

# Status Report

**Total Records: 1845**

Top 3 County Records		Top 3 Log Type Records		Top 3 Coal Records		Top 3 Member Records	
Madison	1845	Drillers Log	791	HERRIN	1769	HERRIN COAL	1769
		Electric Log	453	DANVILLE	327	PIASA LIMESTONE	996
		Multiple log types	208	CHAPEL	100	BRERETON LIMESTONE	594

## Data Summary

Cross-tabulation of all selected logs, individual logs will vary.

Tabulation of logged intervals only, individual logs will vary.

*Depth and Thickness measurements in feet*

Member	Lithology	Avg. Depth	Min. Depth	Max. Depth	Avg. Thk	Min. Thk	Max. Thk
BRERETON CYCLOTHEM		423.5	423.5	423.5	2.5	2.5	2.5
CARTHAGE	LIMESTONE	125.1	36.0	183.0	5.7	1.2	9.0
MACOUPIN	LIMESTONE	115.7	110.0	119.0	1.0	1.0	1.0
CARLINVILLE	LIMESTONE	115.3	71.0	155.5	4.6	1.0	10.0
CHAPEL	COAL	171.5	72.0	225.0	1.8	0.2	4.3
WEST FRANKLIN	LIMESTONE	261.5	261.5	261.5	16.0	16.0	16.0
PIASA	LIMESTONE	235.4	33.0	426.3	4.8	0.5	12.0
DANVILLE	COAL	255.5	21.0	443.3	1.3	0.1	5.0
GALUM	LIMESTONE	322.2	128.0	443.6	2.4	0.6	5.0
ALLENBY	COAL	373.7	250.1	446.2	0.9	0.5	1.5
BANKSTON FORK	LIMESTONE	263.1	21.2	452.0	4.7	0.1	26.0
ANVIL ROCK	SANDSTONE	298.4	106.1	457.3	2.3	0.5	31.6
LAWSON	SHALE	258.2	32.2	457.5	6.8	0.6	23.0
CONANT	LIMESTONE	313.3	148.0	431.5	2.5	1.2	4.0
JAMESTOWN	COAL	334.7	179.0	434.0	0.5	0.2	1.0
BRERETON	LIMESTONE	264.2	11.0	459.8	7.4	0.3	23.1
ANNA	SHALE	269.6	39.7	472.3	2.5	0.0	13.0
ENERGY	SHALE	228.7	135.0	426.0	46.8	1.0	208.0
HERRIN	COAL	249.1	10.0	477.0	5.4	0.5	13.7
ST. DAVID	LIMESTONE	266.8	198.0	404.0	2.0	1.0	4.0
TURNER MINE	SHALE	204.7	84.0	405.0	1.5	0.7	2.0
SPRINGFIELD	COAL	295.8	108.0	362.0	0.9	0.2	2.9
HANOVER	LIMESTONE	330.3	226.5	434.0	3.6	2.0	5.2
EXCELLO	SHALE	303.6	231.7	436.0	6.4	0.8	16.3
HOUCHIN CREEK	COAL	290.9	80.5	372.0	1.0	0.2	2.7
SURVANT	COAL	370.0	294.0	442.0	1.1	0.1	2.0
LOWELL	COAL	505.5	505.5	505.5	2.5	2.5	2.5
OAK GROVE	LIMESTONE	353.7	353.7	353.7	0.5	0.5	0.5
MECCA QUARRY	SHALE	291.9	162.4	354.2	2.4	1.0	3.8

<b>FRANCIS CREEK</b>	SANDSTONE	<b>329.3</b>	329.3	329.3	<b>2.5</b>	2.5	2.5
<b>COLCHESTER</b>	COAL	<b>246.5</b>	4.0	488.0	<b>1.5</b>	0.1	4.0
<b>DEKOVEN</b>	COAL	<b>361.1</b>	361.1	361.1	<b>1.6</b>	1.6	1.6
<b>DAVIS</b>	COAL	<b>378.3</b>	378.3	378.3	<b>3.5</b>	3.5	3.5
<b>SEAHORNE LS</b>	LIMESTONE	<b>309.5</b>	309.5	309.5	<b>1.0</b>	1.0	1.0
				<b>Net Coal</b>	<b>22.1</b>		

## 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:** 11900676000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 5W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 330' S line, 1650' W line  
**QUADRANGLE:** HIGHLAND    **LONGITUDE:** -89.683799    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.729029    **DATE COLLECTED:** 5 / 0 / 1953  
**SURFACE ELEVATION (FT.):** 565.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** DORAN THOMAS S    **WELL TYPE:** Dry Hole  
**COMMENT:** NO DEPTH VALUES AVAILABLE

<b>ELEVATION TOP (FT.)</b>	<b>FORMATION</b>	<b>MEMBER</b>	<b>LITHOLOGY</b>	<b>THICKNESS (FT.) UNIT OVERBURDEN COMMENT</b>
-	MODESTO	PIASA	LIMESTONE	6.0
-	MODESTO		UNCLASSIFIED	3.0
-	CARBONDALE		UNCLASSIFIED	6.0
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0

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MAPID: 11900676000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 5 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.683799

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.729029

DATE COLLECTED:

SURFACE ELEVATION (FT.): 565.0

LOGGED (FT.): 455.0

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
257.0	MODESTO	PIASA	LIMESTONE	5.0	308.0
252.0	MODESTO		SHALE	10.0	313.0
242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	323.0
240.0	CARBONDALE	ENERGY	SHALE	13.0	325.0
227.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	33.0	338.0
194.0	CARBONDALE	ENERGY	SANDSTONE	19.0	371.0

MAPID: 11900617000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 10 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: HIGHLAND LONGITUDE: -89.646711

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.725573

DATE COLLECTED: 7 / 0 / 1956

SURFACE ELEVATION (FT.): 513.0

LOGGED (FT.): 0.0

LOG TYPE: Electric Log

SOURCE: STRICKLAND, FRANK L.

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	5.0	
-	CARBONDALE		UNCLASSIFIED	9.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	

MAPID: 11900675000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 10 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.648973

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.723685

DATE COLLECTED: 12 / 0 / 1944

SURFACE ELEVATION (FT.): 509.0

LOGGED (FT.): 0.0

LOG TYPE: Electric Log

SOURCE: MAGNOLIA PETROLEUM

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	4.0	
-	CARBONDALE		UNCLASSIFIED	8.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	

MAPID: 11900675000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 10 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.648973

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.723685

DATE COLLECTED:

SURFACE ELEVATION (FT.): 509.0

LOGGED (FT.): 341.0

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
209.0	MODESTO	PIASA	LIMESTONE	6.0	300.0
203.0	MODESTO		SHALE	6.0	306.0
197.0	CARBONDALE	LAWSON	SHALE	5.0	312.0
192.0	CARBONDALE	BRERETON	LIMESTONE	7.0	317.0
185.0	CARBONDALE	ANNA	BLACK SHALE	3.0	324.0
182.0	CARBONDALE	ENERGY	GRAY SHALE	11.0	327.0
171.0	CARBONDALE	HERRIN	COAL	3.0	338.0

MAPID: 11900108000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 12 QUARTERS/FOOTAGES: 750' S line, 200' E line

QUADRANGLE: ST. ROSE LONGITUDE: -89.597316

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.716313

DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 507.2

LOGGED (FT.): 975.0

LOG TYPE:

SOURCE: HOLDEN OIL

WELL TYPE: Oil and Gas Test

COMMENT:

MAPID: 11902189000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 15 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: HIGHLAND LONGITUDE: -89.6346

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.707541

DATE COLLECTED: 1 / 0 / 1969

SURFACE ELEVATION (FT.): 520.0

LOGGED (FT.): 0.0

LOG TYPE: Electric Log

SOURCE: AMGO, INC.

WELL TYPE: Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0	
-	MODESTO		UNCLASSIFIED	4.0	
-	CARBONDALE		UNCLASSIFIED	8.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	

MAPID: 11902189000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 15 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: HIGHLAND LONGITUDE: -89.6346 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.707541 DATE COLLECTED:

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 369.0 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
226.0	MODESTO	PIASA	LIMESTONE	6.0	294.0
220.0	MODESTO		SHALE	6.5	300.0
213.5	CARBONDALE	LAWSON	SHALE	5.0	306.5
208.5	CARBONDALE	BRERETON	LIMESTONE	4.5	311.5
204.0	CARBONDALE	ANNA	DARK GRAY SHALE	3.0	316.0
201.0	CARBONDALE	ENERGY	GRAY SHALE	50.0	319.0

MAPID: 11900804000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 16 QUARTERS/FOOTAGES: 2310' N line, 1650' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.66465 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.707204 DATE COLLECTED:

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 312.0 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
265.0	MODESTO	PIASA	LIMESTONE	5.0	240.0
260.0	MODESTO		SHALE	18.0	245.0
242.0	CARBONDALE		SHALE	8.0	263.0
234.0	CARBONDALE		BLACK SHALE	1.0	271.0
233.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	272.0
229.0	CARBONDALE	LAWSON	DARK GRAY SHALE	8.5	276.0
220.5	CARBONDALE	CONANT	LIMESTONE	1.5	284.5
219.0	CARBONDALE		SHALE	4.0	286.0
215.0	CARBONDALE	BRERETON	LIMESTONE	4.0	290.0
211.0	CARBONDALE	ENERGY	GRAY SHALE	14.0	294.0
197.0	CARBONDALE	HERRIN	COAL	4.0	308.0

MAPID: 11901186000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 22 QUARTERS/FOOTAGES: 2310' N line, 1650' E line  
 QUADRANGLE: HIGHLAND LONGITUDE: -89.638722 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.692953 DATE COLLECTED: 1 / 0 / 1965  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: SHURE OIL CORP. 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	3.5	
-	CARBONDALE		UNCLASSIFIED	7.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	

MAPID: 11901186000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 22 QUARTERS/FOOTAGES: 2310' N line, 1650' E line  
 QUADRANGLE: HIGHLAND LONGITUDE: -89.638722 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.692953 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 512.0 LOGGED (FT.): 26.7 LOG TYPE: Electric Log  
 SOURCE: WELL TYPE: Oil and Gas Test  
 COMMENT: POOR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-	MODESTO		SHALE	11.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	
-	CARBONDALE	ENERGY	SHALE & SANDSTONE	15.0	
-	CARBONDALE	ENERGY	SHALE & SANDSTONE	90.0	

MAPID: 11900674000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 23 QUARTERS/FOOTAGES: 2310' N line, 2310' W line  
 QUADRANGLE: ST. ROSE LONGITUDE: -89.624776 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.693088 DATE COLLECTED: 4 / 0 / 1943  
 SURFACE ELEVATION (FT.): 521.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: MCCULLOCH DRLG. 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	4.0	
-	CARBONDALE		UNCLASSIFIED	9.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	

MAPID: 11900674000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 23 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: ST. ROSE LONGITUDE: -89.624776 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.693088 DATE COLLECTED:

SURFACE ELEVATION (FT.): 521.0 LOGGED (FT.): 459.0 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
213.0	MODESTO	PIASA	LIMESTONE	5.0	308.0
208.0	MODESTO		SHALE	13.0	313.0
195.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	326.0
190.0	CARBONDALE	ENERGY	GRAY SHALE	32.0	331.0
158.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	46.0	363.0
112.0	CARBONDALE	ENERGY	SILTY SHALE	50.0	409.0

MAPID: 11900593000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 28 QUARTERS/FOOTAGES: 913' N line, 2310' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.661595 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.681947 DATE COLLECTED: 1 / 0 / 1956

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: PHILLIPS J A 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	3.0	
-	CARBONDALE		UNCLASSIFIED	7.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	

MAPID: 11900593000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 5W SECTION: 28 QUARTERS/FOOTAGES: 913' N line, 2310' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.661595 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.681947 DATE COLLECTED:

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 348.0 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
279.0	MODESTO	PIASA	LIMESTONE	6.0	226.0
273.0	CARBONDALE	ENERGY	SILTY SHALE	50.0	232.0
223.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	26.0	282.0
197.0	CARBONDALE	ENERGY	SHALE	40.0	308.0



**MAPID:** 11900803000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 5W    **SECTION:** 32    **QUARTERS/FOOTAGES:** 330' S line, 330' E line  
**QUADRANGLE:** HIGHLAND    **LONGITUDE:** -89.670233    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.656157    **DATE COLLECTED:** 8 / 0 / 1957  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** GEORGE, T. W. TRUST    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

**MAPID:** 11900673000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 330' S line, 990' E line  
**QUADRANGLE:** HIGHLAND    **LONGITUDE:** -89.711208    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.728742    **DATE COLLECTED:** 6 / 0 / 1952  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 356.0    **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	OVERBURDEN COMMENT
304.5	MODESTO	PIASA	LIMESTONE	4.0	265.5
300.5	MODESTO		UNCLASSIFIED	2.0	269.5
298.5	CARBONDALE		UNCLASSIFIED	6.5	271.5
292.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	278.0
288.0	CARBONDALE	ENERGY	UNCLASSIFIED	70.0	282.0
218.0	CARBONDALE	HERRIN	COAL	4.0	352.0

**MAPID:** 11900673000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 330' S line, 990' E line  
**QUADRANGLE:** HIGHLAND    **LONGITUDE:** -89.711208    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.728742    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 418.0    **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
304.0	MODESTO	PIASA	LIMESTONE	4.0	266.0
300.0	MODESTO		SHALE	9.0	270.0
291.0	CARBONDALE	DANVILLE	COAL	3.0	279.0
288.0	CARBONDALE		SHALE	5.0	282.0
283.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	287.0
276.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	62.0	294.0

MAPID: 11900442000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW SE

QUADRANGLE: ST. JACOB

LONGITUDE: -89.753309

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.733119

DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0

LOGGED (FT.): 279.5

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
273.0	MODESTO	PIASA	LIMESTONE	3.0	217.0
270.0	CARBONDALE	ENERGY	GRAY SHALE	4.0	220.0
266.0	CARBONDALE	ENERGY	SILTSTONE	4.0	224.0
262.0	CARBONDALE	ENERGY	SANDSTONE	14.0	228.0
248.0	CARBONDALE	ENERGY	SILTY SHALE	8.0	242.0
240.0	CARBONDALE	ENERGY	GRAY SHALE	29.0	250.0
211.0	CARBONDALE	HERRIN	COAL	0.5	279.0

MAPID: 11900442000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW SE

QUADRANGLE: ST. JACOB

LONGITUDE: -89.753309

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.733119

DATE COLLECTED: 8 / 0 / 1942

SURFACE ELEVATION (FT.): 490.0

LOGGED (FT.): 506.0

LOG TYPE: Drillers Log

SOURCE: WATKINS DRILLING CO. 1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.0			UNCLASSIFIED	134.0	0.0	GAP IN LOG - 'NO RECORD'
356.0			SANDSTONE	2.0	134.0	
354.0			SANDSTONE	2.0	136.0	
352.0			SANDSTONE	6.0	138.0	
346.0			COAL	1.0	144.0	
345.0			SANDSTONE	4.0	145.0	
341.0			LIMESTONE	1.0	149.0	
340.0			COAL	1.0	150.0	
339.0			SANDSTONE	10.0	151.0	
329.0			LIMESTONE	2.0	161.0	
327.0			SANDSTONE	3.0	163.0	
324.0			BLACK SHALE	3.0	166.0	
321.0			COAL	1.0	169.0	
320.0			UNDERCLAY	2.0	170.0	
318.0			LIMESTONE	4.0	172.0	
314.0			BLACK SHALE	2.0	176.0	
312.0			SANDSTONE	18.0	178.0	
294.0			GRAY SHALE	18.0	196.0	
276.0			UNDERCLAY	3.0	214.0	
273.0	MODESTO	PIASA	LIMESTONE	3.0	217.0	
270.0			GRAY SHALE	4.0	220.0	
266.0			GRAY SILTSTONE	4.0	224.0	
262.0			SANDSTONE	14.0	228.0	
248.0			GRAY SHALE	8.0	242.0	
240.0			GRAY SHALE	25.0	250.0	
215.0	CARBONDALE	HERRIN	COAL	0.5	275.0	
214.5			GRAY SHALE	3.5	275.5	
211.0			LIMESTONE	4.0	279.0	
207.0			GRAY SHALE	7.0	283.0	
200.0			GRAY SHALE	3.0	290.0	
197.0			BLACK SHALE	1.0	293.0	
196.0			LIMESTONE	4.0	294.0	
192.0			SHALE	24.0	298.0	
168.0			GRAY SILTSTONE	28.0	322.0	
140.0			GRAY SHALE	6.0	350.0	
134.0			COAL	4.0	356.0	
130.0			UNDERCLAY	2.0	360.0	
128.0			GRAY SILTSTONE	10.0	362.0	
118.0			SANDSTONE	29.0	372.0	

89.0	LIMESTONE	5.0	401.0
84.0	BLACK SHALE	1.0	406.0
83.0	COAL	2.0	407.0
81.0	UNDERCLAY	1.0	409.0
80.0	LIMESTONE	2.0	410.0
78.0	CALCAREOUS SHALE	1.0	412.0
77.0	BLACK SHALE	1.0	413.0
76.0	COAL	2.0	414.0
74.0	UNDERCLAY	1.0	416.0
73.0	LIMESTONE	1.0	417.0
72.0	BLACK SHALE	1.0	418.0
71.0	COAL	1.0	419.0
70.0	SHALE	8.0	420.0
62.0	GRAY SILTSTONE	9.0	428.0
53.0	LIMESTONE	1.0	437.0
52.0	GRAY SILTSTONE	6.0	438.0
46.0	SANDSTONE	8.0	444.0
38.0	SANDSTONE	9.0	452.0
29.0	BLACK SHALE	1.0	461.0
28.0	DARK GRAY SHALE	12.0	462.0
16.0	GRAY SHALE	6.0	474.0
10.0	SANDSTONE	26.0	480.0

**MAPID:** 11900442000C    **VERSION:** 5    **PROJECT:** CONTROL  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 3    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW SE  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.753309    **GEOLOGIST:** HINES  
**CONFIDENTIAL:** N    **LATITUDE:** 38.733119    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 2480.0    **LOG TYPE:** Survey Sample Study  
**SOURCE:** WATKINS DRLG CO INC    **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: 11900625000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 6 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.809571 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.736583 DATE COLLECTED: 9 / 0 / 1956

SURFACE ELEVATION (FT.): 487.0 LOGGED (FT.): 272.0 LOG TYPE: Electric Log

SOURCE: GOFF, GENE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
287.0	MODESTO	PIASA	LIMESTONE	3.5	200.0
283.5	MODESTO		UNCLASSIFIED	2.5	203.5
281.0	CARBONDALE		UNCLASSIFIED	8.0	206.0
273.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	214.0
266.0	CARBONDALE	ENERGY	UNCLASSIFIED	47.0	221.0
219.0	CARBONDALE	HERRIN	COAL	4.0	268.0

MAPID: 11900625000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 6 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.809571 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.736583 DATE COLLECTED:

SURFACE ELEVATION (FT.): 487.0 LOGGED (FT.): 274.0 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
285.5	MODESTO	PIASA	LIMESTONE	3.5	201.5
282.0	MODESTO		SHALE	11.0	205.0
271.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	216.0
265.0	CARBONDALE	LAWSON	SHALE	6.0	222.0
259.0	CARBONDALE	BRERETON	LIMESTONE	4.0	228.0
255.0	CARBONDALE	ENERGY	GRAY SHALE	38.0	232.0
217.0	CARBONDALE	HERRIN	COAL	4.0	270.0

MAPID: 11902518000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 7 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.804454

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.727856

DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 244.2

LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO TR-6

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
282.0	MODESTO	PIASA	LIMESTONE	5.5	177.0	
276.5	MODESTO		GRAY SHALE	9.0	182.5	
267.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	191.5	LOWER BENCH
264.5	CARBONDALE	LAWSON	GRAY SHALE	5.0	194.5	
259.5	CARBONDALE	ENERGY	SILTY SHALE	20.0	199.5	
239.5	CARBONDALE	ENERGY	GRAY SHALE	22.0	219.5	
217.5	CARBONDALE	ENERGY	BLACK SHALE	0.1	241.5	
217.4	CARBONDALE	ENERGY	GRAY SHALE	0.3	241.6	
218.0	CARBONDALE	HERRIN	COAL	3.2	241.0	

MAPID: 11902518000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 7 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.804454

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.727856

DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 244.2

LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-6

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
282.9	MODESTO	PIASA	LIMESTONE	5.5	176.1	
277.4	MODESTO		UNCLASSIFIED	2.5	181.6	
274.9	CARBONDALE		UNCLASSIFIED	6.5	184.1	
268.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	190.6	
265.4	CARBONDALE	ENERGY	SHALE	47.4	193.6	
218.0	CARBONDALE	HERRIN	COAL	3.2	241.0	

MAPID: 11902518000C    VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 6W    SECTION: 7    QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: ST. JACOB    LONGITUDE: -89.804454    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.727856    DATE COLLECTED: 8 / 8 / 1960

SURFACE ELEVATION (FT.): 459.0    LOGGED (FT.): 248.0    LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO    TR6    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
459.0	PLEISTOCENE		CLAY	18.0	0.0	
441.0	PLEISTOCENE		SAND & GRAVEL	30.0	18.0	
411.0			GRAY SHALE	34.0	48.0	
377.0			GREEN SHALE	4.0	82.0	
373.0			GRAY SHALE	5.0	86.0	
368.0			SANDSTONE	6.0	91.0	DARK
362.0			GRAY SHALE	12.5	97.0	
349.5			BLACK SHALE	1.5	109.5	
348.0			GRAY SHALE	6.0	111.0	
342.0			GRAY SHALE	15.0	117.0	
327.0			GRAY SHALE	16.0	132.0	
311.0			LIMESTONE	3.0	148.0	WHITE
308.0			GRAY SHALE	11.0	151.0	
297.0			SANDSTONE	2.0	162.0	GRAY
295.0			LIMESTONE	1.0	164.0	GRAY
294.0			GRAY SHALE	3.5	165.0	
290.5			CALCAREOUS SHALE	4.5	168.5	
286.0			GRAY SHALE	2.0	173.0	
284.0			RED SHALE	1.5	175.0	
282.5	MODESTO	PIASA	LIMESTONE	5.5	176.5	
277.0			GREEN SHALE	9.0	182.0	
268.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	191.0	GRAY
265.0	CARBONDALE	ENERGY	GRAY SHALE	5.0	194.0	
260.0	CARBONDALE	ENERGY	GRAY SHALE	20.0	199.0	
240.0	CARBONDALE	ENERGY	GRAY SHALE	22.0	219.0	
218.0	CARBONDALE	ENERGY	BLACK SHALE	0.0	241.0	
218.0	CARBONDALE	ENERGY	GRAY SHALE	0.3	241.0	
217.6	CARBONDALE	HERRIN	COAL	3.2	241.4	
214.4	CARBONDALE		UNDERCLAY	3.4	244.6	

**MAPID:** 11902518000C    **VERSION:** 4    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 7    **QUARTERS/FOOTAGES:** NW NE NE  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.804454    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.727856    **DATE COLLECTED:** 8 / 8 / 1960  
**SURFACE ELEVATION (FT.):** 459.0    **LOGGED (FT.):** 248.0    **LOG TYPE:** Other Core Study  
**SOURCE:** TRUAX-TRAER COAL CO    TR-6    **WELL TYPE:** Coal Test  
**COMMENT:** CORE C-8555

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
217.6			COAL	3.2	241.4

**MAPID:** 11900602000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 990' N line, 330' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.783586    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.726018    **DATE COLLECTED:** 4 / 0 / 1956  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 0.0    **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	2.5	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	49.5	
-	CARBONDALE	HERRIN	COAL	3.0	

**MAPID:** 11900602000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 990' N line, 330' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.783586    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.726018    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 287.0    **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
282.0	MODESTO	PIASA	LIMESTONE	4.0	218.0
278.0	MODESTO		SHALE	7.0	222.0
271.0	CARBONDALE		BLACK SHALE	2.0	229.0
269.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	231.0
265.0	CARBONDALE	LAWSON	DARK GRAY SHALE	6.0	235.0
259.0	CARBONDALE	ENERGY	GRAY SHALE	44.0	241.0
215.0	CARBONDALE	HERRIN	COAL	2.0	285.0



MAPID: 11900672000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.776509 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.71513 DATE COLLECTED: 8 / 0 / 1942

SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 283.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD 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
303.0	MODESTO	PIASA	LIMESTONE	6.0	204.0
297.0	MODESTO		UNCLASSIFIED	2.5	210.0
294.5	CARBONDALE		UNCLASSIFIED	7.5	212.5
287.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	220.0
283.0	CARBONDALE	ENERGY	UNCLASSIFIED	56.0	224.0
227.0	CARBONDALE	HERRIN	COAL	3.0	280.0

MAPID: 11900672000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.776509 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.71513 DATE COLLECTED:

SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 282.0 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
300.0	MODESTO	PIASA	LIMESTONE	5.0	207.0
295.0	MODESTO		SHALE	10.0	212.0
285.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	222.0
279.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	51.0	228.0
228.0	CARBONDALE	HERRIN	COAL	3.0	279.0

MAPID: 11900626000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NW

QUADRANGLE: HIGHLAND LONGITUDE: -89.723243 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.727301 DATE COLLECTED: 9 / 0 / 1956

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 321.0 LOG TYPE: Electric Log

SOURCE: WAUSAU PETRO. CORP. 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
293.5	MODESTO	PIASA	LIMESTONE	3.5	250.5
290.0	MODESTO		UNCLASSIFIED	5.0	254.0
285.0	CARBONDALE		UNCLASSIFIED	11.0	259.0
274.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	270.0
269.0	CARBONDALE	ENERGY	UNCLASSIFIED	39.0	275.0
230.0	CARBONDALE	HERRIN	COAL	7.0	314.0

MAPID: 11900671000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: HIGHLAND LONGITUDE: -89.723169 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.721771 DATE COLLECTED: 5 / 0 / 1953

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 334.5 LOG TYPE: Electric Log

SOURCE: DORAN THOMAS S WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
312.5	MODESTO	PIASA	LIMESTONE	4.0	247.5
308.5	MODESTO		UNCLASSIFIED	5.0	251.5
303.5	CARBONDALE		UNCLASSIFIED	7.5	256.5
296.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	264.0
287.0	CARBONDALE	ENERGY	UNCLASSIFIED	58.0	273.0
229.0	CARBONDALE	HERRIN	COAL	3.5	331.0

MAPID: 11900784000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 12 QUARTERS/FOOTAGES: 1650' N line, 2310' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.71865 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.723511 DATE COLLECTED: 6 / 0 / 1971

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 343.5 LOG TYPE: Electric Log

SOURCE: KUZMICH, R. W. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
313.0	MODESTO	PIASA	LIMESTONE	5.0	258.0
308.0	MODESTO		UNCLASSIFIED	4.0	263.0
304.0	CARBONDALE		UNCLASSIFIED	10.5	267.0
293.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	277.5
287.0	CARBONDALE	ENERGY	UNCLASSIFIED	53.0	284.0
234.0	CARBONDALE	HERRIN	COAL	6.5	337.0

MAPID: 11900784000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 12 QUARTERS/FOOTAGES: 1650' N line, 2310' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.71865 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.723511 DATE COLLECTED:

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 414.0 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
312.0	MODESTO	PIASA	LIMESTONE	4.0	259.0
308.0	MODESTO		SHALE	11.0	263.0
297.0	CARBONDALE	ENERGY	SANDSTONE	24.0	274.0
273.0	CARBONDALE	ENERGY	SHALE	32.0	298.0
241.0	CARBONDALE	ENERGY	SANDSTONE	14.0	330.0

MAPID: 11901027000C VERSION: 1

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 660' W line of SW

QUADRANGLE: HIGHLAND LONGITUDE: -89.724397 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 38.71998 DATE COLLECTED: 6 / 0 / 1962

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 452.0 LOG TYPE: Electric Log

SOURCE: NAT'L. ASSOC. PETRO. CO. WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
322.0	MODESTO	PIASA	UNCLASSIFIED	-	234.0	
246.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	310.0	
231.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	325.0	THIN OR ABSENT
219.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	0.0	337.0	
147.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	409.0	
104.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	452.0	

MAPID: 11901027000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 660' W line of SW

QUADRANGLE: HIGHLAND LONGITUDE: -89.724397 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.71998 DATE COLLECTED: 6 / 0 / 1962

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 313.5 LOG TYPE: Electric Log

SOURCE: NAT'L. ASSOC. PETRO. CO. WELL TYPE: Plugged and/or Abandoned

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
322.1	MODESTO	PIASA	LIMESTONE	3.5	233.9	
318.6	MODESTO		UNCLASSIFIED	2.3	237.4	
316.3	CARBONDALE		UNCLASSIFIED	6.3	239.7	
310.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	246.0	
304.0	CARBONDALE	ENERGY	UNCLASSIFIED	54.0	252.0	
250.0	CARBONDALE	HERRIN	COAL	7.5	306.0	

MAPID: 11901068000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 13 QUARTERS/FOOTAGES: 2499' S line, 330' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.72523 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.705636 DATE COLLECTED: 4 / 0 / 1962

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 318.5 LOG TYPE: Electric Log

SOURCE: FREY-MARINE OIL CO. 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
304.5	MODESTO	PIASA	LIMESTONE	4.0	230.5
300.5	MODESTO		UNCLASSIFIED	2.0	234.5
298.5	CARBONDALE		UNCLASSIFIED	5.0	236.5
293.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	241.5
289.5	CARBONDALE	ENERGY	UNCLASSIFIED	69.5	245.5
220.0	CARBONDALE	HERRIN	COAL	3.5	315.0

MAPID: 11901068000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 13 QUARTERS/FOOTAGES: 2499' S line, 330' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.72523 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.705636 DATE COLLECTED:

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 387.0 LOG TYPE: Electric Log

SOURCE: POOR DESCRIPTION WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
301.0	MODESTO	PIASA	LIMESTONE	3.0	234.0
298.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	75.0	237.0

MAPID: 11901068000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 13 QUARTERS/FOOTAGES: 2499' S line, 330' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.72523 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 38.705636 DATE COLLECTED: 4 / 0 / 1962

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 450.0 LOG TYPE: Electric Log

SOURCE: FREY-MARINE OIL CO. WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF, NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
303.0	MODESTO	PIASA	UNCLASSIFIED	5.0	232.0
224.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	311.0 ENERGY SHALE ROOF
210.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	325.0 THIN OR ABSENT
188.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	347.0
127.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	408.0
85.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	450.0

MAPID: 11900444000C    VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 3N 6W    SECTION: 15    QUARTERS/FOOTAGES: 330' S line, 330' W line of SW SW

QUADRANGLE: ST. JACOB    LONGITUDE: -89.762032    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.700322    DATE COLLECTED: 9 / 0 / 1942

SURFACE ELEVATION (FT.): 494.0    LOGGED (FT.): 263.5    LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A    WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
312.0	MODESTO	PIASA	LIMESTONE	8.0	182.0
304.0	MODESTO		UNCLASSIFIED	2.5	190.0
301.5	CARBONDALE		UNCLASSIFIED	6.5	192.5
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	199.0
291.0	CARBONDALE	ENERGY	UNCLASSIFIED	57.0	203.0
234.0	CARBONDALE	HERRIN	COAL	3.5	260.0

MAPID: 11900444000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 3N 6W    SECTION: 15    QUARTERS/FOOTAGES: 330' S line, 330' W line of SW SW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.762032

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.700322

DATE COLLECTED: 8 / 0 / 1942

SURFACE ELEVATION (FT.): 494.0

LOGGED (FT.): 440.0

LOG TYPE: Drillers Log

SOURCE: OBERING-BRYANT    1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
494.0			UNCLASSIFIED	154.0	0.0	NO RECORD
340.0			GRAY SILTSTONE	10.0	154.0	
330.0			SANDSTONE	20.0	164.0	
310.0	MODESTO	PIASA	LIMESTONE	5.0	184.0	
305.0			BLACK SHALE	3.0	189.0	
302.0			UNDERCLAY	2.0	192.0	
300.0			SHALE	4.0	194.0	
296.0			LIMESTONE	2.0	198.0	
294.0			GRAY SHALE	12.0	200.0	
282.0			GRAY SHALE	6.0	212.0	
276.0			SILTSTONE	5.0	218.0	
271.0			GRAY SILTSTONE	9.0	223.0	
262.0			GRAY SHALE	5.0	232.0	
257.0			GRAY SHALE	17.0	237.0	
240.0			BLACK SHALE	2.0	254.0	
238.0			BLACK SHALE	4.0	256.0	
234.0	CARBONDALE	HERRIN	COAL	3.0	260.0	
231.0			UNDERCLAY	2.0	263.0	
229.0			CALCAREOUS SHALE	3.0	265.0	
226.0			LIMESTONE	2.0	268.0	
224.0			SHALE	2.0	270.0	
222.0			UNDERCLAY	2.0	272.0	
220.0			CALCAREOUS SHALE	8.0	274.0	
212.0			LIMESTONE	6.0	282.0	
206.0			COAL	2.0	288.0	
204.0			SANDSTONE	12.0	290.0	
192.0			GRAY SILTSTONE	20.0	302.0	
172.0			LIMESTONE	2.0	322.0	
170.0			GRAY SHALE	21.0	324.0	
149.0			GRAY SHALE	7.0	345.0	
142.0			BLACK SHALE	1.0	352.0	
141.0			COAL	3.0	353.0	
138.0			DARK GRAY SHALE	31.0	356.0	
107.0			LIMESTONE	1.0	387.0	
106.0			BLACK SHALE	3.0	388.0	
103.0			COAL	3.0	391.0	
100.0			GRAY SHALE	2.0	394.0	
98.0			LIMESTONE	2.0	396.0	
96.0			GRAY SHALE	4.0	398.0	

92.0	BLACK SHALE	2.0	402.0
90.0	COAL	4.0	404.0
86.0	GRAY SHALE	6.0	408.0
80.0	COAL	3.0	414.0
77.0	UNDERCLAY	3.0	417.0
74.0	GRAY SHALE	7.0	420.0
67.0	COAL	1.0	427.0
66.0	SILTSTONE	6.0	428.0
60.0	SANDSTONE	6.0	434.0

**MAPID:** 11900444000C    **VERSION:** 5    **PROJECT:** CONTROL  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 15    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SW SW  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.762032    **GEOLOGIST:** HINES  
**CONFIDENTIAL:** N    **LATITUDE:** 38.700322    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 2386.0    **LOG TYPE:** Survey Sample Study  
**SOURCE:** OBERING, ERNEST A    **WELL TYPE:**  
**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:** 11900669000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 15    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW SW  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.762039    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.703993    **DATE COLLECTED:** 7 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 519.0    **LOGGED (FT.):** 286.0    **LOG TYPE:** Electric Log  
**SOURCE:** SOHIO PRODUCING    **WELL TYPE:** Water Injection  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
288.0	CARBONDALE	ENERGY	UNCLASSIFIED	51.0	231.0
237.0	CARBONDALE	HERRIN	COAL	4.0	282.0

**MAPID:** 11900670000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 15    **QUARTERS/FOOTAGES:** 2310' N line, 330' W line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.762049    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.707715    **DATE COLLECTED:** 9 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 295.5    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OIL COMPANY    **WELL TYPE:** Water Injection  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
228.0	CARBONDALE	HERRIN	COAL	3.5	292.0



MAPID: 11900670000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 15 QUARTERS/FOOTAGES: 2310' N line, 330' W line

QUADRANGLE: ST. JACOB

LONGITUDE: -89.762049

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.707715

DATE COLLECTED:

SURFACE ELEVATION (FT.): 520.0

LOGGED (FT.): 295.5

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
325.0	MODESTO	PIASA	LIMESTONE	4.0	195.0
321.0	CARBONDALE	ENERGY	SHALE	57.0	199.0
264.0	CARBONDALE	ENERGY	SANDSTONE	22.0	256.0
242.0	CARBONDALE	ENERGY	SHALE	14.0	278.0
228.0	CARBONDALE	HERRIN	COAL	3.5	292.0

MAPID: 11900443000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 16 QUARTERS/FOOTAGES: 990' N line, 990' E line of NE SW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.776171

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.704148

DATE COLLECTED: 9 / 0 / 1942

SURFACE ELEVATION (FT.): 510.0

LOGGED (FT.): 259.0

LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A

WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
334.0	MODESTO	PIASA	LIMESTONE	8.0	176.0
326.0	MODESTO		UNCLASSIFIED	4.0	184.0
322.0	CARBONDALE		UNCLASSIFIED	8.0	188.0
314.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	196.0
309.0	CARBONDALE	ENERGY	UNCLASSIFIED	52.0	201.0
257.0	CARBONDALE	HERRIN	COAL	6.0	253.0

MAPID: 11900443000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 3N 6W    SECTION: 16    QUARTERS/FOOTAGES: 990' N line, 990' E line of NE SW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.776171

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.704148

DATE COLLECTED: 8 / 0 / 1942

SURFACE ELEVATION (FT.): 510.0

LOGGED (FT.): 500.0

LOG TYPE: Drillers Log

SOURCE: OBERING-BRYANT    1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.0			UNCLASSIFIED	178.0	0.0	NO RECORD
332.0	MODESTO	PIASA	LIMESTONE	6.0	178.0	
326.0			UNDERCLAY	4.0	184.0	
322.0			SHALE	2.0	188.0	
320.0			GRAY SHALE	8.0	190.0	
312.0			RED SHALE	4.0	198.0	
308.0			SHALE	2.0	202.0	BR SH; BR
306.0			GRAY SHALE	10.0	204.0	
296.0			COAL	1.0	214.0	
295.0			GRAY SILTSTONE	23.0	215.0	
272.0			GRAY SHALE	10.0	238.0	
262.0			DARK GRAY SHALE	2.0	248.0	
260.0			UNDERCLAY	1.0	250.0	
259.0			GRAY SHALE	1.0	251.0	
258.0	CARBONDALE	ANNA	BLACK SHALE	2.0	252.0	
256.0	CARBONDALE	HERRIN	COAL	1.0	254.0	
255.0			UNDERCLAY	1.0	255.0	
254.0			LIMESTONE	6.0	256.0	
248.0			UNDERCLAY	2.0	262.0	
246.0			CALCAREOUS SHALE	2.0	264.0	
244.0			LIMESTONE	2.0	266.0	
242.0			GRAY SILTSTONE	6.0	268.0	
236.0			LIMESTONE	5.0	274.0	
231.0			BLACK SHALE	2.0	279.0	
229.0			UNDERCLAY	1.0	281.0	
228.0			GRAY SHALE	10.0	282.0	
218.0			SANDSTONE	8.0	292.0	
210.0			LIMESTONE	2.0	300.0	
208.0			GRAY SHALE	8.0	302.0	
200.0			GRAY SHALE	10.0	310.0	
190.0			GRAY SILTSTONE	10.0	320.0	
180.0			GRAY SILTSTONE	14.0	330.0	
166.0			BLACK SHALE	2.0	344.0	
164.0			COAL	2.0	346.0	
162.0			BLACK SHALE	2.0	348.0	
160.0			GRAY SILTSTONE	10.0	350.0	
150.0			SANDSTONE	16.0	360.0	
134.0			SILTSTONE	2.0	376.0	
132.0			BLACK SHALE	4.0	378.0	

128.0	COAL	2.0	382.0
126.0	CALCAREOUS SHALE	1.0	384.0
125.0	LIMESTONE	3.0	385.0
122.0	BLACK SHALE	3.0	388.0
119.0	UNDERCLAY	3.0	391.0
116.0	GRAY SHALE	9.0	394.0
107.0	BLACK SHALE	2.0	403.0
105.0	COAL	2.0	405.0
103.0	UNDERCLAY	1.0	407.0
102.0	GRAY SHALE	4.0	408.0
98.0	SANDSTONE	2.0	412.0
96.0	LIMESTONE	2.0	414.0
94.0	GRAY SHALE	6.0	416.0
88.0	SANDSTONE	3.0	422.0
85.0	LIMESTONE	13.0	425.0
72.0	GRAY SHALE	8.0	438.0
64.0	GRAY SHALE	12.0	446.0
52.0	SANDSTONE	6.0	458.0
46.0	DARK GRAY SHALE	3.0	464.0
43.0	BLACK SHALE	1.0	467.0
42.0	BLACK SHALE	5.0	468.0
37.0	GRAY SHALE	5.0	473.0
32.0	SHALE	22.0	478.0

**MAPID:** 11900443000C    **VERSION:** 5    **PROJECT:** CONTROL  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 16    **QUARTERS/FOOTAGES:** 990' N line, 990' E line of NE SW  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.776171    **GEOLOGIST:** HINES  
**CONFIDENTIAL:** N    **LATITUDE:** 38.704148    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 2400.0    **LOG TYPE:** Survey Sample Study  
**SOURCE:** OBERING ERNEST A    **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: 11900668000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 16 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.77134 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.704058 DATE COLLECTED: 6 / 0 / 1942

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 293.5 LOG TYPE: Electric Log

SOURCE: BRYANT & OBERING WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
325.5	MODESTO	PIASA	LIMESTONE	6.5	206.5
319.0	MODESTO		UNCLASSIFIED	2.5	213.0
316.5	CARBONDALE		UNCLASSIFIED	6.5	215.5
310.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	222.0
305.0	CARBONDALE	ENERGY	UNCLASSIFIED	62.0	227.0
243.0	CARBONDALE	HERRIN	COAL	4.5	289.0

MAPID: 11900668000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 16 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.77134 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.704058 DATE COLLECTED:

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 291.5 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
326.0	MODESTO	PIASA	LIMESTONE	6.0	206.0
320.0	MODESTO		SHALE	10.0	212.0
310.0	CARBONDALE	DANVILLE	COAL	4.0	222.0
306.0	CARBONDALE	ENERGY	SHALE	20.0	226.0
286.0	CARBONDALE	ENERGY	SANDSTONE	28.0	246.0
258.0	CARBONDALE	ENERGY	SHALE	14.0	274.0
244.0	CARBONDALE	HERRIN	COAL	3.5	288.0

MAPID: 1190125000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.766798 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.70771 DATE COLLECTED: 1 / 0 / 1943

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 288.0 LOG TYPE: Electric Log

SOURCE: OBERING & BRYANT WELL TYPE: Water Injection

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
312.0	MODESTO	PIASA	LIMESTONE	6.0	199.0
306.0	MODESTO		UNCLASSIFIED	3.0	205.0
303.0	CARBONDALE		UNCLASSIFIED	8.0	208.0
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	216.0
288.5	CARBONDALE	ENERGY	UNCLASSIFIED	61.5	222.5
227.0	CARBONDALE	HERRIN	COAL	4.0	284.0

MAPID: 11901255000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 16 QUARTERS/FOOTAGES: 420' S line, 330' W line of SE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.766761 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.700623 DATE COLLECTED: 6 / 0 / 1942

SURFACE ELEVATION (FT.): 489.0 LOGGED (FT.): 253.0 LOG TYPE: Electric Log

SOURCE: BRYANT & OBERING WELL TYPE: Water Injection

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
309.5	MODESTO	PIASA	LIMESTONE	5.0	179.5
304.5	MODESTO		UNCLASSIFIED	1.5	184.5
303.0	CARBONDALE		UNCLASSIFIED	4.5	186.0
298.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	190.5
293.5	CARBONDALE	ENERGY	UNCLASSIFIED	51.5	195.5
242.0	CARBONDALE	HERRIN	COAL	6.0	247.0

MAPID: 11901259000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.776217 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.700457 DATE COLLECTED: 8 / 0 / 1942

SURFACE ELEVATION (FT.): 503.0 LOGGED (FT.): 253.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Water Injection

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
329.0	MODESTO	PIASA	LIMESTONE	9.0	174.0
320.0	MODESTO		UNCLASSIFIED	2.5	183.0
317.5	CARBONDALE		UNCLASSIFIED	7.0	185.5
310.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	192.5
305.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	198.0
255.0	CARBONDALE	HERRIN	COAL	5.0	248.0

MAPID: 11901201000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 18 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.804307 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.711405 DATE COLLECTED: 10 / 0 / 1965

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: DUNCAN, N. V. DRLG. CO. WELL TYPE: Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	4.8	
-	MODESTO		UNCLASSIFIED	2.0	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	45.0	
-	CARBONDALE	HERRIN	COAL	8.5	

MAPID: 11900667000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.808282 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.686114 DATE COLLECTED: 9 / 0 / 1942

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: MENHALL, J. W. & 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	2.0	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	
-	CARBONDALE	HERRIN	COAL	3.5	

MAPID: 11900869000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 19 QUARTERS/FOOTAGES: 30' S line, 60' W line of SW SW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.809451 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.692533 DATE COLLECTED: 1 / 12 / 1959

SURFACE ELEVATION (FT.): 475.4 LOGGED (FT.): 264.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 23 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
475.4	PLEISTOCENE		CLAY	21.9	0.0
453.5	PLEISTOCENE		UNCONSOLIDATED	8.1	21.9
445.4	PLEISTOCENE		SAND	6.3	30.0 GRAY
439.1	PLEISTOCENE		UNCONSOLIDATED	75.4	36.3
363.6			SANDY SHALE	50.1	111.8
313.5			SANDSTONE	14.0	161.9 GRAY
299.5			SANDY SHALE	9.8	175.9
289.8			GRAY SHALE	5.4	185.6
284.4	MODESTO	PIASA	LIMESTONE	4.4	191.0
280.0	CARBONDALE	ENERGY	GRAY SHALE	7.7	195.4
272.3	CARBONDALE	ENERGY	SANDY SHALE	56.3	203.1
216.0	CARBONDALE	HERRIN	COAL	1.2	259.4
214.8	CARBONDALE		UNDERCLAY	2.5	260.6
212.3	CARBONDALE		LIMESTONE	1.7	263.1

MAPID: 11900869000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 19 QUARTERS/FOOTAGES: 30' S line, 60' W line of SW SW NE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.809451 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.692533 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 475.0 LOGGED (FT.): 261.2 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 23 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
283.3	MODESTO	PIASA	LIMESTONE	4.3	191.7
279.0	MODESTO		UNCLASSIFIED	2.0	196.0
277.0	CARBONDALE		UNCLASSIFIED	5.7	198.0
271.3	CARBONDALE	ENERGY	SHALE	56.3	203.7
215.0	CARBONDALE	HERRIN	COAL	1.2	260.0

MAPID: 11900869000C VERSION: 3

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 19 QUARTERS/FOOTAGES: 30' S line, 60' W line of SW SW NE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.809451 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.692533 DATE COLLECTED: 1 / 12 / 1959  
 SURFACE ELEVATION (FT.): 475.4 LOGGED (FT.): 264.8 LOG TYPE:  
 SOURCE: PEABODY COAL CO. 23 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
214.6	CARBONDALE	HERRIN	COAL	1.2	260.8



MAPID: 11902519000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 19 QUARTERS/FOOTAGES: NE NW SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.815382 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.691606 DATE COLLECTED:

SURFACE ELEVATION (FT.): 461.0 LOGGED (FT.): 238.2 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO TR-7 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
286.0	MODESTO	PIASA	LIMESTONE	6.0	175.0	
280.0	MODESTO		VARRIGATED SHALE	9.5	181.0	
270.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.0	190.5	LOWER BENCH
262.5	CARBONDALE	LAWSON	GRAY SHALE	5.5	198.5	
257.0	CARBONDALE	ENERGY	SILTY SHALE	5.5	204.0	
251.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	11.0	209.5	
240.5	CARBONDALE	ENERGY	DARK GRAY SHALE	8.5	220.5	
232.0	CARBONDALE	ENERGY	BLACK SHALE	0.5	229.0	
231.5	CARBONDALE	ENERGY	GRAY SHALE	7.9	229.5	
224.0	CARBONDALE	HERRIN	COAL	1.2	237.0	

MAPID: 11902519000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 19 QUARTERS/FOOTAGES: NE NW SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.815382 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.691606 DATE COLLECTED:

SURFACE ELEVATION (FT.): 461.0 LOGGED (FT.): 238.2 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-7 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
247.6	MODESTO	PIASA	LIMESTONE	6.0	213.4	
241.6	MODESTO		UNCLASSIFIED	1.5	219.4	
240.1	CARBONDALE		UNCLASSIFIED	8.0	220.9	
232.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	228.9	
224.1	CARBONDALE	ANNA	BLACK SHALE	0.1	236.9	
224.0	CARBONDALE	HERRIN	COAL	1.2	237.0	

