		SANDSTONE	13.0	278.0	LIGHT GRAY
368.0	MODESTO		GRAY SHALE	9.0	291.0	
359.0	MODESTO		SHALE	1.0	300.0	BLACK
358.0	MODESTO		COAL	1.0	301.0	
357.0	MODESTO		GRAY SHALE	14.0	302.0	
343.0	MODESTO		GRAY SHALE	21.5	316.0	WITH SANDSTONE
321.5	MODESTO	PIASA	LIMESTONE	2.5	337.5	LIGHT GRAY; CORRELATION FROM LOG
319.0	MODESTO		SHALE	4.0	340.0	GREEN GRAY
315.0	MODESTO		SHALE	2.5	344.0	HARD; BLACK
312.5	MODESTO		LIMESTONE	1.5	346.5	LIGHT BROWN, HARD
311.0	MODESTO		GRAY SHALE	4.0	348.0	WITH SANDSTONE
307.0	MODESTO		SANDSTONE	0.3	352.0	MEDIUM GRAY, VERY FINE

306.7	MODESTO		SHALE	1.0	352.3	
305.8	MODESTO		LIMESTONE	0.3	353.2	FOSSILIFEROUS
305.5	MODESTO		SHALE	0.2	353.5	BLACK
305.3	CARBONDALE	DANVILLE	COAL	0.4	353.7	BONY, WITH DARK GRAY SHALE
304.9	CARBONDALE		CLAYSTONE	0.9	354.1	
304.0	CARBONDALE		MUDSTONE	4.5	355.0	CALCAREOUS
299.5	CARBONDALE		MUDSTONE	0.9	359.5	CALCAREOUS, WITH LIMESTONE
298.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.7	360.4	VERY DENSE; SPARSE FOSSILS
293.9	CARBONDALE		CORE LOSS	0.4	365.1	
293.5	CARBONDALE		SHALE	0.4	365.5	CALCAREOUS
293.1	CARBONDALE		LIMESTONE	0.3	365.9	FOSSILIFEROUS
292.8	CARBONDALE		SHALE	2.7	366.2	GREEN GRAY
290.1	CARBONDALE		LIMESTONE	0.4	368.9	LIGHT GRAY, VERY DENSE
289.7	CARBONDALE		SHALE	0.4	369.3	CALCAREOUS
289.3	CARBONDALE		LIMESTONE	0.9	369.7	LIGHT TAN TO GRAY; FOSSILIFEROUS
288.5	CARBONDALE		CLAYSTONE	1.5	370.5	
287.0	CARBONDALE	ANVIL ROCK	SANDSTONE	4.8	372.0	
282.2	CARBONDALE		SHALE	0.3	376.8	WITH SANDSTONE LAMINATIONS
281.9	CARBONDALE	BRERETON	LIMESTONE	2.3	377.1	FOSSILIFEROUS
279.7	CARBONDALE	BRERETON	SHALE	0.2	379.3	CALCAREOUS, MEDIUM GRAY
279.5	CARBONDALE	ANNA	SHALE	2.6	379.5	SLATEY, HARD; BLACK
276.9	CARBONDALE	HERRIN	COAL	9.0	382.1	
267.9	CARBONDALE		CLAYSTONE	1.0	391.1	
266.9	CARBONDALE		CORE LOSS	0.4	392.1	

MAPID: 13500003000C **VERSION:** 1 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.633453 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.478068 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 362.0 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #6 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
653.0			SOIL	4.0	0.0	
649.0			CLAY	12.0	4.0	
637.0			SAND & GRAVEL	6.0	16.0	
631.0	BOND		SHALE	45.0	22.0	W/ SS
586.0	BOND	CARTHAGE	LIMESTONE	8.0	67.0	
578.0	MODESTO		SHALE	15.0	75.0	
563.0	MODESTO	MACOUPIN	LIMESTONE	9.0	90.0	
554.0	MODESTO		SHALE	101.0	99.0	
453.0	MODESTO		SANDSTONE	88.0	200.0	
365.0	MODESTO		BLACK SHALE	4.0	288.0	
361.0	MODESTO		SHALE	3.0	292.0	W/ LS
358.0	MODESTO		SHALE	16.0	295.0	
342.0	MODESTO		SANDSTONE	2.0	311.0	
340.0	MODESTO		SHALE	7.5	313.0	W/ LS
332.5	MODESTO		SHALE	7.0	320.5	
325.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	327.5	
322.0	CARBONDALE	BANKSTON FORK	SHALE	0.8	331.0	
321.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	331.8	
320.2	CARBONDALE		SHALE	2.0	332.8	
318.2	CARBONDALE	ANVIL ROCK	SANDSTONE	4.2	334.8	
314.0	CARBONDALE	BRERETON	LIMESTONE	5.0	339.0	
309.0	CARBONDALE	ANNA	BLACK SHALE	6.0	344.0	
303.0	CARBONDALE	HERRIN	COAL	8.5	350.0	
294.5	CARBONDALE		SHALE	0.7	358.5	
293.8	CARBONDALE		SHALE	2.8	359.2	W/ LS PEBBLES

MAPID: 13500003000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.633453 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.478068 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 358.5 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
340.0	MODESTO	PIASA	LIMESTONE	3.0	313.0	
337.0	MODESTO		UNCLASSIFIED	3.5	316.0	
333.5	CARBONDALE		UNCLASSIFIED	8.0	319.5	
325.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.3	327.5	
320.2	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	332.8	
318.2	CARBONDALE		UNCLASSIFIED	4.2	334.8	
314.0	CARBONDALE	BRERETON	LIMESTONE	5.0	339.0	
309.0	CARBONDALE	ANNA	BLACK SHALE	6.0	344.0	
303.0	CARBONDALE	HERRIN	COAL	8.5	350.0	

MAPID: 13500003000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.633453 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.478068 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 362.0 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #6 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
653.0	PLEISTOCENE		SOIL	4.0	0.0	
649.0	PLEISTOCENE		CLAY	12.0	4.0	
637.0	PLEISTOCENE		SAND & GRAVEL	6.0	16.0	
631.0	BOND		SANDSTONE/SHALE	45.0	22.0	AND MICA
586.0	BOND	CARTHAGE	LIMESTONE	8.0	67.0	GRITTY
578.0	MODESTO		GRAY SHALE	3.0	75.0	
575.0	MODESTO		BLACK SHALE	4.0	78.0	
571.0	MODESTO		GRAY SHALE	8.0	82.0	
563.0	MODESTO		LIMESTONE	9.0	90.0	
554.0	MODESTO		GRAY SHALE	11.0	99.0	
543.0	MODESTO		SOFT SHALE	8.0	110.0	LIGHT-COLORED
535.0	MODESTO		GRAY SHALE	82.0	118.0	
453.0	MODESTO		SANDSTONE	88.0	200.0	
365.0	MODESTO		BLACK SHALE	4.0	288.0	
361.0	MODESTO		ARGILACEOUS SHALE	3.0	292.0	WITH LIME
358.0	MODESTO		ARGILACEOUS SHALE	16.0	295.0	SOFT
342.0	MODESTO		SANDSTONE	2.0	311.0	
340.0	CARBONDALE		ARGILACEOUS SHALE	7.5	313.0	WITH LS
332.5	CARBONDALE		ARGILACEOUS SHALE	7.0	320.5	
325.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	327.5	
322.0	CARBONDALE	BANKSTON FORK	ARGILACEOUS SHALE	0.8	331.0	
321.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	331.8	
320.2	CARBONDALE		ARGILACEOUS SHALE	2.0	332.8	
318.2	CARBONDALE		SANDSTONE	4.2	334.8	
314.0	CARBONDALE	BRERETON	LIMESTONE	5.0	339.0	
309.0	CARBONDALE	ANNA	BLACK SHALE	6.0	344.0	
303.0	CARBONDALE	HERRIN	COAL	8.5	350.0	LOG READS (294'6") IN COMMENTS
294.5	CARBONDALE		DARK SHALE	0.7	358.5	HARD
293.8	CARBONDALE		BLACK SHALE	2.8	359.2	WITH LIME-PEBBLES

MAPID: 13500003000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** NW NE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.633453 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.478068 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 362.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO GH-6-12 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
643.0	PLEISTOCENE		SOIL	4.0	0.0	
639.0	PLEISTOCENE		CLAY	12.0	4.0	
627.0	PLEISTOCENE		SAND & GRAVEL	6.0	16.0	
621.0	BOND		SHALE	45.0	22.0	WITH SANDSTONE
576.0	BOND		LIMESTONE	8.0	67.0	
568.0	BOND		GRAY SHALE	3.0	75.0	
565.0	BOND		SHALE	4.0	78.0	
561.0	BOND		GRAY SHALE	8.0	82.0	
553.0	BOND	CARTHAGE	LIMESTONE	9.0	90.0	
544.0	MODESTO		GRAY SHALE	11.0	99.0	
533.0	MODESTO		SHALE	8.0	110.0	
525.0	MODESTO		GRAY SHALE	82.0	118.0	
443.0	MODESTO	TRIVOLI	SANDSTONE	88.0	200.0	
355.0			SHALE	4.0	288.0	BLACK
351.0			SHALE	3.0	292.0	CALCAREOUS
348.0			SHALE	16.0	295.0	
332.0			SANDSTONE	2.0	311.0	
330.0			SHALE	7.5	313.0	CALCAREOUS
322.5			SHALE	7.0	320.5	
315.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	327.5	
312.0	CARBONDALE	BANKSTON FORK	SHALE	0.8	331.0	
311.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	331.8	
310.2	CARBONDALE		SHALE	2.0	332.8	
308.2	CARBONDALE		SANDSTONE	4.2	334.8	
304.0	CARBONDALE	BRERETON	LIMESTONE	5.0	339.0	
299.0	CARBONDALE	ANNA	SHALE	6.0	344.0	BLACK
293.0	CARBONDALE	HERRIN	COAL	8.5	350.0	
284.5	CARBONDALE		SHALE	2.8	358.5	WITH LIMESTONE PEBBLES
281.7	CARBONDALE		SHALE	0.7	361.3	DARK,HARD

MAPID: 13501129000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 420' S line, 1340' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.631013 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.466476 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 366.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED F-24 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
321.7	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.6	321.3	
319.1	MODESTO		MOTTLED SHALE	8.3	323.9	
310.8	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	0.2	332.2	
310.6	CARBONDALE		CALCAREOUS SHALE	0.7	332.4	
309.9	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	0.8	333.1	
309.1	CARBONDALE		CALCAREOUS SHALE	7.9	333.9	
301.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.6	341.8	UPPER BENCH
296.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.3	346.4	SHALE PARTING
294.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.5	348.7	LOWER BENCH
293.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	349.2	
293.2	CARBONDALE	LAWSON	SILTSTONE	1.7	349.8	
291.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.3	351.5	
288.2	CARBONDALE	ANNA	BLACK SHALE	3.3	354.8	
285.0	CARBONDALE	HERRIN	COAL	8.3	358.0	

MAPID: 13501129000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 420' S line, 1340' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.631013 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.466476 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 366.3 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F-24 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
320.8	MODESTO	PIASA	LIMESTONE	2.6	321.2	
318.2	MODESTO		UNCLASSIFIED	4.8	323.8	
313.4	CARBONDALE		UNCLASSIFIED	13.1	328.6	
300.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.6	341.7	
295.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	346.3	
293.4	CARBONDALE	CONANT	LIMESTONE	0.5	348.6	
292.9	CARBONDALE		SHALE	2.3	349.1	
290.6	CARBONDALE	BRERETON	LIMESTONE	3.3	351.4	
287.3	CARBONDALE	ANNA	BLACK SHALE	3.3	354.7	
284.0	CARBONDALE	HERRIN	COAL	8.3	358.0	

MAPID: 13501129000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 420' S line, 1340' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.631013 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.466476 **DATE COLLECTED:** 5 / 0 / 1959
SURFACE ELEVATION (FT.): 642.6 **LOGGED (FT.):** 357.6 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-24 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
293.3	CARBONDALE	HERRIN	COAL	8.3	349.3	

MAPID: 13501130000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 400' S line, 0' W line of NE SE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628609 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.468243 **DATE COLLECTED:** 5 / 0 / 1959
SURFACE ELEVATION (FT.): 643.9 **LOGGED (FT.):** 376.8 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-25 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
273.9	CARBONDALE	HERRIN	COAL	6.8	370.0	

MAPID: 13501130000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 400' S line, 0' W line of NE SE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628609 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.468243 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 376.8 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED F-25 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
315.0	MODESTO	PIASA	LIMESTONE	2.5	329.0	
312.5	MODESTO		UNCLASSIFIED	4.8	331.5	
307.7	CARBONDALE		UNCLASSIFIED	16.8	336.3	
290.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.7	353.1	
286.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.2	357.8	
284.0	CARBONDALE	CONANT	LIMESTONE	0.6	360.0	
283.4	CARBONDALE		SHALE	3.1	360.6	
280.3	CARBONDALE	BRERETON	LIMESTONE	3.3	363.7	
277.0	CARBONDALE	ANNA	BLACK SHALE	3.0	367.0	
274.0	CARBONDALE	HERRIN	COAL	6.8	370.0	

MAPID: 13501131000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 200' S line, 0' W line of NE SE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628601 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.467691 **DATE COLLECTED:** 5 / 0 / 1959
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 370.2 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-26 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
281.1	CARBONDALE	HERRIN	COAL	8.3	361.9	

MAPID: 13501131000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 200' S line, 0' W line of NE SE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628601 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.467691 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 370.3 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED F-26 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
321.1	MODESTO	PIASA	LIMESTONE	2.5	321.9	
318.6	MODESTO		UNCLASSIFIED	4.8	324.4	
313.8	CARBONDALE		UNCLASSIFIED	15.8	329.2	
298.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.4	345.0	
293.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	349.4	
291.3	CARBONDALE	CONANT	LIMESTONE	0.5	351.7	
290.8	CARBONDALE		SHALE	3.2	352.2	
287.6	CARBONDALE	BRERETON	LIMESTONE	3.8	355.4	
283.8	CARBONDALE	ANNA	BLACK SHALE	2.8	359.2	
281.0	CARBONDALE	HERRIN	COAL	8.3	362.0	

MAPID: 13501133000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SE SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630915 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.465317 **DATE COLLECTED:** 5 / 0 / 1959
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 377.1 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED F-27 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
276.7	CARBONDALE	HERRIN	COAL	8.8	368.3	

MAPID: 13501133000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW SE SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630915 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.465317 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 377.8 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F-27 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.1	MODESTO	PIASA	LIMESTONE	2.5	333.9	
308.6	MODESTO		UNCLASSIFIED	3.5	336.4	
305.1	CARBONDALE		UNCLASSIFIED	10.8	339.9	
294.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	350.7	
289.8	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	355.2	
288.8	CARBONDALE	CONANT	LIMESTONE	0.5	356.2	
288.3	CARBONDALE		SHALE	4.0	356.7	
284.3	CARBONDALE	BRERETON	LIMESTONE	6.0	360.7	
278.3	CARBONDALE	ANNA	BLACK SHALE	2.3	366.7	
276.0	CARBONDALE	HERRIN	COAL	8.8	369.0	