MAPID: 11902519000C    VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 6W    SECTION: 19    QUARTERS/FOOTAGES: NE NW SW

QUADRANGLE: ST. JACOB    LONGITUDE: -89.815382    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.691606    DATE COLLECTED: 8 / 16 / 1960

SURFACE ELEVATION (FT.): 461.0    LOGGED (FT.): 241.0    LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO    TR7    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
461.0	PLEISTOCENE		CLAY	13.0	0.0	
448.0	PLEISTOCENE		UNCONSOLIDATED	85.0	13.0	
363.0			GRAY SHALE	12.0	98.0	
351.0			SANDSTONE	2.5	110.0	GREEN
348.5			GRAY SHALE	9.5	112.5	
339.0			SANDSTONE	6.5	122.0	GRAY
332.5			COAL	0.3	128.5	
332.2			SANDSTONE	11.2	128.8	GRAY
321.0			GRAY SHALE	14.0	140.0	
307.0			GRAY SHALE	3.0	154.0	
304.0			CALCAREOUS SHALE	5.0	157.0	
299.0			SHALE & SANDSTONE	6.5	162.0	
292.5			GRAY SHALE	1.5	168.5	
291.0			SHALE	1.5	170.0	
289.5	MODESTO	PIASA	LIMESTONE	6.0	171.5	WHITE
283.5	MODESTO	PIASA	LIMESTONE	6.0	177.5	WHITE
277.5	CARBONDALE	ENERGY	CALCAREOUS SHALE	1.5	183.5	
276.0	CARBONDALE	ENERGY	SHALE	8.0	185.0	
268.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	8.0	193.0	
260.0	CARBONDALE	ENERGY	GRAY SHALE	5.5	201.0	
254.5	CARBONDALE	ENERGY	GRAY SHALE	5.5	206.5	
249.0	CARBONDALE	ENERGY	GRAY SHALE	11.0	212.0	
238.0	CARBONDALE	ENERGY	GRAY SHALE	8.5	223.0	
229.5	CARBONDALE	ENERGY	BLACK SHALE	0.5	231.5	
229.0	CARBONDALE	ENERGY	GRAY SHALE	8.1	232.0	
220.9	CARBONDALE	ENERGY	BLACK SHALE	1.0	240.1	
219.9	CARBONDALE	HERRIN	COAL	0.8	241.1	
219.0	CARBONDALE		BLACK SHALE	9.0	242.0	
210.0	CARBONDALE		UNDERCLAY	2.2	251.0	

**MAPID:** 11902519000C    **VERSION:** 4    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 19    **QUARTERS/FOOTAGES:** NE NW SW  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.815382    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.691606    **DATE COLLECTED:** 8 / 16 / 1960  
**SURFACE ELEVATION (FT.):** 461.0    **LOGGED (FT.):** 241.0    **LOG TYPE:** Other Core Study  
**SOURCE:** TRUAX-TRAER COAL CO    TR-7    **WELL TYPE:** Coal Test  
**COMMENT:** CORE C-8556

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	0.0		TD 241' - NO COALS > 10" THICK

**MAPID:** 11900647000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 21    **QUARTERS/FOOTAGES:** 420' S line, 330' W line of NW NE  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.77143    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.697004    **DATE COLLECTED:** 8 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 515.0    **LOGGED (FT.):** 283.5    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL CO., THE    **WELL TYPE:** Water Injection  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
294.5	MODESTO	PIASA	LIMESTONE	5.0	220.5	
289.5	MODESTO		UNCLASSIFIED	2.0	225.5	
287.5	CARBONDALE		UNCLASSIFIED	6.5	227.5	
281.0	CARBONDALE	ENERGY	UNCLASSIFIED	46.0	234.0	
235.0	CARBONDALE	HERRIN	COAL	3.5	280.0	

**MAPID:** 11901265000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 21    **QUARTERS/FOOTAGES:** 990' N line, 1650' W line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.776192    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.696813    **DATE COLLECTED:** 8 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 510.0    **LOGGED (FT.):** 265.5    **LOG TYPE:** Electric Log  
**SOURCE:** SOHIO PRODUCING    **WELL TYPE:** Water Injection  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
321.0	MODESTO	PIASA	LIMESTONE	7.0	189.0	
314.0	MODESTO		UNCLASSIFIED	2.0	196.0	
312.0	CARBONDALE		UNCLASSIFIED	5.0	198.0	
307.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	203.0	
299.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	211.0	
249.0	CARBONDALE	HERRIN	COAL	4.5	261.0	

MAPID: 11901265000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 21 QUARTERS/FOOTAGES: 990' N line, 1650' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.776192 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.696813 DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 291.0 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
308.0	MODESTO	PIASA	CALCAREOUS SHALE	6.0	202.0
302.0	CARBONDALE	ENERGY	SHALE	12.0	208.0
290.0	CARBONDALE	ENERGY	SANDSTONE	26.0	220.0
264.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	39.0	246.0
222.0	CARBONDALE	HERRIN	COAL	3.0	288.0

MAPID: 11900646000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 22 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.761919 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.685692 DATE COLLECTED: 9 / 0 / 1942

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 288.0 LOG TYPE: Electric Log

SOURCE: BURDETTE, FRED ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
316.0	MODESTO	PIASA	LIMESTONE	7.0	209.0
309.0	MODESTO		UNCLASSIFIED	6.0	216.0
303.0	CARBONDALE		UNCLASSIFIED	12.0	222.0
291.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	234.0
241.0	CARBONDALE	HERRIN	COAL	1.5	284.0

MAPID: 11923162000C VERSION: 1

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 23 QUARTERS/FOOTAGES: 1650' N line, 330' E line

QUADRANGLE: HIGHLAND LONGITUDE: -89.727328 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 38.694205 DATE COLLECTED: 4 / 0 / 1976

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 453.0 LOG TYPE: Electric Log

SOURCE: EGO OIL COMPANY WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
273.0	MODESTO	PIASA	UNCLASSIFIED	-	266.0
219.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	320.0
204.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	-	335.0
181.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	358.0
129.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	410.0
86.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	453.0

MAPID: 11900645000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.752587 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.674474 DATE COLLECTED: 8 / 0 / 1942

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 244.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
330.0	MODESTO	PIASA	LIMESTONE	6.0	170.0
324.0	MODESTO		UNCLASSIFIED	1.5	176.0
322.5	CARBONDALE		UNCLASSIFIED	3.5	177.5
319.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	181.0
315.0	CARBONDALE	ENERGY	UNCLASSIFIED	54.0	185.0
261.0	CARBONDALE	HERRIN	COAL	5.0	239.0

MAPID: 11900645000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.752587 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.674474 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 314.5 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
330.0	MODESTO	PIASA	LIMESTONE	4.5	170.0
325.5	MODESTO		SHALE	7.0	174.5
318.5	CARBONDALE	DANVILLE	COAL	3.0	181.5
315.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	40.0	184.5
275.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	90.0	224.5

MAPID: 11900666000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.757075 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.670878 DATE COLLECTED: 9 / 0 / 1942

SURFACE ELEVATION (FT.): 493.0 LOGGED (FT.): 243.0 LOG TYPE: Electric Log

SOURCE: SINCLAIR WYOMING OIL 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
328.0	MODESTO	PIASA	LIMESTONE	6.0	165.0
322.0	MODESTO		UNCLASSIFIED	2.0	171.0
320.0	CARBONDALE		UNCLASSIFIED	5.0	173.0
315.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	178.0
309.0	CARBONDALE	ENERGY	UNCLASSIFIED	54.0	184.0
255.0	CARBONDALE	HERRIN	COAL	5.0	238.0

MAPID: 11901281000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.757138 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.674558 DATE COLLECTED: 9 / 0 / 1942

SURFACE ELEVATION (FT.): 519.0 LOGGED (FT.): 262.0 LOG TYPE: Electric Log

SOURCE: SINCLAIR WYOMING OIL WELL TYPE: Service Well

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
335.0	MODESTO	PIASA	LIMESTONE	7.0	184.0
328.0	MODESTO		UNCLASSIFIED	2.0	191.0
326.0	CARBONDALE		UNCLASSIFIED	5.0	193.0
321.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	198.0
317.0	CARBONDALE	ENERGY	UNCLASSIFIED	55.0	202.0
262.0	CARBONDALE	HERRIN	COAL	5.0	257.0

MAPID: 11901282000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.7572 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.678241 DATE COLLECTED: 9 / 0 / 1942

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 303.0 LOG TYPE: Electric Log

SOURCE: SINCLAIR WYOMING OIL WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
324.0	MODESTO	PIASA	LIMESTONE	6.5	215.0
317.5	MODESTO		UNCLASSIFIED	1.5	221.5
316.0	CARBONDALE		UNCLASSIFIED	4.5	223.0
311.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	227.5
307.0	CARBONDALE	ENERGY	UNCLASSIFIED	68.0	232.0
239.0	CARBONDALE	HERRIN	COAL	3.0	300.0

MAPID: 11901287000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SE

QUADRANGLE: HIGHLAND LONGITUDE: -89.747831 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.670779 DATE COLLECTED: 11 / 0 / 1942

SURFACE ELEVATION (FT.): 508.0 LOGGED (FT.): 256.0 LOG TYPE: Electric Log

SOURCE: OLYMPIC OIL WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
326.1	MODESTO	PIASA	LIMESTONE	5.5	181.9
320.6	MODESTO		UNCLASSIFIED	1.3	187.4
319.3	CARBONDALE		UNCLASSIFIED	3.3	188.7
316.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	192.0
311.0	CARBONDALE	ENERGY	UNCLASSIFIED	53.0	197.0
258.0	CARBONDALE	HERRIN	COAL	6.0	250.0

MAPID: 11901288000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.75259 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.678171 DATE COLLECTED: 8 / 0 / 1942

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 272.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Water Injection

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
321.0	MODESTO	PIASA	LIMESTONE	5.0	195.0
316.0	MODESTO		UNCLASSIFIED	1.5	200.0
314.5	CARBONDALE		UNCLASSIFIED	4.0	201.5
310.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	205.5
305.0	CARBONDALE	ENERGY	UNCLASSIFIED	55.0	211.0
250.0	CARBONDALE	HERRIN	COAL	6.0	266.0



MAPID: 11901289000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.752659 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.681845 DATE COLLECTED: 8 / 0 / 1943

SURFACE ELEVATION (FT.): 519.0 LOGGED (FT.): 284.0 LOG TYPE: Electric Log

SOURCE: OBERING & BRYANT WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
314.0	MODESTO	PIASA	LIMESTONE	5.0	205.0
309.0	MODESTO		UNCLASSIFIED	3.0	210.0
306.0	CARBONDALE		UNCLASSIFIED	8.0	213.0
298.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	221.0
292.0	CARBONDALE	ENERGY	UNCLASSIFIED	51.0	227.0
241.0	CARBONDALE	HERRIN	COAL	6.0	278.0

MAPID: 11901292000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 28 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.771053 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.674662 DATE COLLECTED: 10 / 0 / 1942

SURFACE ELEVATION (FT.): 503.0 LOGGED (FT.): 304.0 LOG TYPE: Drillers Log

SOURCE: OIL, INC., ETAL WELL TYPE: Mineral Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
276.5	MODESTO	PIASA	LIMESTONE	5.5	226.5
271.0	MODESTO		UNCLASSIFIED	2.0	232.0
269.0	CARBONDALE		UNCLASSIFIED	5.0	234.0
264.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	239.0
261.0	CARBONDALE	ENERGY	UNCLASSIFIED	58.0	242.0
203.0	CARBONDALE	HERRIN	COAL	4.0	300.0

MAPID: 11901292000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 28 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.771053

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.674662

DATE COLLECTED:

SURFACE ELEVATION (FT.): 503.0 LOGGED (FT.): 380.0

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
299.0	MODESTO	PIASA	LIMESTONE	6.0	204.0
293.0	CARBONDALE	ENERGY	SANDSTONE	20.0	210.0
273.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	60.0	230.0
213.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	90.0	290.0

MAPID: 11902520000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 31 QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.815235

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.667759

DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 252.8

LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAEER COAL CO TR-5

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
305.0	MODESTO	PIASA	LIMESTONE	4.5	175.0
300.5	MODESTO		VARRIGATED SHALE	6.5	179.5
294.0	CARBONDALE		GRAY SHALE	2.0	186.0
292.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	188.0
291.5	CARBONDALE	ENERGY	LIMESTONE W/ SHALE	23.5	188.5
268.0	CARBONDALE	ENERGY	GRAY SHALE	39.7	212.0
230.0	CARBONDALE	HERRIN	COAL	2.8	250.0

MAPID: 11902520000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON

TWP/RNG: 3N 6W

SECTION: 31

QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.815235

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.667759

DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0

LOGGED (FT.): 252.8

LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-5

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
306.2	MODESTO	PIASA	LIMESTONE	4.5	173.8
301.7	MODESTO		UNCLASSIFIED	2.5	178.3
299.2	CARBONDALE		UNCLASSIFIED	6.0	180.8
293.2	CARBONDALE	ENERGY	SHALE	63.2	186.8
230.0	CARBONDALE	HERRIN	COAL	2.8	250.0

MAPID: 11902520000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON

TWP/RNG: 3N 6W

SECTION: 31

QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.815235

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.667759

DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0

LOGGED (FT.): 254.0

LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR5

WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
480.0	PLEISTOCENE		SAND & GRAVEL	127.0	0.0
353.0			GRAY SHALE	45.0	127.0
308.0			BROWN SHALE	1.0	172.0
307.0			LIMESTONE	4.5	173.0
302.5			GRAY SHALE	2.5	177.5
300.0			RED SHALE	4.0	180.0
296.0			GREEN SHALE	2.0	184.0
294.0	MODESTO	PIASA	LIMESTONE	0.5	186.0 WHITE
293.5	CARBONDALE	ENERGY	CALCAREOUS SHALE	23.5	186.5
270.0	CARBONDALE	ENERGY	GRAY SHALE	39.7	210.0
230.3	CARBONDALE	HERRIN	COAL	2.8	249.7 #6
227.6	CARBONDALE		UNDERCLAY	1.6	252.4

**MAPID:** 11902520000C    **VERSION:** 4    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 31    **QUARTERS/FOOTAGES:** SE NW NW  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.815235    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.667759    **DATE COLLECTED:** 8 / 16 / 1960  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 254.0    **LOG TYPE:** Other Core Study  
**SOURCE:** TRUAX-TRAER COAL CO    TR-5    **WELL TYPE:** Coal Test  
**COMMENT:** CORE C-8554

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
230.3	CARBONDALE	HERRIN	COAL	2.8	249.7

**MAPID:** 11900664000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 560' N line, 560' E line of SW  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.755463    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.661059    **DATE COLLECTED:** 10 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 502.0    **LOGGED (FT.):** 272.0    **LOG TYPE:** Electric Log  
**SOURCE:** OBERING ERNEST A    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
316.0	MODESTO	PIASA	LIMESTONE	6.0	186.0
310.0	MODESTO		UNCLASSIFIED	2.0	192.0
308.0	CARBONDALE		UNCLASSIFIED	4.5	194.0
303.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	198.5
298.5	CARBONDALE	ENERGY	UNCLASSIFIED	62.5	203.5
236.0	CARBONDALE	HERRIN	COAL	6.0	266.0

**MAPID:** 11901294000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 6W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 990' N line, 2310' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.752431    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.667183    **DATE COLLECTED:** 10 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 508.0    **LOGGED (FT.):** 262.0    **LOG TYPE:** Electric Log  
**SOURCE:** OBERING ERNEST A    **WELL TYPE:** Producer-Oil  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
328.1	MODESTO	PIASA	LIMESTONE	5.0	179.9
323.1	MODESTO		UNCLASSIFIED	1.8	184.9
321.3	CARBONDALE		UNCLASSIFIED	4.3	186.7
317.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	191.0
312.0	CARBONDALE	ENERGY	UNCLASSIFIED	60.0	196.0
252.0	CARBONDALE	HERRIN	COAL	6.0	256.0

MAPID: 11901294000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 34 QUARTERS/FOOTAGES: 990' N line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.752431

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.667183

DATE COLLECTED:

SURFACE ELEVATION (FT.): 508.0

LOGGED (FT.): 262.0

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
328.0	MODESTO	PIASA	LIMESTONE	5.0	180.0
323.0	MODESTO		LIMESTONE	7.0	185.0
316.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	192.0
310.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	59.0	198.0
252.0	CARBONDALE	HERRIN	COAL	6.0	256.0

MAPID: 11901295000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 34 QUARTERS/FOOTAGES: 360' S line, 330' W line of SW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.752359

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.663561

DATE COLLECTED: 7 / 0 / 1943

SURFACE ELEVATION (FT.): 492.0

LOGGED (FT.): 245.0

LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A

WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
322.5	MODESTO	PIASA	LIMESTONE	6.5	169.5
316.0	MODESTO		UNCLASSIFIED	2.0	176.0
314.0	CARBONDALE		UNCLASSIFIED	5.5	178.0
308.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	183.5
304.0	CARBONDALE	ENERGY	UNCLASSIFIED	52.0	188.0
252.0	CARBONDALE	HERRIN	COAL	5.0	240.0

MAPID: 11900663000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 35 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: HIGHLAND LONGITUDE: -89.73372 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.66339 DATE COLLECTED: 10 / 0 / 1942

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 328.0 LOG TYPE: Electric Log

SOURCE: VERSLUIS & WALKER WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
274.0	MODESTO	PIASA	LIMESTONE	5.5	251.0
268.5	MODESTO		UNCLASSIFIED	4.0	256.5
264.5	CARBONDALE		UNCLASSIFIED	8.5	260.5
256.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	269.0
250.0	CARBONDALE	ENERGY	UNCLASSIFIED	49.0	275.0
201.0	CARBONDALE	HERRIN	COAL	4.0	324.0

MAPID: 11900663000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 6W SECTION: 35 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: HIGHLAND LONGITUDE: -89.73372 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.66339 DATE COLLECTED:

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 374.0 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
273.0	MODESTO	PIASA	LIMESTONE	4.0	252.0
269.0	MODESTO		SHALE	10.0	256.0
259.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	266.0
251.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	50.0	274.0

MAPID: 11926766000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 3 QUARTERS/FOOTAGES: NW SE SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.86901 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.734738 DATE COLLECTED: 10 / 1 / 1968

SURFACE ELEVATION (FT.): 526.8 LOGGED (FT.): 265.5 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 4-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
526.8			CLAY	26.0	0.0	
500.8			SHALE	19.0	26.0	MED-SOFT, WEATHERED HARD
481.8			GRAY SHALE	18.5	45.0	
463.3			LIMESTONE	1.2	63.5	
462.1			SANDY SHALE	12.3	64.7	
449.8			LIMESTONE	0.5	77.0	
449.3			SHALE	6.5	77.5	
442.8			SHALE WITH LIMESTONE	4.0	84.0	
438.8			SHALE	47.0	88.0	
391.8			CLAYSTONE & SILTSTONE	35.0	135.0	
356.8			GRAY SHALE	12.0	170.0	
344.8			GREEN SHALE	16.0	182.0	
328.8	SHELburn	PIASA	LIMESTONE	5.2	198.0	
323.6	SHELburn		SHALE	10.8	203.2	
312.8	SHELburn		LIMESTONE	1.8	214.0	
311.0	CARBONDALE	ENERGY	SHALE	42.0	215.8	
269.0	CARBONDALE	HERRIN	COAL	4.8	257.8	
264.2	CARBONDALE		CLAYSTONE	0.9	262.6	
263.3	CARBONDALE		SHALE	2.0	263.5	

MAPID: 11901173000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 5 QUARTERS/FOOTAGES: 415' N line, 15' W line of NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.913736

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.743575

DATE COLLECTED: 2 / 26 / 1957

SURFACE ELEVATION (FT.): 576.0

LOGGED (FT.): 265.5

LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 5

WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
576.0	PLEISTOCENE		SANDY CLAY	69.5	0.0
506.5			GRAY SHALE	3.7	69.5
502.8			BLACK SHALE	2.2	73.2
500.6			GRAY SHALE	9.7	75.4
490.9			GRAY SHALE	14.8	85.1
476.1			LIMESTONE	2.4	99.9
473.7			GRAY SHALE	1.1	102.3
472.6			GRAY SHALE	8.1	103.4
464.5			GRAY SHALE	42.0	111.5
422.5			GRAY SHALE	40.0	153.5
382.5			GRAY SHALE	14.0	193.5
368.6	MODESTO	PIASA	LIMESTONE	3.4	207.4
365.2			GRAY SHALE	11.2	210.8
354.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	221.9
352.0	CARBONDALE	ENERGY	GRAY SHALE	26.9	224.0
325.1	CARBONDALE	HERRIN	GRAY SHALE	7.8	250.9
317.3	CARBONDALE	HERRIN	RASH	1.1	258.7
316.2	CARBONDALE	HERRIN	COAL	0.9	259.8
315.3	CARBONDALE	HERRIN	FUSAIN	0.0	260.7
315.3	CARBONDALE	HERRIN	FUSAIN	0.0	260.7
315.3	CARBONDALE	HERRIN	COAL	0.1	260.7
315.2	CARBONDALE	HERRIN	FUSAIN	0.0	260.8
315.2	CARBONDALE	HERRIN	COAL	0.2	260.8
315.0	CARBONDALE	HERRIN	SHALE	0.0	261.0
315.0	CARBONDALE	HERRIN	COAL	0.7	261.0
314.3	CARBONDALE	HERRIN	FUSAIN	0.0	261.7
314.3	CARBONDALE	HERRIN	COAL	1.3	261.7
313.0	CARBONDALE	HERRIN	SHALE	0.1	263.0
312.9	CARBONDALE	HERRIN	COAL	0.4	263.1
312.5	CARBONDALE	HERRIN	FUSAIN	0.1	263.5
312.5	CARBONDALE	HERRIN	COAL	1.0	263.5
311.4	CARBONDALE		UNDERCLAY	0.9	264.6



MAPID: 11901173000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 5 QUARTERS/FOOTAGES: 415' N line, 15' W line of NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.913736 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.743575 DATE COLLECTED: 2 / 26 / 1957

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 265.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. 5 WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
576.0	PLEISTOCENE		SOIL	72.5	0.0	
503.5			SHALE	0.7	72.5	
502.8			BLACK SHALE	2.2	73.2	
500.6			SHALE	9.7	75.4	
490.9			SHALE	14.8	85.1	
476.1			LIMESTONE	2.4	99.9	
473.7			SHALE	1.1	102.3	
472.6			SANDY SHALE	8.1	103.4	
464.5			SANDY SHALE	42.0	111.5	
422.5			SHALE	40.0	153.5	
382.5			SHALE	14.0	193.5	
368.6			LIMESTONE	3.4	207.4	
365.2			SHALE	11.2	210.8	
354.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	221.9	
352.0	CARBONDALE	ENERGY	SANDY SHALE	26.9	224.0	
325.1	CARBONDALE	ENERGY	SHALE	7.8	250.9	
317.3	CARBONDALE	HERRIN	COAL	0.1	258.7	RASH
317.2	CARBONDALE	HERRIN	COAL	1.9	258.8	
315.3	CARBONDALE	HERRIN	FUSAIN	0.0	260.7	
315.3	CARBONDALE	HERRIN	FUSAIN	0.0	260.7	
315.3	CARBONDALE	HERRIN	COAL	0.1	260.7	
315.2	CARBONDALE	HERRIN	FUSAIN	0.0	260.8	
315.2	CARBONDALE	HERRIN	COAL	0.2	260.8	
315.0	CARBONDALE	HERRIN	SHALE	0.0	261.0	
315.0	CARBONDALE	HERRIN	COAL	0.7	261.0	
314.3	CARBONDALE	HERRIN	FUSAIN	0.0	261.7	
314.3	CARBONDALE	HERRIN	COAL	1.3	261.7	
313.0	CARBONDALE	HERRIN	SHALE	0.1	263.0	
312.9	CARBONDALE	HERRIN	COAL	0.4	263.1	
312.5	CARBONDALE	HERRIN	FUSAIN	0.1	263.5	
312.5	CARBONDALE	HERRIN	COAL	1.0	263.5	
311.4	CARBONDALE		UNDERCLAY	0.9	264.6	

MAPID: 11901173000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 5 QUARTERS/FOOTAGES: 415' N line, 15' W line of NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.913736

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.743575

DATE COLLECTED:

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 264.8

LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 5

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
369.0	MODESTO	PIASA	LIMESTONE	3.4	207.0	
365.6	MODESTO		GRAY SHALE	11.2	210.4	
354.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	221.5	LOWER BENCH
352.4	CARBONDALE	ENERGY	SILTY SHALE	26.9	223.6	
325.5	CARBONDALE	ENERGY	GRAY SHALE	7.8	250.5	
317.0	CARBONDALE	HERRIN	COAL	5.8	259.0	

MAPID: 11901173000C VERSION: 4

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 5 QUARTERS/FOOTAGES: 415' N line, 15' W line of NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.913736

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.743575

DATE COLLECTED:

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 264.9

LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 5

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
366.2	MODESTO	PIASA	LIMESTONE	3.3	209.8	
362.9	MODESTO		UNCLASSIFIED	3.0	213.1	
359.9	CARBONDALE		UNCLASSIFIED	8.2	216.1	
351.7	CARBONDALE	ENERGY	SHALE	34.7	224.3	
317.0	CARBONDALE	HERRIN	COAL	5.9	259.0	

MAPID: 11900972000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 6 QUARTERS/FOOTAGES: S2 S2

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.921152 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.733817 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 256.3 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL & COKE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
365.0	MODESTO	PIASA	LIMESTONE	3.0	207.0	
362.0	MODESTO		UNCLASSIFIED	2.0	210.0	
360.0	CARBONDALE		UNCLASSIFIED	6.0	212.0	
354.0	CARBONDALE	ENERGY	UNCLASSIFIED	31.0	218.0	
323.0	CARBONDALE	HERRIN	COAL	7.3	249.0	

MAPID: 11901183000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 7 QUARTERS/FOOTAGES:

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.921169 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.724761 DATE COLLECTED: 2 / 28 / 1957

SURFACE ELEVATION (FT.): 579.1 LOGGED (FT.): 240.8 LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 6 WELL TYPE:

COMMENT: 196.87' MISSING FROM LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
382.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	196.9	NOTE: 0-196.87' MISSING FROM LOGS
379.5	CARBONDALE	ENERGY	GRAY SHALE	29.2	199.6	
350.3	CARBONDALE	ENERGY	GRAY SHALE	5.0	228.8	
345.3	CARBONDALE	HERRIN	COAL	0.2	233.8	
345.1	CARBONDALE	HERRIN	SHALE	0.1	234.0	
345.0	CARBONDALE	HERRIN	FUSAIN	0.1	234.1	
344.9	CARBONDALE	HERRIN	COAL	1.2	234.2	
343.7	CARBONDALE	HERRIN	SHALE	0.0	235.4	
343.7	CARBONDALE	HERRIN	COAL	1.2	235.4	
342.5	CARBONDALE	HERRIN	SHALE	0.0	236.6	
342.4	CARBONDALE	HERRIN	COAL	1.2	236.7	
341.2	CARBONDALE	HERRIN	RASH	0.1	237.9	
341.1	CARBONDALE	HERRIN	COAL	0.6	238.0	
340.5	CARBONDALE	HERRIN	SHALE	0.1	238.6	
340.4	CARBONDALE	HERRIN	COAL	1.3	238.7	
339.1	CARBONDALE		UNDERCLAY	0.9	240.0	

MAPID: 11901183000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 7 QUARTERS/FOOTAGES:

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.921169

GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.724761

DATE COLLECTED: 2 / 28 / 1957

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 241.0

LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. 6

WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER CO. P1 MISSING

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.0			UNCLASSIFIED	196.9	0.0	PAGE 1 OF LOG MISSING
363.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	196.9	
360.4	CARBONDALE	ENERGY	SANDY SHALE	29.2	199.6	
331.2	CARBONDALE	ENERGY	SHALE	5.0	228.8	
326.2	CARBONDALE	HERRIN	COAL	0.2	233.8	
326.0	CARBONDALE	HERRIN	SHALE	0.1	234.0	
325.9	CARBONDALE	HERRIN	FUSAIN	0.1	234.1	
325.8	CARBONDALE	HERRIN	COAL	1.2	234.2	
324.6	CARBONDALE	HERRIN	SHALE	0.0	235.4	
324.6	CARBONDALE	HERRIN	COAL	1.2	235.4	
323.4	CARBONDALE	HERRIN	SHALE	0.0	236.6	
323.3	CARBONDALE	HERRIN	COAL	1.2	236.7	
322.1	CARBONDALE	HERRIN	COAL	0.1	237.9	
322.0	CARBONDALE	HERRIN	COAL	0.6	238.0	
321.4	CARBONDALE	HERRIN	SHALE	0.1	238.6	
321.3	CARBONDALE	HERRIN	COAL	1.3	238.7	
320.0	CARBONDALE		UNDERCLAY	0.9	240.0	

MAPID: 11900240000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 8 QUARTERS/FOOTAGES: 150' S line, 4000' E line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.908847

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.717807

DATE COLLECTED:

SURFACE ELEVATION (FT.): 571.6 LOGGED (FT.): 271.0

LOG TYPE:

SOURCE: TROY CC

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
306.6	CARBONDALE	HERRIN	COAL	5.5	265.0	

MAPID: 11900240000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 8 QUARTERS/FOOTAGES: 150' S line, 4000' E line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.908847 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.717807 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 270.5 LOG TYPE: Drillers Log

SOURCE: TROY COAL-CHICOPEE C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
307.0	CARBONDALE	HERRIN	COAL	5.5	265.0

MAPID: 11900128000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 9 QUARTERS/FOOTAGES: NW NW NW NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.893968 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.731706 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY 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	2.0	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	42.0	
-	CARBONDALE	HERRIN	COAL	5.5	

MAPID: 11900128000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 9 QUARTERS/FOOTAGES: NW NW NW NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.893968 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.731706 DATE COLLECTED:

SURFACE ELEVATION (FT.): 577.0 LOGGED (FT.): 275.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
353.0	MODESTO	PIASA	LIMESTONE	4.0	224.0
349.0	CARBONDALE	ENERGY	GRAY SHALE	14.0	228.0
335.0	CARBONDALE	ENERGY	SANDSTONE	12.0	242.0
323.0	CARBONDALE	ENERGY	BLACK SHALE	8.0	254.0
315.0	CARBONDALE	ENERGY	GRAY SHALE	8.0	262.0
307.0	CARBONDALE	HERRIN	COAL	5.5	270.0

MAPID: 11900128000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 9    QUARTERS/FOOTAGES: NW NW NW NW

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.893968    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.731706    DATE COLLECTED:

SURFACE ELEVATION (FT.): 566.5    LOGGED (FT.): 0.0    LOG TYPE:

SOURCE: CHICOPEECC    WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
293.5	CARBONDALE	HERRIN	COAL	5.5	273.0	

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MAPID: 11900128000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 9 QUARTERS/FOOTAGES: NW NW NW NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.893968 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.731706 DATE COLLECTED: 0 / 0 / 1908

SURFACE ELEVATION (FT.): 567.0 LOGGED (FT.): 282.3 LOG TYPE: Drillers Log

SOURCE: SHAFT AT TROY 19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
567.0			UNCONSOLIDATED	28.0	0.0	SOIL AND SUBSOIL
539.0			SANDSTONE	4.0	28.0	
535.0			SHALE	40.0	32.0	
495.0			LIMESTONE	2.5	72.0	
492.5			SHALE	16.0	74.5	
476.5			SANDSTONE	1.0	90.5	
475.5			COAL	0.3	91.5	
475.2			UNDERCLAY	3.0	91.8	
472.2			UNDERCLAY	3.0	94.8	
469.2			SANDSTONE	6.0	97.8	
463.2			SHALE	3.0	103.8	
460.2			LIMESTONE	2.0	106.8	
458.2			BLACK SHALE	4.0	108.8	
454.2			SANDSTONE	40.0	112.8	
414.2			SANDY SHALE	35.0	152.8	
379.2			LIMESTONE	6.0	187.8	
373.2			SHALE	14.0	193.8	
359.2			BLACK SHALE	1.0	207.8	
358.2			UNDERCLAY	1.0	208.8	
357.2			LIMESTONE	6.0	209.8	
351.2			UNDERCLAY	8.0	215.8	
343.2			LIMESTONE	4.0	223.8	
339.2			SHALE	14.0	227.8	
325.2			SANDSTONE	12.0	241.8	
313.2			BLACK SHALE	8.0	253.8	
305.2			SHALE	8.0	261.8	
297.2	CARBONDALE	HERRIN	COAL	5.5	269.8	
291.7			UNDERCLAY	3.0	275.3	
288.7			LIMESTONE	4.0	278.3	

**MAPID:** 11900129000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 25' S line, 2400' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.883741    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.717473    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 554.1    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BROOKSD CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
256.1	CARBONDALE	HERRIN	COAL	5.4	298.0	

**MAPID:** 11900129000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 25' S line, 2400' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.883741    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.717473    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 554.0    **LOGGED (FT.):** 303.4    **LOG TYPE:** Drillers Log  
**SOURCE:** BROOKSIDE COAL    **WELL TYPE:** Plugged and/or Abandoned  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
256.0	CARBONDALE	HERRIN	COAL	5.4	298.0	

**MAPID:** 11900866000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 11    **QUARTERS/FOOTAGES:** 304' S line, 493' W line of SW SE  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.845168    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.717439    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 475.0    **LOGGED (FT.):** 249.5    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    14    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
294.0	MODESTO	PIASA	LIMESTONE	4.5	181.0	
289.5	MODESTO		UNCLASSIFIED	2.0	185.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
287.5	CARBONDALE		UNCLASSIFIED	6.0	187.5	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
281.5	CARBONDALE	ENERGY	UNCLASSIFIED	50.5	193.5	
231.0	CARBONDALE	HERRIN	COAL	5.5	244.0	



MAPID: 11900866000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 11 QUARTERS/FOOTAGES: 304' S line, 493' W line of SW SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.845168

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.717439

DATE COLLECTED:

SURFACE ELEVATION (FT.): 475.0

LOGGED (FT.): 249.5

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 14

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
294.0	MODESTO	PIASA	LIMESTONE	4.5	181.0
289.5	CARBONDALE	ENERGY	SHALE	20.5	185.5
269.0	CARBONDALE	ENERGY	CARBONACEOUS SANDSTONE	4.0	206.0
265.0	CARBONDALE	ENERGY	GRAY SHALE	34.0	210.0
231.0	CARBONDALE	HERRIN	COAL	5.5	244.0

MAPID: 11900866000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 11 QUARTERS/FOOTAGES: 304' S line, 493' W line of SW SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.845168

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.717439

DATE COLLECTED: 12 / 17 / 1959

SURFACE ELEVATION (FT.): 475.2

LOGGED (FT.): 250.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 14

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
475.2	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0
471.2	PLEISTOCENE		SOIL	0.5	4.0
470.7	PLEISTOCENE		CLAY	24.0	4.5 YELLOW
446.7	PLEISTOCENE		GLACIAL DRIFT	14.5	28.5
432.2			LIMESTONE	0.7	43.0
431.5			SHALE	2.3	43.7
429.2			CALCAREOUS SANDSTONE	3.0	46.0
426.2			SHALE	6.0	49.0
420.2			SANDSTONE	21.0	55.0
399.2			LIMESTONE	2.2	76.0
397.0			SHALE	102.8	78.2
294.2	MODESTO	PIASA	LIMESTONE	4.5	181.0
289.7	CARBONDALE	ENERGY	SHALE	20.5	185.5
269.2	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	4.0	206.0
265.2	CARBONDALE	ENERGY	SHALE	20.0	210.0
245.2	CARBONDALE	ENERGY	SHALE	14.0	230.0
231.2	CARBONDALE	HERRIN	COAL	5.5	244.0
225.7	CARBONDALE		UNDERCLAY	2.5	249.5

MAPID: 11902522000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 12 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.833583

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.73004

DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 254.3

LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO TR-9

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
275.0	MODESTO	PIASA	LIMESTONE	1.5	184.0	
273.5	MODESTO		VARRIGATED SHALE	10.5	185.5	
263.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	196.0	LOWER BENCH
259.5	CARBONDALE	ENERGY	SILTY SHALE	10.0	199.5	
249.5	CARBONDALE	ENERGY	SILTY SHALE	29.7	209.5	
209.0	CARBONDALE	HERRIN	COAL	4.3	250.0	

MAPID: 11902522000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 12 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.833583

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.73004

DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 253.3

LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-9

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
265.2	MODESTO	PIASA	LIMESTONE	1.5	193.8	
263.7	MODESTO		UNCLASSIFIED	3.0	195.3	
260.7	CARBONDALE		UNCLASSIFIED	7.5	198.3	
253.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	205.8	
249.7	CARBONDALE	ENERGY	SHALE	39.7	209.3	
210.0	CARBONDALE	HERRIN	COAL	4.3	249.0	

MAPID: 11902522000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 12 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.833583

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.73004

DATE COLLECTED: 8 / 31 / 1960

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 258.0

LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR9

WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
459.0	PLEISTOCENE		CLAY	10.0	0.0	
449.0	PLEISTOCENE		SAND & GRAVEL	35.0	10.0	
414.0			GRAY SHALE	5.0	45.0	
409.0			SANDSTONE	2.0	50.0	GRAY
407.0			GRAY SHALE	5.0	52.0	
402.0			COAL	0.3	57.0	
401.7			GRAY SHALE	2.7	57.3	
399.0			SANDY SHALE	5.0	60.0	SH
394.0			GRAY SHALE	3.5	65.0	
390.5			COAL	0.3	68.5	
390.2			GRAY SHALE	2.3	68.8	
388.0			GRAY SHALE	1.0	71.0	
387.0			SANDSTONE	2.0	72.0	
385.0			GRAY SHALE	6.0	74.0	
379.0			GRAY SHALE	7.0	80.0	
372.0			GRAY SHALE	73.0	87.0	
299.0			CALCAREOUS SHALE	4.0	160.0	
295.0			GRAY SHALE	3.0	164.0	
292.0			LIMESTONE	1.0	167.0	GRAY
291.0			GRAY SHALE	1.5	168.0	
289.5			CALCAREOUS SHALE	3.5	169.5	
286.0			GREEN SHALE	7.0	173.0	
279.0			GREEN SHALE	9.0	180.0	
270.0			SHALE	5.0	189.0	MULTI
265.0	MODESTO	PIASA	LIMESTONE	1.5	194.0	BR/WT
263.5	CARBONDALE	ENERGY	SHALE	10.5	195.5	MULTI
253.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	3.5	206.0	
249.5	CARBONDALE	ENERGY	GREEN SHALE	10.0	209.5	
239.5	CARBONDALE	ENERGY	GRAY SHALE	29.7	219.5	
209.8	CARBONDALE	HERRIN	COAL	4.3	249.2	
205.5	CARBONDALE		UNDERCLAY	4.0	253.5	

MAPID: 11926781000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 12 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.834481 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.72506 DATE COLLECTED: 9 / 14 / 1968

SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 231.5 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 1A-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.0			CLAY	12.0	0.0	
443.0			SAND	12.0	12.0	FINE
431.0			SAND & GRAVEL	20.5	24.0	
410.5			GRAY SHALE	12.5	44.5	
398.0			SANDY SHALE	77.0	57.0	
321.0			LIMESTONE	0.4	134.0	
320.6			SHALE	25.6	134.4	
295.0	SHELBURN	BRERETON	LIMESTONE	5.3	160.0	
289.7	CARBONDALE	ENERGY	GRAY SHALE	59.6	165.3	SANDY
230.2	CARBONDALE	HERRIN	COAL	4.8	224.8	SOFT
225.4	CARBONDALE		CLAYSTONE & SILTSTONE	1.9	229.6	

MAPID: 11900864000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 13 QUARTERS/FOOTAGES: 82' N line, 256' W line of NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.836513 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.715974 DATE COLLECTED:

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 236.2 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
288.5	MODESTO	PIASA	LIMESTONE	4.5	168.5	
284.0	CARBONDALE	ENERGY	SHALE	16.5	173.0	
267.5	CARBONDALE	ENERGY	SHALE	37.0	189.5	
230.5	CARBONDALE	ENERGY	GRAY SHALE	5.5	226.5	
225.0	CARBONDALE	HERRIN	COAL	4.2	232.0	

MAPID: 11900864000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 13 QUARTERS/FOOTAGES: 82' N line, 256' W line of NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.836513 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.715974 DATE COLLECTED:

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 235.2 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
289.5	MODESTO	PIASA	LIMESTONE	4.5	167.5
285.0	MODESTO		UNCLASSIFIED	2.0	172.0
283.0	CARBONDALE		UNCLASSIFIED	6.0	174.0
277.0	CARBONDALE	ENERGY	SHALE	51.0	180.0
226.0	CARBONDALE	HERRIN	COAL	4.2	231.0

MAPID: 11900864000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 13 QUARTERS/FOOTAGES: 82' N line, 256' W line of NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.836513 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.715974 DATE COLLECTED: 12 / 8 / 1958

SURFACE ELEVATION (FT.): 457.3 LOGGED (FT.): 254.9 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
457.3	PLEISTOCENE		SOIL	1.0	0.0
456.3	PLEISTOCENE		CLAY & GRAVEL	25.0	1.0 YELLOW
431.3	PLEISTOCENE		GLACIAL DRIFT	4.0	26.0
427.3			LIMESTONE	1.2	30.0
426.1			SHALE	28.8	31.2
397.3			LIMESTONE	1.7	60.0
395.6			SHALE	1.5	61.7
394.1			LIMESTONE	1.2	63.2
393.0			SHALE	103.7	64.3
289.3	MODESTO	PIASA	LIMESTONE	4.5	168.0
284.8	CARBONDALE	ENERGY	SHALE	16.5	172.5
268.3	CARBONDALE	ENERGY	SHALE	37.0	189.0
231.3	CARBONDALE	ENERGY	GRAY SHALE	5.5	226.0
225.8	CARBONDALE	HERRIN	COAL	4.2	231.5
221.6	CARBONDALE		UNDERCLAY	2.3	235.7
219.4	CARBONDALE		SHALE WITH LIMESTONE	2.5	237.9
216.9	CARBONDALE		SANDSTONE	5.0	240.4
211.9	CARBONDALE		SHALE	7.5	245.4
204.4	CARBONDALE		LIMESTONE	2.0	252.9

MAPID: 11900865000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 13 QUARTERS/FOOTAGES: 90' N line, 190' E line of SE NW NE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.823569 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.712709 DATE COLLECTED: 12 / 12 / 1958  
 SURFACE ELEVATION (FT.): 464.1 LOGGED (FT.): 238.8 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 13 WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.1	PLEISTOCENE		SOIL	0.5	0.0	
463.6	PLEISTOCENE		CLAY	17.5	0.5	YL
446.1	PLEISTOCENE		SAND & GRAVEL	7.0	18.0	
439.1	PLEISTOCENE		GLACIAL DRIFT	45.0	25.0	
394.1			SANDSTONE	17.0	70.0	
377.1			LIMESTONE	0.7	87.0	
376.4			SHALE	2.3	87.7	
374.1			SANDSTONE	70.0	90.0	
304.1			SHALE	10.0	160.0	
294.1	MODESTO	PIASA	LIMESTONE	4.5	170.0	
289.6	CARBONDALE	ENERGY	SANDSTONE	10.5	174.5	
279.1	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	4.0	185.0	
275.1	CARBONDALE	ENERGY	SHALE	2.0	189.0	
273.1	CARBONDALE	ENERGY	SANDSTONE	39.0	191.0	
234.1	CARBONDALE	ENERGY	SHALE	3.8	230.0	
230.3	CARBONDALE	HERRIN	COAL	3.6	233.8	
226.8	CARBONDALE		UNDERCLAY	1.5	237.3	

MAPID: 11900865000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 13 QUARTERS/FOOTAGES: 90' N line, 190' E line of SE NW NE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.823569 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.712709 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 237.6 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 13 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
293.6	MODESTO	PIASA	LIMESTONE	4.5	170.4	
289.1	MODESTO		UNCLASSIFIED	2.5	174.9	
286.6	CARBONDALE		UNCLASSIFIED	7.8	177.4	
278.8	CARBONDALE	ENERGY	SHALE	48.8	185.2	
230.0	CARBONDALE	HERRIN	COAL	3.6	234.0	

**MAPID:** 11900434000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 14    **QUARTERS/FOOTAGES:** 2245' S line, 4820' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.854452    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.708014    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 505.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SULLIVN MA 4    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
260.0	CARBONDALE	HERRIN	COAL	5.3	245.0

**MAPID:** 11900434000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 14    **QUARTERS/FOOTAGES:** 2245' S line, 4820' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.854452    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.708014    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 505.0    **LOGGED (FT.):** 250.3    **LOG TYPE:** Drillers Log  
**SOURCE:** SULLIVAN MACHINE CO    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
260.0	CARBONDALE	HERRIN	COAL	5.3	245.0

**MAPID:** 11900863000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 14    **QUARTERS/FOOTAGES:** 465' S line, 558' E line of NE SW  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.848991    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.706647    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 254.7    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    11    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
295.4	MODESTO	PIASA	LIMESTONE	4.3	184.6
291.0	MODESTO		GRAY SHALE	10.2	189.0
280.9	CARBONDALE	ENERGY	SILTY SHALE	41.7	199.1
239.2	CARBONDALE	ENERGY	GRAY SHALE	9.2	240.8
230.0	CARBONDALE	HERRIN	COAL	4.7	250.0

MAPID: 11900863000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 14 QUARTERS/FOOTAGES: 465' S line, 558' E line of NE SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.848991 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.706647 DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 254.7 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 11 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
295.4	MODESTO	PIASA	LIMESTONE	4.3	184.6
291.1	MODESTO		UNCLASSIFIED	2.6	188.9
288.5	CARBONDALE		UNCLASSIFIED	7.6	191.5
280.9	CARBONDALE	ENERGY	SHALE	50.9	199.1
230.0	CARBONDALE	HERRIN	COAL	4.7	250.0

MAPID: 11900863000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 14 QUARTERS/FOOTAGES: 465' S line, 558' E line of NE SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.848991 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.706647 DATE COLLECTED: 12 / 18 / 1958

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 255.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 11 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
480.0	PLEISTOCENE		CLAY	19.7	0.0
460.3	PLEISTOCENE		UNCONSOLIDATED	20.0	19.7
440.2			SANDY SHALE	38.5	39.8
401.8			SANDSTONE	20.1	78.2 GRAY
381.7			GRAY SHALE	82.6	98.3
299.0			GRAY SHALE	3.9	181.0
295.2	MODESTO	PIASA	LIMESTONE	4.3	184.8
290.8	CARBONDALE	ENERGY	GRAY SHALE	10.2	189.2
280.7	CARBONDALE	ENERGY	SANDY SHALE	41.7	199.3
239.0	CARBONDALE	ENERGY	GRAY SHALE	9.2	241.0
229.8	CARBONDALE	HERRIN	COAL	0.2	250.2
229.6	CARBONDALE	HERRIN	ROCK	0.1	250.4
229.5	CARBONDALE	HERRIN	COAL	3.3	250.5
226.3	CARBONDALE	HERRIN	ROCK	0.1	253.7 BLUE
226.2	CARBONDALE	HERRIN	COAL	1.1	253.8
225.1	CARBONDALE		UNDERCLAY	0.9	254.9



MAPID: 11901154000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 14 QUARTERS/FOOTAGES: 25' S line, 39' W line of SW SW SW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.856515

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.701978

DATE COLLECTED: 8 / 12 / 1963

SURFACE ELEVATION (FT.): 515.3

LOGGED (FT.): 259.3

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL COMPANY F13

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.3	PLEISTOCENE		SOIL	0.5	0.0	
514.8	PLEISTOCENE		CLAY	39.0	0.5	YELLOW
475.8	PLEISTOCENE		SILTY CLAY	4.5	39.5	YELLOW
471.3	PLEISTOCENE		GLACIAL DRIFT	12.0	44.0	
459.3			SANDSTONE	2.5	56.0	
456.8			SHALE	27.0	58.5	
429.8			SANDSTONE	3.5	85.5	
426.3			SILTY SHALE	31.0	89.0	
395.3			SHALE & SANDSTONE	69.5	120.0	
325.8	MODESTO	PIASA	LIMESTONE	4.5	189.5	
321.3	CARBONDALE	ENERGY	SHALE/SANDSTONE/LIMES TONE	22.0	194.0	
299.3	CARBONDALE	ENERGY	SHALE/SANDSTONE/LIMES TONE	20.0	216.0	
279.3	CARBONDALE	ENERGY	GRAY SHALE	16.1	236.0	
263.2	CARBONDALE	HERRIN	COAL	4.6	252.1	
258.5	CARBONDALE		UNDERCLAY	0.8	256.8	
257.7	CARBONDALE		SHALY LIMESTONE	1.8	257.6	

MAPID: 11901154000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 14 QUARTERS/FOOTAGES: 25' S line, 39' W line of SW SW SW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.856515

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.701978

DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0

LOGGED (FT.): 256.6

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-13

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
325.6	MODESTO	PIASA	LIMESTONE	4.5	189.4	
321.1	MODESTO		UNCLASSIFIED	2.0	193.9	
319.1	CARBONDALE		UNCLASSIFIED	6.0	195.9	
313.1	CARBONDALE	ENERGY	SHALE	50.1	201.9	
263.0	CARBONDALE	HERRIN	COAL	4.6	252.0	

MAPID: 11902784000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 14 QUARTERS/FOOTAGES: 330' S line, 1' E line of SE NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.846992 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.709985 DATE COLLECTED: 9 / 19 / 1972

SURFACE ELEVATION (FT.): 460.0 LOGGED (FT.): 254.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12931C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
460.0	PLEISTOCENE		UNCONSOLIDATED	25.0	0.0	
435.0	PLEISTOCENE		CLAY	8.5	25.0	BLUE
426.5			SANDSTONE	7.5	33.5	
419.0			GRAY SHALE	17.5	41.0	
401.5			SANDSTONE	10.1	58.5	
391.4			GRAY SHALE	102.9	68.6	
288.5	MODESTO	PIASA	LIMESTONE	4.7	171.5	
283.8	CARBONDALE	ENERGY	GRAY SHALE	49.8	176.2	
234.0	CARBONDALE	ENERGY	GRAY SHALE	11.2	226.0	
222.8	CARBONDALE	ENERGY	DARK SHALE	7.1	237.2	
215.7	CARBONDALE	HERRIN	COAL	6.0	244.3	
209.7	CARBONDALE		UNDERCLAY	1.2	250.3	
208.5	CARBONDALE		GRAY SHALE	1.9	251.5	
206.6	CARBONDALE		GRAY SHALE	0.6	253.4	

MAPID: 11923103000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 14 QUARTERS/FOOTAGES: 660' N line, 2640' W line of NW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.837634 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.714485 DATE COLLECTED: 9 / 22 / 1972

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 251.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12932C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.0	PLEISTOCENE		UNCONSOLIDATED	28.0	0.0	
452.0	PLEISTOCENE		CLAY	6.0	28.0	BLUE
446.0			SANDSTONE	27.0	34.0	
419.0			GRAY SHALE	3.0	61.0	
416.0			SANDSTONE	4.7	64.0	
411.3			GRAY SHALE	6.5	68.7	
404.8			LIMESTONE	3.5	75.2	
401.3			GRAY SHALE	101.1	78.7	
300.2	MODESTO	PIASA	LIMESTONE	5.5	179.8	
294.7	CARBONDALE	ENERGY	GRAY SHALE	50.7	185.3	
244.0	CARBONDALE	ENERGY	SHALE WITH LIMESTONE	6.6	236.0	
237.4	CARBONDALE	HERRIN	COAL	5.8	242.6	#6
231.6	CARBONDALE		UNDERCLAY	1.1	248.4	
230.5	CARBONDALE		GRAY SHALE	0.8	249.5	
229.7	CARBONDALE		GRAY SHALE	0.7	250.3	

MAPID: 11923104000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 14 QUARTERS/FOOTAGES: 330' S line, 2640' E line of SW SE

QUADRANGLE: ST. JACOB

LONGITUDE: -89.851589

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.702597

DATE COLLECTED: 9 / 15 / 1972

SURFACE ELEVATION (FT.): 469.0

LOGGED (FT.): 230.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12930C

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
469.0	PLEISTOCENE		UNCONSOLIDATED	25.7	0.0
443.3	PLEISTOCENE		SANDSTONE	15.4	25.7
427.9			GRAY SHALE	8.5	41.1
419.4			SANDSTONE	16.2	49.6
403.2			GRAY SHALE	74.7	65.8
328.5			SANDSTONE	5.6	140.5
322.9			GRAY SHALE	14.0	146.1
308.9	MODESTO	PIASA	LIMESTONE	4.3	160.1
304.6	CARBONDALE	ENERGY	GRAY SHALE	57.7	164.4
246.9	CARBONDALE	ENERGY	GRAY SHALE	0.2	222.1
246.7	CARBONDALE	HERRIN	COAL	4.5	222.3
242.2	CARBONDALE		UNDERCLAY	1.0	226.8
241.2	CARBONDALE		SHALE WITH LIMESTONE	2.3	227.8

MAPID: 11900861000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 19' S line, 10' E line of SE NE SW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.865942

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.705927

DATE COLLECTED: 12 / 2 / 1959

SURFACE ELEVATION (FT.): 532.6

LOGGED (FT.): 282.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 9

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
532.6	PLEISTOCENE		CLAY	25.4	0.0	
507.2	PLEISTOCENE		UNCONSOLIDATED	50.0	25.4	
457.1			SANDY SHALE	30.9	75.5	
426.3			GRAY SHALE	4.0	106.3	
422.3			LIMESTONE	2.6	110.3	
419.7			GRAY SHALE	8.3	112.9	
411.4			SANDY SHALE	63.6	121.2	
347.8			SHALE WITH LIMESTONE	8.2	184.8	
339.6			SANDY SHALE	20.1	193.0	
319.5	MODESTO	PIASA	LIMESTONE	1.6	213.1	
317.9	CARBONDALE	ENERGY	GRAY SHALE	5.0	214.7	
312.9	CARBONDALE	ENERGY	SANDY SHALE	50.4	219.7	
262.5	CARBONDALE	ENERGY	GRAY SHALE	6.4	270.1	
256.1	CARBONDALE	HERRIN	COAL	0.0	276.5	
256.1	CARBONDALE	HERRIN	RASH	0.3	276.5	
255.8	CARBONDALE	HERRIN	COAL	0.2	276.8	
255.6	CARBONDALE	HERRIN	ROCK	0.1	277.0	
255.6	CARBONDALE	HERRIN	COAL	3.2	277.0	
252.4	CARBONDALE	HERRIN	ROCK	0.1	280.2	BLUE
252.3	CARBONDALE	HERRIN	COAL	1.2	280.3	
251.1	CARBONDALE		UNDERCLAY	1.1	281.5	

MAPID: 11900861000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 19' S line, 10' E line of SE NE SW

QUADRANGLE: ST. JACOB

LONGITUDE: -89.865942

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.705927

DATE COLLECTED:

SURFACE ELEVATION (FT.): 533.0

LOGGED (FT.): 281.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 9

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
320.3	MODESTO	PIASA	LIMESTONE	1.6	212.7	
318.7	MODESTO		UNCLASSIFIED	1.4	214.3	
317.3	CARBONDALE		UNCLASSIFIED	3.5	215.7	
313.8	CARBONDALE	ENERGY	SHALE	56.8	219.2	
257.0	CARBONDALE	HERRIN	COAL	5.0	276.0	

MAPID: 11900862000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 316' N line, 143' W line of NE NW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.870062 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.716305 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 546.4 LOGGED (FT.): 300.0 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 10 WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
546.4	PLEISTOCENE		SOIL	1.0	0.0
545.4	PLEISTOCENE		CLAY	29.0	1.0
516.4	PLEISTOCENE		SAND	5.0	30.0
511.4	PLEISTOCENE		GLACIAL DRIFT	14.0	35.0
497.4			LIMESTONE	1.0	49.0
496.4			SHALE	43.0	50.0
453.4			LIMESTONE	1.5	93.0
451.9			SHALE	31.5	94.5
420.4			LIMESTONE	3.0	126.0
417.4			SHALE	11.0	129.0
406.4			SANDSTONE	62.0	140.0
344.4			SHALE	28.0	202.0
316.4	MODESTO	PIASA	LIMESTONE	7.0	230.0
309.4	CARBONDALE	ENERGY	SHALE	53.0	237.0
256.4	CARBONDALE	ENERGY	GRAY SHALE	3.2	290.0
253.2	CARBONDALE	HERRIN	COAL	5.2	293.2
248.1	CARBONDALE		UNDERCLAY	1.7	298.3

MAPID: 11900862000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 316' N line, 143' W line of NE NW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.870062 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.716305 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 298.2 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 10 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
316.2	MODESTO	PIASA	LIMESTONE	7.0	229.8
309.2	MODESTO		UNCLASSIFIED	1.5	236.8
307.7	CARBONDALE		UNCLASSIFIED	4.5	238.3
303.2	CARBONDALE	ENERGY	SHALE	50.2	242.8
253.0	CARBONDALE	HERRIN	COAL	5.2	293.0

MAPID: 11901155000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 77' S line, 45' E line of NE NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.856717 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.707802 DATE COLLECTED: 8 / 16 / 1963

SURFACE ELEVATION (FT.): 497.6 LOGGED (FT.): 264.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F14 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
497.6	PLEISTOCENE		SOIL	0.5	0.0	
497.1	PLEISTOCENE		CLAY	15.5	0.5	YELLOW
481.6			SANDSTONE	4.5	16.0	
477.1			LIMESTONE	1.7	20.5	
475.4			GRAY SHALE	38.0	22.2	
437.4			SANDSTONE	5.0	60.2	4"ERROR
432.4			SANDSTONE	2.0	65.2	
430.4			LIMESTONE	1.8	67.2	
428.6			SILTY SHALE	24.0	69.0	
404.6			SANDSTONE	2.5	93.0	
402.1			SILTY SHALE	20.5	95.5	
381.6			SHALE/SANDSTONE/LIMESTONE	76.5	116.0	
305.1	MODESTO	PIASA	LIMESTONE	1.0	192.5	
304.1	MODESTO	PIASA	LIMESTONE	4.5	193.5	
299.6	CARBONDALE	ENERGY	SHALE/SANDSTONE/LIMESTONE	6.0	198.0	
293.6	CARBONDALE	ENERGY	SANDSTONE	1.7	204.0	
291.9	CARBONDALE	ENERGY	SHALE/SANDSTONE/LIMESTONE	14.3	205.7	
277.6	CARBONDALE	ENERGY	SILTY SHALE	14.9	220.0	
262.7	CARBONDALE	ENERGY	SILTY SHALE	16.8	234.9	
245.8	CARBONDALE	ENERGY	DARK SHALE	3.8	251.8	
242.0	CARBONDALE	ENERGY	GRAY SHALE	1.3	255.6	
240.7	CARBONDALE	ENERGY	SHALE W/ COAL STREAKS	0.8	256.9	
239.9	CARBONDALE	HERRIN	COAL	4.8	257.7	
235.1	CARBONDALE		UNDERCLAY	0.7	262.5	
234.5	CARBONDALE		UNKNOWN	0.4	263.1	
234.1	CARBONDALE		UNKNOWN	0.8	263.5	

MAPID: 11901155000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 77' S line, 45' E line of NE NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.856717 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.707802 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 262.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-14 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
297.5	MODESTO	PIASA	LIMESTONE	5.5	200.5
292.0	MODESTO		UNCLASSIFIED	2.0	206.0
290.0	CARBONDALE		UNCLASSIFIED	6.0	208.0
284.0	CARBONDALE	ENERGY	SHALE	44.0	214.0
240.0	CARBONDALE	HERRIN	COAL	4.8	258.0

MAPID: 11902308000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 0' N line, 0' W line of NW NW SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.875243 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.709779 DATE COLLECTED: 3 / 11 / 1969

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 315.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 8663C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
552.0	PLEISTOCENE		SAND/CLAY	81.0	0.0
471.0			GRAY SHALE	18.2	81.0
452.8			SANDSTONE	1.8	99.2
451.0			GRAY SHALE	22.0	101.0
429.0			GRAY SHALE	10.4	123.0
418.6			LIMESTONE	4.6	133.4
414.0			GRAY SHALE	98.4	138.0
315.6	MODESTO	PIASA	LIMESTONE	4.2	236.4
311.4	CARBONDALE	ENERGY	GRAY SHALE	6.4	240.6
305.0	CARBONDALE	ENERGY	SANDSTONE	4.0	247.0
301.0	CARBONDALE	ENERGY	SANDSTONE	14.8	251.0
286.2	CARBONDALE	ENERGY	GRAY SHALE	35.3	265.8
250.9	CARBONDALE	ENERGY	BLACK SHALE	0.6	301.1
250.3	CARBONDALE	HERRIN	COAL	5.1	301.7
245.2	CARBONDALE		UNDERCLAY	2.7	306.8
242.5	CARBONDALE		LIMESTONE	3.3	309.5
239.2	CARBONDALE		SANDSTONE	1.6	312.8
237.6	CARBONDALE		SANDSTONE	0.6	314.4



MAPID: 11902308000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: 0' N line, 0' W line of NW NW SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.875243 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.709779 DATE COLLECTED:

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 307.1 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 8663C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
318.3	MODESTO	PIASA	LIMESTONE	4.2	236.7
314.1	MODESTO		UNCLASSIFIED	2.0	240.9
312.1	CARBONDALE		UNCLASSIFIED	4.4	242.9
307.7	CARBONDALE	ENERGY	SHALE	54.7	247.3
253.0	CARBONDALE	HERRIN	COAL	5.1	302.0

MAPID: 11902523000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: NW NE NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.869388 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.716236 DATE COLLECTED:

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 281.7 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. TR-8 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
317.0	MODESTO	PIASA	LIMESTONE	5.0	214.0
312.0	MODESTO		VARRIGATED SHALE	8.0	219.0
304.0	CARBONDALE		SILTY SHALE	5.0	227.0
299.0	CARBONDALE	BANKSTON FORK	LIMESTONE AND SANDSTONE	6.0	232.0
293.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.0	238.0
289.0	CARBONDALE	ENERGY	SANDSTONE	6.0	242.0
283.0	CARBONDALE	ENERGY	SILTY SHALE	16.0	248.0
267.0	CARBONDALE	ENERGY	GRAY SHALE	11.4	264.0
255.6	CARBONDALE	ENERGY	BLACK SHALE	0.3	275.4
254.0	CARBONDALE	HERRIN	COAL	4.7	277.0

MAPID: 11902523000C    VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 15    QUARTERS/FOOTAGES: NW NE NW

QUADRANGLE: ST. JACOB    LONGITUDE: -89.869388    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.716236    DATE COLLECTED:

SURFACE ELEVATION (FT.): 531.0    LOGGED (FT.): 281.7    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    TR-8    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
316.0	MODESTO	PIASA	LIMESTONE	5.0	215.0
311.0	MODESTO		UNCLASSIFIED	4.0	220.0
307.0	CARBONDALE		UNCLASSIFIED	4.0	224.0
303.0	CARBONDALE	ANNA	BLACK SHALE	0.3	228.0
302.7	CARBONDALE	ENERGY	SHALE	48.7	228.3
254.0	CARBONDALE	HERRIN	COAL	4.7	277.0

MAPID: 11902523000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 15 QUARTERS/FOOTAGES: NW NE NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.869388 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.716236 DATE COLLECTED: 8 / 23 / 1960

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 285.0 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR8 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
531.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
526.0	PLEISTOCENE		UNCONSOLIDATED	40.0	5.0	
486.0			SANDY SHALE	31.5	45.0	
454.5			SANDSTONE	3.0	76.5	BROWN
451.5			SANDY SHALE	1.5	79.5	
450.0			GRAY SHALE	3.0	81.0	
447.0			SANDY SHALE	2.0	84.0	
445.0			SANDSTONE	1.5	86.0	GRAY
443.5			SHALE/SANDSTONE/LIMES TONE	4.5	87.5	
439.0			GRAY SHALE	3.5	92.0	
435.5			COAL	0.3	95.5	
435.2			SHALE	2.3	95.8	
433.0			SHALE	3.0	98.0	
430.0			SHALE	3.0	101.0	
427.0			SANDSTONE	4.0	104.0	
423.0			SHALE	1.0	108.0	
422.0			SANDSTONE	2.0	109.0	
420.0			LIMESTONE	1.5	111.0	WHITE
418.5			SANDSTONE	1.5	112.5	
417.0			SANDY SHALE	56.0	114.0	
361.0			GRAY SHALE	5.0	170.0	
356.0			SANDY SHALE	3.0	175.0	
353.0			COAL	0.3	178.0	
352.7			GRAY SHALE	6.7	178.3	
346.0			SANDY SHALE	4.0	185.0	
342.0			SANDSTONE	1.5	189.0	GRAY
340.5			GRAY SHALE	1.5	190.5	
339.0			SHALE WITH LIMESTONE	5.0	192.0	
334.0			SANDY SHALE	7.0	197.0	
327.0			SANDY SHALE	2.5	204.0	
324.5			SHALE WITH LIMESTONE	6.5	206.5	
318.0			SHALE	1.0	213.0	MULTI
317.0	MODESTO	PIASA	LIMESTONE	5.0	214.0	
312.0	CARBONDALE	ENERGY	SANDY SHALE	4.0	219.0	
308.0	CARBONDALE	ENERGY	SHALE	4.0	223.0	MULTI
304.0	CARBONDALE	ENERGY	SANDY SHALE	5.0	227.0	
299.0	CARBONDALE	ENERGY	SANDSTONE/LIMESTONE	6.0	232.0	
293.0	CARBONDALE	ENERGY	SHALE WITH LIMESTONE	4.0	238.0	

289.0	CARBONDALE	ENERGY	SANDSTONE	6.0	242.0	GRAY
283.0	CARBONDALE	ENERGY	SANDY SHALE	7.0	248.0	
276.0	CARBONDALE	ENERGY	BROWN SHALE	1.0	255.0	
275.0	CARBONDALE	ENERGY	SANDY SHALE	8.0	256.0	
267.0	CARBONDALE	ENERGY	GRAY SHALE	12.6	264.0	
254.4	CARBONDALE	ENERGY	BLACK SHALE	0.1	276.6	
254.3	CARBONDALE	ENERGY	BLACK SHALE	0.1	276.7	
254.2	CARBONDALE	HERRIN	COAL	4.7	276.8	
249.5	CARBONDALE		UNDERCLAY	3.5	281.5	

**MAPID:** 11900852000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 17    **QUARTERS/FOOTAGES:** SE SE SW  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.905396    **GEOLOGIST:** UITEMP  
**CONFIDENTIAL:** N    **LATITUDE:** 38.703366    **DATE COLLECTED:** 4 / 0 / 1959  
**SURFACE ELEVATION (FT.):** 573.0    **LOGGED (FT.):** 283.0    **LOG TYPE:** Drillers Log  
**SOURCE:** LUMAGHI COAL CO.    16    **WELL TYPE:**  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
573.0	PLEISTOCENE		CLAY	26.0	0.0	
547.0	PLEISTOCENE		CLAY & GRAVEL	72.0	26.0	
475.0			BLUE SHALE	9.9	98.0	
465.1			LIMESTONE	8.4	107.9	
456.7			SANDY SHALE	8.7	116.3	
448.0			SILTY SHALE	65.0	125.0	
383.0			SANDY SHALE	21.3	190.0	
361.7	MODESTO	PIASA	LIMESTONE	3.5	211.3	
358.2	CARBONDALE	ENERGY	GREEN SHALE	3.2	214.8	
355.0	CARBONDALE	ENERGY	SANDY SHALE	20.0	218.0	
335.0	CARBONDALE	ENERGY	GREEN SHALE	33.7	238.0	
301.3	CARBONDALE	HERRIN	BONE COAL	0.6	271.7	
300.7	CARBONDALE	HERRIN	COAL	6.1	272.3	
294.7	CARBONDALE		UNDERCLAY	2.7	278.3	
292.0	CARBONDALE		UNDERCLAY & LIMESTONE	2.0	281.0	

MAPID: 11900852000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 17 QUARTERS/FOOTAGES: SE SE SW  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.905396 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.703366 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 278.4 LOG TYPE: Drillers Log  
 SOURCE: LUMAGHI COAL CO. 16 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
362.0	MODESTO	PIASA	LIMESTONE	3.5	211.0	
358.5	MODESTO		UNCLASSIFIED	3.2	214.5	
355.3	CARBONDALE	ANNA	BLACK SHALE	0.3	217.7	
355.0	CARBONDALE	ENERGY	SHALE	54.0	218.0	
301.0	CARBONDALE	HERRIN	COAL	6.4	272.0	

MAPID: 11900853000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 17 QUARTERS/FOOTAGES: NE SE SE  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.895742 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.705288 DATE COLLECTED: 4 / 0 / 1959  
 SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 237.0 LOG TYPE: Drillers Log  
 SOURCE: LUMAGHI COAL CO. 17 WELL TYPE:  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0	
530.0	PLEISTOCENE		CLAY & GRAVEL	28.0	30.0	
502.0			SANDY SHALE	16.6	58.0	
485.4			LIMESTONE	4.2	74.6	
481.2			SILTY SHALE	31.3	78.8	
450.0			SANDY SHALE	20.0	110.0	
430.0			SILTY SHALE	43.8	130.0	
386.2	MODESTO	PIASA	LIMESTONE	4.0	173.8	
382.2	CARBONDALE	ENERGY	SHALE	7.3	177.8	
375.0	CARBONDALE	ENERGY	SANDY SHALE	7.0	185.0	
368.0	CARBONDALE	ENERGY	SANDSTONE	15.3	192.0	
352.7	CARBONDALE	ENERGY	SHALE	6.7	207.3	
346.0	CARBONDALE	ENERGY	SHALE	12.7	214.0	GREEN
333.3	CARBONDALE	HERRIN	BONE COAL	6.9	226.7	#6
326.4	CARBONDALE		UNDERCLAY	1.5	233.6	
324.9	CARBONDALE		UNDERCLAY & LIMESTONE	1.9	235.1	

MAPID: 11900853000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 17 QUARTERS/FOOTAGES: NE SE SE  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.895742 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.705288 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 233.1 LOG TYPE: Drillers Log  
 SOURCE: LUMAGHI COAL CO. 17 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
386.9	MODESTO	PIASA	LIMESTONE	4.0	173.1
382.9	MODESTO		UNCLASSIFIED	2.0	177.1
380.9	CARBONDALE		UNCLASSIFIED	5.2	179.1
375.7	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	184.3
368.7	CARBONDALE	ENERGY	SHALE	34.7	191.3
334.0	CARBONDALE	HERRIN	COAL	7.1	226.0

MAPID: 11900854000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 17 QUARTERS/FOOTAGES: SE NW SW  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.910237 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.707093 DATE COLLECTED: 3 / 24 / 1959  
 SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 258.0 LOG TYPE: Drillers Log  
 SOURCE: LUMAGHI COAL CO. 12 WELL TYPE:  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
565.0	PLEISTOCENE		UNCONSOLIDATED	24.0	0.0
541.0			SHALE & CONGLOMERATE	64.4	24.0
476.6			LIMESTONE	8.3	88.4
468.3			BLUE SHALE	39.3	96.7
429.0			SILTY SHALE	34.0	136.0
395.0			SILTY SHALE	22.1	170.0
373.0	MODESTO	PIASA	LIMESTONE	5.4	192.0
367.6			GREEN SHALE	4.6	197.4
363.0	CARBONDALE	BRERETON	SHALY LIMESTONE	4.0	202.0
359.0	CARBONDALE	ENERGY	SHALE	9.0	206.0
350.0	CARBONDALE	ENERGY	SANDY SHALE	5.0	215.0
345.0	CARBONDALE	ENERGY	GREEN SHALE	27.5	220.0
317.5	CARBONDALE	HERRIN	COAL	6.4	247.5
311.1	CARBONDALE		UNDERCLAY	1.3	253.9
309.7	CARBONDALE		UNDERCLAY & LIMESTONE	2.8	255.3

MAPID: 11900854000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 17 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.910237 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.707093 DATE COLLECTED:

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 253.4 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
369.6	MODESTO	PIASA	LIMESTONE	5.4	195.4
364.2	MODESTO		UNCLASSIFIED	2.0	200.8
362.2	CARBONDALE		UNCLASSIFIED	4.7	202.8
357.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	207.5
350.5	CARBONDALE	ENERGY	SHALE	32.5	214.5
318.0	CARBONDALE	HERRIN	COAL	6.4	247.0

MAPID: 11900506000C    VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 18    QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.914974    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.716374    DATE COLLECTED: 3 / 0 / 1947

SURFACE ELEVATION (FT.): 569.7    LOGGED (FT.): 360.0    LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO.    1    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
569.7	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0
539.7			SHALE	46.0	30.0
493.7			LIMESTONE	0.9	76.0
492.8			SHALE	3.1	76.9
489.7			LIMESTONE	0.5	80.0
489.2			SHALE	1.5	80.5
487.7			LIMESTONE	4.0	82.0
483.7			SHALE	19.0	86.0
464.7			SHALE WITH LIMESTONE	20.0	105.0
444.7			GRAY SHALE	26.0	125.0
418.7			SHALE	9.0	151.0
409.7			GREEN SHALE	10.0	160.0
399.7			SHALE & CONGLOMERATE	8.3	170.0
391.4	MODESTO	PIASA	LIMESTONE	1.7	178.3
389.7	CARBONDALE	ENERGY	GRAY SHALE	11.0	180.0
378.7	CARBONDALE	ENERGY	SHALE & CONGLOMERATE	10.0	191.0
368.7	CARBONDALE	ENERGY	CONGLOMERATE	4.0	201.0
364.7	CARBONDALE	ENERGY	GRAY SHALE	25.3	205.0
339.4	CARBONDALE	ENERGY	MUDSTONE	0.1	230.3
339.3	CARBONDALE	ENERGY	GRAY SHALE	0.4	230.4
338.9	CARBONDALE	HERRIN	BONE COAL	0.2	230.8
338.7	CARBONDALE	HERRIN	COAL	6.4	231.0
332.3	CARBONDALE		UNDERCLAY	1.6	237.4
330.7	CARBONDALE		GRAY SHALE	2.4	239.0
328.3	CARBONDALE		SHALE WITH LIMESTONE	4.4	241.4
323.9	CARBONDALE		GRAY SHALE	3.2	245.8
320.7	CARBONDALE		MUDSTONE	2.6	249.0
318.1	CARBONDALE		GRAY SHALE	1.4	251.6
316.7	CARBONDALE	ST. DAVID	FOSSILIFEROUS LIMESTONE	1.8	253.0
314.9	CARBONDALE		CONGLOMERATE & SHALE	0.6	254.8
314.3	CARBONDALE	SPRINGFIELD	COAL	0.2	255.4
314.1	CARBONDALE		CONGLOMERATE & SHALE	2.9	255.6
311.2	CARBONDALE		GRAY SHALE	27.5	258.5
283.7	CARBONDALE		GRAY SHALE	18.5	286.0
265.2	CARBONDALE		SHALE	1.5	304.5
263.7	CARBONDALE		SHALE W/ COAL STREAKS	8.8	306.0
254.9	CARBONDALE	SURVANT	COAL	0.1	314.8
254.9	CARBONDALE		SANDSTONE	0.2	314.8



254.7	CARBONDALE		SANDSTONE	21.0	315.0
233.7	CARBONDALE		GRAY SHALE	17.7	336.0
216.0	CARBONDALE	OAK GROVE	FOSSILIFEROUS LIMESTONE	0.5	353.7
215.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.3	354.2
213.3	CARBONDALE	COLCHESTER	COAL	2.3	356.4
211.0	CARBONDALE		UNDERCLAY	1.3	358.7

**MAPID:** 11900506000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 18    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.914974    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.716374    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 237.6    **LOG TYPE:** Drillers Log  
**SOURCE:** LUMAGHI COAL CO.    1    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN COMMENT
393.0	MODESTO	PIASA	LIMESTONE	4.3	177.0
388.7	MODESTO		UNCLASSIFIED	2.8	181.3
385.9	CARBONDALE	DANVILLE	COAL	0.1	184.1
385.8	CARBONDALE		UNCLASSIFIED	6.9	184.2
378.9	CARBONDALE	BANKSTON FORK	LIMESTONE	7.1	191.1
371.8	CARBONDALE	ENERGY	SHALE	32.8	198.2
339.0	CARBONDALE	HERRIN	COAL	6.6	231.0

MAPID: 11900507000C    VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 18    QUARTERS/FOOTAGES: 1400' S line, 2400' E line

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.922315    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.706354    DATE COLLECTED: 4 / 0 / 1947

SURFACE ELEVATION (FT.): 549.5    LOGGED (FT.): 216.0    LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO.    2    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.5	PLEISTOCENE		CLAY, SAND & GRAVEL	12.0	0.0	
537.5	PLEISTOCENE		SAND	31.0	12.0	
506.5			GRAY SHALE	14.0	43.0	
492.5			LIMESTONE	0.8	57.0	
491.7			GREEN SHALE	0.4	57.8	
491.2			LIMESTONE	3.3	58.3	
488.0			SANDY SHALE	14.5	61.5	
473.5			SHALE/SANDSTONE/LIMESTONE	25.0	76.0	
448.5			SANDY SHALE	15.0	101.0	
433.5			GRAY SHALE	15.2	116.0	
418.3			SHALE & CONGLOMERATE	6.8	131.2	
411.5			CONGLOMERATE & SHALE	2.0	138.0	GREEN
409.5			SHALE/SANDSTONE/LIMESTONE	5.2	140.0	
404.3			LIMESTONE	0.2	145.2	
404.2			SHALE/SANDSTONE/LIMESTONE	0.7	145.3	
403.5			LIMESTONE	0.1	146.0	
403.4			SHALE/SANDSTONE/LIMESTONE	0.5	146.1	
402.9			CONGLOMERATE & SHALE	4.4	146.6	
398.5			CONGLOMERATE & SHALE	0.6	151.0	BROWN
397.9			CONGLOMERATE & SHALE	5.3	151.6	
392.7	MODESTO	PIASA	FOSSILIFEROUS LIMESTONE	1.4	156.8	
391.2	MODESTO	PIASA	LIMESTONE	3.8	158.3	WHITE
387.5	CARBONDALE	ENERGY	CONGLOMERATE & SHALE	4.0	162.0	GRAY
383.5	CARBONDALE	ENERGY	SANDY SHALE	36.9	166.0	
346.6	CARBONDALE	ENERGY	GRAY SHALE	2.3	202.9	
344.2	CARBONDALE	HERRIN	COAL	6.9	205.3	
337.3	CARBONDALE		UNDERCLAY	3.8	212.2	

MAPID: 11900507000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 18 QUARTERS/FOOTAGES: 1400' S line, 2400' E line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.922315 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.706354 DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 212.9 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
389.7	MODESTO	PIASA	LIMESTONE	5.0	160.3
384.7	MODESTO		UNCLASSIFIED	2.0	165.3
382.7	CARBONDALE		UNCLASSIFIED	5.9	167.3
376.8	CARBONDALE	ENERGY	SHALE	32.8	173.2
344.0	CARBONDALE	HERRIN	COAL	6.9	206.0

MAPID: 11900824000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: 368' S line, 30' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.913992 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.695882 DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0 LOGGED (FT.): 259.5 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. F1 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
365.0	MODESTO	PIASA	LIMESTONE	5.0	196.0
360.0	CARBONDALE	ENERGY	GRAY SHALE	23.7	201.0
336.3	CARBONDALE	ENERGY	SILTSTONE	9.6	224.7
326.7	CARBONDALE	ENERGY	GRAY SHALE	9.3	234.3
317.4	CARBONDALE	ENERGY	SILTSTONE	5.8	243.6
311.6	CARBONDALE	ENERGY	GRAY SHALE	2.6	249.4
309.0	CARBONDALE	HERRIN	COAL	7.5	252.0

MAPID: 11900824000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: 368' S line, 30' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.913992 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.695882 DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0 LOGGED (FT.): 260.5 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
366.0	MODESTO	PIASA	LIMESTONE	5.0	195.0
361.0	MODESTO		UNCLASSIFIED	2.0	200.0
359.0	CARBONDALE		UNCLASSIFIED	6.0	202.0
353.0	CARBONDALE	ENERGY	SHALE	45.0	208.0
308.0	CARBONDALE	HERRIN	COAL	7.5	253.0

MAPID: 11900824000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: 368' S line, 30' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.913992 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.695882 DATE COLLECTED: 6 / 24 / 1963

SURFACE ELEVATION (FT.): 560.7 LOGGED (FT.): 262.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL COMPANY F1 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.7	PLEISTOCENE		SOIL	0.7	0.0
560.0	PLEISTOCENE		CLAY	10.0	0.7 YELLOW
550.0			GRAY SHALE	25.3	10.7
524.7			GRAY SHALE	12.0	36.0
512.7			LIMESTONE	1.5	48.0
511.2			SHALE	7.5	49.5
503.7			SANDSTONE	2.5	57.0
501.2			GRAY SHALE	34.0	59.5
467.2			LIMESTONE	3.5	93.5
463.7			DARK SHALE	10.0	97.0
453.7			GRAY SHALE	69.0	107.0
384.7			GRAY SHALE	18.0	176.0
366.7	MODESTO	PIASA	LIMESTONE	5.0	194.0
361.7	CARBONDALE	ENERGY	SHALE	23.0	199.0
338.7	CARBONDALE	ENERGY	GRAY SHALE	14.0	222.0
324.7	CARBONDALE	ENERGY	GRAY SHALE	12.3	236.0
312.4	CARBONDALE	ENERGY	GRAY SHALE	3.8	248.3
308.7	CARBONDALE	HERRIN	COAL	7.5	252.0
301.1	CARBONDALE		UNDERCLAY	0.2	259.6
300.9	CARBONDALE		UNDERCLAY	0.8	259.8
300.2	CARBONDALE		SHALY LIMESTONE	1.5	260.5

MAPID: 11900845000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.915039 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.70148 DATE COLLECTED: 3 / 0 / 1959

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 251.5 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 9 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.0	PLEISTOCENE		CLAY	18.0	0.0	
542.0	PLEISTOCENE		SANDY CLAY	51.0	18.0	BLUE
491.0			BLUE SHALE	5.0	69.0	
486.0			GREEN SHALE	6.0	74.0	
480.0			SANDY SHALE	4.0	80.0	
476.0			LIMESTONE	8.2	84.0	
467.8			GREEN SHALE	17.8	92.2	
450.0			GREEN SHALE	51.0	110.0	
399.0			SOFT SHALE	9.0	161.0	
390.0			SILTY SANDSTONE	8.0	170.0	GREEN
382.0			SILTY SHALE	8.0	178.0	
374.0	MODESTO	PIASA	LIMESTONE	4.3	186.0	
369.7			SHALY LIMESTONE	1.7	190.3	
368.0			BLUE SHALE	6.2	192.0	
361.8	CARBONDALE	BRERETON	LIMESTONE	1.4	198.2	
360.4	CARBONDALE	ENERGY	CALCAREOUS SHALE	4.4	199.6	
356.0	CARBONDALE	ENERGY	GREEN SHALE	11.0	204.0	
345.0	CARBONDALE	ENERGY	GREEN SHALE	25.0	215.0	
320.0	CARBONDALE	HERRIN	COAL	6.9	240.0	
313.0	CARBONDALE		UNDERCLAY	1.0	247.0	
312.0	CARBONDALE		SHALY LIMESTONE	3.5	248.0	

MAPID: 11900845000C    VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 19    QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.915039    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.70148    DATE COLLECTED:

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 246.9    LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO.    9    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
374.1	MODESTO	PIASA	LIMESTONE	4.3	185.9
369.8	MODESTO		UNCLASSIFIED	2.0	190.2
367.8	CARBONDALE		UNCLASSIFIED	5.8	192.2
362.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	198.0
356.0	CARBONDALE	ENERGY	SHALE	36.0	204.0
320.0	CARBONDALE	HERRIN	COAL	6.9	240.0

MAPID: 11900846000C    VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 19    QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.915057    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.690155    DATE COLLECTED: 3 / 0 / 1959

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 269.0    LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO.    10    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.0	PLEISTOCENE		CLAY	19.0	0.0	
541.0	PLEISTOCENE		CLAY & GRAVEL	44.4	19.0	
496.6			BLUE SHALE	14.6	63.4	
482.0			GREEN SHALE	16.4	78.0	
465.6			LIMESTONE	2.8	94.4	
462.7			GREEN SHALE	16.8	97.3	
446.0			GREEN SHALE	22.0	114.0	
424.0			SANDY SHALE	24.0	136.0	
400.0			SILTY SHALE	14.8	160.0	
385.2			LIMESTONE	1.0	174.8	GREEN
384.2			GREEN SHALE	15.3	175.8	
369.0			GREEN SHALE	4.6	191.0	
364.4	MODESTO	PIASA	LIMESTONE	6.2	195.6	
358.2	CARBONDALE	ENERGY	SHALE WITH LIMESTONE	10.3	201.8	
348.0	CARBONDALE	ENERGY	SHALE	6.0	212.0	GREEN
342.0	CARBONDALE	ENERGY	SANDSTONE	22.0	218.0	GREEN
320.0	CARBONDALE	ENERGY	SILTY SHALE	11.0	240.0	
309.0	CARBONDALE	ENERGY	GREEN SHALE	8.0	251.0	
301.0	CARBONDALE	HERRIN	COAL	7.2	259.0	
293.8	CARBONDALE	HERRIN	JACK	0.2	266.2	
293.7	CARBONDALE	HERRIN	COAL	0.4	266.3	
293.2	CARBONDALE		UNDERCLAY	2.3	266.8	

MAPID: 11900846000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.915057 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.690155 DATE COLLECTED:

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 266.8 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 10 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
364.5	MODESTO	PIASA	LIMESTONE	6.2	195.5	
358.3	MODESTO		UNCLASSIFIED	2.6	201.7	
355.7	CARBONDALE		UNCLASSIFIED	7.7	204.3	
348.0	CARBONDALE	ENERGY	SHALE	47.0	212.0	
301.0	CARBONDALE	HERRIN	COAL	7.8	259.0	

MAPID: 11900847000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.919698 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.695853 DATE COLLECTED: 3 / 0 / 1959

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 230.0 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 11 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0	PLEISTOCENE		CLAY	27.0	0.0	
503.0			LIMESTONE	2.2	27.0	GREEN
500.8			BLUE SHALE	21.3	29.2	
479.5			SANDY SHALE	1.5	50.5	
478.0			SANDSTONE	5.0	52.0	GREEN
473.0			SANDY SHALE	9.6	57.0	
463.4			LIMESTONE	3.2	66.6	
460.2			GREEN SHALE	24.3	69.8	
436.0			SILTY SHALE	46.0	94.0	
390.0			SANDY SHALE	23.8	140.0	
366.2	MODESTO	PIASA	LIMESTONE	4.4	163.8	
361.8	MODESTO	PIASA	FOSSILIFEROUS LIMESTONE	0.7	168.2	
361.2	CARBONDALE	ENERGY	SOFT SHALE	5.4	168.8	
355.7	CARBONDALE	ENERGY	SANDSTONE	25.3	174.3	GREEN
330.4	CARBONDALE	ENERGY	SHALE	18.6	199.6	GREEN
311.8	CARBONDALE	HERRIN	COAL	7.1	218.2	
304.7	CARBONDALE		UNDERCLAY	1.5	225.3	
303.2	CARBONDALE		UNDERCLAY	3.3	226.8	NODULAR



MAPID: 11900847000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.919698 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.695853 DATE COLLECTED:

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 225.1 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 11 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
366.5	MODESTO	PIASA	LIMESTONE	5.1	163.5
361.4	MODESTO		UNCLASSIFIED	2.8	168.6
358.6	CARBONDALE		UNCLASSIFIED	2.7	171.4
355.9	CARBONDALE	ENERGY	SHALE	43.9	174.1
312.0	CARBONDALE	HERRIN	COAL	7.1	218.0

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MAPID: 11901237000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: 93' S line, 1149' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.917936 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.69515 DATE COLLECTED: 11 / 9 / 1966

SURFACE ELEVATION (FT.): 539.2 LOGGED (FT.): 228.2 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 49A WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
539.2	PLEISTOCENE		SANDY CLAY	27.1	0.0
512.1			GRAY SHALE	3.2	27.1
508.9			LIMESTONE	1.4	30.3
507.5			GRAY SHALE	16.8	31.7
490.7			COAL	0.1	48.5
490.6			GRAY SHALE	5.0	48.6
485.6			SANDY SHALE	4.6	53.6
481.0			SANDSTONE	1.5	58.2
479.5			SANDY SHALE	4.4	59.7
475.1			GRAY SHALE	2.3	64.1
472.8			LIMESTONE	3.2	66.4
469.6			GRAY SHALE	94.9	69.6
374.7	MODESTO	PIASA	LIMESTONE	6.3	164.5
368.4			GRAY SHALE	10.3	170.8
358.1			SHALE WITH LIMESTONE	1.9	181.1
356.2	CARBONDALE	BANKSTON FORK	LIMESTONE	0.9	183.0
355.3	CARBONDALE	ENERGY	GRAY SHALE	25.1	183.9
330.2	CARBONDALE	ENERGY	GRAY SHALE	10.3	209.0
319.9	CARBONDALE	ENERGY	GRAY SHALE	0.1	219.3
319.8	CARBONDALE	HERRIN	BONE COAL	0.2	219.4
319.6	CARBONDALE	HERRIN	COAL	2.1	219.6
317.5	CARBONDALE	HERRIN	SHALE	0.1	221.7
317.4	CARBONDALE	HERRIN	COAL	3.2	221.8
314.2	CARBONDALE	HERRIN	SHALE	0.1	225.0
314.2	CARBONDALE	HERRIN	COAL	0.5	225.0
313.7	CARBONDALE	HERRIN	PYRITE	0.1	225.5
313.6	CARBONDALE	HERRIN	COAL	1.0	225.6
312.7	CARBONDALE		UNDERCLAY	1.7	226.5

MAPID: 11901237000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 19 QUARTERS/FOOTAGES: 93' S line, 1149' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.917936 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.69515 DATE COLLECTED:

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 226.5 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 49A WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
372.1	MODESTO	PIASA	LIMESTONE	6.3	166.9
365.8	MODESTO		UNCLASSIFIED	2.8	173.2
363.0	CARBONDALE		UNCLASSIFIED	7.5	176.0
355.5	CARBONDALE	ENERGY	SHALE	35.5	183.5
320.0	CARBONDALE	HERRIN	COAL	7.5	219.0

MAPID: 11900850000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: NW NE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.898237 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.69391 DATE COLLECTED: 3 / 0 / 1959

SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 283.0 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 14 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
558.0	PLEISTOCENE		CLAY	28.0	0.0
530.0	PLEISTOCENE		CLAY & GRAVEL	71.3	28.0 BLUE
458.7			BLUE SHALE	10.7	99.3
448.0			LIMESTONE	7.3	110.0
440.7			GRAY SHALE	12.8	117.3
428.0			SILTY SHALE	65.0	130.0
363.0			SANDY SHALE	19.2	195.0
343.8	MODESTO	PIASA	LIMESTONE	5.2	214.2
338.7	CARBONDALE	ENERGY	SHALE	5.7	219.3
333.0	CARBONDALE	ENERGY	SANDY SHALE	15.0	225.0
318.0	CARBONDALE	ENERGY	SHALE	34.3	240.0 GRAY
283.7	CARBONDALE	HERRIN	COAL	6.2	274.3
277.5	CARBONDALE		UNDERCLAY	2.5	280.5
275.0	CARBONDALE		LIMESTONE & CLAY	1.0	283.0

MAPID: 1190085000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: NW NE SE  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.898237 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.69391 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 280.2 LOG TYPE: Drillers Log  
 SOURCE: LUMAGHI COAL CO. 14 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
344.2	MODESTO	PIASA	LIMESTONE	5.2	213.8	
339.0	MODESTO		UNCLASSIFIED	2.5	219.0	
336.5	CARBONDALE		UNCLASSIFIED	3.2	221.5	
333.3	CARBONDALE	ENERGY	SHALE	49.3	224.7	
284.0	CARBONDALE	HERRIN	COAL	6.2	274.0	

MAPID: 11900851000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: SE NE SW  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.905476 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.692025 DATE COLLECTED: 3 / 0 / 1959  
 SURFACE ELEVATION (FT.): 568.0 LOGGED (FT.): 278.0 LOG TYPE: Drillers Log  
 SOURCE: LUMAGHI COAL CO. 15 WELL TYPE:  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
568.0	PLEISTOCENE		CLAY	21.0	0.0	
547.0	PLEISTOCENE		CLAY & GRAVEL	37.0	21.0	BLUE
510.0			SHALE	9.0	58.0	YELLOW
501.0			BLUE SHALE	23.0	67.0	
478.0	MODESTO	CHAPEL	COAL	1.5	90.0	
476.5	MODESTO		UNDERCLAY	2.5	91.5	
474.0	MODESTO		SHALE	14.4	94.0	
459.6	MODESTO		LIMESTONE	7.5	108.4	
452.1	MODESTO		SILTY SHALE	75.1	115.9	
377.0	MODESTO		SANDSTONE	19.8	191.0	GREEN
357.2	MODESTO	PIASA	LIMESTONE	4.2	210.8	
353.0	CARBONDALE	ENERGY	GREEN SHALE	7.0	215.0	
346.0	CARBONDALE	ENERGY	SANDY SHALE	18.0	222.0	
328.0	CARBONDALE	ENERGY	GREEN SHALE	29.2	240.0	
298.8	CARBONDALE	HERRIN	BONE COAL	0.6	269.2	
298.2	CARBONDALE	HERRIN	COAL	5.9	269.8	
292.3	CARBONDALE		UNDERCLAY	1.9	275.7	
290.4	CARBONDALE		UNDERCLAY & LIMESTONE	0.4	277.6	

MAPID: 11900851000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: SE NE SW  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.905476 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.692025 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 568.0 LOGGED (FT.): 275.4 LOG TYPE: Drillers Log  
 SOURCE: LUMAGHI COAL CO. 15 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
358.0	MODESTO	PIASA	LIMESTONE	4.2	210.0
353.8	MODESTO		UNCLASSIFIED	2.0	214.2
351.8	CARBONDALE		UNCLASSIFIED	5.0	216.2
346.8	CARBONDALE	ENERGY	SHALE	47.8	221.2
299.0	CARBONDALE	HERRIN	COAL	6.4	269.0

MAPID: 11902307000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: 1320' S line, 2640' W line  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.904596 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.690937 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 564.0 LOGGED (FT.): 275.3 LOG TYPE: Survey Core Study  
 SOURCE: PEABODY COAL CO. 8549C WELL TYPE: Coal Test  
 COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
353.0	MODESTO	PIASA	LIMESTONE	4.4	211.0
348.6	CARBONDALE	ENERGY	CLAYSTONE	7.6	215.4
341.0	CARBONDALE	ENERGY	SILTSTONE	6.6	223.0
334.4	CARBONDALE	ENERGY	GRAY SHALE	36.9	229.6
295.0	CARBONDALE	HERRIN	COAL	6.3	269.0

MAPID: 11902307000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: 1320' S line, 2640' W line  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.904596 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.690937 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 275.3 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 8549C WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
350.3	MODESTO	PIASA	LIMESTONE	4.4	211.7
345.9	MODESTO		UNCLASSIFIED	2.0	216.1
343.9	CARBONDALE		UNCLASSIFIED	5.6	218.1
338.3	CARBONDALE	ENERGY	SHALE	45.3	223.7
293.0	CARBONDALE	HERRIN	COAL	6.3	269.0

MAPID: 11902307000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: 1320' S line, 2640' W line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.904596 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.690937 DATE COLLECTED: 2 / 27 / 1969