MAPID: 13501134000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634445 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.466221 **DATE COLLECTED:** 6 / 10 / 1959

SURFACE ELEVATION (FT.): 642.8 **LOGGED (FT.):** 364.4 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED F28 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
285.9	CARBONDALE	HERRIN	COAL	7.5	356.9	

MAPID: 13501134000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.634445 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.466221 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F28 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
322.8	MODESTO	PIASA	LIMESTONE	2.5	320.2	
320.3	MODESTO		UNCLASSIFIED	3.8	322.7	
316.5	CARBONDALE		UNCLASSIFIED	16.2	326.5	
300.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.2	342.7	
295.1	CARBONDALE	ANVIL ROCK	SANDSTONE	2.9	347.9	
292.2	CARBONDALE	CONANT	LIMESTONE	1.3	350.8	
290.9	CARBONDALE		SHALE	1.8	352.1	
289.1	CARBONDALE	BRERETON	LIMESTONE	2.1	353.9	
287.0	CARBONDALE	ANNA	BLACK SHALE	1.0	356.0	
286.0	CARBONDALE	HERRIN	COAL	7.5	357.0	

MAPID: 13500296000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** NW NW NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.615774 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.479102 **DATE COLLECTED:** 1 / 0 / 1939

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 365.0 **LOG TYPE:** Drillers Log

SOURCE: ALLEN, W. O. **WELL TYPE:** Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
325.0	MODESTO		UNCLASSIFIED	5.0	320.0	
320.0	CARBONDALE		UNCLASSIFIED	13.0	325.0	
307.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	338.0	
302.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	342.5	
299.0	CARBONDALE	CONANT	UNCLASSIFIED	1.0	346.0	
298.0	CARBONDALE		UNCLASSIFIED	3.0	347.0	
295.0	CARBONDALE	BRERETON	LIMESTONE	5.0	350.0	
290.0	CARBONDALE	ANNA	BLACK SHALE	3.0	355.0	
287.0	CARBONDALE	HERRIN	COAL	7.0	358.0	

MAPID: 13500320000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 0' S line, 1320' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.621531 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.46536 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 352.5 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 10 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
340.4	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.3	305.6	
337.1	MODESTO		DARK GRAY SHALE	8.0	308.9	
329.1	CARBONDALE	DANVILLE	BONE COAL	0.7	316.9	
328.5	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	2.3	317.5	
326.1	CARBONDALE		CLAYSTONE & SHALE	11.6	319.9	
314.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.4	331.5	UPPER BENCH
311.1	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	2.4	334.9	SHALE PARTING
308.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.3	337.3	LOWER BENCH
308.4	CARBONDALE	LAWSON	MOTTLED SHALE	0.8	337.6	
307.7	CARBONDALE	LAWSON	SILTSTONE	1.8	338.3	
305.8	CARBONDALE	LAWSON	GRAY SHALE	0.3	340.2	
305.6	CARBONDALE	ANNA	BLACK SHALE	3.6	340.4	
302.0	CARBONDALE	HERRIN	COAL	8.5	344.0	

MAPID: 13500320000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 0' S line, 1320' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.621531 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.46536 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 351.5 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 10 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
339.9	MODESTO	PIASA	LIMESTONE	3.3	306.1	
336.6	MODESTO		UNCLASSIFIED	3.4	309.4	
333.2	CARBONDALE		UNCLASSIFIED	17.6	312.8	
315.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	330.4	
311.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.4	334.6	
310.0	CARBONDALE	CONANT	LIMESTONE	0.3	336.0	
309.7	CARBONDALE		SHALE	2.6	336.3	
307.1	CARBONDALE	BRERETON	LIMESTONE	0.8	338.9	
306.3	CARBONDALE	ANNA	BLACK SHALE	3.3	339.7	
303.0	CARBONDALE	HERRIN	COAL	8.5	343.0	

MAPID: 13500321000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.616731 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.465401 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 332.3 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 17 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
348.8	MODESTO	PIASA	LIMESTONE	2.3	288.2	
346.5	MODESTO		CALCAREOUS SHALE	2.2	290.5	
344.4	CARBONDALE	DANVILLE	BLACK SHALE	6.8	292.6	
337.6	CARBONDALE		DARK GRAY SHALE	1.0	299.4	
336.6	CARBONDALE	GALUM	LIMESTONE W/ SHALE	1.0	300.4	
335.6	CARBONDALE		CLAYSTONE & SHALE	0.3	301.4	
335.3	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.1	301.7	
335.2	CARBONDALE		CLAYSTONE & SHALE	4.5	301.8	
330.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.1	306.3	UPPER BENCH
326.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.3	310.4	SHALE PARTING
324.3	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	312.7	LOWER BENCH
323.8	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.0	313.2	
322.8	CARBONDALE	LAWSON	SILTSTONE	0.6	314.2	
322.2	CARBONDALE	LAWSON	SANDSTONE	1.2	314.8	
321.0	CARBONDALE	LAWSON	SILTSTONE	0.8	316.0	
320.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.3	316.7	
319.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.3	318.0	
314.8	CARBONDALE	ANNA	BLACK SHALE	1.8	322.2	
313.0	CARBONDALE	HERRIN	COAL	8.3	324.0	

MAPID: 13500321000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.616731 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.465401 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 332.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 17 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
351.5	MODESTO	PIASA	LIMESTONE	3.2	285.5	
348.3	MODESTO		UNCLASSIFIED	5.2	288.7	
343.1	CARBONDALE		UNCLASSIFIED	11.8	293.9	
331.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	305.7	
327.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.2	309.8	
325.0	CARBONDALE	CONANT	LIMESTONE	0.5	312.0	
324.5	CARBONDALE		SHALE	4.8	312.5	
319.7	CARBONDALE	BRERETON	LIMESTONE	4.9	317.3	
314.8	CARBONDALE	ANNA	BLACK SHALE	1.8	322.2	
313.0	CARBONDALE	HERRIN	COAL	8.3	324.0	

MAPID: 13500321000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 23 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.616731 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.465401 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 332.6 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 17 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
312.7	CARBONDALE	HERRIN	COAL	8.3	324.3	

MAPID: 13500004000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.588686 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.47318 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 350.5 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
341.3	MODESTO		UNCLASSIFIED	3.0	308.7	
338.3	CARBONDALE		UNCLASSIFIED	12.5	311.7	
325.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.6	324.2	
319.2	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.4	330.8	
315.8	CARBONDALE		UNCLASSIFIED	3.3	334.2	
312.5	CARBONDALE	BRERETON	LIMESTONE	2.8	337.5	
309.7	CARBONDALE	ANNA	BLACK SHALE	1.7	340.3	
308.0	CARBONDALE	HERRIN	COAL	8.5	342.0	

MAPID: 13500004000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.588686 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.47318 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 350.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
357.3	MODESTO		GRAY SHALE	16.0	292.7	
341.3	CARBONDALE	DANVILLE	BLACK SHALE	3.0	308.7	
338.3	CARBONDALE		GRAY SHALE	4.0	311.7	
334.3	CARBONDALE	GALUM	LIMESTONE	4.0	315.7	
330.3	CARBONDALE		GRAY SHALE	4.5	319.7	
325.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.7	324.2	
320.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.3	329.8	
317.8	CARBONDALE	BANKSTON FORK	LIMESTONE	0.4	332.2	
317.4	CARBONDALE	LAWSON	SHALE	1.6	332.6	
315.8	CARBONDALE	LAWSON	SANDSTONE	3.3	334.2	
312.5	CARBONDALE	LAWSON	GRAY SHALE	0.8	337.5	
311.7	CARBONDALE	BRERETON	LIMESTONE	2.0	338.3	
309.7	CARBONDALE	ANNA	BLACK SHALE	1.7	340.3	
308.0	CARBONDALE	HERRIN	COAL	8.5	342.0	

MAPID: 13500004000C **VERSION:** 3 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.588686 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.47318 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.4 **LOGGED (FT.):** 803.0 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH, #5 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.4			SOIL	4.0	0.0	
646.4			CLAY	12.0	4.0	
634.4			SAND & GRAVEL	10.0	16.0	
624.4			CLAY	9.0	26.0	
615.4			SAND & GRAVEL	15.0	35.0	
600.4	BOND	CARTHAGE	LIMESTONE	11.0	50.0	
589.4	MODESTO		SHALE	2.0	61.0	
587.4	MODESTO		SHALE	13.0	63.0	
574.4	MODESTO	MACOUPIN	LIMESTONE	10.0	76.0	
564.4	MODESTO		BLACK SHALE	4.0	86.0	
560.4	MODESTO		SHALE	105.0	90.0	
455.4	MODESTO		LIMESTONE	9.0	195.0	
446.4	MODESTO		SHALE	71.0	204.0	
375.4	MODESTO		SANDSTONE	6.0	275.0	
369.4	MODESTO		SHALE	1.0	281.0	
368.4	MODESTO		SHALE	5.0	282.0	
363.4	MODESTO		SHALE	6.0	287.0	
357.4	MODESTO		SHALE	31.5	293.0	
325.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.7	324.5	
320.2	CARBONDALE	BANKSTON FORK	SHALE	0.7	330.2	
319.6	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	330.8	
319.3	CARBONDALE	BANKSTON FORK	SHALE	1.4	331.1	
317.9	CARBONDALE	BANKSTON FORK	LIMESTONE	0.4	332.5	
317.5	CARBONDALE		SHALE	1.6	332.9	
315.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	334.5	
312.6	CARBONDALE		SHALE	0.8	337.8	
311.7	CARBONDALE	BRERETON	LIMESTONE	2.0	338.7	
309.7	CARBONDALE	ANNA	BLACK SHALE	1.7	340.7	
308.1	CARBONDALE	HERRIN	COAL	8.5	342.3	
299.6	CARBONDALE		SHALE	3.0	350.8	
296.6	CARBONDALE		SHALE	1.2	353.8	
295.4	CARBONDALE		LIMESTONE	4.0	355.0	
291.4	CARBONDALE		SHALE	2.0	359.0	
289.4	CARBONDALE		LIMESTONE	2.7	361.0	
286.7	CARBONDALE		SHALE	23.3	363.7	
263.4	CARBONDALE	HANOVER	LIMESTONE	0.5	387.0	
262.9	CARBONDALE	EXCELLO	BLACK SHALE	9.5	387.5	
253.4	CARBONDALE	HOUCHIN CREEK	COAL	3.0	397.0	
250.4	CARBONDALE		SHALE	1.5	400.0	

248.9	CARBONDALE		LIMESTONE	0.8	401.5
248.1	CARBONDALE		SHALE	7.3	402.3
240.9	CARBONDALE	SURVANT	COAL	0.1	409.5
240.8	CARBONDALE		SHALE	53.7	409.6
187.1	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.5	463.3
184.6	CARBONDALE	COLCHESTER	COAL	2.8	465.8
181.9	SPOON		SHALE	5.3	468.5
176.6	SPOON		COAL	0.5	473.8
176.1	SPOON		SHALE	17.7	474.3
158.4	SPOON		SHALE	5.0	492.0
153.4	SPOON		BLACK SHALE	1.3	497.0
152.1	SPOON		COAL	1.5	498.3
150.6	SPOON		SHALE	13.2	499.8
137.4			BLACK SHALE	8.5	513.0
128.9			COAL	0.5	521.5
128.4			SHALE	2.8	522.0
125.6			LIMESTONE	1.3	524.8
124.3			SHALE	0.9	526.1
123.4			COAL	1.5	527.0
121.9			SHALE	5.5	528.5
116.4			SHALE	4.1	534.0
112.3			SHALE	2.0	538.1
110.3			SHALE	2.3	540.1
108.1			SHALE	23.7	542.3
84.4			BLACK SHALE	5.3	566.0
79.1			COAL	4.5	571.3
74.6			SANDSTONE	6.5	575.8
68.1			COAL	0.3	582.3
67.8			BLACK SHALE	0.9	582.6
66.9			COAL	3.3	583.5
63.6			BLACK SHALE	1.5	586.8
62.1			SHALE & SANDSTONE	21.2	588.3
40.9			SHALY SANDSTONE	16.5	609.5
24.4			SHALE	2.0	626.0
22.4			SANDSTONE	4.0	628.0
18.4			SHALE	15.5	632.0
2.9			BLACK SHALE	5.5	647.5
-2.6			SANDSTONE	24.0	653.0
-26.6			SANDSTONE/SHALE	6.0	677.0
-32.6			SHALY SANDSTONE	5.0	683.0
-37.6			SANDSTONE	2.0	688.0
-39.6			SHALY SANDSTONE	1.0	690.0
-40.6			BLACK SHALE	2.0	691.0
-42.6			SHALY SANDSTONE	9.0	693.0
-51.6			BLACK SHALE	16.0	702.0
-67.6			SANDSTONE	0.5	718.0
-68.1			BLACK SHALE	2.5	718.5
-70.6	MISSISSIPPIAN		LIMESTONE	4.0	721.0

-74.6	MISSISSIPPIAN	BLACK SHALE	5.0	725.0	
-79.6	MISSISSIPPIAN	SANDSTONE	9.0	730.0	W/ LS
-88.6	MISSISSIPPIAN	BLACK SHALE	4.0	739.0	THICKNESS OR DEPTH IN ERROR
-92.6	MISSISSIPPIAN	SHALE	8.0	743.0	THICKNESS OR DEPTH IN ERROR
-100.6	MISSISSIPPIAN	SANDSTONE	2.0	751.0	THICKNESS OR DEPTH IN ERROR
-102.6	MISSISSIPPIAN	SHALE	10.0	753.0	THICKNESS OR DEPTH IN ERROR
-112.6	MISSISSIPPIAN	LIMESTONE	10.0	763.0	THICKNESS OR DEPTH IN ERROR
-122.6	MISSISSIPPIAN	SANDSTONE	10.0	773.0	THICKNESS OR DEPTH IN ERROR
-132.6	MISSISSIPPIAN	LIMESTONE	20.0	783.0	THICKNESS OR DEPTH IN ERROR