SURFACE ELEVATION (FT.): LOGGED (FT.): 279.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 8549C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		GLACIAL DRIFT	84.5	0.0	
-			GRAY SHALE	3.7	84.5	
-			GRAY SHALE	7.1	88.2	
-			SANDSTONE	14.9	95.3	GRAY
-			LIMESTONE	4.1	110.2	
-			SANDY SHALE	63.3	114.2	
-			GRAY SHALE	9.7	177.5	
-			GRAY SHALE	5.0	187.2	
-			SANDSTONE	0.4	192.2	GRAY
-			GRAY SHALE	14.0	192.6	
-			CLAYSTONE & SILTSTONE	0.4	206.6	RED
-			GRAY SHALE	0.5	207.0	
-			CLAYSTONE & SILTSTONE	1.1	207.5	BROWN
-			SHALE WITH LIMESTONE	2.4	208.5	
-	MODESTO	PIASA	LIMESTONE	4.0	210.9	
-	CARBONDALE	ENERGY	SANDSTONE	0.4	214.9	GRAY
-	CARBONDALE	ENERGY	SHALE	9.8	215.2	
-	CARBONDALE	ENERGY	GRAY SHALE	43.6	225.0	
-	CARBONDALE	HERRIN	COAL	1.4	268.6	
-	CARBONDALE	HERRIN	FUSAIN	0.0	270.0	
-	CARBONDALE	HERRIN	COAL	3.4	270.0	
-	CARBONDALE	HERRIN	LAMINATED SHALE	0.1	273.4	
-	CARBONDALE	HERRIN	COAL	1.4	273.4	
-	CARBONDALE		UNDERCLAY	3.6	274.8	
-	CARBONDALE		SANDSTONE	1.4	278.4	GRAY

MAPID: 11923457000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 20 QUARTERS/FOOTAGES: 0' S line, 2310' W line of SW  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.905766 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.687294 DATE COLLECTED: 4 / 7 / 1977  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 272.5 LOG TYPE: Drillers Log  
 SOURCE: PEABODY 16443C WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	95.0	0.0	
-			GRAY SHALE	14.0	95.0	
-			LIMESTONE	3.5	109.0	
-			GRAY SHALE	92.1	112.5	
-	MODESTO	PIASA	LIMESTONE	5.3	204.6	
-	CARBONDALE	ENERGY	GRAY SHALE	54.7	209.9	
-	CARBONDALE	HERRIN	UNCLASSIFIED	0.2	264.6	
-	CARBONDALE	HERRIN	COAL	4.7	264.8	
-	CARBONDALE	HERRIN	PYRITE	0.1	269.5	
-	CARBONDALE	HERRIN	COAL	0.7	269.6	
-	CARBONDALE	HERRIN	PYRITE	0.1	270.3	
-	CARBONDALE	HERRIN	COAL	0.6	270.3	
-	CARBONDALE		UNDERCLAY	1.6	270.9	

MAPID: 11900435000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 3035' E line  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.886104 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.687983 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 0.0 LOG TYPE:  
 SOURCE: SULLIVN MA 3 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
295.0	CARBONDALE	HERRIN	COAL	5.3	245.0	

MAPID: 11900435000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 3035' E line  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.886104 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.687983 DATE COLLECTED: 0 / 0 / 1900  
 SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 250.3 LOG TYPE: Drillers Log  
 SOURCE: SULLIVAN MACHINE CO WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
295.0	CARBONDALE	HERRIN	COAL	5.3	245.0	

MAPID: 11900867000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: 508' S line, 56' E line of SE NE  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.875494 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.695985 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 286.6 LOG TYPE: Survey Core Study  
 SOURCE: PEABODY COAL CO. 15 WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
329.3	MODESTO	PIASA	LIMESTONE	4.5	215.7
324.8	CARBONDALE	ENERGY	SHALE	49.5	220.2
275.3	CARBONDALE	ENERGY	GRAY SHALE	11.3	269.7
264.0	CARBONDALE	HERRIN	COAL	5.6	281.0

MAPID: 11900867000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: 508' S line, 56' E line of SE NE  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.875494 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.695985 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 286.6 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 15 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
329.3	MODESTO	PIASA	LIMESTONE	4.5	215.7
324.8	MODESTO		UNCLASSIFIED	2.0	220.2
322.8	CARBONDALE		UNCLASSIFIED	6.0	222.2
316.8	CARBONDALE	ENERGY	SHALE	52.8	228.2
264.0	CARBONDALE	HERRIN	COAL	5.6	281.0



MAPID: 11900867000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: 508' S line, 56' E line of SE NE  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.875494 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.695985 DATE COLLECTED: 12 / 19 / 1958  
 SURFACE ELEVATION (FT.): 544.6 LOGGED (FT.): 288.4 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 15 WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
544.6	PLEISTOCENE		SOIL	0.5	0.0	
544.1	PLEISTOCENE		CLAY	33.5	0.5	YELLOW
510.6	PLEISTOCENE		GLACIAL DRIFT	83.0	34.0	
427.6			SANDSTONE	30.0	117.0	
397.6			SHALE	23.0	147.0	
374.6			SANDSTONE	10.0	170.0	
364.6			SHALE	36.0	180.0	
328.6	MODESTO	PIASA	LIMESTONE	4.5	216.0	
324.1	CARBONDALE	ENERGY	SHALE	49.5	220.5	
274.6	CARBONDALE	ENERGY	GRAY SHALE	11.3	270.0	
263.3	CARBONDALE	HERRIN	COAL	5.6	281.3	
257.7	CARBONDALE		UNDERCLAY	1.5	286.9	

MAPID: 11902524000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: NW  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.889723 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.698602 DATE COLLECTED: 10 / 20 / 1960  
 SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 277.0 LOG TYPE: Drillers Log  
 SOURCE: TRUAX-TRAER COAL CO TR12 WELL TYPE:  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.0			NO RECORD	0.0	0.0	DATA NOT ENTERED-SEE ORIGINAL LOG

MAPID: 11902524000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.889723 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.698602 DATE COLLECTED:

SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 273.9 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
261.7	MODESTO	PIASA	LIMESTONE	4.7	252.3
257.0	MODESTO		UNCLASSIFIED	3.5	257.0
253.5	CARBONDALE		UNCLASSIFIED	9.5	260.5
244.0	CARBONDALE	HERRIN	COAL	3.9	270.0

MAPID: 11923458000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 21 QUARTERS/FOOTAGES: 660' S line, 2640' W line of SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.885408 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.688879 DATE COLLECTED: 4 / 18 / 1977

SURFACE ELEVATION (FT.): LOGGED (FT.): 267.5 LOG TYPE: Drillers Log

SOURCE: PEABODY 16444C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			GRAY SHALE	92.2	0.0
-			GRAY SHALE	1.3	92.2
-			SANDSTONE	12.6	93.5 GRAY
-			GRAY SHALE	1.0	106.1
-			LIMESTONE	3.0	107.1
-			SHALE WITH LIMESTONE	94.4	110.1
-	MODESTO	PIASA	LIMESTONE	4.2	204.5
-	CARBONDALE	ENERGY	GRAY SHALE	25.2	208.7
-	CARBONDALE	ENERGY	GRAY SHALE	33.6	233.9

MAPID: 11900436000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 22 QUARTERS/FOOTAGES: 2970' S line, 3500' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.869049 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.694992 DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: SULLIVN MA 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
273.0	CARBONDALE	HERRIN	COAL	5.4	237.0

MAPID: 11900436000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 22 QUARTERS/FOOTAGES: 2970' S line, 3500' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.869049 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.694992 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 242.4 LOG TYPE: Drillers Log

SOURCE: SULLIVAN MACHINE CO WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
273.0	CARBONDALE	HERRIN	COAL	5.4	237.0

MAPID: 11901153000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 22 QUARTERS/FOOTAGES: 835' N line, 30' E line of NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.856853 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.69201 DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 237.8 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. F-12 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
325.2	MODESTO	PIASA	LIMESTONE	4.7	164.8
320.5	CARBONDALE	ENERGY	SILTY SHALE	8.3	169.5
312.2	CARBONDALE	ENERGY	SANDSTONE	13.0	177.8
299.2	CARBONDALE	ENERGY	SILTY SHALE	27.5	190.8
271.7	CARBONDALE	ENERGY	SANDSTONE	1.5	218.3
270.2	CARBONDALE	ENERGY	GRAY SHALE	13.2	219.8
257.0	CARBONDALE	HERRIN	COAL	4.8	233.0

MAPID: 11901153000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 22 QUARTERS/FOOTAGES: 835' N line, 30' E line of NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.856853 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.69201 DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 237.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
325.2	MODESTO	PIASA	LIMESTONE	4.7	164.8
320.5	CARBONDALE	ENERGY	SHALE	63.5	169.5
257.0	CARBONDALE	HERRIN	COAL	4.8	233.0

MAPID: 11901153000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 22 QUARTERS/FOOTAGES: 835' N line, 30' E line of NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.856853 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.69201 DATE COLLECTED: 8 / 9 / 1969

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 242.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F12 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.0	PLEISTOCENE		SOIL	0.5	0.0	
489.5	PLEISTOCENE		CLAY	7.5	0.5	YELLOW
482.0	PLEISTOCENE		CLAY	5.5	8.0	YELLOW
476.5	PLEISTOCENE		CLAY, SAND & GRAVEL	2.5	13.5	YELLOW
474.0	PLEISTOCENE		CLAY	18.0	16.0	YELLOW
456.0	PLEISTOCENE		BOULDER	0.7	34.0	SS
455.3	PLEISTOCENE		GLACIAL DRIFT	32.3	34.7	
423.0			SANDSTONE	2.5	67.0	
420.5			SHALE	7.5	69.5	
413.0			LIMESTONE	0.5	77.0	
412.5			SHALE	2.0	77.5	
410.5			LIMESTONE	1.7	79.5	
408.8			SHALE	83.8	81.2	
325.0	MODESTO	PIASA	LIMESTONE	4.7	165.0	
320.3	CARBONDALE	ENERGY	SILTY SHALE	8.3	169.7	
312.0	CARBONDALE	ENERGY	SANDSTONE	13.0	178.0	
299.0	CARBONDALE	ENERGY	SILTY SHALE	27.5	191.0	
271.5	CARBONDALE	ENERGY	SANDSTONE	1.5	218.5	
270.0	CARBONDALE	ENERGY	GRAY SHALE	13.2	220.0	
256.8	CARBONDALE	HERRIN	COAL	4.8	233.2	
252.0	CARBONDALE		UNDERCLAY	0.5	238.0	
251.6	CARBONDALE		SHALY LIMESTONE	3.6	238.4	

MAPID: 11923459000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 22 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.866017 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.69445 DATE COLLECTED: 5 / 2 / 1977

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 254.8 LOG TYPE: Drillers Log

SOURCE: PEABODY 16446C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0	PLEISTOCENE		UNCONSOLIDATED	87.5	0.0	GRAY
412.5			GRAY SHALE	11.7	87.5	
400.8			GRAY SHALE	58.1	99.2	
342.7			GRAY SHALE	5.6	157.3	
337.1			SANDSTONE	5.4	162.9	GRAY
331.7			GRAY SHALE	12.3	168.3	
319.4	MODESTO	PIASA	LIMESTONE	6.1	180.6	
313.3	CARBONDALE	ENERGY	GRAY SHALE	11.2	186.7	
302.1	CARBONDALE	ENERGY	SHALE/SANDSTONE/LIMES TONE	38.7	197.9	
263.4	CARBONDALE	ENERGY	GRAY SHALE	7.4	236.6	
256.0	CARBONDALE	ENERGY	DARK SHALE	1.1	244.0	
254.9	CARBONDALE		UNKNOWN	0.2	245.1	
254.7	CARBONDALE	HERRIN	COAL	4.9	245.3	
249.8	CARBONDALE		UNDERCLAY	1.4	250.2	
248.4	CARBONDALE		UNDERCLAY	3.2	251.6	

MAPID: 11900858000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 23 QUARTERS/FOOTAGES: 663' N line, 24' E line of NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.837642 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.691706 DATE COLLECTED:

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 222.4 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 6 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
297.1	MODESTO	PIASA	LIMESTONE	5.3	147.9	
291.8	CARBONDALE	ENERGY	GRAY SHALE	7.3	153.2	
284.5	CARBONDALE	ENERGY	SILTY SHALE	49.6	160.5	
234.9	CARBONDALE	ENERGY	GRAY SHALE	7.9	210.1	
227.0	CARBONDALE	HERRIN	COAL	4.4	218.0	

MAPID: 11900858000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 23 QUARTERS/FOOTAGES: 663' N line, 24' E line of NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.837642 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.691706 DATE COLLECTED:

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 223.4 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
298.6	MODESTO	PIASA	LIMESTONE	5.3	146.4
293.3	MODESTO		UNCLASSIFIED	2.0	151.7
291.3	CARBONDALE		UNCLASSIFIED	5.3	153.7
286.0	CARBONDALE	ANNA	BLACK SHALE	2.5	159.0
283.5	CARBONDALE	ENERGY	SHALE	57.5	161.5
226.0	CARBONDALE	HERRIN	COAL	4.4	219.0

MAPID: 11900858000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 23 QUARTERS/FOOTAGES: 663' N line, 24' E line of NE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.837642 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.691706 DATE COLLECTED: 0 / 0 / 1959

SURFACE ELEVATION (FT.): 444.8 LOGGED (FT.): 223.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 6 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
444.8	PLEISTOCENE		CLAY	8.4	0.0
436.4	PLEISTOCENE		UNCONSOLIDATED	29.8	8.4
406.6			SANDY SHALE	103.7	38.2
302.9			GRAY SHALE	6.5	141.9
296.5	MODESTO	PIASA	LIMESTONE	5.3	148.3
291.2	CARBONDALE	ENERGY	GRAY SHALE	7.3	153.6
283.9	CARBONDALE	ENERGY	SANDY SHALE	49.6	160.9
234.2	CARBONDALE	ENERGY	GRAY SHALE	7.9	210.6
226.4	CARBONDALE	HERRIN	COAL	0.2	218.4
226.1	CARBONDALE	HERRIN	ROCK	0.0	218.7
226.1	CARBONDALE	HERRIN	COAL	2.7	218.7
223.4	CARBONDALE	HERRIN	ROCK	0.1	221.4 BLUE
223.4	CARBONDALE	HERRIN	COAL	1.4	221.4
221.9	CARBONDALE		UNDERCLAY	1.1	222.9

MAPID: 11923014000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 23 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.847132 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.693925 DATE COLLECTED: 9 / 13 / 1972  
 SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 247.0 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 12929C WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
478.0	PLEISTOCENE		UNCONSOLIDATED	31.5	0.0
446.5			SANDY SHALE	13.5	31.5
433.0			GRAY SHALE	37.5	45.0
395.5			SANDSTONE	3.5	82.5
392.0			GRAY SHALE	66.5	86.0
325.5			SANDSTONE	3.0	152.5
322.5			GRAY SHALE	12.4	155.5
310.1	MODESTO	PIASA	LIMESTONE	4.3	167.9
305.8	CARBONDALE	ENERGY	GRAY SHALE	64.8	172.2
241.0	CARBONDALE	ENERGY	GRAY SHALE	3.5	237.0
237.5	CARBONDALE	HERRIN	COAL	4.4	240.5
233.1	CARBONDALE		UNDERCLAY	1.0	244.9
232.1	CARBONDALE		GRAY SHALE	1.1	245.9

MAPID: 11900860000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 24 QUARTERS/FOOTAGES: 15' N line, 437' E line of NE NE SE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.819955 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.692468 DATE COLLECTED: 0 / 0 / 1959  
 SURFACE ELEVATION (FT.): 453.5 LOGGED (FT.): 242.0 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 8 WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
453.5	PLEISTOCENE		CLAY	12.7	0.0
440.8	PLEISTOCENE		GLACIAL DRIFT	48.2	12.7
392.6			SANDY SHALE	8.2	60.9
384.4			SANDSTONE	73.0	69.1 GRAY
311.4			GRAY SHALE	100.0	142.1
211.4	CARBONDALE	HERRIN	COAL	1.5	242.1
209.9	CARBONDALE		UNDERCLAY	3.1	243.6
206.8	CARBONDALE		SANDSTONE	7.5	246.7 GRAY

MAPID: 1190086000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 24 QUARTERS/FOOTAGES: 15' N line, 437' E line of NE NE SE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.819955 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.692468 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 453.0 LOGGED (FT.): 241.5 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 8 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
268.0	CARBONDALE	ENERGY	SHALE	55.0	185.0
213.0	CARBONDALE	HERRIN	COAL	1.5	240.0

MAPID: 11901158000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 24 QUARTERS/FOOTAGES: 16' N line, 72' W line of NW SW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.837295 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.693471 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 224.6 LOG TYPE: Survey Core Study  
 SOURCE: PEABODY COAL CO. F-17 WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
299.0	MODESTO	PIASA	LIMESTONE	8.0	151.0
291.0	MODESTO		SHALE	7.0	159.0
284.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	166.0
282.0	CARBONDALE	ENERGY	SILTY SHALE	28.0	168.0
254.0	CARBONDALE	ENERGY	GRAY SHALE	18.3	196.0
235.7	CARBONDALE	ENERGY	GRAY SHALE	5.6	214.3
230.0	CARBONDALE	HERRIN	COAL	4.6	220.0

MAPID: 11901158000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 24 QUARTERS/FOOTAGES: 16' N line, 72' W line of NW SW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.837295 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.693471 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 224.5 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. F-17 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
296.9	MODESTO	PIASA	LIMESTONE	8.0	153.1
288.9	MODESTO		UNCLASSIFIED	2.0	161.1
286.9	CARBONDALE		UNCLASSIFIED	5.0	163.1
281.9	CARBONDALE	ENERGY	SHALE	51.9	168.1
230.0	CARBONDALE	HERRIN	COAL	4.5	220.0



MAPID: 11901158000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 24 QUARTERS/FOOTAGES: 16' N line, 72' W line of NW SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.837295 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.693471 DATE COLLECTED: 8 / 31 / 1963

SURFACE ELEVATION (FT.): 449.7 LOGGED (FT.): 226.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F17 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
449.7	PLEISTOCENE		SOIL	1.0	0.0
448.7	PLEISTOCENE		CLAY	12.0	1.0
436.7	PLEISTOCENE		SAND & GRAVEL	13.0	13.0
423.7			BLUE SHALE	30.0	26.0
393.7			SANDSTONE	8.0	56.0
385.7			LIMESTONE	2.5	64.0
383.2			SANDSTONE	9.5	66.5
373.7			SILTY SHALE	75.0	76.0
298.7	MODESTO	PIASA	LIMESTONE	8.0	151.0
290.7			SHALE	7.0	159.0
283.7			LIMESTONE	2.0	166.0
281.7	CARBONDALE	ENERGY	SILTY SHALE	28.0	168.0
253.7	CARBONDALE	ENERGY	GRAY SHALE	18.3	196.0
235.4	CARBONDALE	ENERGY	GRAY SHALE	5.6	214.3
229.8	CARBONDALE	HERRIN	COAL	4.6	219.9
225.2	CARBONDALE		UNDERCLAY & LIMESTONE	0.9	224.5
224.3	CARBONDALE		LIMESTONE	0.6	225.4

MAPID: 11923134000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 24 QUARTERS/FOOTAGES: 1' S line, 1320' E line of SE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.823199 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.685348 DATE COLLECTED: 10 / 5 / 1972

SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 223.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12937C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.0	PLEISTOCENE		UNCONSOLIDATED	24.0	0.0	
426.0	PLEISTOCENE		CLAY	43.7	24.0	BLUE
382.3			SANDSTONE	27.3	67.7	
355.0			GRAY SHALE	3.7	95.0	
351.3			SANDSTONE	3.8	98.7	
347.5			GRAY SHALE	13.0	102.5	
334.5			SANDSTONE	20.7	115.5	
313.8			GRAY SHALE	12.3	136.2	
301.5	MODESTO	PIASA	LIMESTONE	5.0	148.5	
296.5	CARBONDALE	ENERGY	GRAY SHALE	57.5	153.5	
239.0	CARBONDALE	ENERGY	GRAY SHALE	5.6	211.0	
233.4	CARBONDALE	HERRIN	COAL	3.9	216.6	#6
229.5	CARBONDALE		UNDERCLAY	0.2	220.5	
229.3	CARBONDALE		GRAY SHALE	2.3	220.7	

MAPID: 11901157000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 25 QUARTERS/FOOTAGES: 805' S line, 45' W line of SW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.837467 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.680771 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 220.5 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. F-16 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
295.0	MODESTO	PIASA	LIMESTONE	5.0	146.0	
290.0	CARBONDALE	ENERGY	SILTY SHALE	35.2	151.0	
254.8	CARBONDALE	ENERGY	GRAY SHALE	27.3	186.2	
227.6	CARBONDALE	ENERGY	BLACK SHALE	2.9	213.4	
225.0	CARBONDALE	HERRIN	COAL	4.5	216.0	

MAPID: 11901157000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 25 QUARTERS/FOOTAGES: 805' S line, 45' W line of SW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.837467 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.680771 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 220.5 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-16 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
295.3	MODESTO	PIASA	LIMESTONE	5.0	145.7
290.3	MODESTO		UNCLASSIFIED	2.0	150.7
288.3	CARBONDALE		UNCLASSIFIED	6.0	152.7
282.3	CARBONDALE	ENERGY	SHALE	57.3	158.7
225.0	CARBONDALE	HERRIN	COAL	4.5	216.0

MAPID: 11901157000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 25 QUARTERS/FOOTAGES: 805' S line, 45' W line of SW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.837467 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.680771 DATE COLLECTED: 8 / 27 / 1963

SURFACE ELEVATION (FT.): 441.5 LOGGED (FT.): 222.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F16 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
441.5	PLEISTOCENE		SOIL	1.0	0.0
440.5	PLEISTOCENE		CLAY	9.0	1.0 BLUE
431.5	PLEISTOCENE		CLAY	6.0	10.0
425.5	PLEISTOCENE		SAND	8.0	16.0
417.5			SHALE	18.0	24.0
399.5			LIMESTONE	10.0	42.0
389.5			LIMESTONE	2.5	52.0
387.0			SHALE	41.5	54.5
345.5			SHALE	15.0	96.0
330.5			SANDSTONE	4.5	111.0
326.0			SHALE	30.5	115.5
295.5	MODESTO	PIASA	LIMESTONE	3.0	146.0
292.5	MODESTO	PIASA	LIMESTONE	2.0	149.0
290.5			SILTY SHALE	34.0	151.0
256.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.2	185.0
255.3	CARBONDALE		GRAY SHALE	12.4	186.2
243.0	CARBONDALE		GRAY SHALE	14.9	198.5
228.1	CARBONDALE		BLACK SHALE	2.9	213.4
225.2	CARBONDALE	HERRIN	COAL	4.5	216.3
220.7	CARBONDALE		UNDERCLAY	0.6	220.8
220.1	CARBONDALE		LIMESTONE	1.0	221.4

MAPID: 11923135000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 25 QUARTERS/FOOTAGES: 330' N line, 660' W line of NW NW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.835265 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.684993 DATE COLLECTED: 10 / 3 / 1972  
 SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 225.0 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 12936C WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
442.0	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
422.0	PLEISTOCENE		SAND & GRAVEL	27.0	20.0	
395.0	PLEISTOCENE		CLAY	2.7	47.0	BLUE
392.3			SANDSTONE	16.6	49.7	
375.7			GRAY SHALE	81.0	66.3	
294.7			LIMESTONE	4.5	147.3	
290.2			GRAY SHALE	2.6	151.8	
287.6	MODESTO	PIASA	LIMESTONE	11.0	154.4	
276.6	CARBONDALE	ENERGY	GRAY SHALE	51.6	165.4	
225.0	CARBONDALE	ENERGY	GRAY SHALE	9.0	217.0	
216.0	CARBONDALE	HERRIN	COAL	4.9	226.0	#6
211.1	CARBONDALE		UNDERCLAY	0.6	230.9	
210.5	CARBONDALE		GRAY SHALE	0.5	231.5	

MAPID: 11900437000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 5080' S line, 1520' E line  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.842941 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.685225 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 0.0 LOG TYPE:  
 SOURCE: BRENNAN 4 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
236.0	CARBONDALE	HERRIN	COAL	4.9	229.0	

MAPID: 11900437000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 5080' S line, 1520' E line  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.842941 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.685225 DATE COLLECTED: 0 / 0 / 1900  
 SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 233.9 LOG TYPE: Drillers Log  
 SOURCE: BRENNAN WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
236.0	CARBONDALE	HERRIN	COAL	4.9	229.0	

MAPID: 11900859000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 60' N line, 57' W line of NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.856596

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.686542

DATE COLLECTED:

SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 221.1

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 7

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
319.2	MODESTO	PIASA	LIMESTONE	3.5	144.8
315.7	CARBONDALE	ENERGY	SHALE	47.5	148.3
268.2	CARBONDALE	ENERGY	DARK GRAY SHALE	14.0	195.8
254.2	CARBONDALE	ENERGY	SHALE	6.3	209.8
248.0	CARBONDALE	HERRIN	COAL	5.1	216.0

MAPID: 11900859000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 60' N line, 57' W line of NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.856596

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.686542

DATE COLLECTED:

SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 221.1

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 7

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
319.3	MODESTO	PIASA	LIMESTONE	3.5	144.7
315.8	MODESTO		UNCLASSIFIED	2.0	148.2
313.8	CARBONDALE		UNCLASSIFIED	6.0	150.2
307.8	CARBONDALE	ENERGY	SHALE	59.8	156.2
248.0	CARBONDALE	HERRIN	COAL	5.1	216.0

MAPID: 11900859000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 60' N line, 57' W line of NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.856596 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.686542 DATE COLLECTED: 11 / 24 / 1958

SURFACE ELEVATION (FT.): 464.3 LOGGED (FT.): 221.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 7 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.3	PLEISTOCENE		SOIL	4.0	0.0	
460.3	PLEISTOCENE		CLAY	20.0	4.0	YELLOW
440.3	PLEISTOCENE		GLACIAL DRIFT	24.0	24.0	
416.3			LIMESTONE	2.0	48.0	
414.3			SHALE	2.0	50.0	
412.3			LIMESTONE	1.5	52.0	
410.8			SHALE	62.5	53.5	
348.3			SHALE	12.0	116.0	
336.3			LIMESTONE	1.7	128.0	
334.6			SHALE	15.3	129.7	
319.3	MODESTO	PIASA	LIMESTONE	3.5	145.0	
315.8	CARBONDALE	ENERGY	SHALE	47.5	148.5	
268.3	CARBONDALE	ENERGY	GRAY SHALE	14.0	196.0	
254.3	CARBONDALE	ENERGY	SHALE	6.3	210.0	
248.0	CARBONDALE	HERRIN	COAL	5.1	216.3	
243.0	CARBONDALE		UNDERCLAY	0.5	221.3	

MAPID: 11901152000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 273' N line, 40' W line of NW NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.856653

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.685954

DATE COLLECTED: 8 / 6 / 1963

SURFACE ELEVATION (FT.): 463.5 LOGGED (FT.): 221.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F11

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
463.5	PLEISTOCENE		SOIL	0.5	0.0	
463.0	PLEISTOCENE		CLAY	22.0	0.5	YELLOW
441.0			GRAY SHALE	23.0	22.5	
418.0			SANDSTONE	6.0	45.5	
412.0			SILTY SHALE	8.0	51.5	
404.0			SANDSTONE	1.5	59.5	
402.5			SILTY SHALE	77.0	61.0	
325.5			SHALE	6.0	138.0	
319.5	MODESTO	PIASA	LIMESTONE	3.8	144.0	
315.7	CARBONDALE	ENERGY	SHALE	8.2	147.8	
307.5	CARBONDALE	ENERGY	SILTY SHALE	40.0	156.0	
267.5	CARBONDALE	ENERGY	GRAY SHALE	15.1	196.0	
252.4	CARBONDALE	ENERGY	GRAY SHALE	2.6	211.1	
249.8	CARBONDALE	HERRIN	CLOD	0.1	213.7	
249.7	CARBONDALE	HERRIN	COAL	5.3	213.8	
244.5	CARBONDALE		UNDERCLAY	1.0	219.0	
243.5	CARBONDALE		LIMESTONE	1.0	220.0	

MAPID: 11901152000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 273' N line, 40' W line of NW NW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.856653

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.685954

DATE COLLECTED:

SURFACE ELEVATION (FT.): 463.0 LOGGED (FT.): 219.3

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-11

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
321.3	MODESTO	PIASA	LIMESTONE	3.8	141.7	
317.5	MODESTO		UNCLASSIFIED	2.2	145.5	
315.3	CARBONDALE		UNCLASSIFIED	6.0	147.7	
309.3	CARBONDALE	ANNA	BLACK SHALE	2.6	153.7	
306.7	CARBONDALE	ENERGY	SHALE	57.7	156.3	
249.0	CARBONDALE	HERRIN	COAL	5.3	214.0	

MAPID: 11902521000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: NW NW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.845992 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.685379 DATE COLLECTED:

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 286.0 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR2 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
468.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0	
438.0			LIMESTONE	1.0	30.0	
437.0			GRAY SHALE	19.0	31.0	
418.0			SHALE WITH LIMESTONE	28.0	50.0	
390.0			LIMESTONE	2.0	78.0	
388.0			GRAY SHALE	60.0	80.0	
328.0			SHALE WITH LIMESTONE	14.0	140.0	
314.0			GRAY SHALE	2.0	154.0	
312.0			GRAY SHALE	3.5	156.0	
308.5			LIMESTONE	1.0	159.5	GRAY
307.5			GRAY SHALE	3.5	160.5	
304.0			BROWN SHALE	2.5	164.0	
301.5			LIMESTONE	0.5	166.5	GRAY
301.0			SANDSTONE	1.0	167.0	RED
300.0			LIMESTONE	0.5	168.0	GRAY
299.5	CARBONDALE	ENERGY	SANDSTONE	2.5	168.5	GRAY
297.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	2.0	171.0	
295.0	CARBONDALE	ENERGY	GRAY SHALE	55.8	173.0	
239.2	CARBONDALE	HERRIN	COAL	4.9	228.8	
234.3	CARBONDALE		UNDERCLAY	3.1	233.7	
231.2	CARBONDALE		SHALY LIMESTONE	5.3	236.8	
226.0	CARBONDALE		GRAY SHALE	9.0	242.0	
217.0	CARBONDALE		SHALE	4.5	251.0	RED
212.5	CARBONDALE		GRAY SHALE	31.0	255.5	



MAPID: 11902521000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: NW NW NE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.845992 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.685379 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 233.9 LOG TYPE: Drillers Log  
 SOURCE: TRUAX-TRAER COAL CO TR-2 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
308.3	MODESTO	PIASA	LIMESTONE	1.0	159.7	
307.3	MODESTO		UNCLASSIFIED	2.0	160.7	
305.3	CARBONDALE		UNCLASSIFIED	4.0	162.7	
301.3	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	166.7	
294.8	CARBONDALE	ENERGY	SHALE	55.8	173.2	
239.0	CARBONDALE	HERRIN	COAL	4.9	229.0	

MAPID: 11902785000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 1' N line, 660' W line of NW NW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.854473 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.686626 DATE COLLECTED: 9 / 26 / 1972  
 SURFACE ELEVATION (FT.): 482.0 LOGGED (FT.): 260.3 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 12933C WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
482.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0	
452.0	PLEISTOCENE		CLAY	34.0	30.0	BLUE
418.0			GRAY SHALE	17.0	64.0	
401.0			SANDSTONE	3.7	81.0	
397.3			GRAY SHALE	7.0	84.7	
390.3			SANDSTONE	2.3	91.7	
388.0			GRAY SHALE	81.2	94.0	
306.8	MODESTO	PIASA	LIMESTONE	4.0	175.2	
302.8	CARBONDALE	ENERGY	GRAY SHALE	4.4	179.2	
298.4	CARBONDALE	ENERGY	SANDSTONE	5.0	183.6	
293.4	CARBONDALE	ENERGY	GRAY SHALE	43.4	188.6	
250.0	CARBONDALE	ENERGY	GRAY SHALE	11.9	232.0	
238.1	CARBONDALE	ENERGY	DARK SHALE	2.5	243.9	
235.6	CARBONDALE	HERRIN	COAL	11.8	246.4	
223.8	CARBONDALE		UNDERCLAY	1.0	258.2	
222.8	CARBONDALE		GRAY SHALE	1.1	259.2	

MAPID: 11923015000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 26 QUARTERS/FOOTAGES: 660' S line, 1' E line of SE SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.837698 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.672922 DATE COLLECTED: 10 / 9 / 1972

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 219.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 12938C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
445.0	PLEISTOCENE		UNCONSOLIDATED	19.0	0.0	
426.0	PLEISTOCENE		SANDY CLAY	26.0	19.0	BLUE
400.0			SANDSTONE	22.5	45.0	
377.5			GRAY SHALE	75.0	67.5	
302.5	MODESTO	PIASA	LIMESTONE	5.2	142.5	
297.3	CARBONDALE	ENERGY	GRAY SHALE	7.6	147.7	
289.7	CARBONDALE	ENERGY	SANDSTONE	15.7	155.3	
274.0	CARBONDALE	ENERGY	GRAY SHALE	36.5	171.0	
237.5	CARBONDALE	ENERGY	GRAY SHALE	3.5	207.5	
234.0	CARBONDALE	ENERGY	DARK SHALE	1.5	211.0	
232.5	CARBONDALE	HERRIN	COAL	4.1	212.5	
228.4	CARBONDALE		UNDERCLAY	1.0	216.6	
227.4	CARBONDALE		GRAY SHALE	1.0	217.6	
226.4	CARBONDALE		GRAY SHALE	0.4	218.6	

MAPID: 11900438000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: 3830' S line, 3630' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.869561 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.682244 DATE COLLECTED:

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: SULLIVN MA 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
259.0	CARBONDALE	HERRIN	COAL	5.2	266.0	

MAPID: 11900438000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: 3830' S line, 3630' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.869561 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.682244 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 271.2 LOG TYPE: Drillers Log

SOURCE: SULLIVAN MACHINE CO WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
259.0	CARBONDALE	HERRIN	COAL	5.2	266.0

MAPID: 11901151000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: 20' S line, 105' E line of SE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.857134 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.679147 DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 207.9 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. F-10 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
323.0	MODESTO	PIASA	LIMESTONE	2.0	136.0
321.0	CARBONDALE		SHALE	5.5	138.0
315.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.5	143.5
313.0	CARBONDALE	ENERGY	SANDSTONE	14.5	146.0
298.5	CARBONDALE	ENERGY	SILTY SHALE	29.5	160.5
269.0	CARBONDALE	ENERGY	GRAY SHALE	12.8	190.0
256.0	CARBONDALE	HERRIN	COAL	4.9	203.0

MAPID: 11901151000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: 20' S line, 105' E line of SE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.857134 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.679147 DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 207.9 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-10 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
318.0	MODESTO	PIASA	LIMESTONE	2.5	141.0
315.5	MODESTO		UNCLASSIFIED	1.5	143.5
314.0	CARBONDALE		UNCLASSIFIED	4.5	145.0
309.5	CARBONDALE	ANNA	BLACK SHALE	2.7	149.5
306.8	CARBONDALE	ENERGY	SHALE	50.8	152.2
256.0	CARBONDALE	HERRIN	COAL	4.9	203.0

MAPID: 11901151000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: 20' S line, 105' E line of SE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.857134 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.679147 DATE COLLECTED: 8 / 2 / 1963

SURFACE ELEVATION (FT.): 458.7 LOGGED (FT.): 210.5 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F10 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.7	PLEISTOCENE		SOIL	0.5	0.0	
458.2	PLEISTOCENE		CLAY	22.5	0.5	YELLOW
435.7			SHALE/SANDSTONE/LIMESTONE	83.0	23.0	
352.7			SILTY SHALE	16.0	106.0	
336.7			CALCAREOUS SHALE	14.0	122.0	
322.7			LIMESTONE	2.0	136.0	
320.7			SHALE	5.5	138.0	
315.2	MODESTO	PIASA	LIMESTONE	2.5	143.5	
312.7			SANDSTONE	14.5	146.0	
298.2			SILTY SHALE	29.5	160.5	
268.7	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	10.1	190.0	DARK
258.6	CARBONDALE	ANNA	DARK SHALE	2.7	200.1	
255.9	CARBONDALE	HERRIN	COAL	4.9	202.8	
251.0	CARBONDALE		UNDERCLAY	0.8	207.7	
250.3	CARBONDALE		LIMESTONE	2.1	208.4	

MAPID: 11902525000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: SE

QUADRANGLE: ST. JACOB LONGITUDE: -89.861432 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.67534 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 259.9 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAEER COAL CO TR-10 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
314.0	MODESTO	PIASA	LIMESTONE	5.0	186.0	
309.0	CARBONDALE	ENERGY	SILTY SHALE	34.8	191.0	
274.2	CARBONDALE	ENERGY	GRAY SHALE	27.9	225.8	
246.3	CARBONDALE	ENERGY	BLACK SHALE	0.1	253.7	
246.2	CARBONDALE	ENERGY	GRAY SHALE	1.3	253.8	
245.0	CARBONDALE	HERRIN	COAL	4.9	255.0	

MAPID: 11902525000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: SE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.861432 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.67534 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 259.9 LOG TYPE: Drillers Log  
 SOURCE: TRUAX-TRAER COAL CO TR-10 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
314.1	MODESTO	PIASA	LIMESTONE	5.0	185.9	
309.1	CARBONDALE	ENERGY	SHALE	64.1	190.9	
245.0	CARBONDALE	HERRIN	COAL	4.9	255.0	

MAPID: 11902525000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: SE  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.861432 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.67534 DATE COLLECTED: 9 / 8 / 1960  
 SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 264.0 LOG TYPE: Drillers Log  
 SOURCE: TRUAX-TRAER COAL CO TR10 WELL TYPE:  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
491.0	PLEISTOCENE		CLAY, SAND & GRAVEL	32.0	9.0	
459.0			GRAY SHALE	4.0	41.0	
455.0			SHALE	7.0	45.0	YELLOW
448.0			GRAY SHALE	53.0	52.0	
395.0			LIMESTONE	1.5	105.0	
393.5			GRAY SHALE	79.3	106.5	
314.2	MODESTO	PIASA	LIMESTONE	5.0	185.8	WHITE
309.2	CARBONDALE	ENERGY	GRAY SHALE	34.8	190.8	
274.5	CARBONDALE	ENERGY	GRAY SHALE	27.9	225.5	
246.6	CARBONDALE	ENERGY	BLACK SHALE	0.1	253.4	
246.5	CARBONDALE	ENERGY	GRAY SHALE	1.3	253.5	
245.2	CARBONDALE	HERRIN	COAL	4.9	254.8	
240.2	CARBONDALE		UNDERCLAY	1.3	259.8	
239.0	CARBONDALE		UNDERCLAY	2.8	261.0	

MAPID: 1190255000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: 154' N line, 193' E line of NE NW SW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.871477 GEOLOGIST: HOKE  
 CONFIDENTIAL: N LATITUDE: 38.678831 DATE COLLECTED: 10 / 29 / 1971  
 SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 90.0 LOG TYPE: Drillers Log  
 SOURCE: C. KOHNEN 12470 WELL TYPE: Water Well  
 COMMENT: WATER LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.0			CLAY	2.0	0.0	
513.0			CLAY	20.0	2.0	YL CLY; YL
493.0			SANDY CLAY	6.0	22.0	YL CLY; YL
487.0			SANDY CLAY	12.0	28.0	GY CLY; GY
475.0			SAND	4.0	40.0	
471.0			SANDY CLAY	34.0	44.0	YL CLY; YL
437.0			GRAY SHALE	6.0	78.0	
431.0			SHALE	5.0	84.0	BR CLY; BR
426.0			COAL	1.0	89.0	

MAPID: 11902551000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: NE NW SW  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.871968 GEOLOGIST: HOKE  
 CONFIDENTIAL: N LATITUDE: 38.678316 DATE COLLECTED: 10 / 29 / 1971  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 90.0 LOG TYPE: Drillers Log  
 SOURCE: C. KOHNEN 92-326 WELL TYPE: Water Well  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			CLAY	2.0	0.0	
-			CLAY	20.0	2.0	YL CLY; YL
-			SANDY CLAY	6.0	22.0	YL CLY; YL
-			SANDY CLAY	12.0	28.0	GY CLY; GY
-			SAND	4.0	40.0	
-			SANDY CLAY	34.0	44.0	YL CLY; YL
-			GRAY SHALE	6.0	78.0	
-			SHALE	5.0	84.0	
-			COAL	1.0	89.0	

MAPID: 11924242000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 27 QUARTERS/FOOTAGES: 2640' N line, 2640' W line  
 QUADRANGLE: ST. JACOB LONGITUDE: -89.866176 GEOLOGIST: UITEMP  
 CONFIDENTIAL: N LATITUDE: 38.679486 DATE COLLECTED: 4 / 26 / 1977  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 253.3 LOG TYPE: Drillers Log  
 SOURCE: PEABODY 16445C WELL TYPE:  
 COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	51.0	0.0	
-			GRAY SHALE	28.6	51.0	
-			SANDSTONE	10.2	79.6	BROWN
-			LIMESTONE	2.4	89.8	
-			SHALE/SANDSTONE/LIMES TONE	71.0	92.2	
-			SANDY SHALE	8.2	163.2	
-			GRAY SHALE	4.6	171.4	
-	MODESTO	PIASA	LIMESTONE	5.3	176.0	
-	CARBONDALE	ENERGY	GRAY SHALE	10.9	181.3	
-	CARBONDALE	ENERGY	SANDSTONE	9.7	192.2	GRAY
-	CARBONDALE	ENERGY	GRAY SHALE	18.1	201.9	
-	CARBONDALE	ENERGY	SANDY SHALE	11.5	220.0	
-	CARBONDALE	ENERGY	GRAY SHALE	12.5	231.5	
-	CARBONDALE	ENERGY	DARK SHALE	0.3	244.0	
-	CARBONDALE	HERRIN	COAL	5.1	244.3	
-	CARBONDALE		UNDERCLAY	1.4	249.4	
-	CARBONDALE		UNDERCLAY	2.5	250.8	

MAPID: 11900868000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 28 QUARTERS/FOOTAGES: 888' S line, 148' E line of SE NE  
 QUADRANGLE: COLLINSVILLE LONGITUDE: -89.87598 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.681763 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 271.3 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 18 WELL TYPE: Coal Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
336.2	MODESTO	PIASA	LIMESTONE	2.0	202.8	
334.2	CARBONDALE	ENERGY	SHALE	61.2	204.8	
273.0	CARBONDALE	HERRIN	COAL	5.3	266.0	

MAPID: 11900868000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 28 QUARTERS/FOOTAGES: 888' S line, 148' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.87598 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.681763 DATE COLLECTED:

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 271.3 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 18 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
336.2	MODESTO	PIASA	LIMESTONE	2.0	202.8
334.2	MODESTO		UNCLASSIFIED	2.0	204.8
332.2	CARBONDALE		UNCLASSIFIED	6.0	206.8
326.2	CARBONDALE	ENERGY	SHALE	53.2	212.8
273.0	CARBONDALE	HERRIN	COAL	5.3	266.0

MAPID: 11900868000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 28 QUARTERS/FOOTAGES: 888' S line, 148' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.87598 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.681763 DATE COLLECTED: 12 / 23 / 1958

SURFACE ELEVATION (FT.): 539.2 LOGGED (FT.): 272.6 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 18 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
539.2	PLEISTOCENE		SOIL	1.5	0.0
537.7	PLEISTOCENE		CLAY	35.5	1.5
502.2	PLEISTOCENE		SAND & GRAVEL	5.0	37.0
497.2	PLEISTOCENE		GLACIAL DRIFT	58.0	42.0
439.2			LIMESTONE	1.5	100.0
437.7			SHALE	101.5	101.5
336.2	MODESTO	PIASA	LIMESTONE	2.0	203.0
334.2	CARBONDALE	ENERGY	SHALE	55.0	205.0
279.2	CARBONDALE	ENERGY	SHALE	6.2	260.0
273.0	CARBONDALE	HERRIN	COAL	5.3	266.2
267.7	CARBONDALE		UNDERCLAY	1.1	271.5



MAPID: 11923396000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 28 QUARTERS/FOOTAGES:

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.8851

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.679488

DATE COLLECTED: 8 / 30 / 1972

SURFACE ELEVATION (FT.): 551.9

LOGGED (FT.): 259.0

LOG TYPE: Drillers Log

SOURCE: PEABODY 1294C

WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
551.9	PLEISTOCENE		UNCONSOLIDATED	35.0	0.0	
516.9	PLEISTOCENE		CLAY	44.5	35.0	BLUE
472.4			SANDSTONE	19.5	79.5	
452.9			GRAY SHALE	87.8	99.0	
365.1	MODESTO	PIASA	LIMESTONE	5.6	186.8	
359.5			GRAY SHALE	8.6	192.4	
350.9	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	201.0	
349.4	CARBONDALE	ENERGY	GRAY SHALE	48.3	202.5	
301.1	CARBONDALE	ENERGY	SHALE	0.0	250.8	
301.1	CARBONDALE	HERRIN	COAL	5.4	250.8	
295.7	CARBONDALE		UNDERCLAY	0.9	256.2	
294.8	CARBONDALE		GRAY SHALE	1.7	257.1	

MAPID: 11901146000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 29 QUARTERS/FOOTAGES: 29' N line, 90' E line of NE SW

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.904659

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.679676

DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0

LOGGED (FT.): 264.3

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. F-3

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
364.2	MODESTO	PIASA	LIMESTONE	3.5	196.8	
360.7	CARBONDALE	ENERGY	DARK GRAY SHALE	15.5	200.3	
345.2	CARBONDALE	ENERGY	GRAY SHALE	42.2	215.8	
303.0	CARBONDALE	HERRIN	COAL	6.3	258.0	

MAPID: 11901146000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 29 QUARTERS/FOOTAGES: 29' N line, 90' E line of NE SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.904659 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.679676 DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0 LOGGED (FT.): 264.3 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
362.9	MODESTO	PIASA	LIMESTONE	3.5	198.1
359.4	MODESTO		UNCLASSIFIED	2.0	201.6
357.4	CARBONDALE		UNCLASSIFIED	6.0	203.6
351.4	CARBONDALE	ENERGY	SHALE	48.4	209.6
303.0	CARBONDALE	HERRIN	COAL	6.3	258.0

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MAPID: 11901146000C    VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 29    QUARTERS/FOOTAGES: 29' N line, 90' E line of NE SW

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.904659    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.679676    DATE COLLECTED: 7 / 2 / 1963

SURFACE ELEVATION (FT.): 561.2    LOGGED (FT.): 266.5    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    F3    WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
561.2	PLEISTOCENE		SOIL	0.7	0.0	
560.5	PLEISTOCENE		CLAY	30.0	0.7	YELLOW
530.5	PLEISTOCENE		CLAY & GRAVEL	9.3	30.7	YELLOW
521.2	PLEISTOCENE		GLACIAL DRIFT	26.0	40.0	
495.2			SANDSTONE	2.5	66.0	
492.7			GRAY SHALE	21.0	68.5	
471.7			LIMESTONE	3.5	89.5	
468.2			SILTY SHALE	9.0	93.0	
459.2			SOFT SHALE	4.0	102.0	
455.2			LIMESTONE	1.3	106.0	
453.9			GRAY SHALE	8.7	107.3	
445.2			SHALE WITH LIMESTONE	20.0	116.0	
425.2			GRAY SHALE	23.0	136.0	
402.2			DARK SHALE	11.0	159.0	
391.2			SANDY SHALE	3.3	170.0	
387.9			LIMESTONE	2.8	173.3	
385.2			GRAY SHALE	21.0	176.0	
364.2	MODESTO	PIASA	LIMESTONE	3.5	197.0	
360.7			DARK SHALE	15.5	200.5	
345.2			LIMESTONE	0.9	216.0	
344.3	CARBONDALE	ENERGY	SILTY SHALE	18.8	216.9	
325.5	CARBONDALE	ENERGY	BLACK SHALE	2.1	235.7	
323.4	CARBONDALE	ENERGY	LIMESTONE	0.1	237.8	
323.3	CARBONDALE	ENERGY	GRAY SHALE	20.4	237.9	
302.9	CARBONDALE	HERRIN	COAL	6.3	258.3	
296.7	CARBONDALE		UNDERCLAY	0.7	264.5	
296.0	CARBONDALE		LIMESTONE	1.3	265.2	

MAPID: 11901148000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 29 QUARTERS/FOOTAGES: 30' S line, 120' E line of SE SE NE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.895147