MAPID: 13500004000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.588686 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.47318 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.4 **LOGGED (FT.):** 642.0 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #5 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.4	PLEISTOCENE		SOIL	4.0	0.0	
646.4	PLEISTOCENE		CLAY	12.0	4.0	
634.4	PLEISTOCENE		SAND & GRAVEL	10.0	16.0	
624.4	PLEISTOCENE		CLAY	9.0	26.0	
615.4	PLEISTOCENE		SAND & GRAVEL	15.0	35.0	
600.4	BOND		LIMESTONE	11.0	50.0	
589.4	BOND		DARK SHALE	2.0	61.0	
587.4	BOND		GRAY SHALE	13.0	63.0	
574.4	BOND	CARTHAGE	LIMESTONE	10.0	76.0	GRITTY
564.4	MODESTO		BLACK SHALE	4.0	86.0	
560.4	MODESTO		GRAY SHALE	88.0	90.0	
472.4	MODESTO		SANDSTONE/SHALE	8.0	178.0	AND MICA
464.4	MODESTO		GRAY SHALE	9.0	186.0	
455.4	MODESTO		LIMESTONE	9.0	195.0	GRITTY
446.4	MODESTO		GRAY SHALE	71.0	204.0	
375.4	MODESTO		SANDSTONE	6.0	275.0	
369.4	MODESTO		DARK SHALE	1.0	281.0	
368.4	MODESTO		GRAY SHALE	5.0	282.0	
363.4	MODESTO		RED SHALE	6.0	287.0	
357.4	MODESTO		GRAY SHALE	16.0	293.0	
341.4	MODESTO		BLACK SHALE	3.0	309.0	
338.4	CARBONDALE		GRAY SHALE	4.0	312.0	
334.4	CARBONDALE		ROCK	4.0	316.0	
330.4	CARBONDALE		ROCK	4.5	320.0	
325.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.7	324.5	
320.2	CARBONDALE		ARGILACEOUS SHALE	0.7	330.2	
319.6	CARBONDALE		LIMESTONE	0.3	330.8	
319.3	CARBONDALE		ARGILACEOUS SHALE	1.4	331.1	
317.9	CARBONDALE		LIMESTONE	0.4	332.5	
317.5	CARBONDALE		ARGILACEOUS SHALE	1.6	332.9	
315.9	CARBONDALE		SANDSTONE	3.3	334.5	
312.6	CARBONDALE		ARGILACEOUS SHALE	0.8	337.8	
311.7	CARBONDALE	BRERETON	LIMESTONE	2.0	338.7	
309.7	CARBONDALE	ANNA	BLACK SHALE	1.7	340.7	
308.1	CARBONDALE	HERRIN	COAL	8.5	342.3	LOG READS (299'6") IN COMMENTS
299.6	CARBONDALE		GRAY SHALE	3.0	350.8	
296.6	CARBONDALE		LIGHT SHALE	1.2	353.8	
295.4	CARBONDALE		LIMESTONE	4.0	355.0	
291.4	CARBONDALE		LIGHT SHALE	2.0	359.0	

289.4	CARBONDALE		LIMESTONE	2.7	361.0	
286.7	CARBONDALE		ARGILACEOUS SHALE	6.6	363.7	
280.1	CARBONDALE		BLACK SHALE	3.8	370.3	GRITTY
276.4	CARBONDALE		SHALE & CLAYSTONE	13.0	374.0	BLUE
263.4	CARBONDALE		LIMESTONE	0.5	387.0	
262.9	CARBONDALE	EXCELLO	BLACK SHALE	9.5	387.5	
253.4	CARBONDALE	HOUCHIN CREEK	COAL	3.0	397.0	
250.4	CARBONDALE		ARGILACEOUS SHALE	1.5	400.0	
248.9	CARBONDALE		LIMESTONE	0.8	401.5	
248.1	CARBONDALE		ARGILACEOUS SHALE	6.3	402.3	
241.9	CARBONDALE		BLACK SHALE	1.0	408.5	
240.9	CARBONDALE		COAL	0.1	409.5	
240.8	CARBONDALE		SHALE & CLAYSTONE	40.4	409.6	GRITTY BLUE
200.4	CARBONDALE		SHALE	13.3	450.0	
187.1	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.5	463.3	
184.6	CARBONDALE	COLCHESTER	COAL	2.8	465.8	
181.9	SPOON		ARGILACEOUS SHALE	5.3	468.5	
176.6	SPOON		COAL	0.5	473.8	
176.1	SPOON		BLACK SHALE	17.7	474.3	GRITTY
158.4	SPOON		CLAYSTONE	5.0	492.0	
153.4	SPOON		BLACK SHALE	1.3	497.0	
152.1	SPOON	SEELYVILLE	COAL	1.5	498.3	
150.6	SPOON		ARGILACEOUS SHALE	6.2	499.8	
144.4	SPOON		GRAY SHALE	7.0	506.0	
137.4	SPOON		BLACK SHALE	8.5	513.0	
128.9	SPOON		COAL	0.5	521.5	
128.4	SPOON		ARGILACEOUS SHALE	2.8	522.0	
125.6	SPOON		LIMESTONE	1.3	524.8	
124.3	SPOON		ARGILACEOUS SHALE	0.9	526.1	
123.4	SPOON		COAL	1.5	527.0	
121.9	SPOON		ARGILACEOUS SHALE	5.5	528.5	WT
116.4	SPOON		BLACK SHALE	3.0	534.0	GRITTY
113.4	SPOON		ARGILACEOUS SHALE	1.1	537.0	
112.3	SPOON		DARK SHALE	2.0	538.1	
110.3	SPOON		CALCAREOUS SHALE	1.9	540.1	
108.4	SPOON		ARGILACEOUS SHALE	5.5	542.0	
102.9	SPOON		SHALE & CLAYSTONE	18.5	547.5	BLUE
84.4	SPOON		BLACK SHALE	5.3	566.0	
79.1	SPOON	MURPHYSBORO	COAL	4.5	571.3	
74.6	SPOON	MURPHYSBORO	SANDSTONE	6.5	575.8	
68.1	SPOON	MURPHYSBORO	COAL	0.3	582.3	
67.8	SPOON	MURPHYSBORO	BLACK SHALE	0.9	582.6	
66.9	SPOON	MURPHYSBORO	COAL	2.5	583.5	
64.4			BLACK SHALE	2.3	586.0	
62.1			SANDSTONE/SHALE	21.2	588.3	GRITTY SLATE
40.9			ARGILLACEOUS SANDSTONE	16.5	609.5	
24.4			SHALE & CLAYSTONE	2.0	626.0	

22.4		ARGILLACEOUS SANDSTONE	4.0	628.0	
18.4		ARGILACEOUS SHALE	15.5	632.0	
2.9		BLACK SHALE	3.5	647.5	
-0.6		PYRITE	0.7	651.0	
-1.3		SHALE & CLAYSTONE	1.3	651.7	BLACK
-2.6		SANDSTONE	24.0	653.0	
-26.6		SANDSTONE/SHALE	6.0	677.0	GRITTY SLATE
-32.6		ARGILLACEOUS SANDSTONE	5.0	683.0	
-37.6		SANDSTONE	2.0	688.0	
-39.6		ARGILLACEOUS SANDSTONE	1.0	690.0	
-40.6		SHALE & CLAYSTONE	2.0	691.0	BLACK
-42.6		ARGILLACEOUS SANDSTONE	9.0	693.0	
-51.6		SHALE & CLAYSTONE	16.0	702.0	BLACK
-67.6		SANDSTONE	0.5	718.0	
-68.1		BLACK SHALE	2.5	718.5	
-70.6	MISSISSIPPIAN	LIMESTONE	4.0	721.0	
-74.6	MISSISSIPPIAN	BLACK SHALE	5.0	725.0	
-79.6	MISSISSIPPIAN	SANDSTONE/LIMESTONE	9.0	730.0	
-88.6	MISSISSIPPIAN	BLACK SHALE	3.0	739.0	

MAPID: 13501095000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 24 **QUARTERS/FOOTAGES:** 200' N line, 330' W line of SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.606257 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.472271 **DATE COLLECTED:** 2 / 0 / 1958

SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 337.0 **LOG TYPE:** Electric Log

SOURCE: STEWART OIL CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.0	CARBONDALE	HERRIN	COAL	8.0	329.0	

MAPID: 13501118000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.596667 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.457428 **DATE COLLECTED:** 0 / 0 / 1958

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 349.0 **LOG TYPE:** Electric Log

SOURCE: FARMER & GATEWOOD **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
333.0	MODESTO		UNCLASSIFIED	2.5	302.0	
330.5	CARBONDALE		UNCLASSIFIED	20.0	304.5	
310.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	324.5	
305.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	330.0	
302.5	CARBONDALE		UNCLASSIFIED	2.5	332.5	
300.0	CARBONDALE	BRERETON	LIMESTONE	5.0	335.0	
295.0	CARBONDALE	ANNA	BLACK SHALE	3.0	340.0	
292.0	CARBONDALE	HERRIN	COAL	6.0	343.0	

MAPID: 13501128000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.596759 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.464754 **DATE COLLECTED:** 6 / 0 / 1959

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 358.0 **LOG TYPE:** Electric Log

SOURCE: STEWART OIL CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
332.5	MODESTO	PIASA	LIMESTONE	2.0	311.5	
330.5	MODESTO		UNCLASSIFIED	4.0	313.5	
326.5	CARBONDALE		UNCLASSIFIED	14.5	317.5	
312.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	332.0	
306.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	338.0	
304.0	CARBONDALE		UNCLASSIFIED	1.5	340.0	
302.5	CARBONDALE	BRERETON	LIMESTONE	5.5	341.5	
297.0	CARBONDALE	ANNA	BLACK SHALE	4.0	347.0	
293.0	CARBONDALE	HERRIN	COAL	7.0	351.0	

MAPID: 13501128000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.596759 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.464754 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 362.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
328.0	MODESTO	PIASA	LIMESTONE	2.0	316.0	
326.0	MODESTO		MOTTLED SHALE	5.0	318.0	
321.0	CARBONDALE	DANVILLE	BLACK SHALE	3.0	323.0	
318.0	CARBONDALE	GALUM	LIMESTONE	3.0	326.0	
315.0	CARBONDALE		SHALE	7.0	329.0	
308.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	336.0	
303.0	CARBONDALE	LAWSON	SHALE	3.0	341.0	
300.0	CARBONDALE	BRERETON	LIMESTONE	6.0	344.0	
294.0	CARBONDALE	ANNA	BLACK SHALE	4.0	350.0	
289.0	CARBONDALE	HERRIN	COAL	7.0	355.0	

MAPID: 13501128000C **VERSION:** 3 **PROJECT:** IDMM-GWQX

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.596759 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.464754 **DATE COLLECTED:** 6 / 0 / 1959

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 471.0 **LOG TYPE:** Electric Log

SOURCE: STEWART OIL CO. **WELL TYPE:** Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
285.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	359.0	
275.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	369.0	THIN OR ABSENT
241.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	403.0	
173.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	471.0	

MAPID: 13500328000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 50' S line, 2620' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.616439 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.450936 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 353.4 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 5 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
315.2	MODESTO	PIASA	LIMESTONE	3.1	311.8	
312.1	MODESTO		MOTTLED SHALE	1.8	314.9	
310.4	CARBONDALE	DANVILLE	BLACK SHALE	3.1	316.6	
307.3	CARBONDALE		CALCAREOUS SHALE	0.5	319.7	
306.8	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	1.1	320.2	
305.7	CARBONDALE		CLAYSTONE & SHALE	10.6	321.3	
295.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	331.8	UPPER BENCH
290.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.6	336.8	SHALE PARTING
288.6	CARBONDALE	BANKSTON FORK	LIMESTONE	0.6	338.4	LOWER BENCH
288.0	CARBONDALE	LAWSON	MOTTLED SHALE	0.4	339.0	
287.6	CARBONDALE	LAWSON	SILTSTONE	0.6	339.4	
287.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.5	340.0	
283.5	CARBONDALE	ANNA	BLACK SHALE	1.5	343.5	
282.0	CARBONDALE	HERRIN	COAL	8.4	345.0	

MAPID: 13500328000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 50' S line, 2620' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.616439 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.450936 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 353.4 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 5 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.5	MODESTO	PIASA	LIMESTONE	3.1	308.5	
315.4	MODESTO		UNCLASSIFIED	3.2	311.6	
312.2	CARBONDALE		UNCLASSIFIED	15.2	314.8	
297.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.4	330.0	
290.6	CARBONDALE	ANVIL ROCK	SANDSTONE	1.6	336.4	
289.0	CARBONDALE	CONANT	LIMESTONE	0.6	338.0	
288.4	CARBONDALE		SHALE	1.1	338.6	
287.3	CARBONDALE	BRERETON	LIMESTONE	3.8	339.7	
283.5	CARBONDALE	ANNA	BLACK SHALE	1.5	343.5	
282.0	CARBONDALE	HERRIN	COAL	8.4	345.0	

MAPID: 13500328000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 50' S line, 2620' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.616439 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.450936 **DATE COLLECTED:** 12 / 7 / 1949

SURFACE ELEVATION (FT.): 626.6 **LOGGED (FT.):** 353.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 5 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.6	CARBONDALE	HERRIN	COAL	8.3	345.0	

MAPID: 13501536000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.61084 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.462712 **DATE COLLECTED:** 4 / 0 / 1965

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 347.0 **LOG TYPE:** Electric Log

SOURCE: AYERS, HENRY C. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
342.0	MODESTO	PIASA	LIMESTONE	3.0	301.0	
339.0	MODESTO		UNCLASSIFIED	3.0	304.0	
336.0	CARBONDALE		UNCLASSIFIED	14.5	307.0	
321.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	321.5	
318.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	325.0	
316.0	CARBONDALE		UNCLASSIFIED	2.0	327.0	
314.0	CARBONDALE	BRERETON	LIMESTONE	7.0	329.0	
307.0	CARBONDALE	ANNA	BLACK SHALE	4.0	336.0	
303.0	CARBONDALE	HERRIN	COAL	7.0	340.0	

MAPID: 13500322000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.63563 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.465309 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 373.6 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 7 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
314.8	MODESTO	PIASA	NODULAR LIMESTONE	2.8	326.2	
311.9	MODESTO		BLACK SHALE	10.0	329.1	
301.9	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	0.7	339.1	
301.3	CARBONDALE		DARK GRAY SHALE	1.3	339.7	
299.9	CARBONDALE	ALLENBY	BLACK SHALE	0.5	341.1	
299.4	CARBONDALE		MOTTLED SHALE	8.0	341.6	
291.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.8	349.5	UPPER BENCH
287.7	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.3	353.3	SHALE PARTING
286.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	354.6	LOWER BENCH
286.1	CARBONDALE	LAWSON	MOTTLED SHALE	0.8	354.9	
285.3	CARBONDALE	LAWSON	SILTSTONE	1.7	355.7	
283.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.4	357.3	
280.2	CARBONDALE	ANNA	BLACK SHALE	5.3	360.8	
275.0	CARBONDALE	HERRIN	COAL	7.6	366.0	

MAPID: 13500322000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.63563 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.465309 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 372.6 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 7 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
314.2	MODESTO	PIASA	LIMESTONE	3.0	325.8	
311.2	MODESTO		UNCLASSIFIED	4.7	328.8	
306.5	CARBONDALE		UNCLASSIFIED	14.6	333.5	
291.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	348.1	
287.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	352.3	
286.4	CARBONDALE	CONANT	LIMESTONE	0.3	353.6	
286.1	CARBONDALE		SHALE	2.4	353.9	
283.7	CARBONDALE	BRERETON	LIMESTONE	3.4	356.3	
280.3	CARBONDALE	ANNA	BLACK SHALE	5.3	359.7	
275.0	CARBONDALE	HERRIN	COAL	7.6	365.0	

MAPID: 13500322000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.63563 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.465309 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 640.5 **LOGGED (FT.):** 373.7 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 7 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
274.4	CARBONDALE	HERRIN	COAL	7.6	366.1	