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.679764

DATE COLLECTED: 7 / 9 / 1963

SURFACE ELEVATION (FT.): 550.0

LOGGED (FT.): 258.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F5

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
550.0	PLEISTOCENE		SOIL	0.5	0.0	
549.5	PLEISTOCENE		CLAY	30.0	0.5	YELLOW
519.5	PLEISTOCENE		GLACIAL DRIFT	36.0	30.5	
483.5			SANDSTONE	4.5	66.5	
479.0			GRAY SHALE	9.0	71.0	
470.0			LIMESTONE	2.5	80.0	
467.5			SHALE	9.5	82.5	
458.0			LIMESTONE	4.0	92.0	
454.0			LIMESTONE	0.5	96.0	
453.5			SHALE	87.5	96.5	
366.0			SANDSTONE	1.3	184.0	
364.7			SHALE	2.2	185.3	
362.5			SANDSTONE/LIMESTONE	1.5	187.5	
361.0	MODESTO	PIASA	LIMESTONE	2.5	189.0	
358.5	CARBONDALE	ENERGY	GRAY SHALE	1.4	191.5	
357.1	CARBONDALE	ENERGY	SANDSTONE/LIMESTONE	7.0	192.9	
350.1	CARBONDALE	ENERGY	DARK SHALE	21.6	199.9	
328.5	CARBONDALE	ENERGY	SILTY SHALE	4.7	221.5	
323.8	CARBONDALE	ENERGY	GRAY SHALE	9.4	226.2	
314.4	CARBONDALE	ENERGY	GRAY SHALE	11.9	235.6	
302.5	CARBONDALE	ENERGY	BLACK SHALE	2.9	247.5	
299.6	CARBONDALE	HERRIN	COAL	5.7	250.4	
293.9	CARBONDALE		UNDERCLAY	0.9	256.1	
293.0	CARBONDALE		LIMESTONE	0.5	257.0	

MAPID: 11901148000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 29 QUARTERS/FOOTAGES: 30' S line, 120' E line of SE SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.895147 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.679764 DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 256.7 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-5 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
360.3	MODESTO	PIASA	LIMESTONE	2.5	189.7
357.8	MODESTO		UNCLASSIFIED	1.4	192.2
356.4	CARBONDALE		UNCLASSIFIED	4.0	193.6
352.4	CARBONDALE	ANNA	BLACK SHALE	2.8	197.6
349.6	CARBONDALE	ENERGY	SHALE	50.6	200.4
299.0	CARBONDALE	HERRIN	COAL	5.7	251.0

MAPID: 11901147000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 30 QUARTERS/FOOTAGES: 82' S line, 688' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.916379 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.680084 DATE COLLECTED:

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 258.6 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. F-4 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
369.9	MODESTO	PIASA	LIMESTONE	3.7	200.1
366.2	CARBONDALE	ENERGY	SILTY SHALE	32.3	203.8
333.9	CARBONDALE	ENERGY	GRAY SHALE	15.9	236.1
318.0	CARBONDALE	HERRIN	COAL	6.6	252.0

MAPID: 11901147000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 30 QUARTERS/FOOTAGES: 82' S line, 688' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.916379 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.680084 DATE COLLECTED:

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 257.4 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
370.0	MODESTO	PIASA	LIMESTONE	3.7	200.0
366.3	MODESTO		UNCLASSIFIED	1.5	203.7
364.8	CARBONDALE		UNCLASSIFIED	4.5	205.2
360.3	CARBONDALE	ENERGY	SHALE	42.3	209.7
318.0	CARBONDALE	HERRIN	COAL	5.4	252.0

MAPID: 11901147000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 30 QUARTERS/FOOTAGES: 82' S line, 688' E line of SE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.916379 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.680084 DATE COLLECTED: 7 / 5 / 1963

SURFACE ELEVATION (FT.): 570.5 LOGGED (FT.): 262.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL COMPANY F4 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.5	PLEISTOCENE		SOIL	0.5	0.0	
570.0	PLEISTOCENE		CLAY	30.0	0.5	YELLOW
540.0	PLEISTOCENE		GLACIAL DRIFT	40.0	30.5	
500.0			SANDSTONE	3.5	70.5	
496.5			GRAY SHALE	4.0	74.0	
492.5			SANDSTONE	2.5	78.0	
490.0			GRAY SHALE	23.5	80.5	
466.5			SANDSTONE	1.7	104.0	
464.8			SHALE	8.3	105.7	
456.5			SHALE	70.0	114.0	
386.5			LIMESTONE	2.5	184.0	
384.0			GRAY SHALE	6.0	186.5	
378.0			SANDSTONE	1.5	192.5	
376.5			SILTY SHALE	6.0	194.0	
370.5	MODESTO	PIASA	LIMESTONE	3.7	200.0	
366.8	CARBONDALE	ENERGY	SILTY SHALE	32.3	203.7	
334.5	CARBONDALE	ENERGY	SILTY SHALE	15.9	236.0	
318.6	CARBONDALE	HERRIN	COAL	2.7	251.9	
315.9	CARBONDALE	HERRIN	COAL	1.0	254.6	
314.9	CARBONDALE	HERRIN	UNDERCLAY	1.2	255.6	
313.8	CARBONDALE	HERRIN	COAL	1.8	256.7	
312.0	CARBONDALE		LIMESTONE	3.5	258.5	

MAPID: 11900357000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.902046 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.666579 DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.3 LOGGED (FT.): 490.0 LOG TYPE:

SOURCE: LUMAGHI CC0004 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
310.3	CARBONDALE	HERRIN	COAL	6.7	206.0	

MAPID: 11900357000C    VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 32    QUARTERS/FOOTAGES: SW NE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.902046    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.666579    DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 516.0    LOGGED (FT.): 212.7    LOG TYPE: Drillers Log

SOURCE: NO COMPANY    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
374.0	MODESTO	PIASA	LIMESTONE	3.0	142.0
371.0	MODESTO		UNCLASSIFIED	2.0	145.0
369.0	CARBONDALE		UNCLASSIFIED	6.0	147.0
363.0	CARBONDALE	ENERGY	UNCLASSIFIED	53.0	153.0
310.0	CARBONDALE	HERRIN	COAL	6.7	206.0

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MAPID: 11900357000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 32    QUARTERS/FOOTAGES: SW NE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.902046    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.666579    DATE COLLECTED: 0 / 0 / 1932

SURFACE ELEVATION (FT.): 516.3    LOGGED (FT.): 490.0    LOG TYPE: Drillers Log

SOURCE: LUMAGHI MINE #2    2    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.3	CARBONDALE		UNCONSOLIDATED	3.0	0.0	SURFACE
513.3	CARBONDALE		CLAY	7.0	3.0	GY CLY; GY
506.3	CARBONDALE		SAND	5.0	10.0	
501.3	CARBONDALE		CLAY	10.0	15.0	YL CLY; YL
491.3	CARBONDALE		GRAVEL	1.0	25.0	
490.3	CARBONDALE		CLAY	9.0	26.0	BLU CLY; BLU
481.3	CARBONDALE		SANDSTONE	20.0	35.0	
461.3	CARBONDALE		LIMESTONE	2.0	55.0	
459.3	CARBONDALE		CALCAREOUS SHALE	85.0	57.0	
374.3			LIMESTONE	3.0	142.0	
371.3	CARBONDALE		UNDERCLAY	15.0	145.0	
356.3	CARBONDALE		CALCAREOUS SHALE	10.0	160.0	
346.3	CARBONDALE		SANDSTONE	15.0	170.0	
331.3	CARBONDALE		CALCAREOUS SHALE	21.0	185.0	
310.3	CARBONDALE	HERRIN	COAL	6.7	206.0	
303.6	CARBONDALE		UNDERCLAY	1.3	212.7	
302.3	CARBONDALE		LIMESTONE	28.0	214.0	
274.3	CARBONDALE		UNDERCLAY	8.0	242.0	
266.3	CARBONDALE		LIMESTONE	3.0	250.0	
263.3	CARBONDALE		CALCAREOUS SHALE	41.0	253.0	
222.3	CARBONDALE	SURVANT	COAL	0.3	294.0	
222.0	CARBONDALE		CALCAREOUS SHALE	35.0	294.3	
187.0	CARBONDALE	FRANCIS CREEK	BLACK SHALE	2.5	329.3	
184.5	CARBONDALE	COLCHESTER	COAL	1.2	331.8	
183.3	CARBONDALE		UNDERCLAY	20.0	333.0	UCLY W/ LS
163.3	CARBONDALE		UNDERCLAY	10.0	353.0	
153.3	CARBONDALE		SANDSTONE	20.0	363.0	
133.3	CARBONDALE		CALCAREOUS SHALE	10.0	383.0	
123.3	CARBONDALE		UNDERCLAY	10.0	393.0	
113.3	CARBONDALE		CALCAREOUS SHALE	4.0	403.0	
109.3	CARBONDALE		LIMESTONE	8.0	407.0	
101.3	CARBONDALE		CALCAREOUS SHALE	10.0	415.0	
91.3	CARBONDALE		UNDERCLAY	5.0	425.0	
86.3	CARBONDALE		LIMESTONE	4.0	430.0	
82.3	CARBONDALE		UNDERCLAY	3.0	434.0	
79.3	CARBONDALE		CALCAREOUS SHALE	10.0	437.0	
69.3	CARBONDALE		LIMESTONE	20.0	447.0	LS W/ UCLY PARTINGS
49.3	CARBONDALE		LIMESTONE	23.0	467.0	



MAPID: 11901145000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 25' S line, 350' E line of SE SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.896212

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.65716

DATE COLLECTED:

SURFACE ELEVATION (FT.): 546.0

LOGGED (FT.): 227.1

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. F-2

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
396.0	MODESTO	PIASA	NODULAR LIMESTONE	3.6	150.0
392.4	MODESTO		CLAYSTONE	5.1	153.6
387.3	CARBONDALE		SILTSTONE	1.0	158.7
386.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.8	159.7
384.6	CARBONDALE	ENERGY	SILTY SHALE	10.8	161.4
373.8	CARBONDALE	ENERGY	GRAY SHALE	5.2	172.2
368.7	CARBONDALE	ENERGY	SILTY SHALE	13.8	177.3
354.9	CARBONDALE	ENERGY	GRAY SHALE	29.9	191.1
325.0	CARBONDALE	HERRIN	COAL	6.1	221.0

MAPID: 11901145000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 25' S line, 350' E line of SE SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.896212

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.65716

DATE COLLECTED:

SURFACE ELEVATION (FT.): 546.0

LOGGED (FT.): 227.1

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-2

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
388.3	MODESTO	PIASA	LIMESTONE	3.6	157.7
384.7	MODESTO		UNCLASSIFIED	2.0	161.3
382.7	CARBONDALE		UNCLASSIFIED	5.8	163.3
376.9	CARBONDALE	ENERGY	SHALE	51.9	169.1
325.0	CARBONDALE	HERRIN	COAL	6.1	221.0

MAPID: 11901145000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 25' S line, 350' E line of SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.896212

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.65716

DATE COLLECTED: 6 / 29 / 1963

SURFACE ELEVATION (FT.): 546.4 LOGGED (FT.): 328.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F2

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
546.4	PLEISTOCENE		SOIL	0.5	0.0	
545.9	PLEISTOCENE		CLAY	27.5	0.5	YELLOW
518.4	PLEISTOCENE		GLACIAL DRIFT	35.3	28.0	
483.1	PLEISTOCENE		SANDY CLAY	2.9	63.3	
480.2			SANDSTONE	1.3	66.2	
478.9			SANDSTONE	1.7	67.5	
477.2			LIMESTONE	4.8	69.2	
472.4			DARK SHALE	5.6	74.0	
466.8			GRAY SHALE	18.2	79.6	
448.6			GRAY SHALE	11.9	97.8	
436.7			GRAY SHALE	1.4	109.7	
435.4			GRAY SHALE	18.0	111.0	
417.4			DARK SHALE	12.8	129.0	
404.5			LIGHT SHALE	1.2	141.9	
403.4			LIMESTONE	1.7	143.0	
401.7			SANDSTONE	2.8	144.7	
398.8			LIGHT SHALE	1.0	147.6	
397.9			SANDSTONE	1.0	148.5	
396.9			GRAY SHALE	4.4	149.5	
392.5			GRAY SHALE	1.7	153.9	
390.8			GRAY SHALE	2.3	155.6	
388.5	MODESTO	PIASA	LIMESTONE	3.6	157.9	
384.9	CARBONDALE	ENERGY	GRAY SHALE	0.3	161.5	
384.5	CARBONDALE	ENERGY	DARK SHALE	7.5	161.9	
377.0	CARBONDALE	ENERGY	SANDSTONE	1.0	169.4	
376.0	CARBONDALE	ENERGY	SHALE	1.6	170.4	
374.5	CARBONDALE	ENERGY	GRAY SHALE	10.6	171.9	
363.9	CARBONDALE	ENERGY	GRAY SHALE	1.2	182.5	
362.7	CARBONDALE	ENERGY	SILTY SHALE	6.1	183.7	
356.6	CARBONDALE	ENERGY	GRAY SHALE	5.7	189.8	
350.9	CARBONDALE	ENERGY	LIMESTONE	0.2	195.5	
350.7	CARBONDALE	ENERGY	GRAY SHALE	4.0	195.7	
346.7	CARBONDALE	ENERGY	LIMESTONE	0.4	199.7	
346.4	CARBONDALE	ENERGY	SHALE	1.5	200.0	
344.9	CARBONDALE	ENERGY	GRAY SHALE	19.4	201.5	
325.5	CARBONDALE	ENERGY	DARK SHALE	0.0	220.9	
325.5	CARBONDALE	ENERGY	SHALE	0.4	220.9	
325.1	CARBONDALE	HERRIN	COAL	6.1	221.3	
319.0	CARBONDALE		UNDERCLAY	0.8	227.4	

318.2	CARBONDALE		LIMESTONE	2.5	228.2	
315.7	CARBONDALE		LIMESTONE	2.5	230.7	
313.3	CARBONDALE		GRAY SHALE	6.2	233.1	
307.1	CARBONDALE		LIMESTONE	3.5	239.3	DARK
303.6	CARBONDALE		LIMESTONE	2.7	242.8	
300.9	CARBONDALE		LIMESTONE	0.5	245.5	
300.4	CARBONDALE		GRAY SHALE	2.0	246.0	
298.4	CARBONDALE		SILTY SHALE	3.3	248.0	
295.1	CARBONDALE		SHALE	6.5	251.3	MULTI
288.6	CARBONDALE		GRAY SHALE	7.8	257.8	
280.9	CARBONDALE		GRAY SHALE	18.3	265.5	
262.6	CARBONDALE		GRAY SHALE	5.7	283.8	
257.0	CARBONDALE		LIMESTONE	0.4	289.4	
256.5	CARBONDALE		GRAY SHALE	3.6	289.9	
253.0	CARBONDALE		LIMESTONE	0.3	293.4	
252.7	CARBONDALE		GRAY SHALE	2.6	293.7	
250.1	CARBONDALE		LIMESTONE	0.1	296.3	
250.0	CARBONDALE		GRAY SHALE	0.6	296.4	
249.4	CARBONDALE		LIMESTONE	0.1	297.0	
249.3	CARBONDALE		GRAY SHALE	3.3	297.1	
246.1	CARBONDALE		GRAY SHALE	2.1	300.3	
244.0	CARBONDALE		SHALE	0.0	302.4	RED
243.9	CARBONDALE		SILTSTONE	5.9	302.5	GRAY
238.0	CARBONDALE	SURVANT	COAL	0.8	308.4	
237.3			SILTY SHALE	5.4	309.1	
231.8			SANDSTONE	1.8	314.6	
230.0			GRAY SHALE	3.8	316.4	
226.3			GRAY SHALE	0.1	320.1	
226.1			MUDSTONE	3.2	320.3	
222.9			DARK SHALE	0.5	323.5	
222.5			GRAY SHALE	4.1	323.9	

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MAPID: 11901159000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 31' S line, 57' W line of SW SW SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.90441

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.657375

DATE COLLECTED: 9 / 9 / 1963

SURFACE ELEVATION (FT.): 560.6

LOGGED (FT.): 240.8

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL COMPANY F19

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.6	PLEISTOCENE		SOIL	0.5	0.0	
560.1	PLEISTOCENE		CLAY	42.0	0.5	GRAY
518.1	PLEISTOCENE		GLACIAL DRIFT	31.5	42.5	
486.6			SANDSTONE	9.0	74.0	
477.6			SANDSTONE	3.0	83.0	
474.6			SILTY SHALE	50.0	86.0	
424.6			SILTY SHALE	36.5	136.0	
388.1	MODESTO	PIASA	LIMESTONE	3.5	172.5	
384.6	CARBONDALE	ENERGY	SHALE WITH LIMESTONE	20.0	176.0	
364.6	CARBONDALE	ENERGY	GRAY SHALE	18.9	196.0	
345.7	CARBONDALE	ENERGY	SILTY SHALE	14.3	214.9	
331.4	CARBONDALE	ENERGY	GRAY SHALE	2.1	229.2	
329.3	CARBONDALE	HERRIN	COAL	0.1	231.3	
329.2	CARBONDALE	HERRIN	BLACK SHALE	0.0	231.4	
329.2	CARBONDALE	HERRIN	COAL	6.8	231.4	
322.5	CARBONDALE		UNDERCLAY	0.5	238.1	
321.9	CARBONDALE		LIMESTONE	2.2	238.7	

MAPID: 11901159000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 31' S line, 57' W line of SW SW SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.90441

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.657375

DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0

LOGGED (FT.): 238.8

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-19

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
388.0	MODESTO	PIASA	LIMESTONE	3.5	173.0	
384.5	MODESTO		UNCLASSIFIED	1.5	176.5	
383.0	CARBONDALE		UNCLASSIFIED	4.5	178.0	
378.5	CARBONDALE	ANNA	BLACK SHALE	2.3	182.5	
376.2	CARBONDALE	ENERGY	SHALE	47.2	184.8	
329.0	CARBONDALE	HERRIN	COAL	6.8	232.0	

MAPID: 11901160000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 300' S line, 16' W line of SW SW NE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.904417

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.665583

DATE COLLECTED: 9 / 12 / 1963

SURFACE ELEVATION (FT.): 516.4

LOGGED (FT.): 217.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F20

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.4	PLEISTOCENE		SOIL	0.5	0.0	
515.9	PLEISTOCENE		CLAY	26.5	0.5	GRAY
489.4	PLEISTOCENE		CLAY	13.0	27.0	GRAY
476.4			SANDSTONE	3.5	40.0	
472.9			SHALE	5.0	43.5	
467.9			SANDSTONE	7.5	48.5	
460.4			LIMESTONE	3.5	56.0	
456.9			SILTY SHALE	12.0	59.5	
444.9			SANDSTONE	4.0	71.5	
440.9			SILTY SHALE	51.5	75.5	
389.4			SILTY SHALE	17.0	127.0	
372.4	MODESTO	PIASA	LIMESTONE	4.0	144.0	
368.4	CARBONDALE	ENERGY	SHALE	28.0	148.0	SH W/ LGT STRKS
340.4	CARBONDALE	ENERGY	SILTY SHALE	17.9	176.0	
322.5	CARBONDALE	ENERGY	GRAY SHALE	12.9	193.9	
309.6	CARBONDALE	ENERGY	GRAY SHALE	2.0	206.8	
307.6	CARBONDALE	ENERGY	BLACK SHALE	0.5	208.8	
307.1	CARBONDALE	HERRIN	COAL	6.5	209.3	
300.5	CARBONDALE		UNDERCLAY	0.6	215.9	
299.9	CARBONDALE		LIMESTONE	0.7	216.5	

MAPID: 11901160000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 300' S line, 16' W line of SW SW NE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.904417

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.665583

DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0

LOGGED (FT.): 215.5

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-20

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
372.6	MODESTO	PIASA	LIMESTONE	4.0	143.4	
368.6	MODESTO		UNCLASSIFIED	2.0	147.4	
366.6	CARBONDALE		UNCLASSIFIED	6.0	149.4	
360.6	CARBONDALE	ENERGY	SHALE	53.6	155.4	
307.0	CARBONDALE	HERRIN	COAL	6.5	209.0	

MAPID: 11902306000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.90461 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.657297 DATE COLLECTED: 2 / 13 / 1969

SURFACE ELEVATION (FT.): LOGGED (FT.): 244.7 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 2548C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		GLACIAL DRIFT	71.1	0.0	
-			SANDSTONE	4.7	71.1	BROWN
-			SANDSTONE	5.8	75.8	BROWN
-			LIMESTONE	1.5	81.6	
-			SANDY SHALE	68.0	83.1	
-			GRAY SHALE	22.4	151.0	
-	MODESTO	PIASA	LIMESTONE	5.8	173.4	
-	CARBONDALE	ENERGY	GRAY SHALE	1.2	179.2	
-	CARBONDALE	ENERGY	SANDSTONE	1.0	180.4	GRAY
-	CARBONDALE	ENERGY	SANDY SHALE	49.2	181.4	
-	CARBONDALE	HERRIN	COAL	6.6	230.5	#6
-	CARBONDALE		SHALE	0.3	237.1	GRAY
-	CARBONDALE		SHALE	0.4	237.4	GRAY
-	CARBONDALE		LIMESTONE	3.7	237.8	
-	CARBONDALE		SANDSTONE/LIMESTONE	3.3	241.4	

MAPID: 11902306000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.90461 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.657297 DATE COLLECTED:

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 236.6 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 8548-C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
394.4	MODESTO	PIASA	LIMESTONE	5.8	170.6	
388.6	MODESTO		UNCLASSIFIED	1.3	176.4	
387.3	CARBONDALE		UNCLASSIFIED	4.0	177.7	
383.3	CARBONDALE	ENERGY	SHALE	48.3	181.7	
335.0	CARBONDALE	HERRIN	COAL	6.6	230.0	

MAPID: 11923474000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 32 QUARTERS/FOOTAGES: 2640' N line, 1320' E line of NE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.899491

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.664863

DATE COLLECTED: 5 / 0 / 1977

SURFACE ELEVATION (FT.):

LOGGED (FT.): 240.4

LOG TYPE: Drillers Log

SOURCE: PEABODY 16447C

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
-			GRAY SHALE	41.7	20.0	
-			GRAY SHALE	4.8	61.7	
-			SANDSTONE/SHALE	14.9	66.5	GRAY
-			SANDSTONE	4.2	81.4	GRAY
-			GRAY SHALE	68.2	85.6	
-			SANDSTONE/SHALE	15.3	153.8	GRAY
-			GRAY SHALE	2.2	169.1	
-	MODESTO	PIASA	LIMESTONE	3.7	171.3	
-			GRAY SHALE	7.7	175.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	182.7	
-	CARBONDALE	ENERGY	SHALE/SANDSTONE/LIMESTONE	35.9	185.1	
-	CARBONDALE	ENERGY	GRAY SHALE	12.3	221.0	
-	CARBONDALE	ENERGY	DARK SHALE	0.4	233.3	
-	CARBONDALE	HERRIN	COAL	5.5	233.7	
-	CARBONDALE		UNDERCLAY	1.2	239.2	

MAPID: 11900418000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 33 QUARTERS/FOOTAGES: SE NW NE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.881565

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.669034

DATE COLLECTED: 4 / 0 / 1905

SURFACE ELEVATION (FT.):

LOGGED (FT.): 0.0

LOG TYPE: Drillers Log

SOURCE: NO COMPANY

WELL TYPE: Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	1.5		
-	CARBONDALE		UNCLASSIFIED	5.5		
-	CARBONDALE	ENERGY	UNCLASSIFIED	56.0		
-	CARBONDALE	HERRIN	COAL	4.6		

MAPID: 11900418000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 33 QUARTERS/FOOTAGES: SE NW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.881565

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.669034

DATE COLLECTED:

SURFACE ELEVATION (FT.): 505.0

LOGGED (FT.): 254.6

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
323.0	MODESTO	PIASA	LIMESTONE	4.0	182.0	
319.0	MODESTO		GRAY SHALE	3.0	186.0	
316.0	CARBONDALE		CLAYSTONE	5.0	189.0	
311.0	CARBONDALE	ENERGY	GRAY SHALE	10.0	194.0	
301.0	CARBONDALE	ENERGY	GRAY SHALE	46.0	204.0	
255.0	CARBONDALE	HERRIN	COAL	4.6	250.0	

MAPID: 11900418000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 33 QUARTERS/FOOTAGES: SE NW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.881565

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.669034

DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 505.0

LOGGED (FT.): 255.0

LOG TYPE:

SOURCE: LUMAGHI CC0002

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
255.0	CARBONDALE	HERRIN	COAL	4.6	250.0	



MAPID: 11900418000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 33 QUARTERS/FOOTAGES: SE NW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.881565 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.669034 DATE COLLECTED: 4 / 10 / 1905

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 255.5 LOG TYPE: Drillers Log

SOURCE: LUMAGHI MINE NO.2 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.0			UNCONSOLIDATED	1.0	0.0	SURFACE
504.0			CLAY	33.0	1.0	YL CLY; YL
471.0			GRAVEL	2.0	34.0	
469.0			SANDY CLAY	10.0	36.0	YL CLY; YL
459.0			SAND	2.0	46.0	
457.0			CLAY	10.0	48.0	BLU CLY; BLU
447.0			CLAY	20.0	58.0	YL CLY; YL
427.0			SANDSTONE	20.0	78.0	
407.0			CALCAREOUS SHALE	62.0	98.0	
345.0			UNDERCLAY	5.0	160.0	
340.0			CALCAREOUS SHALE	10.0	165.0	
330.0			SANDSTONE	8.0	175.0	
322.0	MODESTO	PIASA	LIMESTONE	4.0	183.0	
318.0			CALCAREOUS SHALE	3.0	187.0	
315.0			UNDERCLAY	4.0	190.0	
311.0			CALCAREOUS SHALE	10.0	194.0	
301.0			CALCAREOUS SHALE	46.0	204.0	
255.0	CARBONDALE	HERRIN	COAL	4.6	250.0	
250.4			UNDERCLAY	0.9	254.6	

MAPID: 11900439000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 33 QUARTERS/FOOTAGES: 4160' S line, 3565' E line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.888125 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.668385 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: BRENNAN 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
312.0	CARBONDALE	HERRIN	COAL	5.2	188.0	

**MAPID:** 11900439000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 33    **QUARTERS/FOOTAGES:** 4160' S line, 3565' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.888125    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.668385    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 193.2    **LOG TYPE:** Drillers Log  
**SOURCE:** BRENNAN    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
312.0	CARBONDALE	HERRIN	COAL	5.2	188.0	

**MAPID:** 11900440000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 660' S line, 3300' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.868438    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.658381    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 510.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BRENNAN 2    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
292.0	CARBONDALE	HERRIN	COAL	5.2	218.0	

**MAPID:** 11900440000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 660' S line, 3300' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.868438    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.658381    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 510.0    **LOGGED (FT.):** 223.2    **LOG TYPE:** Drillers Log  
**SOURCE:** BRENNAN    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
292.0	CARBONDALE	HERRIN	COAL	5.2	218.0	

**MAPID:** 11900441000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 7W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 5215' S line, 2180' E line  
**QUADRANGLE:** ST. JACOB    **LONGITUDE:** -89.86441    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.670925    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BRENNAN 3    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
263.0	CARBONDALE	HERRIN	COAL	5.2	217.0	

MAPID: 11900441000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 34 QUARTERS/FOOTAGES: 5215' S line, 2180' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.86441 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.670925 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 222.2 LOG TYPE: Drillers Log

SOURCE: BRENNAN WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
263.0	CARBONDALE	HERRIN	COAL	5.2	217.0	

MAPID: 11901150000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 34 QUARTERS/FOOTAGES: 113' N line, 318' E line of NW NE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.8602 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.671209 DATE COLLECTED: 7 / 31 / 1963

SURFACE ELEVATION (FT.): 491.9 LOGGED (FT.): 245.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F9 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
491.9			SOIL	0.5	0.0	
491.4			CLAY	22.5	0.5	YELLOW
468.9			SAND	2.0	23.0	
466.9			CLAY	3.0	25.0	YELLOW
463.9			GLACIAL DRIFT	5.0	28.0	YELLOW
458.9			GLACIAL DRIFT	3.0	33.0	1' ERROR
455.9			GLACIAL DRIFT	56.0	36.0	
399.9			SANDSTONE	3.5	92.0	
396.4			SHALE	68.5	95.5	
327.9			SHALE WITH LIMESTONE	6.5	164.0	
321.4			LIMESTONE	5.5	170.5	
315.9			SHALE	6.0	176.0	6" ERROR
309.9			SHALE	2.0	182.0	
307.9			SANDSTONE/SHALE	46.0	184.0	
261.9			SHALE WITH LIMESTONE	9.5	230.0	
252.4			GRAY SHALE	0.3	239.5	
252.0			COAL	5.2	239.9	

MAPID: 11901150000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 34 QUARTERS/FOOTAGES: 113' N line, 318' E line of NW NE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.8602 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.671209 DATE COLLECTED:

SURFACE ELEVATION (FT.): 492.0 LOGGED (FT.): 245.2 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-9 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
319.4	MODESTO	PIASA	LIMESTONE	5.5	172.6
313.9	MODESTO		UNCLASSIFIED	1.5	178.1
312.4	CARBONDALE		UNCLASSIFIED	4.5	179.6
307.9	CARBONDALE	ENERGY	SHALE	55.9	184.1
252.0	CARBONDALE	HERRIN	COAL	5.2	240.0

MAPID: 11902305000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 34 QUARTERS/FOOTAGES: 0' S line, 0' W line of SW SW NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.875641 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.664191 DATE COLLECTED: 2 / 17 / 1969

SURFACE ELEVATION (FT.): 526.9 LOGGED (FT.): 265.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 8520C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
526.9	PLEISTOCENE		SAND/CLAY	83.0	0.0
443.9			SANDSTONE	11.8	83.0
432.1			GRAY SHALE	74.5	94.8
357.6			GRAY SHALE	8.4	169.3
349.2			SANDSTONE	1.3	177.7
347.9			GRAY SHALE	8.3	179.0
339.6			LIMESTONE	3.0	187.3
336.6			GRAY SHALE	7.5	190.3
329.1	MODESTO	PIASA	LIMESTONE	4.5	197.8
324.6	CARBONDALE	ENERGY	GRAY SHALE	1.0	202.3
323.6	CARBONDALE	ENERGY	SANDSTONE	18.3	203.3
305.3	CARBONDALE	ENERGY	SANDY SHALE	35.0	221.6
270.3	CARBONDALE	HERRIN	COAL	4.4	256.6
265.9	CARBONDALE	HERRIN	SILTSTONE	0.1	261.0
265.8	CARBONDALE	HERRIN	COAL	0.9	261.1
264.9	CARBONDALE		UNDERCLAY	0.1	262.0
264.8	CARBONDALE		LIMESTONE	2.0	262.1
262.8	CARBONDALE		LIMESTONE	0.9	264.1

MAPID: 11902305000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 34 QUARTERS/FOOTAGES: 0' S line, 0' W line of SW SW NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.875641 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.664191 DATE COLLECTED:

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 261.4 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 8520-C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
322.8	MODESTO	PIASA	LIMESTONE	4.5	197.2	
318.3	MODESTO		UNCLASSIFIED	1.5	201.7	
316.8	CARBONDALE		UNCLASSIFIED	4.5	203.2	
312.3	CARBONDALE	ENERGY	SHALE	48.3	207.7	
264.0	CARBONDALE	HERRIN	COAL	5.4	256.0	

MAPID: 11925901000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 34 QUARTERS/FOOTAGES:

QUADRANGLE: ST. JACOB LONGITUDE: -89.864886 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.662009 DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.8 LOGGED (FT.): 244.0 LOG TYPE: Drillers Log

SOURCE: PEABODY 16180C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.8	PLEISTOCENE		SANDY CLAY	52.0	0.0	
438.8	PLEISTOCENE		CLAY	12.5	52.0	BLUE
426.3			SANDSTONE	25.5	64.5	GRAY
400.8			GRAY SHALE	64.5	90.0	
336.3			SANDSTONE	2.0	154.5	GRAY
334.3			GRAY SHALE	4.0	156.5	
330.3	MODESTO	PIASA	LIMESTONE	3.2	160.5	WHITE
327.1	CARBONDALE	ENERGY	GRAY SHALE	9.8	163.7	
317.3	CARBONDALE	ENERGY	SANDSTONE	5.5	173.5	GRAY
311.8	CARBONDALE	ENERGY	GRAY SHALE	53.2	179.0	
258.6	CARBONDALE	HERRIN	COAL	5.2	232.2	
253.4	CARBONDALE		UNDERCLAY	1.0	237.4	GRAY
252.4	CARBONDALE		SHALE WITH LIMESTONE	2.4	238.4	
250.0	CARBONDALE		LIMESTONE	3.2	240.8	WHITE

MAPID: 11925902000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 34 QUARTERS/FOOTAGES:

QUADRANGLE: ST. JACOB LONGITUDE: -89.869635

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.65708

DATE COLLECTED: 7 / 29 / 1975

SURFACE ELEVATION (FT.): 509.3 LOGGED (FT.): 253.0

LOG TYPE: Drillers Log

SOURCE: PEABODY 16179C

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
509.3	PLEISTOCENE		SANDY CLAY	67.0	0.0	
442.3			SANDSTONE	23.0	67.0	GRAY
419.3			GRAY SHALE	75.0	90.0	
344.3			LIMESTONE	4.0	165.0	WHITE
340.3			GRAY SHALE	5.6	169.0	
334.7	MODESTO	PIASA	LIMESTONE	4.4	174.6	WHITE
330.3			GRAY SHALE	2.0	179.0	
328.3			LIMESTONE	1.5	181.0	WHITE
326.8	CARBONDALE	ENERGY	GRAY SHALE	2.5	182.5	
324.3	CARBONDALE	ENERGY	SANDSTONE	8.0	185.0	GRAY
316.3	CARBONDALE	ENERGY	GRAY SHALE	36.0	193.0	
280.3	CARBONDALE	ENERGY	GRAY SHALE	10.3	229.0	
270.0	CARBONDALE	HERRIN	COAL	5.2	239.3	
264.8	CARBONDALE		UNDERCLAY	2.5	244.5	GRAY
262.3	CARBONDALE		SHALE WITH LIMESTONE	6.0	247.0	

MAPID: 11900857000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 35 QUARTERS/FOOTAGES: 62' N line, 596' W line of NW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.845123

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.671072

DATE COLLECTED:

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 211.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 4

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
308.6	MODESTO	PIASA	LIMESTONE	5.0	136.4	
303.6	CARBONDALE	ENERGY	GRAY SHALE	4.7	141.4	
298.9	CARBONDALE	ENERGY	SILTY SHALE	56.7	146.1	
242.1	CARBONDALE	ENERGY	GRAY SHALE	3.2	202.9	
239.0	CARBONDALE	HERRIN	COAL	5.0	206.0	

MAPID: 11900857000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 35 QUARTERS/FOOTAGES: 62' N line, 596' W line of NW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.845123 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.671072 DATE COLLECTED:

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 210.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
309.6	MODESTO	PIASA	LIMESTONE	5.0	135.4
304.6	MODESTO		UNCLASSIFIED	2.7	140.4
301.9	CARBONDALE		UNCLASSIFIED	6.0	143.1
295.9	CARBONDALE	ENERGY	SHALE	55.9	149.1
240.0	CARBONDALE	HERRIN	COAL	5.0	205.0

MAPID: 11900857000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 35 QUARTERS/FOOTAGES: 62' N line, 596' W line of NW NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.845123 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.671072 DATE COLLECTED: 11 / 13 / 1958

SURFACE ELEVATION (FT.): 445.2 LOGGED (FT.): 210.7 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 4 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
445.2	PLEISTOCENE		CLAY	18.1	0.0
427.1	PLEISTOCENE		SANDY CLAY	27.4	18.1
399.7			SANDSTONE	20.9	45.5 GRAY
378.9			SANDY SHALE	66.8	66.3
312.1			GRAY SHALE	3.0	133.1
309.1	MODESTO	PIASA	LIMESTONE	5.0	136.1
304.1	CARBONDALE	ENERGY	GRAY SHALE	4.7	141.1
299.4	CARBONDALE	ENERGY	SANDY SHALE	56.7	145.8
242.6	CARBONDALE	ENERGY	GRAY SHALE	3.2	202.6
239.5	CARBONDALE	HERRIN	COAL	0.4	205.7
239.1	CARBONDALE	HERRIN	CLAYSTONE	0.0	206.1
239.1	CARBONDALE	HERRIN	COAL	3.5	206.1
235.6	CARBONDALE	HERRIN	ROCK	0.1	209.6 BLUE
235.5	CARBONDALE	HERRIN	COAL	1.0	209.7
234.5	CARBONDALE		UNDERCLAY	1.1	210.7

MAPID: 11901149000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 35 QUARTERS/FOOTAGES: 382' S line, 25' W line of SW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.856686 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.665019 DATE COLLECTED: 7 / 27 / 1963

SURFACE ELEVATION (FT.): 470.4 LOGGED (FT.): 229.5 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL COMPANY F8 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
470.4	PLEISTOCENE		SOIL	0.5	0.0	
469.9	PLEISTOCENE		CLAY	26.0	0.5	YELLOW
443.9	PLEISTOCENE		GLACIAL DRIFT	17.0	26.5	
426.9			SANDSTONE	4.5	43.5	
422.4			SHALE	22.0	48.0	
400.4			SANDSTONE	4.0	70.0	
396.4			SHALE	10.0	74.0	
386.4			SILTY SHALE	52.0	84.0	
334.4			LIMESTONE	3.5	136.0	
330.9			CALCAREOUS SHALE	6.0	139.5	
324.9			SILTY SHALE	2.0	145.5	
322.9			SANDSTONE	1.5	147.5	
321.4			SANDSTONE	5.5	149.0	
315.9			SILTY SHALE	6.0	154.5	
309.9			SHALY SANDSTONE	19.5	160.5	
290.4			CALCAREOUS SHALE	16.3	180.0	
274.1			SILTY SHALE	12.8	196.3	
261.3			GRAY SHALE	10.3	209.1	
251.1			DARK SHALE	1.8	219.3	
249.3			BLACK SHALE	0.4	221.1	
248.9	CARBONDALE	HERRIN	COAL	4.8	221.5	
244.1			UNDERCLAY	1.8	226.3	
242.3			LIMESTONE	1.4	228.1	



MAPID: 11901149000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 35 QUARTERS/FOOTAGES: 382' S line, 25' W line of SW NW

QUADRANGLE: ST. JACOB LONGITUDE: -89.856686 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.665019 DATE COLLECTED:

SURFACE ELEVATION (FT.): 470.0 LOGGED (FT.): 225.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-8 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
321.6	MODESTO	PIASA	LIMESTONE	3.5	148.4
318.1	MODESTO		UNCLASSIFIED	2.0	151.9
316.1	CARBONDALE		UNCLASSIFIED	6.0	153.9
310.1	CARBONDALE	ANNA	BLACK SHALE	2.1	159.9
308.0	CARBONDALE	ENERGY	SHALE	59.0	162.0
249.0	CARBONDALE	HERRIN	COAL	4.8	221.0

MAPID: 11901156000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 35 QUARTERS/FOOTAGES: 530' S line, 290' E line of NE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.83876 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.668838 DATE COLLECTED: 8 / 21 / 1963

SURFACE ELEVATION (FT.): 440.8 LOGGED (FT.): 210.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F15 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
440.8	PLEISTOCENE		SOIL	1.5	0.0
439.3	PLEISTOCENE		CLAY	18.5	1.5 BLUE
420.8	PLEISTOCENE		GLACIAL DRIFT	5.0	20.0
415.8	PLEISTOCENE		SAND	10.0	25.0
405.8			SHALE	10.0	35.0
395.8			LIMESTONE	15.0	45.0
380.8			LIMESTONE	2.5	60.0
378.3			SHALE WITH LIMESTONE	25.0	62.5
353.3			SILTY SHALE	28.5	87.5
324.8			SILTY SHALE	17.0	116.0
307.8	MODESTO	PIASA	LIMESTONE	5.5	133.0
302.3	CARBONDALE	ENERGY	SILTY SHALE	10.5	138.5
291.8	CARBONDALE	ENERGY	SILTY SHALE	27.0	149.0
264.8	CARBONDALE	ENERGY	SILTY SHALE	16.3	176.0
248.5	CARBONDALE	ENERGY	DARK SHALE	11.8	192.3
236.8	CARBONDALE	HERRIN	BONE COAL	0.9	204.0
235.8	CARBONDALE	HERRIN	COAL	3.9	205.0
231.9	CARBONDALE		UNDERCLAY	0.8	208.9
231.1	CARBONDALE		SHALY LIMESTONE	0.3	209.7

MAPID: 11901156000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 35 QUARTERS/FOOTAGES: 530' S line, 290' E line of NE NE

QUADRANGLE: ST. JACOB LONGITUDE: -89.83876 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.668838 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 208.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. F-15 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
308.0	MODESTO	PIASA	LIMESTONE	5.5	133.0
302.5	MODESTO		UNCLASSIFIED	2.0	138.5
300.5	CARBONDALE		UNCLASSIFIED	6.0	140.5
294.5	CARBONDALE	ENERGY	SHALE	57.5	146.5
237.0	CARBONDALE	HERRIN	COAL	4.8	204.0

MAPID: 11923594000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 7W SECTION: 36 QUARTERS/FOOTAGES: 1328' S line, 59' W line of SW

QUADRANGLE: ST. JACOB LONGITUDE: -89.837653 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.659786 DATE COLLECTED: 2 / 2 / 1978

SURFACE ELEVATION (FT.): LOGGED (FT.): 223.6 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 16703C WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			SHALE	9.7	189.7
-			GRAY SHALE	6.2	199.4
-			BLACK SHALE	1.3	205.6
-			GRAY SHALE	2.1	206.9
-			CLAYSTONE & SILTSTONE	8.5	209.0 GRAY

MAPID: 11923642000C    VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 7W    SECTION: 36    QUARTERS/FOOTAGES: 330' N line, 1650' E line of NE

QUADRANGLE: ST. JACOB

LONGITUDE: -89.824555

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.669826

DATE COLLECTED: 11 / 8 / 1977

SURFACE ELEVATION (FT.):

LOGGED (FT.): 271.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    16701C

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			SHALE	6.9	240.0	
-			GRAY SHALE	2.9	246.9	
-			GRAY SHALE	3.2	249.8	
-			BLACK SHALE	2.0	253.0	
-			GRAY SHALE	3.0	255.0	
-			BLACK SHALE	1.1	258.0	
-			GRAY SHALE	0.7	259.1	
-			CLAYSTONE & SILTSTONE	5.0	259.8	GRAY

MAPID: 11900971000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 1 QUARTERS/FOOTAGES: NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.942615 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.741393 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 279.0 LOG TYPE: Drillers Log

SOURCE: DONK BROTHERS 12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			SOIL	2.0	0.0
-			CLAY	24.0	2.0
-			SAND	16.0	26.0
-			SOFT SHALE	13.0	42.0
-			SHALE	4.0	55.0
-			SHALE	11.0	59.0
-			GRAY SHALE	16.0	70.0
-			DARK SHALE	1.8	86.0
-			COAL	0.3	87.8
-			GRAY SHALE	3.0	88.0
-			SANDSTONE	10.0	91.0
-			LIMESTONE	3.0	101.0
-			SANDSTONE	3.0	104.0
-			SANDSTONE	14.0	107.0
-			SANDY SHALE	17.0	121.0
-			SANDY SHALE	28.0	138.0
-			DARK SHALE	5.0	166.0
-			GRAY SHALE	13.0	171.0
-			SHALE	8.0	184.0
-			CALCAREOUS SHALE	5.0	192.0
-			GRAY SHALE	6.0	197.0
-			SHALE	5.0	203.0
-			LIMESTONE	5.0	208.0
-			DARK SHALE	9.0	213.0
-	CARBONDALE		LIMESTONE	2.0	222.0
-	CARBONDALE	ENERGY	SANDSTONE	12.0	224.0
-	CARBONDALE	ENERGY	SANDY SHALE	18.0	236.0
-	CARBONDALE	ENERGY	SANDY SHALE	5.8	254.0
-	CARBONDALE	HERRIN	COAL	6.7	259.8
-	CARBONDALE		GRAY SHALE	3.5	266.5
-	CARBONDALE		GRAY SHALE	1.5	270.0
-	CARBONDALE		LIMESTONE	1.5	271.5
-	CARBONDALE		SANDSTONE	1.0	273.0
-	CARBONDALE		SHALE	5.0	274.0

MAPID: 11901175000C    VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 1    QUARTERS/FOOTAGES: 1294' N line, 560' W line of NW SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.93593

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.734278

DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0

LOGGED (FT.): 238.5

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    TR27

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
378.0	MODESTO	PIASA	LIMESTONE	4.4	183.0
373.6	MODESTO		GRAY SHALE	7.6	187.4
366.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	195.0
362.8	CARBONDALE	LAWSON	GRAY SHALE	6.9	198.2
355.9	CARBONDALE	ENERGY	SILTY SHALE	25.4	205.1
330.0	CARBONDALE	HERRIN	COAL	7.5	231.0

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MAPID: 11901175000C VERSION: 2

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 1 QUARTERS/FOOTAGES: 1294' N line, 560' W line of NW SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.93593

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.734278

DATE COLLECTED: 9 / 28 / 1961

SURFACE ELEVATION (FT.): 560.9

LOGGED (FT.): 239.2

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 27

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.9	PLEISTOCENE		SANDY CLAY	81.0	0.0
479.9			SANDY SHALE	64.1	81.0
415.8			GRAY SHALE	13.3	145.1
402.5			LIMESTONE	0.3	158.4
402.2			GRAY SHALE	24.5	158.7
377.7	MODESTO	PIASA	LIMESTONE	4.4	183.2
373.3			GRAY SHALE	7.6	187.6
365.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	195.2
362.5	CARBONDALE	ENERGY	GRAY SHALE	6.9	198.4
355.6	CARBONDALE	ENERGY	SANDY SHALE	25.4	205.3
330.2	CARBONDALE	HERRIN	COAL	1.8	230.7
328.4	CARBONDALE	HERRIN	COAL	0.0	232.5
328.4	CARBONDALE	HERRIN	COAL	0.4	232.5
328.0	CARBONDALE	HERRIN	PYRITE	0.0	232.9
328.0	CARBONDALE	HERRIN	COAL	1.1	232.9
326.9	CARBONDALE	HERRIN	PYRITE	0.0	234.0
326.9	CARBONDALE	HERRIN	COAL	0.2	234.0
326.8	CARBONDALE	HERRIN	COAL	0.0	234.1
326.7	CARBONDALE	HERRIN	COAL	1.4	234.2
325.4	CARBONDALE	HERRIN	COAL	0.1	235.5
325.3	CARBONDALE	HERRIN	COAL	1.1	235.6
324.2	CARBONDALE	HERRIN	UNDERCLAY	0.1	236.7
324.1	CARBONDALE	HERRIN	COAL	1.4	236.8
322.7	CARBONDALE		UNDERCLAY	1.0	238.2

MAPID: 11901175000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 1 QUARTERS/FOOTAGES: 1294' N line, 560' W line of NW SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.93593

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.734278

DATE COLLECTED: 9 / 28 / 1961

SURFACE ELEVATION (FT.): 561.0

LOGGED (FT.): 239.0

LOG TYPE:

SOURCE: PEABODY 2-27

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
561.0	PLEISTOCENE		SOIL	81.0	0.0	
480.0			SANDY SHALE	64.1	81.0	
415.9			SHALE	13.3	145.1	
402.6			LIMESTONE	0.3	158.4	
402.3			SHALE	24.5	158.7	
377.8			LIMESTONE	4.4	183.2	
373.4			SHALE	7.6	187.6	
365.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	195.2	
362.6	CARBONDALE	ENERGY	SHALE	6.9	198.4	
355.7	CARBONDALE	ENERGY	SANDY SHALE	25.4	205.3	
330.3	CARBONDALE	HERRIN	COAL	1.8	230.7	
328.5	CARBONDALE	HERRIN	COAL	0.0	232.5	
328.5	CARBONDALE	HERRIN	COAL	0.4	232.5	
328.1	CARBONDALE	HERRIN	PYRITE	0.0	232.9	
328.1	CARBONDALE	HERRIN	COAL	1.1	232.9	
327.1	CARBONDALE	HERRIN	PYRITE	0.0	233.9	
327.0	CARBONDALE	HERRIN	COAL	0.2	234.0	
326.9	CARBONDALE	HERRIN	COAL	0.0	234.1	
326.8	CARBONDALE	HERRIN	COAL	1.4	234.2	
325.5	CARBONDALE	HERRIN	COAL	0.1	235.5	
325.4	CARBONDALE	HERRIN	COAL	1.1	235.6	
324.3	CARBONDALE	HERRIN	SHALE	0.1	236.7	
324.2	CARBONDALE	HERRIN	COAL	1.4	236.8	DULL
322.8	CARBONDALE		UNDERCLAY	1.0	238.2	