MAPID: 13500322000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 27 **QUARTERS/FOOTAGES:** 0' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.63563 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.465309 **DATE COLLECTED:** 12 / 7 / 1949

SURFACE ELEVATION (FT.): 640.5 **LOGGED (FT.):** 377.2 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO PW-7-49 **WELL TYPE:** Coal Test

COMMENT: PERMIT #4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.5	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
630.5	BOND		SANDY SHALE	59.2	10.0	
571.3	BOND		LIMESTONE	1.3	69.2	
570.1	BOND		SHALE	0.5	70.4	CALCAREOUS, FOSSILIFEROUS
569.6	BOND		SHALE	0.2	70.9	DARK GRAY, LAMINATED
569.4	BOND		COAL	0.1	71.1	
569.3	BOND		UNDERCLAY	1.4	71.2	
567.9	BOND		GRAY SHALE	2.4	72.6	SOFT,WEAK,PYRITIC
565.5	BOND	CARTHAGE	LIMESTONE	12.3	75.0	WITH GREENISH SHALE BANDS AT BASE
553.2	MODESTO		SHALE	2.0	87.3	DARK GRAY
551.2	MODESTO		SHALE	4.3	89.3	BLACK
547.0	MODESTO		LIMESTONE	0.6	93.5	MASSIVE
546.4	MODESTO		SHALE	0.3	94.1	BLACK
546.1	MODESTO		UNDERCLAY	4.7	94.4	
541.4	MODESTO		SHALE	6.0	99.1	WITH LIMESTONE NODULES
535.4	MODESTO	MACOUPIN	LIMESTONE & SHALE	3.4	105.1	
532.0	MODESTO		SHALE	2.2	108.5	CALCAREOUS, GRITTY, WITH FOSSILS
529.8	MODESTO		SHALE	1.3	110.7	WEAK, DARK GRAY GREEN
528.6	MODESTO		SHALE	1.0	111.9	WEAK, DARK GRAY TO BLACK
527.6	MODESTO		UNDERCLAY	4.4	112.9	
523.2	MODESTO		SHALE	2.8	117.3	WITH LIMESTONE NODULES
520.3	MODESTO		SHALY SANDSTONE	0.4	120.2	
519.9	MODESTO		SANDSTONE/SHALE	1.1	120.6	INTERBEDDED
518.8	MODESTO		SANDSTONE	3.7	121.7	CALCAREOUS, WITH SHALE PARTINGS
515.2	MODESTO		SHALE	11.8	125.3	
503.3	MODESTO		SHALE	0.3	137.2	WITH SANDSTONE PARTINGS
503.1	MODESTO		SANDSTONE	0.3	137.4	CALCAREOUS
502.8	MODESTO		SHALE	1.3	137.7	
501.6	MODESTO	CARLINVILLE	LIMESTONE	1.6	138.9	FOSSILIFEROUS
500.0	MODESTO		SANDY SHALE	0.3	140.5	CALCAREOUS, LAMINATED
499.7	MODESTO		GRAY SHALE	36.8	140.8	
462.9	MODESTO		GRAY SHALE	1.1	177.6	WITH GRITTY LIMESTONE FRAGMENTS
461.8	MODESTO		GRAY SHALE	0.4	178.7	
461.4	MODESTO	CHAPEL	COAL	0.6	179.1	
460.8	MODESTO		UNDERCLAY	2.3	179.7	BLUISH GRAY
458.6	MODESTO		SHALE	4.0	181.9	LIMESTONE NODULES
454.6	MODESTO		LIMESTONE & SHALE	0.8	185.9	
453.8	MODESTO		SHALE	0.3	186.7	DARK GREEN ,WEAK

453.6	MODESTO		LIMESTONE	0.3	186.9	
453.3	MODESTO		SHALE	0.7	187.2	
452.7	MODESTO		SANDY SHALE	26.3	187.8	
426.3	MODESTO	TRIVOLI	SANDSTONE	45.3	214.2	
381.0	MODESTO		SANDSTONE/SHALE	0.2	259.5	INTERBEDDED
380.8	MODESTO		SANDSTONE	10.0	259.7	
370.8	MODESTO		GRAY SHALE	1.1	269.7	
369.7	MODESTO		SANDSTONE	30.8	270.8	WITH SHALE PARTINGS
339.0	MODESTO		SHALE	14.1	301.5	
324.9	MODESTO		SHALE	0.8	315.6	BLACK
324.1	MODESTO		UNDERCLAY	0.8	316.4	
323.3	MODESTO		SANDY SHALE	7.2	317.2	
316.2	MODESTO		SHALE	2.0	324.3	
314.2	MODESTO		UNDERCLAY	0.3	326.3	
313.8	MODESTO	PIASA	LIMESTONE	1.7	326.7	
312.2	MODESTO		SHALE	0.8	328.3	CALCAREOUS, FOSSILIFEROUS
311.3	MODESTO		UNDERCLAY	3.0	329.2	
308.3	MODESTO		SHALE	5.0	332.2	BLACK
303.3	MODESTO		LIMESTONE	0.3	337.2	
303.1	CARBONDALE	DANVILLE	SHALE	0.2	337.4	CARBONACEOUS, BLACK, WITH COAL FRAGMENTS
302.9	CARBONDALE		LIMESTONE	0.1	337.6	
302.8	CARBONDALE		SHALE	0.6	337.7	CALCAREOUS
302.2	CARBONDALE		LIMESTONE	0.2	338.3	
302.1	CARBONDALE		SHALE	1.2	338.4	
300.9	CARBONDALE		SHALE	0.6	339.6	GRITTY, CALCAREOUS FRAGMENTS
300.3	CARBONDALE		SHALE	0.5	340.2	BLACK
299.8	CARBONDALE		SHALE	0.6	340.7	DARK GREENISH GRAY
299.2	CARBONDALE		UNDERCLAY	4.9	341.3	CALCAREOUS
294.3	CARBONDALE		SANDY SHALE	2.3	346.2	CALCAREOUS
292.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	348.5	
288.0	CARBONDALE	BANKSTON FORK	SHALE	1.3	352.5	
286.7	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	353.8	MASSIVE, STRONG
286.4	CARBONDALE		GRAY SHALE	0.6	354.1	
285.8	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.4	354.7	FOSSILIFEROUS
280.4	CARBONDALE	ENERGY	SHALE	5.3	360.1	MEDIUM TO DARK GRAY
275.2	CARBONDALE	HERRIN	COAL	0.1	365.3	
275.1	CARBONDALE	HERRIN	COAL	0.3	365.4	COAL BALL
274.7	CARBONDALE	HERRIN	COAL	2.9	365.8	
271.8	CARBONDALE	HERRIN	PYRITE	0.0	368.7	
271.8	CARBONDALE	HERRIN	COAL	1.9	368.7	
270.0	CARBONDALE	HERRIN	GRAY SHALE	0.1	370.5	BLUE BAND
269.8	CARBONDALE	HERRIN	COAL	2.2	370.7	SLIGHTLY BONY
267.6	CARBONDALE		UNDERCLAY	3.3	372.9	
264.3	CARBONDALE		UNDERCLAY	1.0	376.2	

MAPID: 13500323000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.654343 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.450631 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 369.5 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 6 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
328.7	MODESTO	PIASA	NODULAR LIMESTONE	2.3	324.3	
326.3	CARBONDALE		MOTTLED SHALE	9.4	326.7	
316.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.5	336.1	
315.4	CARBONDALE		CALCAREOUS SHALE	13.5	337.6	
301.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.6	351.1	UPPER BENCH
298.3	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	1.3	354.7	SHALE PARTING
297.1	CARBONDALE	BANKSTON FORK	LIMESTONE	0.4	355.9	LOWER BENCH
296.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.5	356.3	
296.2	CARBONDALE	LAWSON	SILTSTONE	0.6	356.8	
295.6	CARBONDALE	BRERETON	LIMESTONE	2.8	357.4	
292.7	CARBONDALE	ANNA	BLACK SHALE	1.8	360.3	
291.0	CARBONDALE	HERRIN	COAL	7.5	362.0	

MAPID: 13500323000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.654343 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.450631 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 371.5 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 6 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
327.1	MODESTO	PIASA	LIMESTONE	3.3	325.9	
323.8	MODESTO		UNCLASSIFIED	4.2	329.2	
319.6	CARBONDALE		UNCLASSIFIED	19.6	333.4	
300.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.6	353.0	
296.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	356.6	
295.1	CARBONDALE	CONANT	LIMESTONE	0.4	357.9	
294.7	CARBONDALE		SHALE	1.1	358.3	
293.6	CARBONDALE	BRERETON	LIMESTONE	2.8	359.4	
290.8	CARBONDALE	ANNA	BLACK SHALE	1.8	362.2	
289.0	CARBONDALE	HERRIN	COAL	7.5	364.0	

MAPID: 13500323000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 0' S line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.654343 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.450631 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 653.1 **LOGGED (FT.):** 371.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 6 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.3	CARBONDALE	HERRIN	COAL	7.5	363.8	

MAPID: 13500324000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 50' N line, 2590' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.654197 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.46512 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 663.0 **LOGGED (FT.):** 375.1 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 374 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
337.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.5	326.0	
334.5	MODESTO		DARK GRAY SHALE	9.1	328.5	
325.4	CARBONDALE	DANVILLE	BONE COAL	0.3	337.6	
325.1	CARBONDALE		CALCAREOUS SHALE	0.3	337.9	
324.8	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	1.1	338.2	
323.7	CARBONDALE		SHALE & SANDSTONE	2.9	339.3	
320.8	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.1	342.2	
320.7	CARBONDALE		CALCAREOUS SHALE	8.0	342.3	
312.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.4	350.3	UPPER BENCH
309.3	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.9	353.7	SHALE PARTING
306.3	CARBONDALE	BANKSTON FORK	LIMESTONE	0.4	356.7	LOWER BENCH
305.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	357.1	
305.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	3.2	357.8	
302.1	CARBONDALE	BRERETON	LIMESTONE	3.0	360.9	
299.1	CARBONDALE	ANNA	BLACK SHALE	3.1	363.9	
296.0	CARBONDALE	HERRIN	COAL	8.1	367.0	

MAPID: 13500324000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 50' N line, 2590' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.654197 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.46512 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 663.0 **LOGGED (FT.):** 375.1 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 374 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
338.1	MODESTO	PIASA	LIMESTONE	4.3	324.9	
333.8	MODESTO		UNCLASSIFIED	4.3	329.2	
329.5	CARBONDALE		UNCLASSIFIED	16.8	333.5	
312.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	350.3	
308.6	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	354.4	
306.3	CARBONDALE	CONANT	LIMESTONE	0.4	356.7	
305.9	CARBONDALE		SHALE	3.8	357.1	
302.1	CARBONDALE	BRERETON	LIMESTONE	3.0	360.9	
299.1	CARBONDALE	ANNA	BLACK SHALE	3.1	363.9	
296.0	CARBONDALE	HERRIN	COAL	8.1	367.0	

MAPID: 13500324000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 50' N line, 2590' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.654197 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.46512 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 662.6 **LOGGED (FT.):** 374.6 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 374 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
296.1	CARBONDALE	HERRIN	COAL	8.1	366.5	

MAPID: 13500324000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 50' N line, 2590' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.654197 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.46512 **DATE COLLECTED:** 12 / 15 / 1949

SURFACE ELEVATION (FT.): 662.7 **LOGGED (FT.):** 376.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO PW-16-49 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
662.7	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	SOIL & CLAY
648.7	BOND		SANDSTONE	10.0	14.0	CALCAREOUS, LIGHT GRAY
638.7	BOND		SANDSTONE	40.0	24.0	BUFF
598.7	BOND		GRAY SHALE	10.0	64.0	
588.7	BOND		SHALE	0.9	74.0	CALCAREOUS, FOSSILIFEROUS
587.8	BOND		GRAY SHALE	7.3	74.9	SOME SILTY,CALCAREOUS LAMS
580.5	BOND	CARTHAGE	LIMESTONE	11.8	82.2	
568.7	MODESTO		SHALE	2.3	94.0	LIGHT TO MEDIUM GREENISH GRAY
566.4	MODESTO		SHALE	4.9	96.3	DARK GRAY TO BLACK LAMINATIONS
561.4	MODESTO		UNDERCLAY	4.3	101.3	
557.2	MODESTO		SHALE	6.3	105.5	WITH LIMESTONE NODULES
550.9	MODESTO		SILTY SHALE	3.8	111.8	CALCAREOUS, WITH LIMESTONE NODULES
547.2	MODESTO	MACOUPIN	LIMESTONE & SHALE	2.4	115.5	FOSSILIFEROUS
544.8	MODESTO		SHALE	1.3	117.9	CALCAREOUS, FOSSILIFEROUS
543.4	MODESTO		SHALE	0.9	119.3	
542.5	MODESTO		SHALE	0.9	120.2	DARK GRAY TO BLACK LAMINATIONS
541.6	MODESTO		UNDERCLAY	3.9	121.1	LIMESTONE NODULES
537.7	MODESTO		SILTY SHALE	3.8	125.0	LIMESTONE NODULES
533.9	MODESTO		SHALE	7.8	128.8	CALCAREOUS, LIMESTONE NODULES
526.0	MODESTO		SILTSTONE	0.1	136.7	
525.9	MODESTO		SANDY SHALE	7.3	136.8	SANDY LAMINATIONS INCREASE DOWNWARD
518.6	MODESTO		SHALY SANDSTONE	1.8	144.1	
516.9	MODESTO		SILTY SHALE	19.6	145.8	
497.3	MODESTO		GRAY SHALE	21.5	165.4	
475.8	MODESTO		SHALE	1.3	186.9	CALCAREOUS, FOSSILIFEROUS
474.4	MODESTO		SHALE	4.0	188.3	DARK GRAY TO BLACK LAMINATIONS
470.4	MODESTO		SHALE	0.4	192.3	CALCAREOUS, DARK GRAY, FOSSILIFEROUS
470.0	MODESTO	CHAPEL	COAL	1.0	192.7	
469.0	MODESTO		UNDERCLAY	3.2	193.7	WITH LIMESTONE NODULES
465.9	MODESTO		GRAY SHALE	2.3	196.8	WITH LIMESTONE NODULES
463.6	MODESTO		GRAY SHALE	3.1	199.1	
460.5	MODESTO		UNDERCLAY	1.1	202.2	DARK GRAY
459.4	MODESTO		GRAY SHALE	4.6	203.3	
454.9	MODESTO	TRIVOLI	SANDSTONE	4.2	207.8	
450.7	MODESTO	TRIVOLI	GRAY SHALE	0.3	212.0	WITH SANDSTONE PARTINGS
450.4	MODESTO	TRIVOLI	SANDSTONE	0.9	212.3	
449.4	MODESTO	TRIVOLI	SANDSTONE/SHALE	0.6	213.3	INTERBEDDED

448.9	MODESTO		GRAY SHALE	75.2	213.8	
373.7	MODESTO		SHALE	1.4	289.0	CALCAREOUS, FOSSILIFEROUS
372.3	MODESTO		SHALE	0.8	290.4	MEDIUM TO DARK GRAY
371.4	MODESTO		COAL	0.1	291.3	
371.4	MODESTO		GRAY SHALE	1.3	291.3	
370.1	MODESTO		UNDERCLAY	2.4	292.6	WITH LIMESTONE NODULES
367.7	MODESTO		SILTY SHALE	7.5	295.0	
360.2	MODESTO		GRAY SHALE	5.3	302.5	9" CONCRETION AT 306.17"
354.9	MODESTO		SHALE	0.3	307.8	DARK GRAY TO BLACK
354.6	MODESTO		UNDERCLAY	4.6	308.1	
350.0	MODESTO		SHALE	1.7	312.7	
348.4	MODESTO		SHALE	4.2	314.3	WITH LIMESTONE NODULES
344.2	MODESTO		SILTY SHALE	4.3	318.5	
339.9	MODESTO		SHALE	2.3	322.8	DARK BROWNISH GRAY
337.7	MODESTO		SHALE	0.2	325.0	BLACK
337.5	MODESTO		SHALE	0.3	325.2	DARK GREEN MOTTLED WITH LIGHT GREEN
337.2	MODESTO		UNDERCLAY	2.0	325.5	CALCAREOUS
335.2	MODESTO		SHALE	0.8	327.5	WITH GRITTY, CALCAREOUS, FRAGMENTS
334.4	MODESTO		SHALE	1.8	328.3	MEDIUM GREEN
332.5	MODESTO		SHALE	0.3	330.2	DARK GREEN MOTTLED WITH LIGHT GREEN
332.2	MODESTO		SHALE	2.3	330.5	BLACK
329.9	MODESTO		SHALE	2.7	332.8	DARK GRAY
327.2	MODESTO		SHALE	1.2	335.5	BROWNISH GRAY
326.0	MODESTO		SHALE	0.1	336.7	BLACK
325.9	MODESTO		LIMESTONE	0.3	336.8	
325.7	CARBONDALE	DANVILLE	SHALE	0.3	337.0	CARBONACEOUS, COAL FRAGMENTS, BLACK
325.4	CARBONDALE		LIMESTONE	0.1	337.3	
325.3	CARBONDALE		SHALE	0.4	337.4	
324.9	CARBONDALE		LIMESTONE	0.2	337.8	
324.7	CARBONDALE		SILTY SHALE	2.6	338.0	
322.1	CARBONDALE		SILTSTONE	1.2	340.6	
320.9	CARBONDALE		GRAY SHALE	7.5	341.8	
313.4	CARBONDALE		GRAY SHALE	0.7	349.3	WITH SILTY LAMINATIONS
312.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.4	349.9	
309.4	CARBONDALE	BANKSTON FORK	SHALE	2.9	353.3	
306.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	356.3	
305.9	CARBONDALE		GRAY SHALE	0.6	356.8	
305.4	CARBONDALE		SILTY SHALE	3.1	357.3	
302.3	CARBONDALE	BRERETON	LIMESTONE	2.9	360.4	FOSSILIFEROUS
299.4	CARBONDALE		GRAY SHALE	0.3	363.3	
299.0	CARBONDALE	ANNA	SHALE	2.8	363.7	BLACK
296.3	CARBONDALE	HERRIN	COAL	1.1	366.4	
295.2	CARBONDALE	HERRIN	PYRITE	0.0	367.5	
295.2	CARBONDALE	HERRIN	COAL	0.4	367.5	
294.7	CARBONDALE	HERRIN	PYRITE	0.0	368.0	
294.7	CARBONDALE	HERRIN	COAL	1.0	368.0	
293.8	CARBONDALE	HERRIN	SHALE	0.1	368.9	

293.7	CARBONDALE	HERRIN	COAL	0.9	369.0	
292.8	CARBONDALE	HERRIN	PYRITE	0.0	369.9	
292.7	CARBONDALE	HERRIN	COAL	1.9	370.0	
290.9	CARBONDALE	HERRIN	GRAY SHALE	0.1	371.8	BLUE BAND
290.8	CARBONDALE	HERRIN	COAL	0.5	371.9	
290.3	CARBONDALE	HERRIN	BONE COAL	0.1	372.4	
290.2	CARBONDALE	HERRIN	COAL	0.3	372.5	
289.9	CARBONDALE	HERRIN	PYRITE	0.0	372.8	
289.9	CARBONDALE	HERRIN	COAL	0.8	372.8	
289.1	CARBONDALE	HERRIN	FUSAIN	0.0	373.6	
289.1	CARBONDALE	HERRIN	COAL	1.0	373.6	
288.1	CARBONDALE		UNDERCLAY	1.9	374.6	

MAPID: 13500414000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of NE SE SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.65429 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.452461 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** 373.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F22 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
347.5	MODESTO		UNCLASSIFIED	3.3	306.5	
344.2	CARBONDALE		UNCLASSIFIED	15.2	309.8	
329.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	325.0	
323.0	CARBONDALE	ENERGY	SHALE	41.0	331.0	
282.0	CARBONDALE	HERRIN	COAL	1.0	372.0	

MAPID: 13500415000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SW SE SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.656607 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.450614 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F-21 **WELL TYPE:** Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	2.8		
-	MODESTO		UNCLASSIFIED	3.1		
-	CARBONDALE		UNCLASSIFIED	16.6		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	6.8		

MAPID: 13501132000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** NW SE SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.657799 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.453351 **DATE COLLECTED:** 0 / 0 / 1956

SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** 368.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F-23 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
292.0	CARBONDALE	HERRIN	COAL	6.0	362.0	

MAPID: 13501132000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 28 **QUARTERS/FOOTAGES:** NW SE SW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.657799 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.453351 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 654.0 **LOGGED (FT.):** 368.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED F-23 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
346.0	MODESTO		UNCLASSIFIED	3.5	308.0	
342.5	CARBONDALE		UNCLASSIFIED	13.5	311.5	
329.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	325.0	
323.0	CARBONDALE	ENERGY	SHALE	31.0	331.0	
292.0	CARBONDALE	HERRIN	COAL	6.0	362.0	

MAPID: 13501557000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673099 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.457851 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 368.5 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-19-65 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
333.9	MODESTO	PIASA	LIMESTONE	4.5	316.1	
329.4	MODESTO		SHALE	5.5	320.6	
323.9	CARBONDALE		SANDSTONE/SILTSTONE	10.2	326.1	
313.7	CARBONDALE		CLAYSTONE & SHALE	7.8	336.3	
306.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.7	344.0	UPPER BENCH
303.3	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	3.3	346.7	SHALE PARTING
300.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.6	349.9	LOWER BENCH
299.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.0	350.5	
298.5	CARBONDALE	LAWSON	LIMESTONE	0.3	351.5	
298.2	CARBONDALE	LAWSON	SANDSTONE	2.8	351.8	
295.5	CARBONDALE	LAWSON	GRAY SHALE	0.6	354.5	
294.9	CARBONDALE	BRERETON	LIMESTONE	3.9	355.1	
291.0	CARBONDALE	ANNA	BLACK SHALE	2.0	359.0	
289.0	CARBONDALE	HERRIN	COAL	7.5	361.0	

MAPID: 13501557000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673099 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.457851 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 368.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-19-65 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
334.7	MODESTO	PIASA	LIMESTONE	4.5	315.3	
330.2	MODESTO		UNCLASSIFIED	5.5	319.8	
324.7	CARBONDALE		UNCLASSIFIED	17.0	325.3	
307.7	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	342.3	
302.7	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	347.3	
300.4	CARBONDALE	CONANT	LIMESTONE	1.7	349.6	
298.7	CARBONDALE		SHALE	4.0	351.3	
294.7	CARBONDALE	BRERETON	LIMESTONE	4.8	355.3	
289.9	CARBONDALE	ANNA	BLACK SHALE	0.9	360.1	
289.0	CARBONDALE	HERRIN	COAL	7.5	361.0	

MAPID: 13501557000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673099 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.457851 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 369.5 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-19-65 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.2	CARBONDALE	HERRIN	COAL	7.5	360.8	

MAPID: 13501557000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673099 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.457851 **DATE COLLECTED:** 12 / 21 / 1965
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 368.3 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-19-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.2	CARBONDALE	HERRIN	COAL	7.5	360.8	

MAPID: 13501557000C **VERSION:** 5 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.673099 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.457851 **DATE COLLECTED:** 12 / 21 / 1965

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 369.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-19-65 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
650.0	PLEISTOCENE		UNCONSOLIDATED	64.0	0.0	
586.0	BOND		SANDSTONE	6.0	64.0	
580.0	BOND		SANDY SHALE	15.0	70.0	
565.0	BOND		LIMESTONE	1.0	85.0	
564.0	BOND		SHALE	14.0	86.0	
550.0	BOND	CARTHAGE	LIMESTONE	9.0	100.0	
541.0	MODESTO		SHALE	5.0	109.0	BLACK
536.0	MODESTO		SANDY SHALE	61.0	114.0	
475.0	MODESTO		SHALE	3.0	175.0	DARK
472.0	MODESTO	CHAPEL	COAL	2.0	178.0	
470.0	MODESTO		SANDY SHALE	108.0	180.0	
362.0	MODESTO		SHALE	5.0	288.0	BLACK
357.0	MODESTO		SHALE	22.0	293.0	
335.0	MODESTO	PIASA	LIMESTONE	4.5	315.0	
330.5	MODESTO		SHALE	5.5	319.5	
325.0	MODESTO		SANDSTONE	10.0	325.0	
315.0	CARBONDALE	DANVILLE	SHALE	3.0	335.0	DARK STRIPED
312.0	CARBONDALE		GRAY SHALE	4.0	338.0	
308.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	342.0	
303.0	CARBONDALE	BANKSTON FORK	SHALE	2.3	347.0	
300.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	349.3	
299.0	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	351.0	
295.0	CARBONDALE	BRERETON	LIMESTONE	4.8	355.0	
290.2	CARBONDALE	ANNA	SHALE	0.9	359.8	BLACK
289.2	CARBONDALE	HERRIN	COAL	7.5	360.8	
281.7	CARBONDALE		UNDERCLAY	1.3	368.3	

MAPID: 13501556000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SE SE NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.691501 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.457703 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 354.8 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-18-65 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
313.8	CARBONDALE	HERRIN	COAL	8.0	346.2	

MAPID: 13501556000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SE SE NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.691501 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.457703 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 354.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED C-18-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
355.5	MODESTO	PIASA	LIMESTONE	3.0	304.5	
352.5	MODESTO		UNCLASSIFIED	6.0	307.5	
346.5	CARBONDALE		UNCLASSIFIED	17.9	313.5	
328.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.6	331.4	
324.0	CARBONDALE	ANVIL ROCK	SANDSTONE	1.1	336.0	
322.9	CARBONDALE		SHALE	2.1	337.1	
320.8	CARBONDALE	BRERETON	LIMESTONE	2.9	339.2	
317.9	CARBONDALE	ANNA	BLACK SHALE	3.9	342.1	
314.0	CARBONDALE	HERRIN	COAL	8.0	346.0	

MAPID: 13501556000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SE SE NW
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.691501 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.457703 **DATE COLLECTED:** 12 / 19 / 1965
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 354.2 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-18-65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
313.8	CARBONDALE	HERRIN	COAL	8.0	346.2	

MAPID: 13501556000C **VERSION:** 4 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 0' S line, 0' E line of SE SE NW

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.691501 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.457703 **DATE COLLECTED:** 12 / 19 / 1965

SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 355.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-18-65 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
670.0	PLEISTOCENE		UNCONSOLIDATED	38.0	0.0	
632.0	BOND		SANDY SHALE	8.0	38.0	
624.0	BOND		COAL	1.0	46.0	SLATEY
623.0	BOND		SANDY SHALE	14.0	47.0	
609.0	BOND		COAL	2.0	61.0	
607.0	BOND		SANDY SHALE	12.0	63.0	
595.0	BOND		LIMESTONE	5.0	75.0	
590.0	BOND		SANDSTONE	11.0	80.0	MCWAIN MEMBER
579.0	BOND	CARTHAGE	LIMESTONE	6.0	91.0	
573.0	MODESTO		SHALE	5.0	97.0	BLACK
568.0	MODESTO		SHALE	18.0	102.0	
550.0	MODESTO		SANDSTONE	40.0	120.0	
510.0	MODESTO	CHAPEL	COAL	2.0	160.0	
508.0	MODESTO		SANDY SHALE	130.0	162.0	
378.0	MODESTO		SHALE	5.0	292.0	BLACK
373.0	MODESTO		SANDY SHALE	8.0	297.0	
365.0	MODESTO	PIASA	LIMESTONE	3.0	305.0	
362.0	MODESTO		SHALE	6.0	308.0	
356.0	MODESTO		SANDSTONE	4.3	314.0	
351.7	MODESTO		SANDY SHALE	3.8	318.3	
348.0	MODESTO		SHALE	1.0	322.0	FOSSILIFEROUS, DARK
347.0	CARBONDALE	DANVILLE	COAL	0.5	323.0	
346.5	CARBONDALE		GRAY SHALE	2.0	323.5	
344.5	CARBONDALE		CLAYSTONE	3.5	325.5	
341.0	CARBONDALE		GRAY SHALE	2.8	329.0	
338.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	331.8	
333.5	CARBONDALE		SHALE	3.0	336.5	STRIPED
330.5	CARBONDALE	BRERETON	LIMESTONE	2.8	339.5	
327.7	CARBONDALE	BRERETON	SHALE	0.7	342.3	STRIPED
327.0	CARBONDALE	ANNA	SHALE	3.0	343.0	BLACK
324.0	CARBONDALE	HERRIN	COAL	8.0	346.0	
316.0	CARBONDALE		UNDERCLAY	1.0	354.0	

MAPID: 13501667000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 22' N line, 13' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682522 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.464997 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 368.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-16-69 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
340.3	MODESTO	PIASA	LIMESTONE	2.9	319.7	
337.4	CARBONDALE		SILTY SHALE	15.2	322.6	
322.2	CARBONDALE	ALLENBY	COAL	0.5	337.8	
321.7	CARBONDALE		CLAYSTONE & SHALE	4.6	338.3	
317.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.9	342.8	UPPER BENCH
315.2	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	2.5	344.8	SHALE PARTING
312.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.3	347.3	LOWER BENCH
310.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.3	349.6	
310.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	1.3	349.8	
308.9	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	351.1	
307.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.8	352.4	
302.7	CARBONDALE	ANNA	BLACK SHALE	2.8	357.3	
300.0	CARBONDALE	HERRIN	COAL	8.0	360.0	