MAPID: 11900098000C    VERSION: 1

PROJECT: NCRDS87

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 3    QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.967297    GEOLOGIST: WEIBEL

CONFIDENTIAL: N    LATITUDE: 38.732119    DATE COLLECTED: 0 / 0 / 1923

SURFACE ELEVATION (FT.): 545.0    LOGGED (FT.): 604.0    LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORPORATION #5    WELL TYPE: Diamond Drill

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
545.0			UNCONSOLIDATED	71.0	0.0	
474.0	MODESTO		SHALE	45.5	71.0	
428.5	MODESTO		BLACK SHALE	10.5	116.5	
418.0	MODESTO		SHALE	28.0	127.0	
390.0	MODESTO	PIASA	LIMESTONE	4.0	155.0	UNCERTAIN CORRELATION
386.0	CARBONDALE		SHALE	8.8	159.0	UNCERTAIN CORRELATION
377.2	CARBONDALE	BRERETON	LIMESTONE	18.8	167.8	
358.5	CARBONDALE	ANNA	BLACK SHALE	2.0	186.5	
356.5	CARBONDALE	HERRIN	COAL	8.0	188.5	
348.5	CARBONDALE		UNDERCLAY	11.5	196.5	
337.0	CARBONDALE		LIMESTONE	2.3	208.0	
334.7	CARBONDALE		GRAY SHALE	7.8	210.3	
327.0	CARBONDALE		SHALE	25.0	218.0	
302.0	CARBONDALE	EXCELLO	BLACK SHALE	16.3	243.0	
285.7	CARBONDALE	HOUCHIN CREEK	COAL	0.2	259.3	
285.5	CARBONDALE		SHALE	41.0	259.5	
244.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	3.8	300.5	UNCERTAIN CORRELATION
240.7	CARBONDALE	COLCHESTER	COAL	0.7	304.3	UNCERTAIN CORRELATION
240.0			UNDERCLAY	4.5	305.0	
235.5	SPOON	SEAHORNE LS	LIMESTONE	1.0	309.5	UNCERTAIN CORRELATION
234.5			SHALE	31.2	310.5	
203.3			LIMESTONE	1.0	341.7	
202.3			SHALE	15.5	342.7	
186.8			LIMESTONE	20.7	358.2	
166.2			SHALE	9.8	378.8	
156.3			BLACK SHALE	7.5	388.7	
148.8			LIMESTONE	0.3	396.2	
148.5			BLACK SHALE	24.5	396.5	
124.0			SANDSTONE	14.0	421.0	
110.0			SHALE	5.0	435.0	
105.0			SANDSTONE	2.0	440.0	
103.0			LIMESTONE	0.8	442.0	
102.2			BLACK SHALE	9.8	442.8	
92.4			LIMESTONE	0.8	452.6	
91.6			BLACK SHALE	3.1	453.4	
88.5			LIMESTONE	2.9	456.5	
85.6			BLACK SHALE	3.8	459.4	
81.8			SANDSTONE	1.3	463.2	
80.5			SHALE	10.5	464.5	



70.0	LIMESTONE	1.0	475.0
69.0	SANDSTONE	3.0	476.0
66.0	LIMESTONE	2.0	479.0
64.0	SHALE	13.0	481.0
51.0	SANDSTONE	51.0	494.0
0.0	BLACK SHALE	13.0	545.0
-13.0	SANDSTONE	46.0	558.0

**MAPID:** 11900098000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 3    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.967297    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.732119    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 545.0    **LOGGED (FT.):** 197.0    **LOG TYPE:** Survey Core Study  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
386.0	MODESTO	PIASA	LIMESTONE	4.0	159.0
382.0	MODESTO		CLAYSTONE & SHALE	5.1	163.0
376.9	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	1.3	168.1
375.7	CARBONDALE	LAWSON	SILTSTONE	7.2	169.3
368.5	CARBONDALE	BRERETON	LIMESTONE	9.0	176.5
359.5	CARBONDALE	ANNA	BLACK SHALE	2.5	185.5
356.0	CARBONDALE	HERRIN	COAL	8.0	189.0

**MAPID:** 11900098000C    **VERSION:** 3    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 3    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.967297    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.732119    **DATE COLLECTED:** 0 / 0 / 1923  
**SURFACE ELEVATION (FT.):** 545.0    **LOGGED (FT.):** 604.0    **LOG TYPE:**  
**SOURCE:** MADISON CC0005    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
356.0	CARBONDALE	HERRIN	COAL	8.0	189.0

MAPID: 11900098000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 3    QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.967297    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.732119    DATE COLLECTED: 0 / 0 / 1923

SURFACE ELEVATION (FT.): 545.0    LOGGED (FT.): 604.0    LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORPORATION    2    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
545.0			UNCONSOLIDATED	71.0	0.0	SURFACE AND CLAY
474.0			SHALE	7.5	71.0	
466.5			DARK GRAY SHALE	17.5	78.5	
449.0			GRAY SHALE	20.5	96.0	
428.5			BLACK SHALE	10.5	116.5	
418.0			GRAY SHALE	13.5	127.0	
404.5			SHALE	0.5	140.5	
404.0			CALCAREOUS SHALE	14.0	141.0	
390.0	MODESTO	PIASA	LIMESTONE	4.0	155.0	
386.0			DARK GRAY SHALE	8.8	159.0	
377.2	CARBONDALE	BRERETON	LIMESTONE	1.3	167.8	
376.0	CARBONDALE	BRERETON	LIMESTONE	17.5	169.0	
358.5	CARBONDALE	ANNA	BLACK SHALE	2.0	186.5	
356.5	CARBONDALE	HERRIN	COAL	8.0	188.5	
348.5	CARBONDALE		UNDERCLAY	11.5	196.5	
337.0	CARBONDALE		LIMESTONE	2.3	208.0	
334.7	CARBONDALE		GRAY SHALE	7.8	210.3	
327.0	CARBONDALE		SHALE	4.5	218.0	
322.5	CARBONDALE		SHALE	20.5	222.5	
302.0	CARBONDALE		BLACK SHALE	16.3	243.0	
285.7	CARBONDALE	HOUCHIN CREEK	COAL	0.2	259.3	
285.5	CARBONDALE		SANDY SHALE	41.0	259.5	
244.5	CARBONDALE		BLACK SHALE	3.8	300.5	
240.7	CARBONDALE	COLCHESTER	COAL	0.7	304.3	
240.0			UNDERCLAY	4.5	305.0	
235.5			LIMESTONE	1.0	309.5	
234.5			DARK GRAY SHALE	7.5	310.5	
227.0			SHALE	11.5	318.0	
215.5			SHALE	12.2	329.5	
203.3			LIMESTONE	1.0	341.7	
202.3			BLACK SHALE	15.5	342.7	
186.8			LIMESTONE	5.3	358.2	
181.5			LIMESTONE	15.3	363.5	
166.2			GRAY SHALE	3.0	378.8	
163.2			DARK GRAY SHALE	6.8	381.8	
156.3			BLACK SHALE	7.5	388.7	
148.8			LIMESTONE	0.3	396.2	
148.5			BLACK SHALE	24.5	396.5	
124.0			SANDSTONE	0.8	421.0	

123.2	SANDSTONE	13.2	421.8
110.0	BLACK SHALE	5.0	435.0
105.0	SANDSTONE	2.0	440.0
103.0	LIMESTONE	0.8	442.0
102.2	BLACK SHALE	9.8	442.8
92.4	LIMESTONE	0.8	452.6
91.6	BLACK SHALE	3.1	453.4
88.5	LIMESTONE	2.9	456.5
85.6	BLACK SHALE	3.8	459.4
81.8	SANDSTONE	1.3	463.2
80.5	SHALE	2.5	464.5
78.0	SHALE	4.7	467.0
73.3	SHALE	3.3	471.7
70.0	LIMESTONE	1.0	475.0
69.0	SANDSTONE	3.7	476.0
65.3	LIMESTONE	1.3	479.7
64.0	SHALE	4.0	481.0
60.0	DARK GRAY SHALE	8.2	485.0
51.8	SHALE	1.3	493.2
50.5	SANDSTONE	23.7	494.5
26.8	SANDSTONE	27.5	518.2
-0.7	BLACK SHALE	13.2	545.7
-13.8	SANDSTONE	45.2	558.8

**MAPID:** 11900156000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 4    **QUARTERS/FOOTAGES:** 400' S line, 352' E line of SE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.986168    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.732097    **DATE COLLECTED:** 0 / 0 / 1924  
**SURFACE ELEVATION (FT.):** 512.2    **LOGGED (FT.):** 134.0    **LOG TYPE:**  
**SOURCE:** MADISON CC0007    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
379.2	CARBONDALE	HERRIN	COAL	1.3	133.0	HOLE STOPPED IN COAL - THICK UNKNOWN

MAPID: 11900156000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 4    QUARTERS/FOOTAGES: 400' S line, 352' E line of SE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.986168

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.732097

DATE COLLECTED:

SURFACE ELEVATION (FT.): 512.0

LOGGED (FT.): 134.3

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
418.8	MODESTO	PIASA	LIMESTONE	6.8	93.2	
412.0	MODESTO		DARK GRAY SHALE	4.8	100.0	
407.2	CARBONDALE		GRAY SHALE	3.5	104.8	
403.7	CARBONDALE		GRAY SHALE	5.5	108.3	
398.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	113.8	
395.8	CARBONDALE	LAWSON	CLAYSTONE	3.2	116.2	
392.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	8.0	119.3	
384.7	CARBONDALE	BRERETON	LIMESTONE	3.0	127.3	
381.7	CARBONDALE	ANNA	BLACK SHALE	2.7	130.3	
379.0	CARBONDALE	HERRIN	COAL	1.3	133.0	HOLE STOPPED IN COAL - THICK UNKNOWN

MAPID: 11900156000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 4 QUARTERS/FOOTAGES: 400' S line, 352' E line of SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.986168 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.732097 DATE COLLECTED: 0 / 0 / 1924

SURFACE ELEVATION (FT.): 512.2 LOGGED (FT.): 134.0 LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORPORATION 7 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
512.2			UNCONSOLIDATED	28.0	0.0	CLAY AND LOAM
484.2			HARD PAN	13.0	28.0	
471.2			SHALE	15.3	41.0	
455.9			SHALE	3.7	56.3	
452.2			SHALE	14.7	60.0	
437.5			SHALE	3.7	74.7	
433.9			CALCAREOUS SHALE	8.8	78.3	
425.0			CALCAREOUS SHALE	5.7	87.2	
419.4	MODESTO	PIASA	LIMESTONE	6.8	92.8	
412.5			CALCAREOUS SHALE	0.7	99.7	
411.9			BLACK SHALE	4.2	100.3	
407.7			SHALE	3.5	104.5	
404.2			UNDERCLAY	5.5	108.0	
398.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	113.5	
396.4	CARBONDALE		UNDERCLAY	3.2	115.8	
393.2	CARBONDALE		CALCAREOUS SHALE	8.0	119.0	
385.2	CARBONDALE	BRERETON	LIMESTONE	3.0	127.0	
382.2	CARBONDALE		CALCAREOUS SHALE	1.3	130.0	
380.9	CARBONDALE		SHALE	1.4	131.3	
379.5	CARBONDALE	HERRIN	COAL	1.3	132.7	HOLE STOPPED IN COAL - THICK UNKNOWN

MAPID: 11901098000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 5 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.01663 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.737203 DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 114.0 LOG TYPE: Drillers Log

SOURCE: LAYNE-WESTERN CO. 3 WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
428.0			UNCONSOLIDATED	3.0	0.0	SOIL
425.0			CLAY	16.0	3.0	
409.0			SAND	11.0	19.0	
398.0			SANDY CLAY	15.0	30.0	
383.0			SAND	20.0	45.0	
363.0			SANDSTONE	25.0	65.0	
338.0			SANDSTONE	5.0	90.0	
333.0			SANDSTONE	13.0	95.0	
320.0			COAL	3.0	108.0	
317.0			UNDERCLAY	3.0	111.0	

MAPID: 11900099000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 8 QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.021131 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.724621 DATE COLLECTED:

SURFACE ELEVATION (FT.): 419.0 LOGGED (FT.): 1323.0 LOG TYPE:

SOURCE: GRANITE CY0001 WELL TYPE: Coal Test

COMMENT:

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

MAPID: 11900100000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 8 QUARTERS/FOOTAGES: 3390' S line, 90' W line

QUADRANGLE: MONKS MOUND LONGITUDE: -90.021951 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.72594 DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.4 LOGGED (FT.): 1327.0 LOG TYPE:

SOURCE: GRANITE CY0002 WELL TYPE: Coal Test

COMMENT:

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

**MAPID:** 11900101000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** NW NW NW  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.021142    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.729993    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 418.0    **LOGGED (FT.):** 1500.0    **LOG TYPE:**  
**SOURCE:** GRANITE CY0003    **WELL TYPE:** Coal Test  
**COMMENT:**

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

**MAPID:** 11900157000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 800' S line, 870' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.00682    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.718481    **DATE COLLECTED:** 0 / 0 / 1927  
**SURFACE ELEVATION (FT.):** 586.8    **LOGGED (FT.):** 215.0    **LOG TYPE:**  
**SOURCE:** MADISON CC0010    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
379.8	CARBONDALE	HERRIN	COAL	6.8	207.0

**MAPID:** 11900157000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 800' S line, 870' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.00682    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.718481    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 589.0    **LOGGED (FT.):** 213.8    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** Loc est. from topo/C71

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
420.0	MODESTO	PIASA	LIMESTONE	1.0	169.0
419.0	MODESTO		VARRIGATED SHALE	20.0	170.0
399.0	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	190.0
387.0	CARBONDALE	ANNA	BLACK SHALE	4.8	202.0
382.0	CARBONDALE	HERRIN	COAL	6.8	207.0

**MAPID:** 11900348000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.021125    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.722832    **DATE COLLECTED:** 0 / 0 / 1939  
**SURFACE ELEVATION (FT.):** 418.5    **LOGGED (FT.):** 1367.0    **LOG TYPE:**  
**SOURCE:** SIMMEL L C 1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900349000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 4440' S line, 2630' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.013378    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.728661    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 426.5    **LOGGED (FT.):** 1500.0    **LOG TYPE:**  
**SOURCE:** MADISON GO    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900350000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 150' S line, 150' W line of NW NE  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.012656    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.72764    **DATE COLLECTED:** 0 / 0 / 1939  
**SURFACE ELEVATION (FT.):** 417.0    **LOGGED (FT.):** 1394.0    **LOG TYPE:**  
**SOURCE:** LAMBERT 1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900158000C    **VERSION:** 2    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 9    **QUARTERS/FOOTAGES:** SE SW  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.996765    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.718129    **DATE COLLECTED:** 0 / 0 / 1927  
**SURFACE ELEVATION (FT.):** 558.8    **LOGGED (FT.):** 177.0    **LOG TYPE:**  
**SOURCE:** MADISON CC0008    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
388.8	CARBONDALE	HERRIN	COAL	5.3	170.0	



MAPID: 11900158000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: SE SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.996765 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.718129 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 558.8 LOGGED (FT.): 177.0 LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORP. 8 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
558.8			CLAY	22.0	0.0	YL CLY; YL
536.8			CALCAREOUS SHALE	50.0	22.0	
486.8			SANDSTONE	1.0	72.0	
485.8			GRAY SHALE	60.0	73.0	
425.8			LIMESTONE	1.0	133.0	
424.8			DARK SHALE	4.0	134.0	
420.8			SHALE	8.0	138.0	
412.8			SANDSTONE	3.0	146.0	
409.8			GRAY SHALE	4.0	149.0	
405.8			CALCAREOUS SHALE	7.0	153.0	
398.8			SHALE	9.0	160.0	
389.8			LIMESTONE	0.8	169.0	
389.0	CARBONDALE	HERRIN	COAL	5.3	169.8	
383.7			UNDERCLAY	1.9	175.1	

MAPID: 11900159000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.002773 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.717137 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 577.8 LOGGED (FT.): 205.0 LOG TYPE:

SOURCE: MADISON CC0009 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.8	CARBONDALE	HERRIN	COAL	5.9	198.0	

MAPID: 11900160000C VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: SW NE SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.997999 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.720843 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 519.1 LOGGED (FT.): 150.0 LOG TYPE:

SOURCE: MADISON CC0011 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
378.1	CARBONDALE	HERRIN	COAL	7.0	141.0	

MAPID: 11900160000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: SW NE SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.997999 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.720843 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 519.1 LOGGED (FT.): 150.0 LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORP. 11 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
519.1			SANDY CLAY	14.0	0.0	YL.SDY CLY; YL
505.1			SANDY CLAY	22.0	14.0	
483.1			CALCAREOUS SHALE	26.0	36.0	
457.1			CALCAREOUS SHALE	8.0	62.0	
449.1			GRAY SHALE	10.0	70.0	
439.1			GRAY SHALE	2.0	80.0	
437.1			SANDSTONE	14.0	82.0	
423.1			SANDY SHALE	7.5	96.0	
415.6			LIMESTONE	4.5	103.5	
411.1			SANDY SHALE	4.0	108.0	
407.1			GRAY SHALE	5.0	112.0	
402.1			SANDY SHALE	1.0	117.0	
401.1			GRAY SHALE	2.5	118.0	
398.6			LIMESTONE	3.0	120.5	
395.6			GRAY SHALE	2.5	123.5	
393.1	CARBONDALE	BRERETON	LIMESTONE	12.5	126.0	
380.6	CARBONDALE	ANNA	BLACK SHALE	2.8	138.5	
377.8	CARBONDALE	HERRIN	COAL	7.0	141.3	
370.8			UNDERCLAY	1.8	148.3	

MAPID: 11900161000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: 650' S line, 0' W line of SW NW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.004071 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.72529 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 526.4 LOGGED (FT.): 141.0 LOG TYPE:

SOURCE: MADISON CC 12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
392.4	CARBONDALE	HERRIN	COAL	6.5	134.0	

MAPID: 11900161000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: 650' S line, 0' W line of SW NW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.004071 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.72529 DATE COLLECTED:

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 140.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
415.0	MODESTO	PIASA	LIMESTONE	1.5	111.0	
413.5	MODESTO		GRAY SHALE	5.5	112.5	
408.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	118.0	
401.5	CARBONDALE	LAWSON	DARK GRAY SHALE	3.3	124.5	
398.2	CARBONDALE	BRERETON	LIMESTONE	5.8	127.8	
392.0	CARBONDALE	HERRIN	COAL	6.5	134.0	

MAPID: 11900161000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: 650' S line, 0' W line of SW NW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.004071 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.72529 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 526.4 LOGGED (FT.): 141.0 LOG TYPE: Drillers Log

SOURCE: MADISON COAL CO. 12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
526.4			CLAY	24.0	0.0	YL CLY; YL
502.4			CLAY	36.0	24.0	
466.4			CLAY	12.0	60.0	CALC CLY; BLU
454.4			SANDY CLAY	26.0	72.0	
428.4			SHALE	13.0	98.0	
415.4	MODESTO	PIASA	LIMESTONE	1.5	111.0	
413.9			GRAY SHALE	5.5	112.5	
408.4	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	118.0	
401.9	CARBONDALE		DARK GRAY SHALE	3.3	124.5	
398.6	CARBONDALE	BRERETON	LIMESTONE	5.8	127.8	
392.7	CARBONDALE	HERRIN	COAL	6.5	133.7	
386.2			UNDERCLAY	0.8	140.2	

MAPID: 11900162000C VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: NW NW NW NW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.003525 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.730336 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 466.8 LOGGED (FT.): 77.0 LOG TYPE:

SOURCE: MADISON CC0013 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
396.8	CARBONDALE	HERRIN	COAL	6.2	70.0	

MAPID: 11900162000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: NW NW NW NW

QUADRANGLE: MONKS MOUND LONGITUDE: -90.003525 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.730336 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 466.8 LOGGED (FT.): 77.0 LOG TYPE: Drillers Log

SOURCE: MADISON COAL CO. 13 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
466.8			SANDY CLAY	40.0	0.0	
426.8			SHALE	8.5	40.0	
418.3			LIMESTONE	2.0	48.5	
416.3			CALCAREOUS SHALE	4.0	50.5	
412.3			LIMESTONE	7.0	54.5	
405.3			GRAY SHALE	1.5	61.5	
403.8	CARBONDALE	BRERETON	LIMESTONE	6.8	63.0	
397.0	CARBONDALE	ANNA	BLACK SHALE	0.3	69.8	
396.6	CARBONDALE	HERRIN	COAL	6.2	70.2	
390.5			UNDERCLAY	0.7	76.3	

MAPID: 11900163000C VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: NE NW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.996897 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.729048 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 543.4 LOGGED (FT.): 153.0 LOG TYPE:

SOURCE: MADISON CC0014 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
396.4	CARBONDALE	HERRIN	COAL	6.1	147.0	

MAPID: 11900163000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 9    QUARTERS/FOOTAGES: NE NW

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.996897    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.729048    DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 543.4    LOGGED (FT.): 153.0    LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORP.    14    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
543.4			SANDY CLAY	60.0	0.0
483.4			CLAY	25.0	60.0
458.4			CALCAREOUS SHALE	20.0	85.0
438.4			LIMESTONE	4.0	105.0
434.4			SHALE	15.0	109.0
419.4			LIMESTONE	2.5	124.0
416.9	CARBONDALE	BRERETON	LIMESTONE	19.2	126.5
397.7	CARBONDALE	ANNA	BLACK SHALE	1.0	145.7
396.7	CARBONDALE	HERRIN	COAL	6.1	146.7
390.6			UNDERCLAY	0.3	152.8

MAPID: 11900351000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 9 QUARTERS/FOOTAGES: SW NW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.993279 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.728182 DATE COLLECTED: 9 / 0 / 1920

SURFACE ELEVATION (FT.): 481.8 LOGGED (FT.): 500.0 LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORP. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
481.8			CLAY	16.0	0.0	
465.8			SANDY CLAY	2.0	16.0	
463.8			CLAY	9.0	18.0	BLU CLY; BLU
454.8			SHALE	1.5	27.0	
453.3			BLUE SHALE	2.5	28.5	
450.8			BLUE SHALE	2.0	31.0	
448.8			GRAY SHALE	11.0	33.0	
437.8			CALCAREOUS SHALE	12.0	44.0	
425.8	MODESTO	PIASA	LIMESTONE	1.0	56.0	
424.8	MODESTO	PIASA	LIMESTONE	5.0	57.0	
419.8			CALCAREOUS SHALE	4.0	62.0	
415.8			BLACK SHALE	3.0	66.0	
412.8			UNDERCLAY	5.0	69.0	
407.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	74.0	
405.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	76.0	
404.8	CARBONDALE		CALCAREOUS SHALE	9.2	77.0	
395.6	CARBONDALE	BRERETON	LIMESTONE	3.3	86.2	
392.3	CARBONDALE	ANNA	BLACK SHALE	4.7	89.5	
387.6	CARBONDALE	HERRIN	COAL	7.4	94.2	
380.2	CARBONDALE		UNDERCLAY	3.4	101.6	
376.8	CARBONDALE		GRAY SHALE	3.0	105.0	
373.8	CARBONDALE	SPRINGFIELD	COAL	0.2	108.0	
373.6	CARBONDALE		CALCAREOUS SHALE	2.8	108.2	
370.8	CARBONDALE		LIMESTONE	4.0	111.0	
366.8	CARBONDALE		GRAY SHALE	6.0	115.0	
360.8	CARBONDALE		CALCAREOUS SHALE	2.0	121.0	
358.8	CARBONDALE		SHALE	9.0	123.0	
349.8	CARBONDALE		SHALE	7.5	132.0	
342.3	CARBONDALE		SHALE	3.0	139.5	
339.3	CARBONDALE		SHALE	24.5	142.5	
314.8	CARBONDALE	HOUCHIN CREEK	COAL	1.0	167.0	
313.8	CARBONDALE		SANDSTONE	4.0	168.0	
309.8	CARBONDALE		SANDY SHALE	20.0	172.0	
289.8	CARBONDALE		CALCAREOUS SHALE	9.8	192.0	
280.0	CARBONDALE		LIMESTONE	1.0	201.8	
279.0	CARBONDALE		BLACK SHALE	2.0	202.8	
277.0	CARBONDALE	COLCHESTER	COAL	0.3	204.8	
276.7			UNDERCLAY	1.0	205.1	
275.7			COAL	0.5	206.1	

275.2	UNDERCLAY	2.4	206.6	
272.8	LIMESTONE	0.5	209.0	
272.3	UNDERCLAY	9.5	209.5	
262.8	SHALE	6.0	219.0	
256.8	SANDY SHALE	5.0	225.0	
251.8	SANDY SHALE	2.5	230.0	
249.3	SHALE	5.5	232.5	
243.8	SHALE	7.0	238.0	
236.8	SHALE	5.0	245.0	
231.8	SHALE	5.0	250.0	
226.8	UNDERCLAY	0.5	255.0	
226.3	CALCAREOUS SHALE	2.5	255.5	
223.8	LIMESTONE	7.0	258.0	LS W/ SH STREAKS
216.8	SHALE	5.0	265.0	SH W/ LS STREAKS
211.8	DARK SHALE	2.0	270.0	
209.8	DARK SHALE	2.0	272.0	
207.8	SHALE	8.0	274.0	
199.8	SHALE	2.0	282.0	
197.8	SHALE	4.0	284.0	
193.8	DARK SHALE	1.0	288.0	
192.8	SANDY SHALE	3.0	289.0	
189.8	SANDSTONE	9.0	292.0	
180.8	SANDSTONE	15.0	301.0	
165.8	LIMESTONE	3.0	316.0	
162.8	SANDSTONE	16.0	319.0	
146.8	LIMESTONE	1.0	335.0	
145.8	DARK SHALE	6.0	336.0	
139.8	LIMESTONE	7.0	342.0	
132.8	GRAY SHALE	5.0	349.0	
127.8	SHALE	17.5	354.0	RD SH; RD
110.3	LIMESTONE	10.0	371.5	
100.3	SHALE	11.5	381.5	
88.8	SANDY SHALE	18.0	393.0	
70.8	SHALE	16.0	411.0	
54.8	LIMESTONE	2.0	427.0	
52.8	SANDY SHALE	16.0	429.0	
36.8	SANDSTONE	33.0	445.0	
3.8	LIMESTONE	0.5	478.0	
3.3	SANDSTONE	1.5	478.5	
1.8	SANDY SHALE	1.0	480.0	
0.8	SANDSTONE	4.0	481.0	
-3.2	SANDY SHALE	15.0	485.0	

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MAPID: 11900123000C    VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 11    QUARTERS/FOOTAGES: 2850' S line, 1650' E line

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.953089    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.724282    DATE COLLECTED:

SURFACE ELEVATION (FT.): 577.3    LOGGED (FT.): 0.0    LOG TYPE:

SOURCE: DONK BROS 2    WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
339.3	CARBONDALE	HERRIN	COAL	7.0	238.0

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MAPID: 11901639000C    VERSION: 1

PROJECT: NCRDS95

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 11    QUARTERS/FOOTAGES: 455' N line, 442' W line of NE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.955115

GEOLOGIST: KOROSE

CONFIDENTIAL: N

LATITUDE: 38.729779

DATE COLLECTED: 4 / 0 / 1968

SURFACE ELEVATION (FT.): 583.0

LOGGED (FT.): 264.6

LOG TYPE: Survey Core Study

SOURCE: ILLINOIS POWER CO.

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
583.0			UNCLASSIFIED	85.9	0.0	
497.1			SHALE	13.1	85.9	
484.0			LIMESTONE	3.2	99.0	
480.8			SILTSTONE	3.6	102.2	GRY
477.2			SILTY SHALE	7.1	105.8	
470.1			SILTY SHALE	69.9	112.9	
400.2	MODESTO		COAL	0.1	182.8	BRIGHT
400.1	MODESTO		UNDERCLAY	0.3	182.9	DRK
399.8	MODESTO		CLAYSTONE & SILTSTONE	0.7	183.2	GRY
399.1	MODESTO		CALCAREOUS CLAYSTONE	2.3	183.9	
396.8	MODESTO		CLAYSTONE & SILTSTONE	1.4	186.2	SOFT\
395.4	MODESTO		GRAY SHALE	1.3	187.6	LS AT BASE
394.1	MODESTO		CALCAREOUS CLAYSTONE	0.3	188.9	
393.8	MODESTO		CLAYSTONE & SILTSTONE	8.6	189.2	
385.2	MODESTO		SHALE	6.2	197.8	
379.0	MODESTO		CLAYSTONE & SILTSTONE	0.8	204.0	DRILL NOTE: "FLINT CLAY"
378.2	MODESTO		CLAYSTONE & SILTSTONE	1.8	204.8	
376.4	MODESTO	PIASA	LIMESTONE	5.8	206.6	LT.
370.6			CLAYSTONE & SILTSTONE	3.8	212.4	
366.8			CLAYSTONE & SILTSTONE	1.1	216.2	NOTE: "C HORIZON?"; DRK
365.7			CLAYSTONE	2.8	217.3	GRY
362.9			CLAYSTONE & SILTSTONE	2.3	220.1	
360.6			LIMESTONE	2.0	222.4	HARD; GRY
358.6			LIMESTONE	2.0	224.4	
356.6			CALCAREOUS SILTSTONE	5.4	226.4	LT.
351.2	CARBONDALE	BRERETON	LIMESTONE	4.1	231.8	
347.1	CARBONDALE	HERRIN	MINE OPENING	13.1	235.9	MINE IN #6 COAL
334.0	CARBONDALE		CLAYSTONE & SILTSTONE	2.3	249.0	
331.7	CARBONDALE		CORE LOSS	10.1	251.3	
321.7	CARBONDALE		CLAYSTONE	1.3	261.3	C FRAGMENTS; GRY
320.3	CARBONDALE		CLAYSTONE	1.9	262.7	GRY

MAPID: 11901639000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 11 QUARTERS/FOOTAGES: 455' N line, 442' W line of NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.955115

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.729779

DATE COLLECTED:

SURFACE ELEVATION (FT.): 583.0

LOGGED (FT.): 183.1

LOG TYPE: Survey Core Study

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
381.9	MODESTO	PIASA	LIMESTONE	5.8	201.1	
351.1	CARBONDALE	BRERETON	LIMESTONE	4.1	231.9	
347.1	CARBONDALE	HERRIN	MINE OPENING	-	235.9	MINE VOID

MAPID: 11901171000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 12 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.93674

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.724334

DATE COLLECTED: 2 / 16 / 1957

SURFACE ELEVATION (FT.): 563.3

LOGGED (FT.): 235.6

LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 3

WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
563.3	PLEISTOCENE		SANDY CLAY	114.0	0.0	
449.3			GRAY SHALE	50.1	114.0	
399.2			GRAY SHALE	23.9	164.1	
375.3	MODESTO	PIASA	LIMESTONE	6.7	188.0	
368.6			GRAY SHALE	3.9	194.7	
364.6			GRAY SHALE	8.0	198.7	
356.6	CARBONDALE	BRERETON	LIMESTONE	1.7	206.7	
354.9	CARBONDALE		GRAY SHALE	12.2	208.4	
342.7	CARBONDALE		UNCLASSIFIED	14.9	220.6	DONK #2

MAPID: 11901171000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 12 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.93674 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.724334 DATE COLLECTED: 2 / 16 / 1957

SURFACE ELEVATION (FT.): 563.0 LOGGED (FT.): 235.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. 3 WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
563.0	PLEISTOCENE		SOIL	114.0	0.0	
449.0			SHALE	50.1	114.0	
398.9			SHALE	23.9	164.1	
375.0			LIMESTONE	6.7	188.0	
368.3			SHALE	3.9	194.7	
364.3			SHALE	8.0	198.7	
356.3			LIMESTONE	1.7	206.7	
354.6			SHALE	12.2	208.4	
342.4			NO RECORD	14.9	220.6	DROP (OLD WORKS - DONK #2)

MAPID: 11900508000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 13 QUARTERS/FOOTAGES: 1625' S line, 475' E line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.930184 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.706046 DATE COLLECTED: 4 / 0 / 1947

SURFACE ELEVATION (FT.): 530.8 LOGGED (FT.): 192.0 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 3 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.8	PLEISTOCENE		CLAY, SAND & GRAVEL	8.0	0.0	
522.8	PLEISTOCENE		SAND	14.0	8.0	
508.8			GRAY SHALE	6.0	22.0	
502.8			LIMESTONE	4.0	28.0	
498.8			GRAY SHALE	1.8	32.0	
497.0			GRAY SHALE	0.8	33.8	
496.2			GRAY SHALE	5.3	34.6	
490.9			GRAY SHALE	1.3	39.9	
489.6			FOSSILIFEROUS LIMESTONE	5.3	41.2	
484.4			GRAY SHALE	3.6	46.4	
480.8			GRAY SHALE	20.0	50.0	
460.8			GRAY SHALE	17.0	70.0	
443.8			GRAY SHALE	26.9	87.0	
416.9			GRAY SHALE	3.4	113.9	
413.5			GREEN SHALE	1.9	117.3	
411.5			SANDSTONE	0.4	119.3	
411.1			SANDY SHALE	11.7	119.7	
399.5			GRAY SHALE	4.7	131.3	
394.8			CONGLOMERATE & SHALE	5.8	136.0	
389.0	MODESTO	PIASA	LIMESTONE	3.9	141.8	WHITE
385.1	MODESTO	PIASA	FOSSILIFEROUS LIMESTONE	1.3	145.7	
383.9	CARBONDALE	ENERGY	GRAY SHALE	2.1	146.9	
381.8	CARBONDALE	ENERGY	GRAY SHALE	8.0	149.0	
373.8	CARBONDALE	ENERGY	CALCAREOUS SHALE	9.2	157.0	
364.6	CARBONDALE	ENERGY	GRAY SHALE	14.8	166.2	
349.8	CARBONDALE	ENERGY	GRAY SHALE	0.8	181.0	
349.0	CARBONDALE	HERRIN	COAL	6.6	181.8	
342.4	CARBONDALE		UNDERCLAY	3.6	188.4	

MAPID: 11900509000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 13 QUARTERS/FOOTAGES: 800' S line, 1400' W line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.942062 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.703892 DATE COLLECTED: 4 / 0 / 1947

SURFACE ELEVATION (FT.): LOGGED (FT.): 180.0 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 4 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY, SAND & GRAVEL	20.0	0.0	
-	PLEISTOCENE		SAND	5.0	20.0	
-	PLEISTOCENE		GRAVEL	1.0	25.0	
-			FOSSILIFEROUS LIMESTONE	2.4	26.0	
-			GRAY SHALE	2.6	28.4	
-			GRAY SHALE	55.0	31.0	
-			GRAY SHALE	17.1	86.0	
-			GRAY SHALE	2.9	103.1	
-			SHALE & CONGLOMERATE	0.9	106.0	
-			LIMESTONE	0.7	106.9	
-			GRAY SHALE	1.1	107.6	
-			GREEN SHALE	9.6	108.7	
-			GRAY SHALE	7.8	118.3	
-			SHALE & CONGLOMERATE	5.5	126.0	
-	MODESTO	PIASA	LIMESTONE	3.8	131.5	WHITE
-	MODESTO	PIASA	FOSSILIFEROUS LIMESTONE	0.7	135.3	
-			SHALE	0.8	136.0	
-			CONGLOMERATE & SHALE	0.5	136.8	
-			BLACK SHALE	0.1	137.3	
-			BLACK SHALE	0.2	137.3	
-			GRAY SHALE	6.9	137.5	
-	CARBONDALE	BRERETON	LIMESTONE	14.6	144.4	
-	CARBONDALE	ANNA	BLACK SHALE	9.1	159.0	
-	CARBONDALE	HERRIN	COAL	8.4	168.1	
-	CARBONDALE		UNDERCLAY	3.5	176.5	

MAPID: 11900510000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 13 QUARTERS/FOOTAGES: 850' N line, 150' W line of SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.937262

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.706564

DATE COLLECTED: 4 / 0 / 1947

SURFACE ELEVATION (FT.): 530.0

LOGGED (FT.): 193.0

LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 6

WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0	PLEISTOCENE		CLAY & GRAVEL	28.0	0.0	
502.0			GRAY SHALE	4.5	28.0	
497.5			LIMESTONE	0.5	32.5	
497.0			GRAY SHALE	14.3	33.0	
482.7			GRAY SHALE	0.3	47.3	
482.5			FOSSILIFEROUS LIMESTONE	5.3	47.5	
477.2			GRAY SHALE	7.3	52.8	
470.0			GRAY SHALE	64.6	60.0	
405.4			SHALE & CONGLOMERATE	4.2	124.6	
401.2			GRAY SHALE	4.6	128.8	
396.7			SANDSTONE	3.7	133.3	GRAY
393.0			GRAY SHALE	2.8	137.0	
390.2			SHALE & CONGLOMERATE	11.0	139.8	
379.2	MODESTO	PIASA	FOSSILIFEROUS LIMESTONE	4.3	150.8	
375.0			SHALE & CONGLOMERATE	0.9	155.0	
374.1			BLACK SHALE	0.3	155.9	
373.8			GRAY SHALE	1.1	156.2	
372.7			SHALE W/ COAL STREAKS	1.9	157.3	
370.8	CARBONDALE	DANVILLE	COAL	1.2	159.2	
369.7	CARBONDALE		UNDERCLAY	2.2	160.3	
367.5	CARBONDALE		GRAY SHALE	3.5	162.5	
364.0	CARBONDALE		SHALE & CONGLOMERATE	5.0	166.0	
359.0	CARBONDALE	BRERETON	LIMESTONE	7.0	171.0	
352.0	CARBONDALE	ENERGY	SHALE & CONGLOMERATE	2.5	178.0	
349.5	CARBONDALE	ENERGY	CONGLOMERATE & SHALE	1.5	180.5	
348.0	CARBONDALE	ENERGY	BLACK SHALE	2.0	182.0	
346.0	CARBONDALE	HERRIN	COAL	7.0	184.0	
339.0	CARBONDALE		UNDERCLAY	2.0	191.0	

MAPID: 11900511000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 13 QUARTERS/FOOTAGES: 700' N line, 1350' E line of SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.933276 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.706929 DATE COLLECTED: 5 / 0 / 1947

SURFACE ELEVATION (FT.): LOGGED (FT.): 211.0 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 7 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY, SAND & GRAVEL	21.0	0.0	
-			GRAY SHALE	7.0	21.0	
-			LIMESTONE	3.3	28.0	
-			GRAY SHALE	9.8	31.3	
-			LIMESTONE	5.3	41.0	WHITE
-			GRAY SHALE	1.7	46.3	
-			GRAY SHALE	58.0	48.0	
-			GRAY SHALE	8.8	106.0	
-			FOSSILIFEROUS LIMESTONE	0.5	114.8	
-			SHALE & CONGLOMERATE	6.8	115.3	
-			SANDSTONE	2.9	122.0	GRAY
-			SHALE & CONGLOMERATE	8.3	124.9	
-			CALCAREOUS SHALE	1.9	133.3	
-			SHALE & CONGLOMERATE	0.8	135.2	
-			GRAY SHALE	6.0	136.0	
-			GRAY SHALE	1.8	142.0	
-	MODESTO	PIASA	FOSSILIFEROUS LIMESTONE	6.0	143.8	
-	CARBONDALE	ENERGY	SHALE	6.3	149.8	
-	CARBONDALE	ENERGY	GRAY SHALE	26.8	156.0	
-	CARBONDALE	HERRIN	COAL	6.4	182.8	
-	CARBONDALE		UNDERCLAY	1.8	189.3	
-	CARBONDALE		GRAY SHALE	2.2	191.0	
-	CARBONDALE		LIMESTONE	7.0	193.2	
-	CARBONDALE		SHALE WITH LIMESTONE	10.8	200.2	

MAPID: 11900102000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 14 QUARTERS/FOOTAGES: 1400' S line, 2480' E line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.955779 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.705664 DATE COLLECTED: 0 / 0 / 1914

SURFACE ELEVATION (FT.): 557.5 LOGGED (FT.): 2184.0 LOG TYPE:

SOURCE: OHIO OIL WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
348.5	CARBONDALE	HERRIN	COAL	8.0	209.0	



**MAPID:** 11900212000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 17    **QUARTERS/FOOTAGES:** 5200' S line, 2000' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.011015    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.716069    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 426.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** GLENCARBON    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
372.0	CARBONDALE	HERRIN	COAL	6.0	54.0	

**MAPID:** 11900213000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 17    **QUARTERS/FOOTAGES:** 2800' S line, 2250' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.011863    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.709464    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 467.1    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SUGRLOAF CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
413.1	CARBONDALE	HERRIN	COAL	6.0	54.0	

**MAPID:** 11900352000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 17    **QUARTERS/FOOTAGES:** 2270' S line, 2640' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.013226    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.708031    **DATE COLLECTED:** 0 / 0 / 1924  
**SURFACE ELEVATION (FT.):** 419.0    **LOGGED (FT.):** 60.0    **LOG TYPE:**  
**SOURCE:** SUGRLOAF CC    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
385.0	CARBONDALE	HERRIN	COAL	6.0	34.0	

**MAPID:** 11900124000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 22    **QUARTERS/FOOTAGES:** 3400' S line, 950' W line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.981328    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.696434    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 512.1    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** DONK BROS 0001    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.1	CARBONDALE	HERRIN	COAL	6.0	133.0	

MAPID: 11900513000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 23 QUARTERS/FOOTAGES: 950' S line, 850' E line of SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.950146 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.689687 DATE COLLECTED: 5 / 0 / 1947

SURFACE ELEVATION (FT.): 523.7 LOGGED (FT.): 251.0 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 5 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.7	PLEISTOCENE		CLAY, SAND & GRAVEL	20.0	0.0	
503.7	PLEISTOCENE		SAND	6.0	20.0	YELLOW
497.7			GRAY SHALE	27.0	26.0	
470.7			LIMESTONE	2.0	53.0	
468.7			LIMESTONE	0.7	55.0	
468.0			GRAY SHALE	65.3	55.7	
402.7			GRAY SHALE	11.8	121.0	
390.9			SHALE & CONGLOMERATE	23.2	132.8	
367.7	MODESTO	PIASA	LIMESTONE	4.9	156.0	WHITE
362.8			FOSSILIFEROUS LIMESTONE	1.1	160.9	
361.7			CONGLOMERATE & SHALE	14.0	162.0	
347.7	CARBONDALE	BRERETON	LIMESTONE	10.0	176.0	
337.7	CARBONDALE	BRERETON	LIMESTONE	10.0	186.0	
327.7	CARBONDALE	ANNA	BLACK SHALE	3.5	196.0	
324.2	CARBONDALE	HERRIN	COAL	7.9	199.5	
316.3	CARBONDALE		UNDERCLAY	0.9	207.4	
315.4	CARBONDALE		CONGLOMERATE & SHALE	11.7	208.3	
303.7	CARBONDALE		GRAY SHALE	3.0	220.0	
300.7	CARBONDALE		SHALE WITH LIMESTONE	3.5	223.0	
297.2	CARBONDALE	HANOVER	LIMESTONE	5.2	226.5	
292.0	CARBONDALE	EXCELLO	BLACK SHALE	0.8	231.7	
291.2	CARBONDALE	HOUCHIN CREEK	COAL	2.7	232.5	
288.5	CARBONDALE		UNDERCLAY	0.5	235.2	
288.0	CARBONDALE		GRAY SHALE	15.3	235.7	

MAPID: 11900634000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 23 QUARTERS/FOOTAGES: SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.949518 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.688897 DATE COLLECTED:

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 243.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
368.0	MODESTO	PIASA	LIMESTONE	5.0	194.0	
363.0	MODESTO		SHALE	9.0	199.0	
354.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	21.0	208.0	
333.0	CARBONDALE	BRERETON	LIMESTONE	5.0	229.0	
328.0	CARBONDALE	ANNA	BLACK SHALE	4.0	234.0	
324.0	CARBONDALE	HERRIN	COAL	5.0	238.0	

MAPID: 11900634000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 23 QUARTERS/FOOTAGES: SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.949518 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.688897 DATE COLLECTED: 0 / 0 / 1948

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 240.0 LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
562.0			CLAY	55.0	0.0	
507.0			SAND	33.0	55.0	
474.0			SHALE	21.0	88.0	
453.0			SANDSTONE	17.0	109.0	
436.0			GRAY SHALE	51.0	126.0	
385.0			LIMESTONE	2.0	177.0	
383.0			GRAY SHALE	11.0	179.0	
372.0			SHALE	4.0	190.0	
368.0	MODESTO	PIASA	LIMESTONE	5.0	194.0	
363.0			SHALE	9.0	199.0	
354.0	CARBONDALE	BANKSTON FORK	LIMESTONE	26.0	208.0	
328.0	CARBONDALE		SHALE	4.0	234.0	
324.0	CARBONDALE	HERRIN	COAL	2.0	238.0	HOLE ENDED IN COAL; SEAM THICK. UNKOWN

MAPID: 11900512000C    VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 24    QUARTERS/FOOTAGES: 700' N line, 1950' E line

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.935349    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.699683    DATE COLLECTED: 5 / 0 / 1947

SURFACE ELEVATION (FT.): 514.3    LOGGED (FT.): 183.0    LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO.    8    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
483.3			LIMESTONE	0.8	31.0	GRAY
482.5			LIMESTONE	1.3	31.8	GRAY
481.3			LIMESTONE	1.4	33.0	GRAY
479.9			GRAY SHALE	0.4	34.4	
479.5			SILTSTONE	1.2	34.8	GRAY
478.3			SILTSTONE	10.0	36.0	GRAY
468.3			SILTSTONE	20.0	46.0	GRAY
448.3			SILTSTONE	8.0	66.0	GRAY
440.3			GRAY SHALE	12.1	74.0	
428.3			GRAY SHALE	11.5	86.0	
416.8			GRAY SHALE	7.5	97.5	
409.3			CORE LOSS	1.0	105.0	
408.3			GRAY SHALE	2.5	106.0	
405.8			GRAY SHALE	1.3	108.5	
404.5			GRAY SHALE	0.2	109.8	
404.3			SIDERITE	0.2	110.0	
404.1			BLACK SHALE	0.4	110.2	
403.7			BLACK SHALE	0.2	110.6	
403.5			UNDERCLAY	0.8	110.8	GRAY
402.7			GRAY SHALE	0.4	111.6	
402.3			SHALE	1.8	112.0	
400.5			SIDERITE	0.3	113.8	
400.2			SILTSTONE	2.0	114.1	GREEN
398.2			SILTSTONE	9.9	116.1	GREEN
388.3			SILTSTONE	0.7	126.0	GREEN
387.6			SILTSTONE & SHALE	1.1	126.7	GREEN
386.5			SILTSTONE	1.1	127.8	GREEN
385.5			SILTSTONE	0.6	128.8	GRAY
384.9			GREEN SHALE	0.3	129.4	
384.5			GRAY SHALE	0.3	129.8	
384.2			GREEN SHALE	0.3	130.1	
384.0			GRAY SHALE	0.9	130.3	
383.0			GRAY SHALE	0.8	131.3	
382.2			GRAY SHALE	2.9	132.1	
379.3			GRAY SHALE	1.0	135.0	
378.3			CORE LOSS	3.5	136.0	
374.8			SHALE	0.8	139.5	RED
374.0			GREEN SHALE	0.4	140.3	
373.5	MODESTO	PIASA	LIMESTONE	0.9	140.8	GRAY

372.6	MODESTO	PIASA	LIMESTONE	0.6	141.7	GRAY
372.0	MODESTO	PIASA	LIMESTONE	2.8	142.3	GRAY
369.2	MODESTO	PIASA	LIMESTONE	1.3	145.1	GRAY
368.0			GRAY SHALE	0.1	146.3	
367.9			GRAY SHALE	1.5	146.4	
366.4			LIMESTONE	0.3	147.9	GRAY
366.0			GRAY SHALE	0.8	148.3	
365.3			GRAY SHALE	0.3	149.0	
365.0	CARBONDALE		UNDERCLAY	4.5	149.3	GRAY
360.5	CARBONDALE		CORE LOSS	4.3	153.8	
356.3	CARBONDALE		GRAY SHALE	2.0	158.0	
354.3	CARBONDALE		GRAY SHALE	1.7	160.0	
352.6	CARBONDALE		LIMESTONE	0.9	161.7	GRAY
351.7	CARBONDALE		LIMESTONE	3.7	162.6	GRAY
348.0	CARBONDALE		LIMESTONE	0.6	166.3	GRAY
347.5	CARBONDALE	ENERGY	SILTSTONE	0.2	166.8	GRAY
347.3	CARBONDALE	ENERGY	SILTSTONE	1.2	167.0	GRAY
346.1	CARBONDALE	ENERGY	GRAY SHALE	0.3	168.2	
345.8	CARBONDALE	ENERGY	GRAY SHALE	0.1	168.5	
345.7	CARBONDALE	ENERGY	BLACK SHALE	0.8	168.6	
345.0	CARBONDALE	ENERGY	GRAY SHALE	1.3	169.3	
343.7	CARBONDALE	ENERGY	BLACK SHALE	0.5	170.6	
343.2	CARBONDALE	ENERGY	BLACK SHALE	0.8	171.1	
342.5	CARBONDALE	ENERGY	BLACK SHALE	0.3	171.8	
342.1	CARBONDALE	ENERGY	BLACK SHALE	0.1	172.2	
342.0	CARBONDALE	HERRIN	COAL	8.3	172.3	
333.8	CARBONDALE		UNDERCLAY	0.4	180.5	
333.4	CARBONDALE		GREEN SHALE	1.3	180.9	

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MAPID: 11900849000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 24 QUARTERS/FOOTAGES: 600' N line, 50' E line of NE NE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.928653

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.69989

DATE COLLECTED: 3 / 0 / 1959

SURFACE ELEVATION (FT.): 527.0 LOGGED (FT.): 199.6

LOG TYPE: Drillers Log

SOURCE: LUMAGHI COAL CO. 13

WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
527.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0	
497.0	PLEISTOCENE		SHALE & SANDSTONE	11.0	30.0	
486.0			BLUE SHALE	4.9	41.0	
481.1			LIMESTONE	4.5	45.9	
476.6			SILTY SHALE	32.6	50.4	
444.0			SANDSTONE	14.0	83.0	GRAY
430.0			SILTY SHALE	13.0	97.0	
417.0			GRAY SHALE	42.1	110.0	
374.9	MODESTO	PIASA	LIMESTONE	4.3	152.1	
370.6			GRAY SHALE	6.6	156.4	
364.0			SHALE	5.0	163.0	
359.0			SILTY SHALE	2.3	168.0	
356.7	CARBONDALE	BRERETON	LIMESTONE	2.0	170.3	
354.7	CARBONDALE	BRERETON	SHALY LIMESTONE	1.8	172.3	
353.0	CARBONDALE	ENERGY	SHALY SANDSTONE	6.0	174.0	
347.0	CARBONDALE	ENERGY	GRAY SHALE	2.0	180.0	
345.0	CARBONDALE	ENERGY	BLACK SHALE	6.3	182.0	
338.7	CARBONDALE	ENERGY	GRAY SHALE	3.5	188.3	
335.2	CARBONDALE		CAVITY	7.8	191.8	

MAPID: 11900125000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 25 QUARTERS/FOOTAGES: 750' S line, 125' W line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.946917

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.674709

DATE COLLECTED:

SURFACE ELEVATION (FT.): 499.9 LOGGED (FT.): 0.0

LOG TYPE:

SOURCE: LUMAGHI CC 2

WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
312.9	CARBONDALE	HERRIN	COAL	8.5	187.0	

**MAPID:** 11900353000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 25    **QUARTERS/FOOTAGES:** SW SW NW NE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.93732    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.683806    **DATE COLLECTED:** 0 / 0 / 1923  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 262.0    **LOG TYPE:**  
**SOURCE:** LUMAGHI COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
308.0	CARBONDALE	HERRIN	COAL	-	262.0	

**MAPID:** 11900353000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 25    **QUARTERS/FOOTAGES:** SW SW NW NE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.93732    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.683806    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 46.0    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
318.7	CARBONDALE	BRERETON	LIMESTONE	6.7	251.3	
312.0	CARBONDALE	ANNA	BLACK SHALE	4.0	258.0	

**MAPID:** 11900097000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 26    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.953167    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.677144    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 490.0    **LOGGED (FT.):** 420.0    **LOG TYPE:**  
**SOURCE:** HYDRAULIC PRESS BRICK CO.    **WELL TYPE:** Coal Test  
**COMMENT:** EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
333.0	CARBONDALE	HERRIN	COAL	6.7	157.0	

MAPID: 11900097000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 26 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.953167 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.677144 DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 170.7 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.0	MODESTO	PIASA	LIMESTONE	7.0	110.0
373.0	MODESTO		SHALE	6.0	117.0
367.0	CARBONDALE		LIMESTONE W/ SHALE	5.0	123.0
362.0	CARBONDALE	GALUM	LIMESTONE W/ SHALE	5.0	128.0
357.0	CARBONDALE		LIMESTONE W/ SHALE	5.0	133.0
352.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	10.0	138.0
342.0	CARBONDALE	CONANT	LIMESTONE W/ SHALE	2.0	148.0
340.0	CARBONDALE		LIMESTONE W/ SHALE	4.0	150.0
336.0	CARBONDALE	BRERETON	LIMESTONE	3.0	154.0
333.0	CARBONDALE	ANNA	CLAYSTONE & SHALE	0.3	157.0
326.0	CARBONDALE	HERRIN	COAL	6.7	164.0



MAPID: 11900097000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 3N 8W    SECTION: 26    QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: COLLINSVILLE    LONGITUDE: -89.953167    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.677144    DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0    LOGGED (FT.): 420.0    LOG TYPE: Drillers Log

SOURCE: HYDRAULIC PRESS BRICK CO. 18    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.0			CLAY	40.0	0.0	SURFACE CLY
450.0			SHALE	47.0	40.0	
403.0			SHALE	6.0	87.0	
397.0			SANDY SHALE	14.0	93.0	
383.0			SHALE	1.0	107.0	
382.0			SHALE	2.0	108.0	
380.0	MODESTO	PIASA	LIMESTONE	7.0	110.0	
373.0			SHALE	6.0	117.0	
367.0			CALCAREOUS SHALE	17.0	123.0	
350.0			LIMESTONE	14.0	140.0	
336.0			LIMESTONE	3.0	154.0	
333.0			UNDERCLAY	0.3	157.0	
332.7	CARBONDALE	HERRIN	COAL	6.7	157.3	
326.1	CARBONDALE	HERRIN	UNDERCLAY	5.1	163.9	
321.0	CARBONDALE	HERRIN	COAL	0.7	169.0	
320.3			SHALE	10.3	169.7	
310.0			LIMESTONE	3.5	180.0	
306.5			CALCAREOUS SHALE	25.5	183.5	
281.0			SHALE	4.0	209.0	
277.0			CALCAREOUS SHALE	52.0	213.0	
225.0			LIMESTONE	1.0	265.0	
224.0			BLACK SHALE	2.0	266.0	
222.0			COAL	2.5	268.0	
219.5			UNDERCLAY	8.5	270.5	
211.0			SANDY SHALE	10.0	279.0	
201.0			SANDSTONE	17.0	289.0	
184.0			LIMESTONE	2.0	306.0	
182.0			UNDERCLAY	3.3	308.0	
178.7			SANDSTONE	1.7	311.3	
177.0			UNDERCLAY	2.0	313.0	
175.0			LIMESTONE	13.0	315.0	
162.0			BLACK SHALE	2.0	328.0	
160.0			LIMESTONE	3.0	330.0	
157.0			UNDERCLAY	4.0	333.0	
153.0			UNDERCLAY	1.0	337.0	
152.0			SHALE	5.0	338.0	
147.0			SHALE	4.7	343.0	
142.3			CALCAREOUS SHALE	1.3	347.7	
141.0			SHALE	1.0	349.0	

140.0	CALCAREOUS SHALE	8.0	350.0
132.0	LIMESTONE	40.0	358.0
92.0	CALCAREOUS SHALE	22.0	398.0

**MAPID:** 11900126000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 26    **QUARTERS/FOOTAGES:** 1400' S line, 1650' W line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.960199    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.676457    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 495.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LUMAGHI CC 3    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
303.0	CARBONDALE	HERRIN	COAL	7.0	192.0

**MAPID:** 11900141000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 26    **QUARTERS/FOOTAGES:** 1900' S line, 1700' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.953305    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.677864    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 515.2    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BUXTON CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
318.2	CARBONDALE	HERRIN	COAL	7.7	197.0

**MAPID:** 11900214000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 26    **QUARTERS/FOOTAGES:** 3790' S line, 980' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.950703    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.683092    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** CONSOL CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
310.0	CARBONDALE	HERRIN	COAL	7.5	190.0

**MAPID:** 11900104000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE SE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.968356    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.674406    **DATE COLLECTED:** 0 / 0 / 1998  
**SURFACE ELEVATION (FT.):** 485.0    **LOGGED (FT.):** 706.0    **LOG TYPE:**  
**SOURCE:** COL SMLTER    **WELL TYPE:** Coal Test  
**COMMENT:** LOCATION AND SURFACE ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
343.0	CARBONDALE	HERRIN	COAL	8.0	142.0	

**MAPID:** 11900140000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 27    **QUARTERS/FOOTAGES:** 1720' S line, 2740' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.975659    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.677361    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 497.9    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BURNWELL C    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
334.9	CARBONDALE	HERRIN	COAL	7.0	163.0	

**MAPID:** 11900215000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 27    **QUARTERS/FOOTAGES:** 450' S line, 820' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.968902    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.673824    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 495.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** CONSOL CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
333.0	CARBONDALE	HERRIN	COAL	7.0	162.0	

**MAPID:** 11900142000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 1175' N line, 410' W line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.002226    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.683985    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 466.5    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** COLLNSV CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
370.5	CARBONDALE	HERRIN	COAL	5.8	96.0	

**MAPID:** 11900217000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 800' S line, 1125' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.988719    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.674869    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 543.3    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BUNKERHILL    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
353.3	CARBONDALE	HERRIN	COAL	6.0	190.0	

**MAPID:** 11900105000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 33    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.990523    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.666341    **DATE COLLECTED:** 0 / 0 / 1992  
**SURFACE ELEVATION (FT.):** 568.8    **LOGGED (FT.):** 601.0    **LOG TYPE:**  
**SOURCE:** COLLINSV 0001    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
355.8	CARBONDALE	HERRIN	COAL	7.0	213.0	

**MAPID:** 11900127000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 33    **QUARTERS/FOOTAGES:** 1700' S line, 1350' W line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.998398    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.662931    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 561.3    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HARDSCR CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
366.3	CARBONDALE	HERRIN	COAL	6.5	195.0	

**MAPID:** 11900216000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 8W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 1575' N line, 2775' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.975796    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.668266    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** CONSOL CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
330.0	CARBONDALE	HERRIN	COAL	7.5	150.0	

MAPID: 11900218000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 34 QUARTERS/FOOTAGES: 550' N line, 1550' E line of SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.980837 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.663889 DATE COLLECTED:

SURFACE ELEVATION (FT.): 475.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: CONSOL CC 0003 WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
340.0	CARBONDALE	HERRIN	COAL	6.5	135.0	

MAPID: 11900959000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 35 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.96255 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.662608 DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 236.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
343.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	207.0	
335.0	CARBONDALE	LAWSON	SHALE	8.0	215.0	
327.0	CARBONDALE	BRERETON	LIMESTONE	3.0	223.0	
324.0	CARBONDALE	ANNA	SHALE	4.0	226.0	
320.0	CARBONDALE	HERRIN	COAL	6.0	230.0	

MAPID: 11900611000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 3N 8W SECTION: 36 QUARTERS/FOOTAGES: 1300' S line, 400' W line of SW SW

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.946039

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.661546

DATE COLLECTED: 5 / 0 / 1956

SURFACE ELEVATION (FT.):

LOGGED (FT.): 236.0

LOG TYPE: Drillers Log

SOURCE: ARROW DRILLING CO. 1

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			CLAY	33.0	0.0	YL CLY; YL
-			CLAY	13.0	33.0	RD CLY; RED
-			SHALE	9.0	46.0	
-			SHALE	5.0	55.0	
-			SHALE	26.0	60.0	
-			GRAY SHALE	3.0	86.0	
-			GRAY SHALE	2.0	89.0	
-			GRAY SHALE	12.0	91.0	
-			COAL	1.0	103.0	
-			UNDERCLAY	2.0	104.0	
-			CALCAREOUS SHALE	76.0	106.0	
-			CALCAREOUS SHALE	18.0	182.0	
-			UNCLASSIFIED	1.5	200.0	FLINT
-			BLACK SHALE	1.5	201.5	
-			COAL	1.0	203.0	
-			ROCK	4.0	204.0	
-			SHALE	7.0	208.0	
-			ROCK	7.0	215.0	
-			SHALE	4.0	222.0	
-			ROCK	2.0	226.0	
-			CALCAREOUS SHALE	8.0	228.0	

MAPID: 11900408000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 3N 9W SECTION: 1 QUARTERS/FOOTAGES: 180' N line, 2225' E line

QUADRANGLE: MONKS MOUND

LONGITUDE: -90.046431

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N

LATITUDE: 38.745222

DATE COLLECTED:

SURFACE ELEVATION (FT.): 422.4

LOGGED (FT.): 2020.0

LOG TYPE:

SOURCE: VALLEY OC

WELL TYPE: Oil and Gas Test

COMMENT:

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

**MAPID:** 11900396000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 9W    **SECTION:** 2    **QUARTERS/FOOTAGES:** 525' S line, 4565' W line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.059569    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.732937    **DATE COLLECTED:** 0 / 0 / 1939  
**SURFACE ELEVATION (FT.):** 417.6    **LOGGED (FT.):** 1600.0    **LOG TYPE:**  
**SOURCE:** LONG LK OC    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900407000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 9W    **SECTION:** 19    **QUARTERS/FOOTAGES:** NW SE NW  
**QUADRANGLE:** GRANITE CITY    **LONGITUDE:** -90.144186    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.697373    **DATE COLLECTED:** 0 / 0 / 1932  
**SURFACE ELEVATION (FT.):** 418.0    **LOGGED (FT.):** 1506.0    **LOG TYPE:**  
**SOURCE:** NIEDRNGHS    **WELL TYPE:** Coal Test  
**COMMENT:**

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

**MAPID:** 11900405000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 9W    **SECTION:** 22    **QUARTERS/FOOTAGES:** 1600' S line, 1825' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.081386    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.692647    **DATE COLLECTED:** 0 / 0 / 1932  
**SURFACE ELEVATION (FT.):** 411.0    **LOGGED (FT.):** 1107.0    **LOG TYPE:**  
**SOURCE:** NIEDRNGHS 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900406000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 3N 9W    **SECTION:** 27    **QUARTERS/FOOTAGES:** 75' N line, 2030' E line  
**QUADRANGLE:** MONKS MOUND    **LONGITUDE:** -90.081767    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.688034    **DATE COLLECTED:** 0 / 0 / 1932  
**SURFACE ELEVATION (FT.):** 407.9    **LOGGED (FT.):** 1290.0    **LOG TYPE:**  
**SOURCE:** NIEDRNGHS 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

MAPID: 11926192000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 1 QUARTERS/FOOTAGES: 1' N line, 40' W line of SW SE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.608245 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.819583 DATE COLLECTED: 12 / 5 / 1969

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 413.0 LOG TYPE: Other Core Study

SOURCE: CARTER OIL WF-317 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
160.0	CARBONDALE	HERRIN	COAL	6.8	390.0	CLEAN COAL, SEE LOG; COAL ANALYZED
-	CARBONDALE	HERRIN	ROCK	0.5		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900677000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.630827 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.829253 DATE COLLECTED: 10 / 0 / 1949

SURFACE ELEVATION (FT.): 585.0 LOGGED (FT.): 358.0 LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
273.0	MODESTO	PIASA	LIMESTONE	4.0	312.0	
269.0	MODESTO		UNCLASSIFIED	5.0	316.0	
264.0	CARBONDALE	DANVILLE	COAL	1.0	321.0	
263.0	CARBONDALE		UNCLASSIFIED	10.0	322.0	
253.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	332.0	
248.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	337.0	
245.0	CARBONDALE		UNCLASSIFIED	3.0	340.0	
242.0	CARBONDALE	BRERETON	LIMESTONE	7.0	343.0	
235.0	CARBONDALE	ANNA	BLACK SHALE	4.0	350.0	
231.0	CARBONDALE	HERRIN	COAL	4.0	354.0	



MAPID: 11900677000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.630827 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.829253 DATE COLLECTED:

SURFACE ELEVATION (FT.): 585.0 LOGGED (FT.): 359.5 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
272.0	MODESTO	PIASA	LIMESTONE	2.5	313.0
269.5	MODESTO		SHALE	11.0	315.5
258.5	CARBONDALE		SHALE	5.0	326.5
253.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	331.5
249.5	CARBONDALE	LAWSON	SHALE	8.0	335.5
241.5	CARBONDALE	BRERETON	LIMESTONE	6.0	343.5
235.5	CARBONDALE	ANNA	SHALE	4.0	349.5
231.0	CARBONDALE	HERRIN	COAL	5.5	354.0

MAPID: 11900680000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 2 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: GRANTFORK LONGITUDE: -89.628439 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.823977 DATE COLLECTED: 10 / 0 / 1949

SURFACE ELEVATION (FT.): 554.0 LOGGED (FT.): 343.0 LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
257.0	MODESTO	PIASA	LIMESTONE	6.0	297.0
251.0	MODESTO		UNCLASSIFIED	3.5	303.0
247.5	CARBONDALE		UNCLASSIFIED	8.5	306.5
239.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	315.0
235.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	319.0
231.5	CARBONDALE		UNCLASSIFIED	3.5	322.5
228.0	CARBONDALE	BRERETON	LIMESTONE	9.0	326.0
219.0	CARBONDALE	ANNA	BLACK SHALE	3.0	335.0
216.0	CARBONDALE	HERRIN	COAL	5.0	338.0

MAPID: 11926191000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 2 QUARTERS/FOOTAGES: SE SE NE SE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.618217 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.818864 DATE COLLECTED: 6 / 5 / 1981

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 384.6 LOG TYPE: Other Core Study

SOURCE: EXXON COAL RESOURCES IB-528 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
191.9	CARBONDALE	HERRIN	COAL	6.9	358.1	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.2		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926193000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 2 QUARTERS/FOOTAGES: 55' N line, 60' E line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.618218 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.830133 DATE COLLECTED: 8 / 7 / 1967

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 365.2 LOG TYPE: Other Core Study

SOURCE: CARTER OIL WF-39 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
220.9	CARBONDALE	HERRIN	COAL	6.8	354.1	CLEAN COAL, SEE LOG; COAL ANALYZED
-	CARBONDALE	HERRIN	ROCK	0.2		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926194000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 2 QUARTERS/FOOTAGES: 66' N line, 1675' W line of NE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.621419 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.830072 DATE COLLECTED: 8 / 5 / 1974

SURFACE ELEVATION (FT.): 585.0 LOGGED (FT.): 391.5 LOG TYPE: Other Core Study

SOURCE: CARTER OIL IB-855 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
231.2	CARBONDALE	HERRIN	COAL	6.9	353.8	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.4		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900778000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 3 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.644771 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.823695 DATE COLLECTED: 6 / 0 / 1957

SURFACE ELEVATION (FT.): 579.0 LOGGED (FT.): 357.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
263.0	MODESTO	PIASA	LIMESTONE	5.0	316.0
258.0	MODESTO		UNCLASSIFIED	2.0	321.0
256.0	CARBONDALE		UNCLASSIFIED	6.0	323.0
250.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	329.0
246.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	333.0
243.5	CARBONDALE		UNCLASSIFIED	2.5	335.5
241.0	CARBONDALE	BRERETON	LIMESTONE	10.0	338.0
231.0	CARBONDALE	ANNA	BLACK SHALE	3.0	348.0
228.0	CARBONDALE	HERRIN	COAL	6.0	351.0

MAPID: 11900778000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 3 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.644771 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.823695 DATE COLLECTED:

SURFACE ELEVATION (FT.): 579.0 LOGGED (FT.): 356.0 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
263.0	MODESTO	PIASA	LIMESTONE	3.0	316.0
260.0	MODESTO		SHALE	9.0	319.0
251.0	CARBONDALE	DANVILLE	COAL	2.0	328.0
249.0	CARBONDALE		SHALE	5.0	330.0
244.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	335.0
239.0	CARBONDALE	LAWSON	SHALE	5.0	340.0
234.0	CARBONDALE	BRERETON	LIMESTONE	1.0	345.0
233.0	CARBONDALE	ANNA	SHALE	1.5	346.0
229.0	CARBONDALE	HERRIN	COAL	6.0	350.0

MAPID: 11924123000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 3 QUARTERS/FOOTAGES: 100' N line, 1725' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.649238 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.82978 DATE COLLECTED: 9 / 18 / 1979

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 354.0 LOG TYPE: Other Core Study

SOURCE: CARTER OIL 1B-506 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
220.1	CARBONDALE	HERRIN	COAL	7.4	334.9	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	1.5		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926195000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 3 QUARTERS/FOOTAGES: NE NE SE SW

QUADRANGLE: GRANTFORK LONGITUDE: -89.646017 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.818716 DATE COLLECTED: 5 / 29 / 1981

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 371.2 LOG TYPE: Other Core Study

SOURCE: EXXON COAL RESOURCES 1B-524 WELL TYPE: Coal Test

COMMENT: ORIGINALLY GROUPED WITH CARTER OIL LOGS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
224.6	CARBONDALE	HERRIN	COAL	4.8	345.4	
219.8	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	1.2	350.2	OCC. COAL STREAKS AT TOP
218.7	CARBONDALE	HERRIN	COAL	1.2	351.3	

MAPID: 119219C0001F VERSION: 1

PROJECT: BLM

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 4 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: GRANTFORK LONGITUDE: -89.665624 GEOLOGIST: TREWORGY,J

CONFIDENTIAL: N LATITUDE: 38.821879 DATE COLLECTED: 7 / 25 / 1931

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 28.1 LOG TYPE: Measured section

SOURCE: FLD. NOTES-EKBLAW WELL TYPE: Outcrop

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0			UNCONSOLIDATED	15.0	0.0	
515.0			ROCK	10.0	15.0	
505.0			COAL	0.1	25.0	
504.9			ROCK	3.0	25.1	

**MAPID:** 11926196000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 4N 5W    **SECTION:** 4    **QUARTERS/FOOTAGES:** 57' N line, 73' E line  
**QUADRANGLE:** GRANTFORK    **LONGITUDE:** -89.655584    **GEOLOGIST:** E. PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.829871    **DATE COLLECTED:** 11 / 2 / 1977  
**SURFACE ELEVATION (FT.):** 550.0    **LOGGED (FT.):** 338.1    **LOG TYPE:** Other Core Study  
**SOURCE:** CARTER OIL    IB-972    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
234.3	CARBONDALE	HERRIN	COAL	4.8	315.7	
229.5	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	5.1	320.5	
224.4	CARBONDALE	HERRIN	COAL	1.7	325.6	0.05 CORE LOSS AT 326.7

**MAPID:** 11900679000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 4N 5W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 2310' N line, 330' E line  
**QUADRANGLE:** GRANTFORK    **LONGITUDE:** -89.674903    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.82351    **DATE COLLECTED:** 7 / 0 / 1945  
**SURFACE ELEVATION (FT.):** 538.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** SOHIO PETROLEUM CO.    **WELL TYPE:** Dry Hole  
**COMMENT:** NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		UNCLASSIFIED	3.0		
-	CARBONDALE		UNCLASSIFIED	8.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		

**MAPID:** 11900679000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 4N 5W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 2310' N line, 330' E line  
**QUADRANGLE:** GRANTFORK    **LONGITUDE:** -89.674903    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.82351    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 538.0    **LOGGED (FT.):** 388.0    **LOG TYPE:** Electric Log  
**SOURCE:**    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
280.0	MODESTO	PIASA	LIMESTONE	4.0	258.0	
276.0	MODESTO		SHALE	8.0	262.0	
268.0	CARBONDALE		SHALE	2.0	270.0	
266.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	272.0	
260.0	CARBONDALE	ENERGY	SILTY SHALE	20.0	278.0	
240.0	CARBONDALE	ENERGY	SILTY SHALE	90.0	298.0	

MAPID: 11900809000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE NW  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.686695 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.825286 DATE COLLECTED: 10 / 0 / 1957  
 SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 0.0 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	4.5	
-	MODESTO		UNCLASSIFIED	2.0	
-	CARBONDALE		UNCLASSIFIED	4.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	

MAPID: 11900086000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 9 QUARTERS/FOOTAGES: 4190' S line, 645' W line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.671446 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.812553 DATE COLLECTED: 0 / 0 / 1917  
 SURFACE ELEVATION (FT.): 526.8 LOGGED (FT.): 1011.0 LOG TYPE:  
 SOURCE: HOLDEN OIL 83 WELL TYPE: Oil and Gas Test  
 COMMENT:

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

MAPID: 11900086000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 9 QUARTERS/FOOTAGES: 4190' S line, 645' W line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.671446 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.812553 DATE COLLECTED: 12 / 0 / 1917  
 SURFACE ELEVATION (FT.): 527.0 LOGGED (FT.): 0.0 LOG TYPE: Drillers Log  
 SOURCE: HOLDEN OIL CO WELL TYPE: Dry Hole  
 COMMENT:

MAPID: 11900678000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 9 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.6654 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.807393 DATE COLLECTED: 1 / 0 / 1950

SURFACE ELEVATION (FT.): 559.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: COLUMBUS EXPLORATION 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	2.0	
-	CARBONDALE		UNCLASSIFIED	8.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11900678000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 9 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.6654 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.807393 DATE COLLECTED:

SURFACE ELEVATION (FT.): 559.0 LOGGED (FT.): 458.0 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
285.0	MODESTO	PIASA	LIMESTONE	3.0	274.0
282.0	MODESTO		SHALE	9.0	277.0
273.0	CARBONDALE		SHALE	1.0	286.0
272.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	287.0
267.0	CARBONDALE	ENERGY	GRAY SHALE	31.0	292.0
236.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	12.0	323.0
224.0	CARBONDALE	ENERGY	SHALE	13.0	335.0
211.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	26.0	348.0

MAPID: 11924128000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 9 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: GRANTFORK LONGITUDE: -89.6562 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.814683 DATE COLLECTED: 8 / 8 / 1979

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 366.0 LOG TYPE: Other Core Study

SOURCE: CARTER OIL IB-500 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
231.3	CARBONDALE	HERRIN	SHALE & CLAYSTONE	2.1	328.7	SOME BONE COAL
229.3	CARBONDALE	HERRIN	SHALE	0.6	330.7	
228.7	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	3.4	331.3	OCC. COAL SPARS & LAMS
225.4	CARBONDALE	HERRIN	SANDY CLAYSTONE	0.5	334.6	BLACK, PY
224.9	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	1.2	335.1	
223.7	CARBONDALE	HERRIN	COAL	1.6	336.3	LOWER #6, CALCILE CLEATS

MAPID: 11900682000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 10 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.639827 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.807529 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 352.5 LOG TYPE: Electric Log

SOURCE: NOAL PETROLEUM 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	6.0	313.0	
225.0	MODESTO		UNCLASSIFIED	1.5	319.0	
223.5	CARBONDALE		UNCLASSIFIED	6.0	320.5	
217.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.5	326.5	
215.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	329.0	
212.0	CARBONDALE		UNCLASSIFIED	3.0	332.0	
209.0	CARBONDALE	BRERETON	LIMESTONE	7.0	335.0	
202.0	CARBONDALE	ANNA	BLACK SHALE	5.0	342.0	
197.0	CARBONDALE	HERRIN	COAL	5.5	347.0	



MAPID: 11900682000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 10 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.639827 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.807529 DATE COLLECTED:

SURFACE ELEVATION (FT.): 544.0 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.)		COMMENT
				UNIT	OVERBURDEN	
231.5	MODESTO	PIASA	LIMESTONE	5.0	312.5	
226.5	MODESTO		SHALE	6.0	317.5	
220.5	CARBONDALE	DANVILLE	COAL	0.5	323.5	
220.0	CARBONDALE		SHALE	3.0	324.0	
217.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	327.0	
215.0	CARBONDALE	LAWSON	SHALE	7.0	329.0	
208.0	CARBONDALE	LAWSON	SANDSTONE	6.0	336.0	
202.0	CARBONDALE		SHALE	1.0	342.0	
201.0	CARBONDALE	BRERETON	LIMESTONE	1.0	343.0	
200.0	CARBONDALE	ANNA	SHALE	3.0	344.0	
197.0	CARBONDALE	HERRIN	COAL	6.0	347.0	

MAPID: 11926197000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 11 QUARTERS/FOOTAGES: NW NE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.624804 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.814111 DATE COLLECTED: 4 / 30 / 1969

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 393.3 LOG TYPE: Other Core Study

SOURCE: CARTER OIL WF-216 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
187.1	CARBONDALE	HERRIN	COAL	7.1	357.9	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.3		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926198000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 11 QUARTERS/FOOTAGES: 550' S line, 80' E line of SW SW

QUADRANGLE: GRANTFORK LONGITUDE: -89.631812 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.80271 DATE COLLECTED: 8 / 7 / 1972

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 400.4 LOG TYPE: Other Core Study

SOURCE: CARTER OIL 1D-640 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
175.8	CARBONDALE	HERRIN	COAL	7.1	364.2	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.4		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900681000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 14 QUARTERS/FOOTAGES: 1650' S line, 1650' E line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.623074 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.79129 DATE COLLECTED:

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 392.0 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
190.0	MODESTO	PIASA	LIMESTONE	6.0	350.0
184.0	MODESTO		SHALE	4.5	356.0
179.5	CARBONDALE		SHALE	5.0	360.5
174.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	365.5
173.5	CARBONDALE	LAWSON	SHALE	6.0	366.5
167.5	CARBONDALE	LAWSON	SANDSTONE	6.0	372.5
161.5	CARBONDALE	BRERETON	LIMESTONE	4.0	378.5
157.5	CARBONDALE	ANNA	SHALE	2.5	382.5
155.0	CARBONDALE	HERRIN	COAL	7.0	385.0

MAPID: 11900615000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 19 QUARTERS/FOOTAGES: 2310' N line, 330' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.706598 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.779861 DATE COLLECTED: 7 / 0 / 1956

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: SKILES OIL CORP WELL TYPE: Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0	
-	MODESTO		UNCLASSIFIED	1.5	
-	CARBONDALE		UNCLASSIFIED	4.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11900615000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 19 QUARTERS/FOOTAGES: 2310' N line, 330' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.706598

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.779861

DATE COLLECTED:

SURFACE ELEVATION (FT.): 542.0

LOGGED (FT.): 455.0

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
283.0	MODESTO	PIASA	LIMESTONE	6.0	259.0
277.0	MODESTO		SHALE	5.0	265.0
272.0	CARBONDALE		SHALE	1.0	270.0
271.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	271.0
267.0	CARBONDALE	ENERGY	SILTY SHALE	90.0	275.0
177.0	CARBONDALE	ENERGY	SILTY SHALE	90.0	365.0

MAPID: 11900684000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 20 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.682987

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.777951

DATE COLLECTED: 11 / 0 / 1944

SURFACE ELEVATION (FT.): 571.0

LOGGED (FT.): 0.0

LOG TYPE: Electric Log

SOURCE: TEXACO, INC.

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	8.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11900684000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 20 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.682987 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.777951 DATE COLLECTED:

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 381.5 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
291.0	MODESTO	PIASA	LIMESTONE	3.5	280.0
287.5	MODESTO		SHALE	9.0	283.5
278.5	CARBONDALE		SHALE	2.0	292.5
276.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	294.5
271.5	CARBONDALE	ENERGY	SILTY SHALE	38.0	299.5
233.5	CARBONDALE	ENERGY	SANDSTONE	6.0	337.5
227.5	CARBONDALE	ENERGY	SHALE	12.0	343.5
215.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	26.0	355.5

MAPID: 11900772000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.673881 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.785485 DATE COLLECTED: 4 / 0 / 1957

SURFACE ELEVATION (FT.): 547.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: HILL PRODUCTION 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	2.0	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11900683000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.671036 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.772522 DATE COLLECTED: 6 / 0 / 1953

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 338.0 LOG TYPE: Electric Log

SOURCE: DORAN THOMAS S WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
255.0	MODESTO	PIASA	LIMESTONE	6.0	287.0
249.0	MODESTO		UNCLASSIFIED	4.0	293.0
245.0	CARBONDALE	DANVILLE	COAL	1.0	297.0
244.0	CARBONDALE		UNCLASSIFIED	9.0	298.0
235.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	307.0
230.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	312.0
227.0	CARBONDALE	ENERGY	UNCLASSIFIED	16.0	315.0
211.0	CARBONDALE	HERRIN	COAL	7.0	331.0

MAPID: 11900683000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.671036 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.772522 DATE COLLECTED:

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 338.5 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
256.0	MODESTO	PIASA	LIMESTONE	6.0	286.0
250.0	MODESTO		SHALE	7.0	292.0
243.0	CARBONDALE	DANVILLE	COAL	0.5	299.0
242.5	CARBONDALE		SHALE	6.0	299.5
236.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	305.5
231.5	CARBONDALE	ENERGY	GRAY SHALE	14.0	310.5

MAPID: 11900808000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: GRANTFORK LONGITUDE: -89.666551 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.77625 DATE COLLECTED: 10 / 0 / 1957

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 349.0 LOG TYPE: Electric Log

SOURCE: HOWARD ELLIS M WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
242.0	MODESTO	PIASA	LIMESTONE	6.0	296.0
236.0	MODESTO		UNCLASSIFIED	2.5	302.0
233.5	CARBONDALE		UNCLASSIFIED	10.0	304.5
223.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	314.5
217.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	320.5
213.5	CARBONDALE	ENERGY	UNCLASSIFIED	21.5	324.5
192.0	CARBONDALE	HERRIN	COAL	3.0	346.0

MAPID: 11901184000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 21 QUARTERS/FOOTAGES: 300' N line, 330' E line of SW NE

QUADRANGLE: GRANTFORK LONGITUDE: -89.659856 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.781917 DATE COLLECTED: 12 / 0 / 1964

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 306.5 LOG TYPE: Electric Log

SOURCE: SHURE OIL CORP. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
243.5	MODESTO	PIASA	LIMESTONE	5.0	261.5
238.5	MODESTO		UNCLASSIFIED	3.5	266.5
235.0	CARBONDALE	DANVILLE	COAL	1.0	270.0
234.0	CARBONDALE		UNCLASSIFIED	9.0	271.0
225.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	280.0
218.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	287.0
214.0	CARBONDALE		UNCLASSIFIED	5.0	291.0
209.0	CARBONDALE	BRERETON	LIMESTONE	4.5	296.0
204.5	CARBONDALE	ANNA	BLACK SHALE	1.5	300.5
203.0	CARBONDALE	HERRIN	COAL	4.5	302.0

MAPID: 11900374000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 22 QUARTERS/FOOTAGES: 300' S line, 330' E line of SW NW

QUADRANGLE: GRANTFORK LONGITUDE: -89.650509 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.779958 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 527.5 LOGGED (FT.): 3270.0 LOG TYPE:

SOURCE: JENNINGS WELL TYPE: Oil and Gas Test

COMMENT:

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

MAPID: 11902849000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 22 QUARTERS/FOOTAGES: 660' N line, 2310' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.643775 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.784729 DATE COLLECTED:

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 380.0 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
199.5	MODESTO	PIASA	LIMESTONE	5.0	340.5
194.5	MODESTO		SHALE	7.0	345.5
187.5	CARBONDALE	DANVILLE	COAL	0.5	352.5
187.0	CARBONDALE		SHALE	3.0	353.0
184.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	356.0
182.0	CARBONDALE	LAWSON	SHALE	6.0	358.0
176.0	CARBONDALE	LAWSON	SANDSTONE	3.0	364.0
173.0	CARBONDALE		SHALE	1.0	367.0
172.0	CARBONDALE	BRERETON	LIMESTONE	3.0	368.0
169.0	CARBONDALE	ANNA	SHALE	3.0	371.0
166.0	CARBONDALE	HERRIN	COAL	6.0	374.0

MAPID: 11900571000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 26 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.626655 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.761986 DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 354.0 LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
212.5	MODESTO	PIASA	LIMESTONE	9.0	313.5
203.5	MODESTO		UNCLASSIFIED	3.5	322.5
200.0	CARBONDALE	DANVILLE	COAL	0.5	326.0
199.5	CARBONDALE		UNCLASSIFIED	5.0	326.5
194.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	331.5
191.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	334.5
188.5	CARBONDALE		UNCLASSIFIED	1.5	337.5
187.0	CARBONDALE	BRERETON	LIMESTONE	8.0	339.0
179.0	CARBONDALE	ANNA	BLACK SHALE	3.0	347.0
176.0	CARBONDALE	HERRIN	COAL	4.0	350.0

MAPID: 11900571000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 26 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.626655 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.761986 DATE COLLECTED:

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 359.0 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
210.0	MODESTO	PIASA	LIMESTONE	9.0	316.0
201.0	MODESTO		SHALE	4.0	325.0
197.0	CARBONDALE	DANVILLE	COAL	1.0	329.0
196.0	CARBONDALE		SHALE	5.0	330.0
191.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	335.0
188.0	CARBONDALE	LAWSON	SHALE	3.0	338.0
185.0	CARBONDALE	LAWSON	SANDSTONE	6.0	341.0
179.0	CARBONDALE		SHALE	1.0	347.0
178.0	CARBONDALE	BRERETON	LIMESTONE	3.0	348.0
175.0	CARBONDALE	ANNA	SHALE	3.0	351.0
172.0	CARBONDALE	HERRIN	COAL	5.0	354.0



MAPID: 11902177000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 26 QUARTERS/FOOTAGES: 410' N line, 330' E line of NE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.617764 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.771034 DATE COLLECTED: 10 / 0 / 1968

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 386.3 LOG TYPE: Electric Log

SOURCE: AMGO, INC. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
183.0	MODESTO	PIASA	LIMESTONE	5.0	348.0
178.0	MODESTO		UNCLASSIFIED	4.5	353.0
173.5	CARBONDALE		UNCLASSIFIED	5.5	357.5
168.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	363.0
163.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	367.5
160.0	CARBONDALE		UNCLASSIFIED	3.0	371.0
157.0	CARBONDALE	BRERETON	LIMESTONE	7.0	374.0
150.0	CARBONDALE	ANNA	BLACK SHALE	1.0	381.0
149.0	CARBONDALE	HERRIN	COAL	4.3	382.0

MAPID: 11900087000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 27 QUARTERS/FOOTAGES: 3095' S line, 2995' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.645503 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.765829 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 491.8 LOGGED (FT.): 1004.0 LOG TYPE:

SOURCE: HOLDEN OIL0001 WELL TYPE: Oil and Gas Test

COMMENT:

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

MAPID: 11900630000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE NW

QUADRANGLE: GRANTFORK LONGITUDE: -89.666348 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.770737 DATE COLLECTED: 10 / 0 / 1956

SURFACE ELEVATION (FT.): 541.0 LOGGED (FT.): 352.0 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	OVERBURDEN COMMENT
241.5	MODESTO	PIASA	LIMESTONE	5.5	299.5
236.0	MODESTO		UNCLASSIFIED	2.0	305.0
234.0	CARBONDALE	DANVILLE	COAL	1.0	307.0
233.0	CARBONDALE		UNCLASSIFIED	13.5	308.0
219.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	321.5
213.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	327.5
210.5	CARBONDALE		UNCLASSIFIED	2.0	330.5
208.5	CARBONDALE	BRERETON	LIMESTONE	11.0	332.5
197.5	CARBONDALE	ANNA	BLACK SHALE	3.5	343.5
194.0	CARBONDALE	HERRIN	COAL	5.0	347.0

MAPID: 11900685000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 29 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SE

QUADRANGLE: GRANTFORK LONGITUDE: -89.67544 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.757972 DATE COLLECTED: 11 / 0 / 1951

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 329.0 LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
246.0	MODESTO	PIASA	LIMESTONE	6.5	292.0
239.5	MODESTO		UNCLASSIFIED	3.0	298.5
236.5	CARBONDALE		UNCLASSIFIED	8.0	301.5
228.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	309.5
224.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	314.0
222.0	CARBONDALE		UNCLASSIFIED	1.5	316.0
220.5	CARBONDALE	BRERETON	LIMESTONE	3.5	317.5
217.0	CARBONDALE	ANNA	BLACK SHALE	5.0	321.0
212.0	CARBONDALE	HERRIN	COAL	3.0	326.0

MAPID: 11900884000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 29 QUARTERS/FOOTAGES: 1650' N line, 2310' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.680233 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.767026 DATE COLLECTED: 12 / 0 / 1959

SURFACE ELEVATION (FT.): 551.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: KOCH, EDWARD C. 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	2.5	
-	CARBONDALE		UNCLASSIFIED	6.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	

MAPID: 11900884000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 29 QUARTERS/FOOTAGES: 1650' N line, 2310' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.680233 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.767026 DATE COLLECTED:

SURFACE ELEVATION (FT.): 551.0 LOGGED (FT.): 409.0 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
293.0	MODESTO	PIASA	LIMESTONE	3.5	258.0
289.5	MODESTO		SHALE	10.0	261.5
279.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	271.5
276.0	CARBONDALE	ENERGY	GRAY SHALE	26.0	275.0
250.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	21.0	301.0
229.0	CARBONDALE	ENERGY	SHALE	10.0	322.0
219.0	CARBONDALE	ENERGY	SANDSTONE	50.0	332.0
169.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	27.0	382.0

MAPID: 11900975000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 29 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.682556 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.765192 DATE COLLECTED: 2 / 0 / 1960  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log  
 SOURCE: KOCH, EDWARD C. WELL TYPE: Water Well  
 COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0	
-	MODESTO		UNCLASSIFIED	2.0	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11900985000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 29 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW NE  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.677953 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.768859 DATE COLLECTED: 7 / 0 / 1960  
 SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: KOCH, EDWARD C. 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	2.5	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	

MAPID: 11900686000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 31 QUARTERS/FOOTAGES: 330' N line, 2310' E line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.698698 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.755864 DATE COLLECTED: 7 / 0 / 1950  
 SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 0.0 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	4.0	
-	MODESTO		UNCLASSIFIED	2.3	
-	CARBONDALE		UNCLASSIFIED	6.3	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	

MAPID: 11900686000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 31 QUARTERS/FOOTAGES: 330' N line, 2310' E line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.698698 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.755864 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 400.0 LOG TYPE: Electric Log  
 SOURCE: WELL TYPE: Oil and Gas Test  
 COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
288.0	MODESTO	PIASA	LIMESTONE	4.0	282.0	
284.0	MODESTO		SHALE	9.0	286.0	
275.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	295.0	
272.0	CARBONDALE	ENERGY	SHALE	7.0	298.0	
265.0	CARBONDALE	ENERGY	SANDSTONE	13.0	305.0	
252.0	CARBONDALE	ENERGY	SHALE	6.0	318.0	
246.0	CARBONDALE	ENERGY	SANDSTONE	76.0	324.0	

MAPID: 11900109000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 32 QUARTERS/FOOTAGES: SE SE  
 QUADRANGLE: HIGHLAND LONGITUDE: -89.67389 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.744245 DATE COLLECTED: 0 / 0 / 1989  
 SURFACE ELEVATION (FT.): 534.4 LOGGED (FT.): 1099.0 LOG TYPE:  
 SOURCE: HELVETIA WELL TYPE: Water Well  
 COMMENT:

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

MAPID: 11900109000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 5W SECTION: 32 QUARTERS/FOOTAGES: SE SE  
 QUADRANGLE: HIGHLAND LONGITUDE: -89.67389 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.744245 DATE COLLECTED: 0 / 0 / 1900  
 SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 0.0 LOG TYPE: Drillers Log  
 SOURCE: HELVITA MILK COND WELL TYPE: Unsuccessful or Unknown Results  
 COMMENT:

MAPID: 11900109000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 4N 5W    SECTION: 32    QUARTERS/FOOTAGES: SE SE

QUADRANGLE: HIGHLAND    LONGITUDE: -89.67389    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.744245    DATE COLLECTED:

SURFACE ELEVATION (FT.): 534.4    LOGGED (FT.): 1089.0    LOG TYPE: Drillers Log

SOURCE: HELVETIA MILK CONDENSING CO 12    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
534.4			UNCONSOLIDATED	66.0	0.0	SOIL AND DRIFT
468.4			LIMESTONE	4.5	66.0	
463.9			BLACK SHALE	3.0	70.5	
460.9			UNDERCLAY	7.0	73.5	
453.9			SHALE	16.5	80.5	
437.4			BLACK SHALE	6.0	97.0	
431.4			LIMESTONE	28.0	103.0	
403.4			SHALE	55.0	131.0	
348.4			SANDSTONE	73.0	186.0	
275.4			SHALE	10.0	259.0	
265.4			UNDERCLAY	10.0	269.0	
255.4			ROCK	2.0	279.0	
253.4			LIMESTONE	22.0	281.0	
231.4			SHALE	5.0	303.0	
226.4			SANDSTONE	12.0	308.0	
214.4			SHALE	12.5	320.0	
201.9			SANDSTONE	6.0	332.5	
195.9			SHALE	20.0	338.5	
175.9			SANDSTONE	39.0	358.5	
136.9			SHALE	20.0	397.5	
116.9			SANDSTONE	40.0	417.5	
76.9			BLACK SHALE	6.0	457.5	
70.9			BLACK SHALE	6.0	463.5	
64.9			BLACK SHALE	35.0	469.5	
29.9			COAL	1.8	504.5	
28.1			UNDERCLAY	10.0	506.3	
18.1			SANDSTONE	5.0	516.3	
13.1			COAL	1.2	521.3	
11.9			UNDERCLAY	4.5	522.5	
7.4			BLACK SHALE	55.0	527.0	
-47.6			SANDSTONE	25.0	582.0	
-72.6			BLACK SHALE	25.0	607.0	
-97.6			SHALE	75.0	632.0	
-172.6			LIMESTONE	4.0	707.0	
-176.6			SHALE	30.0	711.0	
-206.6			SANDSTONE	29.0	741.0	
-235.6			SHALE	27.0	770.0	
-262.6			LIMESTONE	6.0	797.0	
-268.6			SHALE	4.0	803.0	

-272.6	LIMESTONE	8.0	807.0
-280.6	ROCK	2.0	815.0
-282.6	SHALE	4.0	817.0
-286.6	SANDSTONE	8.0	821.0
-294.6	SHALE	3.0	829.0
-297.6	SANDSTONE	20.0	832.0
-317.6	ROCK	12.0	852.0
-329.6	SHALE	6.0	864.0
-335.6	SANDSTONE	19.0	870.0
-354.6	SANDY SHALE	15.0	889.0
-369.6	SANDSTONE	18.0	904.0
-387.6	SANDSTONE	92.5	922.0
-480.1	LIMESTONE	75.0	1014.5

**MAPID:** 11900760000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 4N 6W    **SECTION:** 2    **QUARTERS/FOOTAGES:** 990' S line, 330' W line  
**QUADRANGLE:** GRANTFORK    **LONGITUDE:** -89.744168    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.818074    **DATE COLLECTED:** 11 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 550.0    **LOGGED (FT.):** 306.0    **LOG TYPE:** Electric Log  
**SOURCE:** SLOAN & RYAN    **WELL TYPE:** Dry Hole  
**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	232.0
313.0	MODESTO		UNCLASSIFIED	2.0	237.0
311.0	CARBONDALE		UNCLASSIFIED	8.0	239.0
303.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	247.0
298.0	CARBONDALE	ANNA	BLACK SHALE	2.0	252.0
296.0	CARBONDALE	ENERGY	UNCLASSIFIED	48.0	254.0
248.0	CARBONDALE	HERRIN	COAL	4.0	302.0