MAPID: 13501667000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 22' N line, 13' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682522 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.464997 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 368.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED CM-16-69 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
341.4	MODESTO	PIASA	LIMESTONE	2.9	318.6	
338.5	MODESTO		UNCLASSIFIED	6.1	321.5	
332.4	CARBONDALE		UNCLASSIFIED	14.2	327.6	
318.2	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	341.8	
310.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.5	349.6	
308.9	CARBONDALE	CONANT	LIMESTONE	0.1	351.1	
308.8	CARBONDALE		SHALE	1.2	351.2	
307.6	CARBONDALE	BRERETON	LIMESTONE	4.8	352.4	
302.8	CARBONDALE	ANNA	BLACK SHALE	2.8	357.2	
300.0	CARBONDALE	HERRIN	COAL	8.0	360.0	

MAPID: 13501667000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 22' N line, 13' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682522 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.464997 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 374.0 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-16-69 **WELL TYPE:** Coal Test

COMMENT: DRILLERS LOG INC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
299.6	CARBONDALE	HERRIN	COAL	8.0	360.4	

MAPID: 13501667000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 22' N line, 13' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682522 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.464997 **DATE COLLECTED:** 6 / 26 / 1969

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 369.4 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED CM-16-69 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
298.6	CARBONDALE	HERRIN	COAL	8.0	361.4	

MAPID: 13501667000C **VERSION:** 5 **PROJECT:** NCRDS99

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 30 **QUARTERS/FOOTAGES:** 22' N line, 13' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682522 **GEOLOGIST:** J MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.464997 **DATE COLLECTED:** 6 / 25 / 1969

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 374.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-16-69 **WELL TYPE:** Coal Test

COMMENT: PERMIT 4; CROWN II MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
660.0	PLEISTOCENE		UNCONSOLIDATED	17.0	0.0	
643.0	BOND		SANDSTONE	30.6	17.0	BROWN,WEATHERED
612.4	BOND		SANDY SHALE	15.1	47.6	
597.3	BOND		LIMESTONE	0.7	62.7	FOSSILIFEROUS
596.7	BOND		COAL	0.5	63.3	
596.2	BOND		SANDY SHALE	8.8	63.8	
587.3	BOND		COAL	0.5	72.7	
586.8	BOND		GRAY SHALE	10.7	73.2	
576.2	BOND	CARTHAGE	LIMESTONE	6.9	83.8	BLACK
569.2	MODESTO		GRAY SHALE	8.1	90.8	WITH LIMESTONE NODULES
561.2	MODESTO	MACOUPIN	SANDY LIMESTONE	4.5	98.8	
556.7	MODESTO		SANDY SHALE	15.2	103.3	WITH LIMESTONE NODULES
541.5	MODESTO		SANDY SHALE	54.5	118.5	
487.0	MODESTO		SHALE	2.0	173.0	FOSSILIFEROUS, DARK
485.0	MODESTO	CHAPEL	COAL	0.5	175.0	
484.5	MODESTO		SANDY SHALE	22.9	175.5	
461.6	MODESTO	TRIVOLI	SANDSTONE/SHALE	74.6	198.4	SANDY SHALE
387.0	MODESTO		SILTY SHALE	12.3	273.0	
374.7	MODESTO		SHALE	1.8	285.3	FOSSILIFEROUS, DARK
373.0	MODESTO		COAL	0.3	287.0	
372.7	MODESTO		SANDY SHALE	17.9	287.3	
354.8	MODESTO		SHALE	1.3	305.2	DARK
353.5	MODESTO		SHALE	2.5	306.5	MULTICOLORED
351.0	MODESTO		SANDY SHALE	10.1	309.0	WITH LIMESTONE NODULES
340.9	MODESTO	PIASA	LIMESTONE	2.9	319.1	
338.0	MODESTO		SANDY SHALE	2.2	322.0	
335.8	MODESTO		SANDSTONE/SHALE	13.0	324.2	
322.8	CARBONDALE	DANVILLE	COAL	0.5	337.2	
322.3	CARBONDALE		CLAYSTONE	4.6	337.7	SHALEY
317.7	CARBONDALE		LIMESTONE	2.0	342.3	
315.7	CARBONDALE		GRAY SHALE	0.3	344.3	
315.5	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	344.5	FOSSILIFEROUS
315.0	CARBONDALE	BANKSTON FORK	GRAY SHALE	2.8	345.0	
312.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	347.8	FOSSILIFEROUS, DARK
310.0	CARBONDALE	ANVIL ROCK	SANDSTONE	2.3	350.0	
307.7	CARBONDALE		GRAY SHALE	1.0	352.3	WITH LIMESTONE NODULES
306.7	CARBONDALE	BRERETON	LIMESTONE	5.3	353.3	FOSSILIFEROUS, DARK
301.4	CARBONDALE	ANNA	BLACK SHALE	2.8	358.6	

298.6	CARBONDALE	HERRIN	COAL	8.0	361.4
290.6	CARBONDALE		UNDERCLAY	1.9	369.4
288.7	CARBONDALE		LIMESTONE W/ SHALE	2.7	371.3

MAPID: 13501565000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.690191 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.442217 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 364.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-11-66 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
348.0	MODESTO	PIASA	LIMESTONE	3.0	317.0	
345.0	CARBONDALE		SANDSTONE	10.0	320.0	
335.0	CARBONDALE	GALUM	LIMESTONE W/ SHALE	4.0	330.0	
331.0	CARBONDALE	ALLENBY	COAL	0.2	334.0	
330.8	CARBONDALE		CLAYSTONE	5.6	334.2	
325.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.0	339.8	UPPER BENCH
322.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.2	342.8	SHALE PARTING
320.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.5	344.9	LOWER BENCH
318.6	CARBONDALE	LAWSON	MOTTLED SHALE	4.2	346.4	
314.4	CARBONDALE	BRERETON	LIMESTONE	6.8	350.6	
307.7	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.3	357.3	
308.0	CARBONDALE	HERRIN	COAL	7.3	357.0	

MAPID: 13501565000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.690191 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.442217 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 364.3 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-11-66 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
348.7	MODESTO	PIASA	LIMESTONE	3.0	316.3	
345.7	MODESTO		UNCLASSIFIED	5.0	319.3	
340.7	CARBONDALE		UNCLASSIFIED	14.7	324.3	
326.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	339.0	
319.3	CARBONDALE	ANVIL ROCK	SANDSTONE	2.2	345.7	
317.1	CARBONDALE		SHALE	2.0	347.9	
315.1	CARBONDALE	BRERETON	LIMESTONE	6.8	349.9	
308.3	CARBONDALE	ANNA	BLACK SHALE	0.3	356.7	
308.0	CARBONDALE	HERRIN	COAL	7.3	357.0	

MAPID: 13501565000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.690191 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.442217 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 366.0 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-11-66 **WELL TYPE:** Coal Test
COMMENT: DRILL LOG INC;SEE COAL SEC. MAP #6-168

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
307.7	CARBONDALE	HERRIN	COAL	7.3	357.3	

MAPID: 13501565000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW SE
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.690191 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.442217 **DATE COLLECTED:** 1 / 27 / 1966
SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 364.6 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED C-11-66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
307.7	CARBONDALE	HERRIN	COAL	7.3	357.3	

MAPID: 13501565000C **VERSION:** 5 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW SE

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.690191 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.442217 **DATE COLLECTED:** 1 / 27 / 1966

SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 366.0 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL MINING CO. C1166 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
665.0	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
650.0			SANDSTONE	65.0	15.0	
585.0			SANDY SHALE	26.0	80.0	
559.0	BOND	CARTHAGE	LIMESTONE	4.0	106.0	
555.0	MODESTO		BLACK SHALE	6.0	110.0	
549.0	MODESTO		SANDY SHALE	31.0	116.0	
518.0	MODESTO		BLACK SHALE	3.0	147.0	
515.0	MODESTO		SANDSTONE	15.0	150.0	
500.0	MODESTO		SANDY SHALE	20.0	165.0	
480.0	MODESTO		SANDSTONE	30.0	185.0	
450.0	MODESTO		SANDY SHALE	31.0	215.0	
419.0	MODESTO		BLACK SHALE	6.0	246.0	
413.0	MODESTO		SANDSTONE	33.0	252.0	
380.0	MODESTO		SHALE	15.0	285.0	
365.0	MODESTO		BLACK SHALE	5.0	300.0	
360.0	MODESTO		SHALE	12.0	305.0	
348.0	MODESTO		LIMESTONE	3.0	317.0	
345.0	MODESTO		SANDSTONE	10.0	320.0	
335.0	MODESTO	PIASA	LIMESTONE	4.0	330.0	
331.0	CARBONDALE		COAL	0.2	334.0	
330.8	CARBONDALE		CLAYSTONE & SILTSTONE	3.8	334.2	
327.0	CARBONDALE		SHALE	2.0	338.0	
325.0	CARBONDALE	BANKSTON FORK	LIMESTONE	17.1	340.0	
307.9	CARBONDALE	ANNA	DARK SHALE	0.3	357.1	
307.7	CARBONDALE	HERRIN	COAL	7.3	357.3	
300.4	CARBONDALE		UNDERCLAY	0.4	364.6	
300.0	CARBONDALE		LIMESTONE	1.0	365.0	

MAPID: 13522529000C **VERSION:** 1 **PROJECT:** LUMP

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 31 **QUARTERS/FOOTAGES:** 1300' N line, 125' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.682667 **GEOLOGIST:** J. MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.446855 **DATE COLLECTED:** 9 / 26 / 1979

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 377.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-1-79 **WELL TYPE:** Coal Test

COMMENT: PERMIT 5; CROWN III MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
660.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
656.0	PLEISTOCENE		GLACIAL DRIFT	15.0	4.0	
641.0	PLEISTOCENE		SAND	7.0	19.0	
634.0	BOND		SANDY SHALE	10.0	26.0	
624.0	BOND		GRAY SHALE	40.0	36.0	WITH SANDSTONE
584.0	BOND		SANDSTONE	2.0	76.0	
582.0	BOND		COAL	1.0	78.0	SLATY
581.0	BOND		GRAY SHALE	3.0	79.0	
578.0	BOND		GRAY SHALE	5.0	82.0	WITH SANDSTONE
573.0	BOND		SANDSTONE	2.5	87.0	
570.5	BOND		GRAY SHALE	2.5	89.5	
568.0	BOND		SHALE	1.5	92.0	DARK GRAY
566.5	BOND		BLACK SHALE	3.5	93.5	
563.0	BOND		GRAY SHALE	3.0	97.0	
560.0	BOND	CARTHAGE	LIMESTONE	1.5	100.0	
558.5	MODESTO		GRAY SHALE	6.5	101.5	WITH SANDSTONE
552.0	MODESTO		SANDSTONE	3.0	108.0	
549.0	MODESTO		GRAY SHALE	9.0	111.0	
540.0	MODESTO		GRAY SHALE	18.0	120.0	WITH SANDSTONE
522.0	MODESTO		GRAY SHALE	8.0	138.0	
514.0	MODESTO		SANDY SHALE	31.0	146.0	
483.0	MODESTO		GRAY SHALE	4.0	177.0	WITH SANDSTONE
479.0	MODESTO		BLACK SHALE	1.5	181.0	
477.5	MODESTO	CHAPEL	COAL	1.0	182.5	
476.5	MODESTO		GRAY SHALE	2.5	183.5	
474.0	MODESTO		GRAY SHALE	5.0	186.0	WITH SANDSTONE
469.0	MODESTO		SANDSTONE	3.0	191.0	
466.0	MODESTO		GRAY SHALE	102.0	194.0	WITH SANDSTONE BEDS
364.0	MODESTO		GRAY SHALE	4.0	296.0	
360.0	MODESTO		GRAY SHALE	19.0	300.0	WITH SANDSTONE BEDS
341.0	MODESTO		BLACK SHALE	1.0	319.0	
340.0	MODESTO		COAL	1.5	320.0	
338.5	MODESTO		GRAY SHALE	9.5	321.5	WITH SANDSTONE
329.0	MODESTO	PIASA	LIMESTONE	3.0	331.0	
326.0	MODESTO		SHALE	1.0	334.0	GREEN GRAY
325.0	MODESTO		GRAY SHALE	4.0	335.0	
321.0	MODESTO		GRAY SHALE	1.0	339.0	WITH SANDSTONE
320.0	CARBONDALE		BLACK SHALE	0.5	340.0	

319.5	CARBONDALE		GRAY SHALE	1.5	340.5	
318.0	CARBONDALE		SANDSTONE	1.0	342.0	
317.0	CARBONDALE		GRAY SHALE	3.0	343.0	
314.0	CARBONDALE		GRAY SHALE	6.0	346.0	WITH SANDSTONE
308.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	352.0	
306.5	CARBONDALE	BANKSTON FORK	GRAY SHALE	2.5	353.5	WITH SANDSTONE
304.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	356.0	
301.9	CARBONDALE		CALCAREOUS CLAYSTONE	0.2	358.1	
301.7	CARBONDALE		LIMESTONE	0.4	358.3	
301.3	CARBONDALE		CALCAREOUS CLAYSTONE	0.4	358.7	
300.9	CARBONDALE		SHALE	3.0	359.1	
297.9	CARBONDALE	BRERETON	LIMESTONE	4.1	362.1	WITH SHALE
293.8	CARBONDALE	ANNA	BLACK SHALE	1.7	366.2	SLATY
292.2	CARBONDALE	HERRIN	COAL	8.0	367.8	
284.2	CARBONDALE		CLAYSTONE	1.7	375.8	

MAPID: 13501560000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.672875 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.443215 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.5 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-10-66 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
328.0	MODESTO	PIASA	LIMESTONE	7.5	312.0	
320.5	MODESTO		SHALE	2.5	319.5	
318.0	CARBONDALE		SANDSTONE	10.5	322.0	
307.5	CARBONDALE		SHALE & SILTSTONE	0.6	332.5	
306.9	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.8	333.1	
306.1	CARBONDALE		CLAYSTONE & SHALE	9.2	333.9	
297.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.3	343.0	
293.7	CARBONDALE	LAWSON	MOTTLED SHALE	4.3	346.3	
289.4	CARBONDALE	LAWSON	CLAYSTONE	1.7	350.6	
287.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.8	352.3	
286.9	CARBONDALE	BRERETON	LIMESTONE	3.2	353.1	
283.7	CARBONDALE	ANNA	BLACK SHALE	2.7	356.3	
281.0	CARBONDALE	HERRIN	COAL	8.5	359.0	

MAPID: 13501560000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.672875 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.443215 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED C-10-66 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
328.4	MODESTO	PIASA	LIMESTONE	7.5	311.6	
320.9	MODESTO		UNCLASSIFIED	6.5	319.1	
314.4	CARBONDALE		UNCLASSIFIED	16.7	325.6	
297.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.9	342.3	
292.8	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	347.2	
290.3	CARBONDALE	CONANT	LIMESTONE	0.4	349.7	
289.9	CARBONDALE		SHALE	2.1	350.1	
287.8	CARBONDALE	BRERETON	LIMESTONE	4.0	352.2	
283.8	CARBONDALE	ANNA	BLACK SHALE	2.8	356.2	
281.0	CARBONDALE	HERRIN	COAL	8.5	359.0	

MAPID: 13501560000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.672875 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.443215 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.2 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-10-66 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.2	CARBONDALE	HERRIN	COAL	8.5	358.8	

MAPID: 13501560000C **VERSION:** 4 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.672875 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.443215 **DATE COLLECTED:** 2 / 25 / 1966

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.3 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN UNITED C-10-66 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.2	CARBONDALE	HERRIN	COAL	8.5	358.8	

MAPID: 13521701000C **VERSION:** 1 **PROJECT:** LUMP

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2550' S line, 2450' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.67219 **GEOLOGIST:** J. MCBETH

CONFIDENTIAL: N **LATITUDE:** 39.442959 **DATE COLLECTED:** 2 / 15 / 1966

SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 367.5 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN UNITED COAL MINING CO C-10-66 **WELL TYPE:** Coal Test

COMMENT: PERMIT 5; CROWN III MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.0	PLEISTOCENE		CLAY	15.0	0.0	
625.0	PLEISTOCENE		UNCONSOLIDATED	32.0	15.0	
593.0	BOND		SANDSTONE	18.0	47.0	
575.0	BOND		SANDY SHALE	13.0	65.0	
562.0	BOND	CARTHAGE	LIMESTONE	8.0	78.0	
554.0	MODESTO		BLACK SHALE	6.0	86.0	
548.0	MODESTO		SHALE	7.0	92.0	
541.0	MODESTO	MACOUPIN	LIMESTONE	6.0	99.0	
535.0	MODESTO		BLACK SHALE	6.0	105.0	
529.0	MODESTO		SANDY SHALE	9.0	111.0	
520.0	MODESTO		SANDSTONE	38.0	120.0	
482.0	MODESTO	CHAPEL	COAL	2.0	158.0	SLATY
480.0	MODESTO		SANDSTONE	10.0	160.0	
470.0	MODESTO		SANDY SHALE	20.0	170.0	
450.0	MODESTO	TRIVOLI	SANDSTONE	65.0	190.0	
385.0	MODESTO		SHALE	5.0	255.0	DARK
380.0	MODESTO		SANDSTONE	52.0	260.0	
328.0	MODESTO	PIASA	LIMESTONE	7.5	312.0	
320.5	MODESTO		SHALE	2.5	319.5	
318.0	MODESTO		SANDSTONE	10.5	322.0	
307.5			SHALE	3.5	332.5	DARK
304.0			CLAYSTONE	6.5	336.0	
297.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	342.5	
292.7	CARBONDALE		SHALE	2.4	347.3	STRIPED
290.3	CARBONDALE		LIMESTONE	0.5	349.7	
289.8	CARBONDALE		SHALE	1.8	350.2	
288.0	CARBONDALE	BRERETON	LIMESTONE	4.0	352.0	
284.0	CARBONDALE	ANNA	BLACK SHALE	2.8	356.0	
281.2	CARBONDALE	HERRIN	COAL	8.3	358.8	
273.0	CARBONDALE		UNDERCLAY	0.5	367.0	

MAPID: 13500347000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.655331 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.449713 **DATE COLLECTED:** 8 / 0 / 1955
SURFACE ELEVATION (FT.): **LOGGED (FT.):** **LOG TYPE:** Electric Log
SOURCE: PHILLIPS PETROLEUM CO. **WELL TYPE:** Structure Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.5		
-	MODESTO		UNCLASSIFIED	4.5		
-	CARBONDALE		UNCLASSIFIED	18.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE		UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	3.5		
-	CARBONDALE	ANNA	BLACK SHALE	2.5		
-	CARBONDALE	HERRIN	COAL	5.0		

MAPID: 13500347000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.655331 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.449713 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** 376.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
325.0	MODESTO	PIASA	LIMESTONE	3.0	327.0	
322.0	MODESTO		SHALE	9.0	330.0	
313.0	CARBONDALE	DANVILLE	BONE COAL	1.0	339.0	
312.0	CARBONDALE		SHALE	15.0	340.0	
297.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	355.0	
293.0	CARBONDALE	LAWSON	SHALE	4.0	359.0	
289.0	CARBONDALE	BRERETON	LIMESTONE	3.0	363.0	
286.0	CARBONDALE	ANNA	BLACK SHALE	3.0	366.0	
282.0	CARBONDALE	HERRIN	COAL	6.0	370.0	

MAPID: 13500005000C **VERSION:** 1 **PROJECT:** NCRDS90

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** NE/c

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.635341 **GEOLOGIST:** S.SROKA

CONFIDENTIAL: N **LATITUDE:** 39.443444 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.6 **LOGGED (FT.):** 349.3 **LOG TYPE:** Drillers Log

SOURCE: GEORG HIRSCH **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.6			SOIL	4.0	0.0	
636.6			CLAY	29.0	4.0	
607.6	BOND		SHALE	39.0	33.0	
568.6	BOND	CARTHAGE	LIMESTONE	4.0	72.0	
564.6	BOND	CARTHAGE	SHALE	2.0	76.0	
562.6	BOND	CARTHAGE	LIMESTONE	8.0	78.0	
554.6	MODESTO		BLACK SHALE	3.0	86.0	
551.6	MODESTO		SHALE	71.0	89.0	
480.6	MODESTO		SANDSTONE	2.0	160.0	
478.6	MODESTO		SHALE	14.0	162.0	W/ LS PEBBLES
464.6	MODESTO		SANDSTONE	10.0	176.0	
454.6	MODESTO		LIMESTONE	0.3	186.0	
454.3	MODESTO		SHALE	78.7	186.3	W/ LS BASAL 3'
375.6	MODESTO		BLACK SHALE	4.0	265.0	
371.6	MODESTO		COAL	0.2	269.0	
371.4	MODESTO		SHALE	30.4	269.2	
341.0	MODESTO		LIMESTONE	4.0	299.6	
337.0	MODESTO		SHALE	3.4	303.6	
333.6	MODESTO		BLACK SHALE	4.0	307.0	
329.6	MODESTO		LIMESTONE	1.0	311.0	
328.6	MODESTO		SHALE	4.0	312.0	W/ LS
324.6	CARBONDALE		SHALE	9.0	316.0	
315.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	325.0	
311.6	CARBONDALE		SHALE	0.5	329.0	
311.1	CARBONDALE		LIMESTONE	1.5	329.5	
309.6	CARBONDALE		SHALE	6.5	331.0	
303.1	CARBONDALE	ANNA	BLACK SHALE	0.8	337.5	
302.3	CARBONDALE	HERRIN	COAL	8.0	338.3	
294.3	CARBONDALE		SHALE	3.0	346.3	

MAPID: 13500005000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** NE/c

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.635341 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.443444 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 347.0 **LOG TYPE:** Drillers Log

SOURCE: HIRSCH GEORGE **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
347.2	MODESTO	PIASA	LIMESTONE	4.0	293.8	
343.2	MODESTO		UNCLASSIFIED	3.4	297.8	
339.8	CARBONDALE		UNCLASSIFIED	15.0	301.2	
324.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	316.2	
317.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.5	323.2	
317.3	CARBONDALE	CONANT	UNCLASSIFIED	1.5	323.7	
315.8	CARBONDALE		UNCLASSIFIED	2.0	325.2	
313.8	CARBONDALE	BRERETON	LIMESTONE	4.5	327.2	
309.3	CARBONDALE	ANNA	BLACK SHALE	7.3	331.7	
302.0	CARBONDALE	HERRIN	COAL	8.0	339.0	

MAPID: 13500005000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** NE/c

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.635341 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.443444 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.6 **LOGGED (FT.):** 349.3 **LOG TYPE:** Drillers Log

SOURCE: GEORGE HIRSCH #7 **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.6	PLEISTOCENE		SOIL	4.0	0.0	
636.6	PLEISTOCENE		CLAY	29.0	4.0	
607.6	BOND		GRAY SHALE	39.0	33.0	
568.6	BOND		LIMESTONE	4.0	72.0	
564.6	BOND		GRAY SHALE	2.0	76.0	
562.6	BOND	CARTHAGE	LIMESTONE	8.0	78.0	
554.6	MODESTO		BLACK SHALE	3.0	86.0	
551.6	MODESTO		GRAY SHALE	71.0	89.0	
480.6	MODESTO		SANDSTONE	2.0	160.0	
478.6	MODESTO		ARGILACEOUS SHALE	14.0	162.0	WITH LIME PEBBLES
464.6	MODESTO		SANDSTONE	10.0	176.0	
454.6	MODESTO		LIMESTONE	0.3	186.0	
454.3	MODESTO		ARGILACEOUS SHALE	25.7	186.3	GRITTY
428.6	MODESTO		ARGILACEOUS SHALE	50.0	212.0	
378.6	MODESTO		ARGILACEOUS SHALE	3.0	262.0	WITH LS
375.6	MODESTO		BLACK SHALE	4.0	265.0	
371.6	MODESTO		COAL	0.2	269.0	
371.4	MODESTO		ARGILACEOUS SHALE	18.5	269.2	
353.0	MODESTO		ARGILACEOUS SHALE	3.0	287.6	SOFT
350.0	MODESTO		HARD SHALE	7.0	290.6	
343.0	MODESTO		ARGILACEOUS SHALE	2.0	297.6	
341.0	MODESTO	PIASA	LIMESTONE	4.0	299.6	
337.0	MODESTO		ARGILACEOUS SHALE	3.4	303.6	SOFT
333.6	MODESTO		BLACK SHALE	4.0	307.0	
329.6	CARBONDALE		LIMESTONE	1.0	311.0	
328.6	CARBONDALE		BLACK SHALE	4.0	312.0	WITH LS
324.6	CARBONDALE		ARGILACEOUS SHALE	9.0	316.0	
315.6	CARBONDALE	BRERETON	LIMESTONE	4.0	325.0	
311.6	CARBONDALE	BRERETON	ARGILACEOUS SHALE	0.5	329.0	
311.1	CARBONDALE	BRERETON	LIMESTONE	1.5	329.5	
309.6	CARBONDALE	ANNA	ARGILACEOUS SHALE	6.5	331.0	
303.1	CARBONDALE	ANNA	BLACK SHALE	0.8	337.5	
302.3	CARBONDALE	HERRIN	COAL	8.0	338.3	LOG READS (294'3") IN COMMENTS
294.3	CARBONDALE		BLACK SHALE	3.0	346.3	

MAPID: 13500325000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630536 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.439841 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 359.4 **LOG TYPE:** Survey Core Study
SOURCE: PAUL WEIR COAL CO 1 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
330.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.2	310.0	
327.8	MODESTO		DARK GRAY SHALE	11.5	312.2	
316.3	CARBONDALE	DANVILLE	BONE COAL	0.2	323.7	
316.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.6	323.8	
314.6	CARBONDALE		CLAYSTONE & SHALE	20.1	325.4	
294.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	345.5	UPPER BENCH
291.2	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	0.3	348.8	SHALE PARTING
290.8	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	349.2	LOWER BENCH
290.6	CARBONDALE	LAWSON	MOTTLED SHALE	1.6	349.4	
289.0	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.6	351.0	
288.4	CARBONDALE		CLAYSTONE & SHALE	0.3	351.6	
288.1	CARBONDALE	BRERETON	LIMESTONE	1.8	351.9	
286.3	CARBONDALE	ANNA	BLACK SHALE	1.5	353.7	
287.0	CARBONDALE	HERRIN	COAL	6.4	353.0	

MAPID: 13500325000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line
QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630536 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.439841 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 359.4 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO 1 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
331.9	MODESTO	PIASA	LIMESTONE	3.3	308.1	
328.6	MODESTO		UNCLASSIFIED	4.9	311.4	
323.7	CARBONDALE		UNCLASSIFIED	12.6	316.3	
311.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	328.9	
302.8	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	337.2	
301.0	CARBONDALE	CONANT	LIMESTONE	0.2	339.0	
300.8	CARBONDALE		SHALE	4.1	339.2	
296.7	CARBONDALE	BRERETON	LIMESTONE	8.2	343.3	
288.5	CARBONDALE	ANNA	BLACK SHALE	1.5	351.5	
287.0	CARBONDALE	HERRIN	COAL	6.4	353.0	

MAPID: 13500325000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630536 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.439841 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 639.6 **LOGGED (FT.):** 399.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.6	CARBONDALE	HERRIN	COAL	6.4	353.0	
243.8	CARBONDALE	HOUCHIN CREEK	COAL	3.5	395.8	

MAPID: 13500325000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.630536 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.439841 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 639.6 **LOGGED (FT.):** 420.0 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 1 **WELL TYPE:**

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
639.6	PLEISTOCENE		SOIL	2.2	0.0	
637.4	PLEISTOCENE		SOIL	2.8	2.2	
634.7	PLEISTOCENE		UNCLASSIFIED	0.6	4.9	GRAY
634.1	PLEISTOCENE		GLACIAL DRIFT	12.4	5.5	BROWN
621.7	PLEISTOCENE		GLACIAL DRIFT	4.0	17.9	BROWN
617.7	PLEISTOCENE		GLACIAL DRIFT	4.3	21.9	GRAY
613.4	PLEISTOCENE		GLACIAL DRIFT	8.4	26.2	BROWN
605.0	PLEISTOCENE		GLACIAL DRIFT	1.3	34.6	BROWN
603.7	PLEISTOCENE		SAND & GRAVEL	11.1	35.9	
592.6	PLEISTOCENE		SAND & GRAVEL	3.3	47.0	
589.3	PLEISTOCENE		GLACIAL DRIFT	18.3	50.3	GRAY
571.0			LIMESTONE	8.9	68.6	GRAY
562.1			GRAY SHALE	6.6	77.5	
555.5			UNDERCLAY	4.1	84.1	GRAY
551.4	BOND	CARTHAGE	LIMESTONE	13.6	88.2	GRAY
537.8	MODESTO		GRAY SHALE	0.5	101.8	
537.3	MODESTO		BLACK SHALE	0.3	102.3	
537.1	MODESTO		GRAY SHALE	1.0	102.5	
536.1	MODESTO		UNDERCLAY	6.8	103.5	GRAY
529.3	MODESTO		SHALE WITH LIMESTONE	6.5	110.3	
522.8	MODESTO		SANDSTONE	1.2	116.8	GRAY
521.7	MODESTO		SHALE	1.3	117.9	
520.4	MODESTO		SANDSTONE	0.8	119.2	BROWN
519.6	MODESTO		GREEN SHALE	1.7	120.0	
517.9	MODESTO		SANDSTONE	0.4	121.7	BROWN
517.5	MODESTO		SHALY SANDSTONE	2.9	122.1	
514.6	MODESTO		SANDSTONE	0.6	125.0	
514.0	MODESTO		SHALY SANDSTONE	3.9	125.6	GRAY
510.1	MODESTO		GRAY SHALE	3.0	129.5	
507.1	MODESTO		GRAY SHALE	34.7	132.5	
472.4	MODESTO		GRAY SHALE	1.8	167.2	
470.6	MODESTO		SHALE	2.0	169.0	
468.6	MODESTO		GRAY SHALE	2.5	171.0	
466.1	MODESTO	CHAPEL	COAL	0.9	173.5	
465.2	MODESTO		UNDERCLAY	2.3	174.4	GRAY
462.9	MODESTO		GRAY SHALE	8.5	176.7	
454.4	MODESTO		SHALY SANDSTONE	2.6	185.2	BROWN
451.8	MODESTO		GRAY SHALE	3.4	187.8	
448.4	MODESTO		SANDSTONE	2.9	191.2	GREEN

445.5	MODESTO		GRAY SHALE	1.3	194.1	
444.3	MODESTO		SANDSTONE	0.8	195.3	GREEN
443.5	MODESTO		SHALE	4.4	196.1	
439.1	MODESTO		GRAY SHALE	70.9	200.5	
368.2	MODESTO		BLACK SHALE	0.5	271.4	
367.7	MODESTO		SHALE WITH LIMESTONE	4.3	271.9	
363.4	MODESTO		GRAY SHALE	4.9	276.2	
358.5	MODESTO		GRAY SHALE	8.7	281.1	
349.8	MODESTO		BLACK SHALE	0.5	289.8	
349.3	MODESTO		UNDERCLAY	1.0	290.3	
348.3	MODESTO		GRAY SHALE	10.8	291.3	
337.6	MODESTO		SANDSTONE	2.5	302.0	BROWN
335.1	MODESTO		GRAY SHALE	1.1	304.5	
334.0	MODESTO		GRAY SHALE	4.0	305.6	
330.0	MODESTO		LIMESTONE	1.8	309.6	GRAY
328.2	MODESTO		GRAY SHALE	1.1	311.4	
327.1	MODESTO		GREEN SHALE	0.9	312.5	
326.2	MODESTO		GRAY SHALE	4.1	313.4	
322.1	MODESTO		GREEN SHALE	3.7	317.5	
318.4	MODESTO		CONCRETION	0.2	321.2	
318.3	MODESTO		SHALE	0.8	321.3	
317.5	MODESTO	PIASA	LIMESTONE	1.5	322.1	
316.0	CARBONDALE		SHALE	0.4	323.6	
315.6	CARBONDALE		SHALE	0.8	324.0	
314.8	CARBONDALE		GREEN SHALE	11.5	324.8	
303.3	CARBONDALE		SHALE	7.8	336.3	
295.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	344.0	
293.0	CARBONDALE		SHALE	0.7	346.6	
292.3	CARBONDALE		GREEN SHALE	1.6	347.3	
290.8	CARBONDALE		SHALE	1.0	348.8	
289.8	CARBONDALE	BRERETON	LIMESTONE	1.8	349.8	
288.0	CARBONDALE		GREEN SHALE	0.8	351.6	
287.3	CARBONDALE		GRAY SHALE	0.8	352.3	
286.6	CARBONDALE	HERRIN	COAL	6.4	353.0	
280.2	CARBONDALE		UNDERCLAY	1.8	359.4	
278.3	CARBONDALE		SHALE WITH LIMESTONE	0.3	361.3	
278.0	CARBONDALE		GRAY SHALE	1.9	361.6	
276.1	CARBONDALE		SHALE WITH LIMESTONE	2.9	363.5	
273.2	CARBONDALE		BLUE SHALE	3.8	366.4	
269.4	CARBONDALE		SHALY LIMESTONE	1.3	370.2	GRAY
268.2	CARBONDALE		SHALE	2.1	371.4	
266.1	CARBONDALE		GRAY SHALE	1.4	373.5	
264.7	CARBONDALE		SHALY LIMESTONE	0.6	374.9	
264.1	CARBONDALE		GRAY SHALE	10.0	375.5	
254.1	CARBONDALE		GRAY SHALE	0.3	385.5	
253.8	CARBONDALE		LIMESTONE	1.7	385.8	GRAY
252.1	CARBONDALE	EXCELLO	BLACK SHALE	8.0	387.5	
244.1	CARBONDALE	HOUCHIN CREEK	COAL	3.5	395.5	

240.6	CARBONDALE		UNDERCLAY	3.8	399.0	GRAY
236.8	CARBONDALE		BLUE SHALE	4.5	402.8	
232.3	CARBONDALE		BLUE SHALE	1.5	407.3	
230.8	CARBONDALE		SHALY LIMESTONE	2.2	408.8	
228.6	CARBONDALE		SHALY LIMESTONE	1.3	411.0	
227.3	CARBONDALE		SANDSTONE	0.3	412.3	BROWN
227.0	CARBONDALE	SURVANT	COAL	0.2	412.6	
226.8	CARBONDALE		SANDSTONE	6.8	412.8	GRAY

MAPID: 13500326000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 45' N line, 2620' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.635612 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.450576 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 362.6 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 15 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
323.8	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.8	313.2	
320.0	MODESTO		MOTTLED SHALE	2.7	317.0	
317.3	CARBONDALE	DANVILLE	BLACK SHALE	4.6	319.7	
312.8	CARBONDALE		MOTTLED SHALE	0.8	324.2	
311.9	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	2.5	325.1	
309.4	CARBONDALE		MOTTLED SHALE	0.5	327.6	
308.9	CARBONDALE	ALLENBY	BLACK SHALE	0.3	328.1	
308.7	CARBONDALE		ROCK	9.9	328.3	
298.8	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.3	338.2	UPPER BENCH
296.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.5	340.5	SHALE PARTING
294.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.4	343.0	LOWER BENCH
293.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.3	343.4	
293.3	CARBONDALE	LAWSON	GRAY SHALE	0.5	343.7	
292.8	CARBONDALE	LAWSON	SILTSTONE	0.4	344.2	
292.3	CARBONDALE	LAWSON	DARK GRAY SHALE	7.3	344.7	
285.1	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.2	351.9	
283.9	CARBONDALE	ANNA	BLACK SHALE	0.9	353.1	
283.0	CARBONDALE	HERRIN	COAL	8.6	354.0	

MAPID: 13500326000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 45' N line, 2620' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.635612 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.450576 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 362.6 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 15 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
322.9	MODESTO	PIASA	LIMESTONE	3.8	314.1	
319.1	MODESTO		UNCLASSIFIED	4.8	317.9	
314.3	CARBONDALE		UNCLASSIFIED	14.7	322.7	
299.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	337.4	
294.6	CARBONDALE	ANVIL ROCK	SANDSTONE	1.6	342.4	
293.0	CARBONDALE	CONANT	LIMESTONE	0.4	344.0	
292.6	CARBONDALE		SHALE	1.3	344.4	
291.3	CARBONDALE	BRERETON	LIMESTONE	5.9	345.7	
285.4	CARBONDALE	ANNA	BLACK SHALE	2.4	351.6	
283.0	CARBONDALE	HERRIN	COAL	8.6	354.0	

MAPID: 13500326000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 45' N line, 2620' W line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.635612 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.450576 **DATE COLLECTED:** 1 / 0 / 1950

SURFACE ELEVATION (FT.): 636.7 **LOGGED (FT.):** 362.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 15 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
283.0	CARBONDALE	HERRIN	COAL	8.6	353.7	

MAPID: 13500327000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 660' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628186 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.439846 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 359.6 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 20 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
330.0	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.7	309.0	
326.3	MODESTO		BLACK SHALE	4.3	312.7	
322.0	CARBONDALE	DANVILLE	BONE COAL	0.2	317.0	
321.8	CARBONDALE		MOTTLED SHALE	0.3	317.2	
321.5	CARBONDALE	GALUM	LIMESTONE W/ SHALE	2.0	317.5	
319.5	CARBONDALE		MOTTLED SHALE	0.7	319.5	
318.8	CARBONDALE	ALLENBY	BLACK SHALE	0.3	320.2	
318.6	CARBONDALE		MOTTLED SHALE	15.5	320.4	
303.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.4	335.9	UPPER BENCH
298.7	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	1.8	340.3	SHALE PARTING
296.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.6	342.1	LOWER BENCH
296.3	CARBONDALE	LAWSON	MOTTLED SHALE	0.3	342.7	
296.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.0	342.9	
294.0	CARBONDALE	ANNA	BLACK SHALE	1.6	345.0	
287.0	CARBONDALE	HERRIN	COAL	7.6	352.0	

MAPID: 13500327000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 660' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628186 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.439846 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 358.8 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 20 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
328.3	MODESTO	PIASA	LIMESTONE	3.7	310.7	
324.6	MODESTO		UNCLASSIFIED	3.8	314.4	
320.8	CARBONDALE		UNCLASSIFIED	19.2	318.2	
301.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	337.4	
293.8	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	345.2	
292.5	CARBONDALE	CONANT	LIMESTONE	0.6	346.5	
291.9	CARBONDALE		SHALE	0.3	347.1	
291.6	CARBONDALE	BRERETON	LIMESTONE	2.0	347.4	
289.6	CARBONDALE	ANNA	BLACK SHALE	1.6	349.4	
288.0	CARBONDALE	HERRIN	COAL	7.8	351.0	

MAPID: 13500327000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 660' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628186 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.439846 **DATE COLLECTED:** 2 / 0 / 1950

SURFACE ELEVATION (FT.): 639.3 **LOGGED (FT.):** 359.8 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO 20 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.1	CARBONDALE	HERRIN	COAL	7.6	352.2	

MAPID: 13500327000C **VERSION:** 4 **PROJECT:** AVAIL

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1320' S line, 660' E line

QUADRANGLE: FARMERSVILLE **LONGITUDE:** -89.628186 **GEOLOGIST:** UITEMP

CONFIDENTIAL: N **LATITUDE:** 39.439846 **DATE COLLECTED:** 2 / 0 / 1950

SURFACE ELEVATION (FT.): 639.3 **LOGGED (FT.):** 360.0 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COMPANY 20 **WELL TYPE:**

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
639.3	PLEISTOCENE		SOIL	1.8	0.0	
637.5	PLEISTOCENE		SOIL	4.1	1.8	
633.4	PLEISTOCENE		UNCLASSIFIED	0.3	5.9	GRAY
633.1	PLEISTOCENE		GLACIAL DRIFT	0.5	6.2	
632.6	PLEISTOCENE		GLACIAL DRIFT	9.5	6.7	GRAY
623.1	PLEISTOCENE		GLACIAL DRIFT	4.6	16.2	BROWN
618.6	PLEISTOCENE		GLACIAL DRIFT	15.3	20.7	GRAY
603.3	PLEISTOCENE		GLACIAL DRIFT	3.6	36.0	BLU-GY
599.7	PLEISTOCENE		GLACIAL DRIFT	2.3	39.6	
597.4	PLEISTOCENE		GLACIAL DRIFT	16.7	41.9	BROWN
580.7	PLEISTOCENE		GLACIAL DRIFT	1.3	58.6	
579.5	PLEISTOCENE		GLACIAL DRIFT	11.4	59.8	GRAY
568.1			SHALY LIMESTONE	4.4	71.2	GR-GY
563.6			GRAY SHALE	0.3	75.7	
563.4			SOFT SHALE	1.9	75.9	
561.5			SLATY SHALE	4.6	77.8	
556.9			UNDERCLAY	5.4	82.4	GRAY
551.5			CALCAREOUS SHALE	7.3	87.8	GRAY
544.1			GRAY SHALE	5.3	95.2	
538.8			GRAY SHALE	1.1	100.5	
537.7			BLACK SHALE	2.3	101.6	
535.5			UNDERCLAY	7.3	103.8	GRAY
528.1			CALCAREOUS SHALE	4.6	111.2	
523.6			LIMESTONE	3.0	115.7	
520.6			SHALY LIMESTONE	2.1	118.7	BLACK
518.5			SLATY SHALE	14.8	120.8	
503.7			SANDY SHALE	5.9	135.6	
497.7			SLATY SHALE	3.8	141.6	
494.0			SANDY SHALE	0.9	145.3	
493.1			SLATY SHALE	44.3	146.2	
448.7			GRAY SHALE	10.3	190.6	
438.5			SLATY SHALE	71.9	200.8	
366.6			SOFT SHALE	4.8	272.7	
361.8			SHALE	13.1	277.5	GR-GY
348.7			BROWN SHALE	1.8	290.6	
346.9			GRAY SHALE	18.5	292.4	
328.4			SOFT SHALE	0.2	310.9	
328.2			GRAY SHALE	1.7	311.1	
326.6			LIMESTONE	1.0	312.7	

325.6			GRAY SHALE	1.3	313.7
324.2			SLATY SHALE	4.8	315.1
319.4			GRAY SHALE	1.3	319.9
318.1			SLATY SHALE	7.6	321.2
310.5			SHALE WITH LIMESTONE	2.2	328.8
308.3	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	5.8	331.0
302.5	CARBONDALE		SHALE WITH LIMESTONE	2.5	336.8
300.0	CARBONDALE	BRERETON	LIMESTONE	0.7	339.3
299.3	CARBONDALE		SLATY SHALE	1.3	340.0
298.0	CARBONDALE	HERRIN	COAL	7.8	341.3
290.2	CARBONDALE		UNDERCLAY	1.4	349.1

MAPID: 13500329000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 45' S line, 45' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.607032 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.436398 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 368.1 **LOG TYPE:** Survey Core Study

SOURCE: PAUL WEIR COAL CO 14 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
306.7	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.2	329.3	
303.5	MODESTO		MOTTLED SHALE	0.3	332.5	
303.2	CARBONDALE	DANVILLE	BLACK SHALE	6.8	332.8	
296.4	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	1.8	339.6	
294.7	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.3	341.3	
294.4	CARBONDALE		LIMESTONE W/ SHALE	6.9	341.6	
287.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.3	348.5	UPPER BENCH
284.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	1.4	351.8	SHALE PARTING
282.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.7	353.1	LOWER BENCH
282.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	353.8	
280.9	CARBONDALE	LAWSON	BLACK SHALE	0.4	355.1	
280.5	CARBONDALE	LAWSON	MOTTLED SHALE	2.5	355.5	
278.0	CARBONDALE	LAWSON	DARK GRAY SHALE	2.0	358.0	
276.0	CARBONDALE	HERRIN	COAL	8.1	360.0	

MAPID: 13500329000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 45' S line, 45' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.607032 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.436398 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 366.1 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO 14 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
314.1	MODESTO	PIASA	LIMESTONE	3.2	320.9	
310.9	MODESTO		UNCLASSIFIED	4.3	324.1	
306.6	CARBONDALE		UNCLASSIFIED	11.1	328.4	
295.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.9	339.5	
290.6	CARBONDALE	ANVIL ROCK	SANDSTONE	1.1	344.4	
289.5	CARBONDALE		SHALE	1.0	345.5	
288.5	CARBONDALE	BRERETON	LIMESTONE	5.3	346.5	
283.2	CARBONDALE	ANNA	BLACK SHALE	6.2	351.8	
277.0	CARBONDALE	HERRIN	COAL	8.1	358.0	

MAPID: 13500329000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: MONTGOMERY **TWP/RNG:** 12N 5W **SECTION:** 35 **QUARTERS/FOOTAGES:** 45' S line, 45' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.607032 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.436398 **DATE COLLECTED:** 12 / 0 / 1949
SURFACE ELEVATION (FT.): 635.5 **LOGGED (FT.):** 367.9 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO 14 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
275.7	CARBONDALE	HERRIN	COAL	8.1	359.8	