MAPID: 11900760000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 2 QUARTERS/FOOTAGES: 990' S line, 330' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.744168

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.818074

DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.0

LOGGED (FT.): 420.0

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
316.0	MODESTO	PIASA	LIMESTONE	5.0	234.0
311.0	MODESTO		SHALE	10.0	239.0
301.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	249.0
296.0	CARBONDALE	LAWSON	SANDSTONE	6.0	254.0
290.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	80.0	260.0

MAPID: 11900757000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 3 QUARTERS/FOOTAGES: 360' N line, 348' E line of NW NW

QUADRANGLE: MARINE LONGITUDE: -89.760391

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.828775

DATE COLLECTED: 11 / 0 / 1949

SURFACE ELEVATION (FT.): 514.0

LOGGED (FT.): 306.0

LOG TYPE: Electric Log

SOURCE: CAMPBELL & DELEE

WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
282.5	MODESTO	PIASA	LIMESTONE	4.5	231.5
278.0	MODESTO		UNCLASSIFIED	4.0	236.0
274.0	CARBONDALE		UNCLASSIFIED	10.0	240.0
264.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	250.0
258.0	CARBONDALE	ENERGY	UNCLASSIFIED	46.0	256.0
212.0	CARBONDALE	HERRIN	COAL	4.0	302.0



MAPID: 11900758000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 3 QUARTERS/FOOTAGES: 1650' N line, 330' W line of NE

QUADRANGLE: MARINE LONGITUDE: -89.753422 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.825202 DATE COLLECTED: 6 / 0 / 1950

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 334.0 LOG TYPE: Electric Log

SOURCE: MACDOWELL, J. A. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
278.0	MODESTO	PIASA	LIMESTONE	5.0	266.0
273.0	MODESTO		UNCLASSIFIED	1.5	271.0
271.5	CARBONDALE		UNCLASSIFIED	4.5	272.5
267.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	277.0
262.0	CARBONDALE	ENERGY	UNCLASSIFIED	49.0	282.0
213.0	CARBONDALE	HERRIN	COAL	3.0	331.0

MAPID: 11900759000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 3 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: MARINE LONGITUDE: -89.753488 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.818095 DATE COLLECTED: 12 / 0 / 1944

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 277.5 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
343.0	MODESTO	PIASA	LIMESTONE	5.0	195.0
338.0	MODESTO		UNCLASSIFIED	5.5	200.0
332.5	CARBONDALE		UNCLASSIFIED	11.5	205.5
321.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	217.0
316.0	CARBONDALE	ENERGY	UNCLASSIFIED	52.0	222.0
264.0	CARBONDALE	HERRIN	COAL	3.5	274.0

MAPID: 11900759000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 3 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: MARINE LONGITUDE: -89.753488 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.818095 DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 352.5 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
343.0	MODESTO	PIASA	CALCAREOUS SHALE	4.5	195.0
338.5	MODESTO		SHALE	15.0	199.5
323.5	CARBONDALE		SHALE	4.0	214.5
319.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	218.5
315.5	CARBONDALE	LAWSON	SANDSTONE	14.0	222.5
301.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	58.0	236.5

MAPID: 11900755000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 4 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: MARINE LONGITUDE: -89.778925 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.82005 DATE COLLECTED: 9 / 0 / 1945

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 296.0 LOG TYPE: Electric Log

SOURCE: POMMIER LEON WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
309.0	MODESTO	PIASA	LIMESTONE	9.0	221.0
300.0	MODESTO		UNCLASSIFIED	3.0	230.0
297.0	CARBONDALE		UNCLASSIFIED	11.0	233.0
286.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	244.0
280.0	CARBONDALE	ENERGY	UNCLASSIFIED	41.0	250.0
239.0	CARBONDALE	HERRIN	COAL	5.0	291.0

MAPID: 11900755000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 4 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: MARINE LONGITUDE: -89.778925 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.82005 DATE COLLECTED:

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 428.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
311.0	MODESTO	PIASA	LIMESTONE	5.0	219.0	
306.0	MODESTO		SHALE	2.0	224.0	
304.0	CARBONDALE	DANVILLE	COAL	2.0	226.0	
302.0	CARBONDALE		SHALE	6.0	228.0	
296.0	CARBONDALE		SHALE	8.0	234.0	
288.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	242.0	
282.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	12.0	248.0	
270.0	CARBONDALE	ENERGY	SANDSTONE	22.0	260.0	
248.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	56.0	282.0	

MAPID: 11900755000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 4 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: MARINE LONGITUDE: -89.778925 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 38.82005 DATE COLLECTED: 9 / 0 / 1945

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 428.0 LOG TYPE: Electric Log

SOURCE: POMMIER LEON WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
312.0	MODESTO	PIASA	UNCLASSIFIED	8.0	218.0	
230.0	CARBONDALE	HERRIN	UNCLASSIFIED	4.0	300.0	ENERGY SHALE ROOF
222.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	308.0	THIN OR ABSENT
220.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	310.0	
142.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	388.0	
102.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	428.0	

MAPID: 11900756000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 4 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SW

QUADRANGLE: MARINE LONGITUDE: -89.776592 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.821778 DATE COLLECTED: 5 / 0 / 1946

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 304.0 LOG TYPE: Electric Log

SOURCE: LUTTRELL HOMER 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
292.0	MODESTO	PIASA	LIMESTONE	8.0	238.0
284.0	MODESTO		UNCLASSIFIED	2.0	246.0
282.0	CARBONDALE		UNCLASSIFIED	6.0	248.0
276.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	254.0
272.0	CARBONDALE	ENERGY	UNCLASSIFIED	42.0	258.0
230.0	CARBONDALE	HERRIN	COAL	4.0	300.0

MAPID: 11900780000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 5 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MARINE LONGITUDE: -89.793212 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.820318 DATE COLLECTED: 1 / 0 / 1945

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 294.0 LOG TYPE: Electric Log

SOURCE: DOLLY E L & MITCHELL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
297.0	MODESTO	PIASA	LIMESTONE	5.0	227.0
292.0	MODESTO		UNCLASSIFIED	3.5	232.0
288.5	CARBONDALE		UNCLASSIFIED	6.5	235.5
282.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	242.0
278.0	CARBONDALE	ENERGY	UNCLASSIFIED	42.0	246.0
236.0	CARBONDALE	HERRIN	COAL	6.0	288.0

MAPID: 11900780000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 5 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MARINE LONGITUDE: -89.793212 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.820318 DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 381.0 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
297.0	MODESTO	PIASA	LIMESTONE	4.0	227.0
293.0	MODESTO		SHALE	8.0	231.0
285.0	CARBONDALE		SHALE	2.0	239.0
283.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	241.0
279.0	CARBONDALE	LAWSON	SANDSTONE	12.0	245.0
267.0	CARBONDALE	ENERGY	SILTY SHALE	20.0	257.0
247.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	14.0	277.0
233.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	90.0	291.0

MAPID: 11900754000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 7 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.804669 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.807716 DATE COLLECTED: 11 / 0 / 1946

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 305.0 LOG TYPE: Electric Log

SOURCE: SOHIO 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
278.0	MODESTO	PIASA	LIMESTONE	7.0	238.0
271.0	MODESTO		UNCLASSIFIED	3.0	245.0
268.0	CARBONDALE		UNCLASSIFIED	7.0	248.0
261.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	255.0
256.0	CARBONDALE	ENERGY	UNCLASSIFIED	40.0	260.0
216.0	CARBONDALE	HERRIN	COAL	5.0	300.0

MAPID: 11900754000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 7 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.804669 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.807716 DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 304.0 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
280.0	MODESTO	PIASA	LIMESTONE	7.0	236.0
273.0	MODESTO		SHALE	9.0	243.0
264.0	CARBONDALE		SHALE	2.0	252.0
262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	254.0
252.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	36.0	264.0
216.0	CARBONDALE	HERRIN	COAL	4.0	300.0

MAPID: 11924317000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 7 QUARTERS/FOOTAGES: 2400' S, 1200' E, NW/c

QUADRANGLE: MARINE LONGITUDE: -89.812334 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 38.809515 DATE COLLECTED: 12 / 6 / 1982

SURFACE ELEVATION (FT.): 501.0 LOGGED (FT.): 304.2 LOG TYPE: Survey Core Study

SOURCE: ZEIGLER COAL CO. 697 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
501.0			UNCLASSIFIED	265.9	0.0
235.1			GRAY SHALE	19.9	265.9
215.2			CORE LOSS	0.9	285.8
214.3			BLACK SHALE	1.8	286.7
212.5			GRAY SHALE	2.5	288.5
210.0			BLACK SHALE	0.4	291.0
209.6	CARBONDALE	HERRIN	COAL	2.5	291.4
207.1	CARBONDALE		CLAYSTONE & SILTSTONE	3.3	293.9
203.8	CARBONDALE		NODULAR LIMESTONE	6.2	297.2
197.6	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	303.4

CORE  
UNAVAILABLE

MAPID: 11926782000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 7 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: MARINE LONGITUDE: -89.80242 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.814973 DATE COLLECTED: 8 / 10 / 1978

SURFACE ELEVATION (FT.): 515.4 LOGGED (FT.): 300.4 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 664 WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.4			CLAY	2.5	0.0	
512.9			GLACIAL DRIFT	15.5	2.5	BROWN
497.4			GLACIAL DRIFT	110.5	18.0	GRAY
386.9			SANDSTONE	1.5	128.5	
385.4			SANDY SHALE	71.5	130.0	
313.9			LIMESTONE W/ SHALE	2.5	201.5	
311.4			SHALE	4.0	204.0	
307.4			SANDY SHALE	14.0	208.0	
293.4			SHALE	4.0	222.0	
289.4	SHELburn	PIASA	LIMESTONE	5.5	226.0	
283.9	SHELburn		SHALE	10.5	231.5	
273.4	SHELburn	BANKSTON FORK	LIMESTONE	3.0	242.0	
270.4	CARBONDALE	ENERGY	SHALE	44.6	245.0	
225.8	CARBONDALE	HERRIN	COAL	2.4	289.6	
223.4	CARBONDALE		SHALE	0.6	292.0	
222.8	CARBONDALE		CLAYSTONE	0.9	292.6	
221.9	CARBONDALE		CLAYSTONE & SILTSTONE	1.5	293.5	
220.4	CARBONDALE		LIMESTONE	4.8	295.0	
215.6	CARBONDALE		UNKNOWN	0.6	299.8	

MAPID: 11900752000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 8 QUARTERS/FOOTAGES: 990' N line, 1650' E line

QUADRANGLE: MARINE LONGITUDE: -89.788128 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.812918 DATE COLLECTED: 1 / 0 / 1946

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 274.0 LOG TYPE: Electric Log

SOURCE: BREVIL, JAMES F. WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
320.5	MODESTO	PIASA	LIMESTONE	6.5	207.5	
314.0	MODESTO		UNCLASSIFIED	3.0	214.0	
311.0	CARBONDALE		UNCLASSIFIED	7.0	217.0	
304.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	224.0	
299.0	CARBONDALE	ENERGY	UNCLASSIFIED	40.0	229.0	
259.0	CARBONDALE	HERRIN	COAL	5.0	269.0	

MAPID: 11900752000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 8 QUARTERS/FOOTAGES: 990' N line, 1650' E line

QUADRANGLE: MARINE LONGITUDE: -89.788128

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.812918

DATE COLLECTED:

SURFACE ELEVATION (FT.): 528.0

LOGGED (FT.): 280.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
321.0	MODESTO	PIASA	LIMESTONE	6.0	207.0	
315.0	MODESTO		SHALE	9.0	213.0	
306.0	CARBONDALE		SHALE	2.0	222.0	
304.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	224.0	
299.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	47.0	229.0	
252.0	CARBONDALE	HERRIN	COAL	4.0	276.0	

MAPID: 11900752000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 8 QUARTERS/FOOTAGES: 990' N line, 1650' E line

QUADRANGLE: MARINE LONGITUDE: -89.788128

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 38.812918

DATE COLLECTED: 1 / 0 / 1946

SURFACE ELEVATION (FT.): 528.0

LOGGED (FT.): 403.0

LOG TYPE: Electric Log

SOURCE: BREVIL, JAMES F.

WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
321.0	MODESTO	PIASA	UNCLASSIFIED	9.0	207.0	
252.0	CARBONDALE	HERRIN	UNCLASSIFIED	5.5	276.0	
243.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	285.0	THIN OR ABSENT
241.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	287.0	
168.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	360.0	
125.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	403.0	



MAPID: 11900753000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE NE

QUADRANGLE: MARINE LONGITUDE: -89.78347 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.812844 DATE COLLECTED: 2 / 0 / 1946

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 295.5 LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO 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
313.5	MODESTO	PIASA	LIMESTONE	5.0	229.5
308.5	MODESTO		UNCLASSIFIED	2.0	234.5
306.5	CARBONDALE		UNCLASSIFIED	8.0	236.5
298.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	244.5
294.5	CARBONDALE	ENERGY	UNCLASSIFIED	42.5	248.5
252.0	CARBONDALE	HERRIN	COAL	4.5	291.0

MAPID: 11900446000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' E line of SE NW SE

QUADRANGLE: MARINE LONGITUDE: -89.769405 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.805468 DATE COLLECTED: 5 / 0 / 1944

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 276.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
325.0	MODESTO	PIASA	LIMESTONE	6.0	209.0
319.0	MODESTO		UNCLASSIFIED	2.0	215.0
317.0	CARBONDALE		UNCLASSIFIED	6.0	217.0
311.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	223.0
305.0	CARBONDALE	ENERGY	UNCLASSIFIED	44.0	229.0
261.0	CARBONDALE	HERRIN	COAL	3.0	273.0

MAPID: 11900446000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 4N 6W    SECTION: 9    QUARTERS/FOOTAGES: 330' S line, 330' E line of SE NW SE

QUADRANGLE: MARINE

LONGITUDE: -89.769405

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.805468

DATE COLLECTED: 4 / 0 / 1944

SURFACE ELEVATION (FT.): 534.0

LOGGED (FT.): 550.0

LOG TYPE: Drillers Log

SOURCE: E.A. OBERING    2

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
534.0			UNCLASSIFIED	68.0	0.0	NO RECORD
466.0			SANDSTONE	9.0	68.0	
457.0			GRAY SHALE	5.0	77.0	
452.0			GRAY SILTSTONE	10.0	82.0	
442.0			GRAY SILTSTONE	5.0	92.0	
437.0			GRAY SHALE	1.0	97.0	
436.0			GRAY SHALE	4.0	98.0	
432.0			GRAY SHALE	8.0	102.0	
424.0			UNCLASSIFIED	5.0	110.0	CEMENT
419.0			GRAY SILTSTONE	35.0	115.0	
384.0			SANDSTONE	33.0	150.0	
351.0			UNDERCLAY	3.0	183.0	
348.0			SANDSTONE	14.0	186.0	
334.0			GRAY SHALE	5.0	200.0	
329.0			UNDERCLAY	4.0	205.0	
325.0	MODESTO	PIASA	LIMESTONE	6.0	209.0	
319.0			UNCLASSIFIED	5.0	215.0	NO SAMPLE
314.0			GRAY SHALE	3.0	220.0	
311.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	223.0	
309.0	CARBONDALE		GRAY SHALE	4.0	225.0	
305.0	CARBONDALE		GRAY SILTSTONE	21.0	229.0	
284.0	CARBONDALE		GRAY SHALE	23.0	250.0	
261.0	CARBONDALE	ANNA	BLACK SHALE	1.0	273.0	
260.0	CARBONDALE	HERRIN	COAL	2.0	274.0	
258.0			LIGHT SHALE	2.0	276.0	
256.0			LIMESTONE	2.0	278.0	
254.0			GRAY SHALE	5.0	280.0	
249.0			UNCLASSIFIED	5.0	285.0	NO RECORD
244.0			LIMESTONE	1.0	290.0	
243.0			GRAY SHALE	15.0	291.0	
228.0			GRAY SILTSTONE	14.0	306.0	
214.0			GRAY SHALE	10.0	320.0	
204.0			GRAY SILTSTONE	29.0	330.0	
175.0			COAL	2.0	359.0	
173.0			GRAY SHALE	3.0	361.0	
170.0			GRAY SILTSTONE	30.0	364.0	
140.0			GRAY SHALE	5.0	394.0	
135.0			GRAY SHALE	1.0	399.0	
134.0			COAL	2.0	400.0	

132.0	UNDERCLAY	1.0	402.0
131.0	GRAY SHALE	1.0	403.0
130.0	LIMESTONE	5.0	404.0
125.0	BLACK SHALE	1.0	409.0
124.0	COAL	3.0	410.0
121.0	UNDERCLAY	1.0	413.0
120.0	GRAY SHALE	5.0	414.0
115.0	UNDERCLAY	11.0	419.0
104.0	GRAY SHALE	15.0	430.0
89.0	GRAY SHALE	1.0	445.0
88.0	GRAY SHALE	3.0	446.0
85.0	BLACK SHALE	3.0	449.0
82.0	GRAY SHALE	10.0	452.0
72.0	BLACK SHALE	1.0	462.0
71.0	DARK GRAY SHALE	16.0	463.0
55.0	BLACK SHALE	1.0	479.0
54.0	COAL	4.0	480.0
50.0	GRAY SILTSTONE	10.0	484.0
40.0	SANDSTONE	4.0	494.0
36.0	GRAY SILTSTONE	14.0	498.0
22.0	SANDSTONE	22.0	512.0
0.0	GRAY SHALE	6.0	534.0
-6.0	LIMESTONE	5.0	540.0
-11.0	GRAY SHALE	5.0	545.0

**MAPID:** 11900446000C    **VERSION:** 5    **PROJECT:** CONTROL  
**COUNTY:** MADISON    **TWP/RNG:** 4N 6W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SE NW SE  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.769405    **GEOLOGIST:** HINES  
**CONFIDENTIAL:** N    **LATITUDE:** 38.805468    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 1741.0    **LOG TYPE:** Survey Sample Study  
**SOURCE:** OBERING ERNEST A    **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: 11900751000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 9 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: MARINE LONGITUDE: -89.781112 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.810956 DATE COLLECTED: 3 / 0 / 1946

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 297.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO WELL TYPE: Water Injection

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
313.0	MODESTO	PIASA	LIMESTONE	5.0	225.0
308.0	MODESTO		UNCLASSIFIED	5.0	230.0
303.0	CARBONDALE	DANVILLE	COAL	1.5	235.0
301.5	CARBONDALE		UNCLASSIFIED	9.0	236.5
292.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	245.5
288.0	CARBONDALE	ENERGY	UNCLASSIFIED	42.0	250.0
246.0	CARBONDALE	HERRIN	COAL	5.0	292.0

MAPID: 11900751000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 9 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: MARINE LONGITUDE: -89.781112 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.810956 DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 397.5 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
313.0	MODESTO	PIASA	LIMESTONE	4.5	225.0
308.5	MODESTO		SHALE	13.0	229.5
295.5	CARBONDALE		SHALE	2.5	242.5
293.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	245.0
288.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	74.0	249.5

MAPID: 11901382000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW

QUADRANGLE: MARINE LONGITUDE: -89.781088 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.809203 DATE COLLECTED: 4 / 0 / 1946

SURFACE ELEVATION (FT.): 533.0 LOGGED (FT.): 292.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
294.0	CARBONDALE		UNCLASSIFIED	5.0	239.0
289.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	244.0
285.0	CARBONDALE	ENERGY	UNCLASSIFIED	40.0	248.0
245.0	CARBONDALE	HERRIN	COAL	4.0	288.0

MAPID: 11901399000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 9 QUARTERS/FOOTAGES: 330' N line, 330' W line of NW NE SW

QUADRANGLE: MARINE LONGITUDE: -89.776405 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.807334 DATE COLLECTED: 9 / 0 / 1946

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Producer-Oil

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE		UNCLASSIFIED	7.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	36.0	
-	CARBONDALE	HERRIN	COAL	5.5	

MAPID: 11900747000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 10 QUARTERS/FOOTAGES: 391' N line, 330' W line of SW SW

QUADRANGLE: MARINE LONGITUDE: -89.762408 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.80341 DATE COLLECTED: 11 / 0 / 1944

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL WELL TYPE: Producer-Oil

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	9.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	

MAPID: 11900748000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 10 QUARTERS/FOOTAGES: 1352' N line, 734' W line of SE  
 QUADRANGLE: MARINE LONGITUDE: -89.751844 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.804353 DATE COLLECTED: 1 / 0 / 1949  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: PAUTLER RAY W WELL TYPE: Dry Hole  
 COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	6.5	
-	MODESTO		UNCLASSIFIED	3.5	
-	CARBONDALE		UNCLASSIFIED	10.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	46.0	
-	CARBONDALE	HERRIN	COAL	6.0	

MAPID: 11900749000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NE  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.746447 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.810797 DATE COLLECTED: 10 / 0 / 1954  
 SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 260.0 LOG TYPE: Electric Log  
 SOURCE: ASHLAND OIL&REF. CO. WELL TYPE: Producer-Oil  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
262.0	CARBONDALE	HERRIN	COAL	5.0	255.0

MAPID: 11901425000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 10 QUARTERS/FOOTAGES: 990' S line, 1650' W line  
 QUADRANGLE: MARINE LONGITUDE: -89.757751 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.803573 DATE COLLECTED: 1 / 0 / 1945  
 SURFACE ELEVATION (FT.): 536.0 LOGGED (FT.): 256.0 LOG TYPE: Electric Log  
 SOURCE: ROCK HILL & PURE OIL WELL TYPE: Producer-Oil  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
362.0	MODESTO	PIASA	LIMESTONE	7.0	174.0
355.0	MODESTO		UNCLASSIFIED	3.0	181.0
352.0	CARBONDALE		UNCLASSIFIED	8.0	184.0
344.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	192.0
340.0	CARBONDALE	ENERGY	UNCLASSIFIED	56.0	196.0
284.0	CARBONDALE	HERRIN	COAL	4.0	252.0

MAPID: 11901425000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 10 QUARTERS/FOOTAGES: 990' S line, 1650' W line

QUADRANGLE: MARINE LONGITUDE: -89.757751 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.803573 DATE COLLECTED:

SURFACE ELEVATION (FT.): 536.0 LOGGED (FT.): 266.0 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
361.0	MODESTO	PIASA	LIMESTONE	6.0	175.0
355.0	MODESTO		SHALE	9.0	181.0
346.0	CARBONDALE		SHALE	2.0	190.0
344.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	192.0
339.0	CARBONDALE	ENERGY	SHALE	6.0	197.0
333.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	9.0	203.0
324.0	CARBONDALE	ENERGY	SHALE	12.0	212.0
312.0	CARBONDALE	ENERGY	SANDSTONE	18.0	224.0
294.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	24.0	242.0

MAPID: 11900745000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: MARINE LONGITUDE: -89.755409 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.787071 DATE COLLECTED: 9 / 0 / 1944

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 311.0 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
295.0	MODESTO	PIASA	LIMESTONE	5.0	239.0
290.0	MODESTO		UNCLASSIFIED	2.5	244.0
287.5	CARBONDALE		UNCLASSIFIED	6.5	246.5
281.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	253.0
276.0	CARBONDALE	ENERGY	UNCLASSIFIED	48.0	258.0
228.0	CARBONDALE	HERRIN	COAL	5.0	306.0

MAPID: 11900745000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: MARINE LONGITUDE: -89.755409 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.787071 DATE COLLECTED:

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 345.0 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
294.0	MODESTO	PIASA	LIMESTONE	5.0	240.0
289.0	MODESTO		SHALE	9.0	245.0
280.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	254.0
273.0	CARBONDALE	ENERGY	SHALE	6.0	261.0
267.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	36.0	267.0

MAPID: 11900746000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 990' E line of SW NE

QUADRANGLE: MARINE LONGITUDE: -89.753358 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.794392 DATE COLLECTED: 9 / 0 / 1946

SURFACE ELEVATION (FT.): 504.0 LOGGED (FT.): 245.0 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
332.0	MODESTO	PIASA	LIMESTONE	6.0	172.0
326.0	MODESTO		UNCLASSIFIED	3.0	178.0
323.0	CARBONDALE		UNCLASSIFIED	7.0	181.0
316.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	188.0
310.0	CARBONDALE	ENERGY	UNCLASSIFIED	48.0	194.0
262.0	CARBONDALE	HERRIN	COAL	3.0	242.0



MAPID: 11901475000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SW

QUADRANGLE: MARINE LONGITUDE: -89.760157 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.790777 DATE COLLECTED: 6 / 0 / 1943

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 277.5 LOG TYPE: Electric Log

SOURCE: EASON T T & CO WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
331.0	MODESTO	PIASA	LIMESTONE	6.0	204.0
325.0	MODESTO		UNCLASSIFIED	2.5	210.0
322.5	CARBONDALE		UNCLASSIFIED	6.5	212.5
316.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	219.0
312.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	223.0
262.0	CARBONDALE	HERRIN	COAL	4.5	273.0

MAPID: 11901480000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 15 QUARTERS/FOOTAGES: 990' N line, 990' W line of NW

QUADRANGLE: MARINE LONGITUDE: -89.76006 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.798118 DATE COLLECTED: 6 / 0 / 1944

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 264.5 LOG TYPE: Electric Log

SOURCE: OHIO OIL CO., THE WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
346.0	MODESTO	PIASA	LIMESTONE	4.5	188.0
341.5	MODESTO		UNCLASSIFIED	2.5	192.5
339.0	CARBONDALE		UNCLASSIFIED	6.5	195.0
332.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	201.5
327.5	CARBONDALE	ENERGY	UNCLASSIFIED	53.5	206.5
274.0	CARBONDALE	HERRIN	COAL	4.5	260.0

MAPID: 11900743000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE

QUADRANGLE: MARINE LONGITUDE: -89.764717 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.794474 DATE COLLECTED: 10 / 0 / 1943

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 273.5 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL WELL TYPE: Water Injection

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
335.0	MODESTO	PIASA	LIMESTONE	6.0	199.0
329.0	MODESTO		UNCLASSIFIED	4.0	205.0
325.0	CARBONDALE		UNCLASSIFIED	7.0	209.0
318.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	216.0
313.0	CARBONDALE	ENERGY	UNCLASSIFIED	47.0	221.0
266.0	CARBONDALE	HERRIN	COAL	5.5	268.0

MAPID: 11900744000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE NW

QUADRANGLE: MARINE LONGITUDE: -89.773996 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.798249 DATE COLLECTED: 3 / 0 / 1945

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: SHELL OIL COMPANY WELL TYPE: Producer-Oil

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	5.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11901491000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 16 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: MARINE LONGITUDE: -89.778621 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.798309 DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 266.0 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
317.0	MODESTO	PIASA	LIMESTONE	6.0	198.0
311.0	MODESTO		SHALE	10.0	204.0
301.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	214.0
295.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	41.0	220.0
254.0	CARBONDALE	HERRIN	COAL	5.0	261.0

MAPID: 11901492000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: MARINE LONGITUDE: -89.778621 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.794657 DATE COLLECTED: 2 / 0 / 1945

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 280.0 LOG TYPE: Electric Log

SOURCE: HUBBARD HARRY P 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
316.0	MODESTO	PIASA	LIMESTONE	6.0	212.0
310.0	MODESTO		UNCLASSIFIED	3.0	218.0
307.0	CARBONDALE		UNCLASSIFIED	9.0	221.0
298.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	230.0
293.0	CARBONDALE	ENERGY	UNCLASSIFIED	40.0	235.0
253.0	CARBONDALE	HERRIN	COAL	5.0	275.0

MAPID: 11901498000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE

QUADRANGLE: MARINE LONGITUDE: -89.771674 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.800051 DATE COLLECTED: 11 / 0 / 1944

SURFACE ELEVATION (FT.): 523.0 LOGGED (FT.): 262.0 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
342.0	MODESTO	PIASA	LIMESTONE	5.0	181.0
337.0	MODESTO		UNCLASSIFIED	5.0	186.0
332.0	CARBONDALE		UNCLASSIFIED	13.0	191.0
319.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	204.0
312.0	CARBONDALE	ENERGY	UNCLASSIFIED	46.0	211.0
266.0	CARBONDALE	HERRIN	COAL	5.0	257.0

MAPID: 11900781000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 17 QUARTERS/FOOTAGES: 2540' S line, 1960' E line

QUADRANGLE: MARINE LONGITUDE: -89.788995 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.793594 DATE COLLECTED: 12 / 0 / 1945

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 294.0 LOG TYPE: Electric Log

SOURCE: MENHALL, J. W. & CO. WELL TYPE: Service Well

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
286.0	MODESTO	PIASA	LIMESTONE	7.0	227.0
279.0	MODESTO		UNCLASSIFIED	4.0	234.0
275.0	CARBONDALE		UNCLASSIFIED	7.0	238.0
268.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	245.0
263.0	CARBONDALE	ENERGY	UNCLASSIFIED	39.0	250.0
224.0	CARBONDALE	HERRIN	COAL	5.0	289.0

MAPID: 11900781000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 17 QUARTERS/FOOTAGES: 2540' S line, 1960' E line

QUADRANGLE: MARINE LONGITUDE: -89.788995 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.793594 DATE COLLECTED:

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 293.0 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
285.0	MODESTO	PIASA	LIMESTONE	6.0	228.0
279.0	MODESTO		SHALE	11.0	234.0
268.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	245.0
263.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	40.0	250.0
223.0	CARBONDALE	HERRIN	COAL	3.0	290.0

MAPID: 11900781000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 17 QUARTERS/FOOTAGES: 2540' S line, 1960' E line

QUADRANGLE: MARINE LONGITUDE: -89.788995 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 38.793594 DATE COLLECTED: 12 / 0 / 1945

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 416.0 LOG TYPE: Electric Log

SOURCE: MENHALL, J. W. & CO. WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF, NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
287.0	MODESTO	PIASA	UNCLASSIFIED	8.0	226.0	
224.0	CARBONDALE	HERRIN	UNCLASSIFIED	5.0	289.0	
213.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	300.0	THIN OR ABSENT
203.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	310.0	
139.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	374.0	
97.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	2.0	416.0	

MAPID: 11926808000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 18 QUARTERS/FOOTAGES: 1' N, 1320' E, C/c

QUADRANGLE: MARINE LONGITUDE: -89.804303 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.794039 DATE COLLECTED: 8 / 9 / 1976

SURFACE ELEVATION (FT.): 513.8 LOGGED (FT.): 321.2 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 665 WELL TYPE: Coal Test

COMMENT: LOC UNCERTAIN; "E 1/4 OF SECTION"

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
513.8			CLAY	18.0	0.0	
495.8			SAND & GRAVEL	3.0	18.0	
492.8			UNCONSOLIDATED	112.0	21.0	
380.8			SANDY SHALE	85.0	133.0	
295.8			CALCAREOUS SHALE	6.0	218.0	
289.8			GREEN SHALE	9.0	224.0	
280.8			SILTSTONE	21.0	233.0	
259.8			LIMESTONE	4.0	254.0	
255.8			GRAY SHALE	11.5	258.0	
244.3	SHELburn		LIMESTONE	3.0	269.5	
241.3	SHELburn		GRAY SHALE	19.5	272.5	
221.8	SHELburn		SHALE	8.4	292.0	SIDERITE
213.4	SHELburn		SHALE	9.9	300.4	DK SH SEAMS
203.5	SHELburn		DARK SHALE	1.4	310.3	
202.1	CARBONDALE	ENERGY	UNCONSOLIDATED	3.1	311.7	
199.0	CARBONDALE	ENERGY	CARBONACEOUS SHALE	0.3	314.8	
198.7	CARBONDALE	HERRIN	COAL	2.4	315.1	
196.4	CARBONDALE		SHALE	0.3	317.4	
196.1	CARBONDALE		CLAYSTONE & SILTSTONE	0.9	317.7	
195.3	CARBONDALE		LIMESTONE	2.7	318.5	

**MAPID:** 11902510000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 4N 6W    **SECTION:** 19    **QUARTERS/FOOTAGES:** 2310' S line, 330' W line  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.816154    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.778457    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 504.0    **LOGGED (FT.):** 292.0    **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
268.0	MODESTO	PIASA	LIMESTONE	4.0	236.0
264.0	MODESTO		SHALE	8.0	240.0
256.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	248.0
252.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	38.0	252.0
214.0	CARBONDALE	HERRIN	COAL	2.0	290.0

**MAPID:** 11900742000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 4N 6W    **SECTION:** 20    **QUARTERS/FOOTAGES:** 1650' S line, 2310' W line  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.792759    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.776432    **DATE COLLECTED:** 5 / 0 / 1944  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** BAYER, KENNETH M.    **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	2.0	
-	CARBONDALE		UNCLASSIFIED	6.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	40.0	
-	CARBONDALE	HERRIN	COAL	4.0	

MAPID: 11900742000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 20 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MARINE LONGITUDE: -89.792759 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.776432 DATE COLLECTED:

SURFACE ELEVATION (FT.): 492.0 LOGGED (FT.): 298.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
255.5	MODESTO	PIASA	LIMESTONE	5.0	236.5	
250.5	MODESTO		SHALE	8.5	241.5	
242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	250.0	
236.0	CARBONDALE	ENERGY	SHALE	10.0	256.0	
226.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	28.0	266.0	
198.0	CARBONDALE	HERRIN	COAL	4.0	294.0	

MAPID: 11900742000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 20 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MARINE LONGITUDE: -89.792759 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 38.776432 DATE COLLECTED: 5 / 0 / 1944

SURFACE ELEVATION (FT.): LOGGED (FT.): 432.0 LOG TYPE: Electric Log

SOURCE: BAYER, KENNETH M. WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF, NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	UNCLASSIFIED	6.0	236.0	
-	CARBONDALE	HERRIN	UNCLASSIFIED	4.5	294.0	
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	301.0	THIN OR ABSENT
-	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	312.0	
-	CARBONDALE	SURVANT	UNCLASSIFIED	-	390.0	
-	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	432.0	

MAPID: 11901136000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: MARINE LONGITUDE: -89.799835 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.785795 DATE COLLECTED: 1 / 0 / 1964

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 294.0 LOG TYPE: Electric Log

SOURCE: MAZZARINO, M. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
271.0	MODESTO	PIASA	LIMESTONE	5.0	234.0
266.0	MODESTO		UNCLASSIFIED	3.0	239.0
263.0	CARBONDALE		UNCLASSIFIED	8.0	242.0
255.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	250.0
251.0	CARBONDALE	ENERGY	UNCLASSIFIED	36.0	254.0
215.0	CARBONDALE	HERRIN	COAL	4.0	290.0

MAPID: 11900741000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 22 QUARTERS/FOOTAGES: 990' S line, 990' W line

QUADRANGLE: MARINE LONGITUDE: -89.759966 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.774293 DATE COLLECTED: 6 / 0 / 1950

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 314.0 LOG TYPE: Drillers Log

SOURCE: MAZZARINO & NEARY WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
261.0	MODESTO	PIASA	LIMESTONE	4.0	254.0
257.0	MODESTO		UNCLASSIFIED	2.0	258.0
255.0	CARBONDALE		UNCLASSIFIED	6.0	260.0
249.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	266.0
245.0	CARBONDALE	ANNA	BLACK SHALE	2.0	270.0
243.0	CARBONDALE	ENERGY	UNCLASSIFIED	37.0	272.0
206.0	CARBONDALE	HERRIN	COAL	5.0	309.0



MAPID: 11900741000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 22 QUARTERS/FOOTAGES: 990' S line, 990' W line

QUADRANGLE: MARINE LONGITUDE: -89.759966 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.774293 DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 314.0 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
258.0	MODESTO	PIASA	LIMESTONE	3.0	257.0
255.0	MODESTO		SHALE	8.0	260.0
247.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	268.0
243.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	34.0	272.0
209.0	CARBONDALE	ENERGY	SHALE	6.0	306.0
203.0	CARBONDALE	HERRIN	COAL	2.0	312.0

MAPID: 11901202000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 25 QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.713619 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.763071 DATE COLLECTED: 10 / 0 / 1965

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: DUNCAN, N. V. DRLG. CO. WELL TYPE: Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	6.5	
-	MODESTO		UNCLASSIFIED	2.8	
-	CARBONDALE		UNCLASSIFIED	7.8	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	

MAPID: 11901202000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 25 QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.713619 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.763071 DATE COLLECTED:

SURFACE ELEVATION (FT.): 537.0 LOGGED (FT.): 371.0 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
262.0	MODESTO	PIASA	LIMESTONE	5.0	275.0
257.0	MODESTO		SHALE	10.0	280.0
247.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	290.0
244.0	CARBONDALE	ENERGY	DARK GRAY SHALE	9.0	293.0
235.0	CARBONDALE	ENERGY	SILTY SHALE	69.0	302.0

MAPID: 11900740000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: MARINE LONGITUDE: -89.762074 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.757894 DATE COLLECTED: 2 / 0 / 1951

SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 297.5 LOG TYPE: Electric Log

SOURCE: REASOR G L WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
283.0	MODESTO	PIASA	LIMESTONE	6.0	224.0
277.0	MODESTO		UNCLASSIFIED	3.0	230.0
274.0	CARBONDALE		UNCLASSIFIED	7.0	233.0
267.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	240.0
263.0	CARBONDALE	ENERGY	UNCLASSIFIED	49.0	244.0
214.0	CARBONDALE	HERRIN	COAL	4.5	293.0

MAPID: 11900740000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: MARINE LONGITUDE: -89.762074 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.757894 DATE COLLECTED:

SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 297.0 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
283.0	MODESTO	PIASA	LIMESTONE	6.0	224.0
277.0	MODESTO		SHALE	10.0	230.0
267.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	240.0
263.0	CARBONDALE	LAWSON	SANDSTONE	8.0	244.0
255.0	CARBONDALE	ENERGY	GRAY SHALE	8.0	252.0
247.0	CARBONDALE	ENERGY	SILTY SHALE	12.0	260.0
235.0	CARBONDALE	ENERGY	GRAY SHALE	8.0	272.0
227.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	14.0	280.0
213.0	CARBONDALE	HERRIN	COAL	3.0	294.0

MAPID: 11900795000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 28 QUARTERS/FOOTAGES: 2310' N line, 1650' W line

QUADRANGLE: MARINE LONGITUDE: -89.776253 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.765346 DATE COLLECTED: 1 / 0 / 1967

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 326.0 LOG TYPE: Electric Log

SOURCE: POINTER 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
253.5	MODESTO	PIASA	LIMESTONE	3.5	262.5
250.0	MODESTO		UNCLASSIFIED	3.0	266.0
247.0	CARBONDALE		UNCLASSIFIED	7.0	269.0
240.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	276.0
236.0	CARBONDALE	ENERGY	UNCLASSIFIED	42.0	280.0
194.0	CARBONDALE	HERRIN	COAL	4.0	322.0

MAPID: 11900795000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 28 QUARTERS/FOOTAGES: 2310' N line, 1650' W line

QUADRANGLE: MARINE LONGITUDE: -89.776253 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.765346 DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 326.0 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
253.0	MODESTO	PIASA	LIMESTONE	3.0	263.0
250.0	MODESTO		SHALE	10.0	266.0
240.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	276.0
236.0	CARBONDALE	ENERGY	SHALE	4.0	280.0
232.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	29.0	284.0
203.0	CARBONDALE	ENERGY	SHALE	9.0	313.0
194.0	CARBONDALE	HERRIN	COAL	4.0	322.0

MAPID: 11900739000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 29 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.785594 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.767262 DATE COLLECTED: 9 / 0 / 1946

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: AETNA 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	4.5	
-	MODESTO		UNCLASSIFIED	2.0	
-	CARBONDALE		UNCLASSIFIED	5.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	
-	CARBONDALE	ENERGY	UNCLASSIFIED	48.0	
-	CARBONDALE	HERRIN	COAL	4.0	

MAPID: 11900739000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 29 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.785594 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.767262 DATE COLLECTED:

SURFACE ELEVATION (FT.): 527.0 LOGGED (FT.): 316.0 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
279.0	MODESTO	PIASA	LIMESTONE	4.0	248.0
275.0	MODESTO		SHALE	8.0	252.0
267.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	260.0
263.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	8.0	264.0
255.0	CARBONDALE	ENERGY	SHALE	10.0	272.0
245.0	CARBONDALE	ENERGY	SILTY SHALE	24.0	282.0
221.0	CARBONDALE	ENERGY	SHALE	6.0	306.0
215.0	CARBONDALE	HERRIN	COAL	4.0	312.0

MAPID: 11902526000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 30 QUARTERS/FOOTAGES: NE SW

QUADRANGLE: MARINE LONGITUDE: -89.812327 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.76301 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 297.8 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO TR-11 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
270.0	MODESTO	PIASA	LIMESTONE	4.5	228.0	
265.5	MODESTO		GRAY SHALE	9.0	232.5	
256.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	241.5	LOWER BENCH
251.5	CARBONDALE	LAWSON	GRAY SHALE	10.0	246.5	
241.5	CARBONDALE	ENERGY	GRAY SHALE	37.8	256.5	
204.0	CARBONDALE	HERRIN	COAL	3.8	294.0	

MAPID: 11902526000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 30 QUARTERS/FOOTAGES: NE SW

QUADRANGLE: MARINE LONGITUDE: -89.812327 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.76301 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 297.8 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-11 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
270.3	MODESTO	PIASA	LIMESTONE	4.5	227.7	
265.8	MODESTO		UNCLASSIFIED	2.5	232.2	
263.3	CARBONDALE		UNCLASSIFIED	6.5	234.7	
256.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	241.2	
251.8	CARBONDALE	ENERGY	SHALE	47.8	246.2	
204.0	CARBONDALE	HERRIN	COAL	3.8	294.0	

MAPID: 11902526000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 30 QUARTERS/FOOTAGES: NE SW

QUADRANGLE: MARINE LONGITUDE: -89.812327 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.76301 DATE COLLECTED: 9 / 20 / 1960

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 299.5 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR11 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
498.0			NO RECORD	0.0	0.0	DATA NOT ENTERED - SEE ORIGINAL LOG

MAPID: 11926827000C    VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON

TWP/RNG: 4N 6W

SECTION: 30

QUARTERS/FOOTAGES: SW NE NE NE

QUADRANGLE: MARINE

LONGITUDE: -89.802572

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 38.77058

DATE COLLECTED: 9 / / 1976

SURFACE ELEVATION (FT.): 472.2

LOGGED (FT.): 293.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.    667

WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
472.2			CLAY	5.0	0.0	
467.2			CLAY & GRAVEL	10.0	5.0	BROWN
457.2			CLAY & GRAVEL	90.0	15.0	GRAY
367.2			GREEN SHALE	5.0	105.0	
362.2			LIMESTONE	1.5	110.0	
360.7			SILTY SHALE	3.5	111.5	
330.2			SANDY SHALE	43.5	142.0	
286.7			SILTY SHALE	13.0	185.5	W/ SIDERITE
273.7			GREEN SHALE	7.5	198.5	W/ NODULES
266.2			SHALE	4.5	206.0	
261.7			SANDSTONE	2.5	210.5	
259.2			SILTY SHALE	8.0	213.0	
251.2			SHALE	4.0	221.0	
247.2	SHELBURN	PIASA	LIMESTONE	5.0	225.0	
242.2	SHELBURN		CALCAREOUS SHALE	1.5	230.0	
240.7	SHELBURN		GREEN SHALE	1.5	231.5	
239.2	SHELBURN		DARK SHALE	1.0	233.0	
238.2	SHELBURN		SILTY SHALE	7.0	234.0	
231.2	SHELBURN		GREEN SHALE	2.5	241.0	W/ NODULES
228.7	CARBONDALE	ENERGY	SHALE & SANDSTONE	6.5	243.5	
222.2	CARBONDALE	ENERGY	SHALE	35.8	250.0	
186.4	CARBONDALE	HERRIN	COAL	3.1	285.8	
183.3	CARBONDALE		CLAYSTONE & SILTSTONE	1.1	288.9	
182.2	CARBONDALE		NODULAR CLAYSTONE	3.0	290.0	

MAPID: 11926828000C    VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON    TWP/RNG: 4N 6W    SECTION: 31    QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: ST. JACOB    LONGITUDE: -89.80141    GEOLOGIST: STRAAYER

CONFIDENTIAL: N    LATITUDE: 38.743738    DATE COLLECTED: 9 / / 1976

SURFACE ELEVATION (FT.): 478.8    LOGGED (FT.): 280.8    LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.    669    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
478.8			CLAY	8.0	0.0	
470.8			GLACIAL DRIFT	4.5	8.0	BROWN
466.3			GLACIAL DRIFT	86.0	12.5	GRAY
380.3			SANDSTONE	35.0	98.5	
345.3			SANDY SHALE	7.5	133.5	
338.8			SANDSTONE	47.0	140.0	
291.8			CALCAREOUS SANDSTONE	3.5	187.0	
288.3			SILTY SHALE	9.0	190.5	
279.3			SHALE	1.0	199.5	
278.3			GREEN SHALE	2.0	200.5	
276.3	SHELburn	PIASA	LIMESTONE	6.5	202.5	
269.8	SHELburn		CALCAREOUS SHALE	1.0	209.0	
268.8	SHELburn		GREEN SHALE	1.5	210.0	
267.3	SHELburn		SHALE	0.5	211.5	GREEN BLACK
266.8	SHELburn		SILTY SHALE	5.5	212.0	
261.3	SHELburn		SANDSTONE/LIMESTONE	1.5	217.5	
259.8	SHELburn		SILTY SHALE	16.0	219.0	
243.8	SHELburn		SILTY SHALE	19.0	235.0	
224.8	CARBONDALE	ENERGY	SANDY SHALE	9.3	254.0	SS LAMINATIONS
215.5	CARBONDALE	ENERGY	SANDSTONE	0.2	263.3	
215.3	CARBONDALE	ENERGY	SILTY SHALE	9.1	263.5	SIDERITE NODS
206.2	CARBONDALE	ENERGY	DARK SHALE	0.9	272.6	
205.3	CARBONDALE	HERRIN	COAL	3.8	273.5	
201.5	CARBONDALE		CLAYSTONE & SILTSTONE	2.5	277.3	
199.0	CARBONDALE		LIMESTONE & SHALE	1.0	279.8	

MAPID: 11900805000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 32 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.794525 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.74732 DATE COLLECTED: 9 / 0 / 1957

SURFACE ELEVATION (FT.): 492.0 LOGGED (FT.): 300.5 LOG TYPE: Electric Log

SOURCE: R K PETRO CORP WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
261.5	MODESTO	PIASA	LIMESTONE	4.5	230.5
257.0	MODESTO		UNCLASSIFIED	2.0	235.0
255.0	CARBONDALE		UNCLASSIFIED	6.0	237.0
249.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	243.0
245.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	247.0
195.0	CARBONDALE	HERRIN	COAL	3.5	297.0

MAPID: 11900805000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 32 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.794525 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.74732 DATE COLLECTED:

SURFACE ELEVATION (FT.): 492.0 LOGGED (FT.): 300.0 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
262.0	MODESTO	PIASA	LIMESTONE	4.0	230.0
258.0	MODESTO		SHALE	8.5	234.0
249.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	242.5
245.0	CARBONDALE	LAWSON	SILTY SHALE	4.0	247.0
241.0	CARBONDALE	ENERGY	SHALE	7.0	251.0
234.0	CARBONDALE	ENERGY	SILTY SHALE	39.0	258.0
195.0	CARBONDALE	HERRIN	COAL	3.0	297.0



MAPID: 11900829000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 33 QUARTERS/FOOTAGES: 990' S line, 330' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.780525 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.745378 DATE COLLECTED: 8 / 0 / 1958

SURFACE ELEVATION (FT.): 502.0 LOGGED (FT.): 299.0 LOG TYPE: Electric Log

SOURCE: KUZMICH, R. W. WELL TYPE: Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
238.1	MODESTO	PIASA	LIMESTONE	4.5	263.9
233.6	MODESTO		UNCLASSIFIED	2.3	268.4
231.3	CARBONDALE		UNCLASSIFIED	6.3	270.7
225.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	277.0
221.0	CARBONDALE	ENERGY	UNCLASSIFIED	14.0	281.0
207.0	CARBONDALE	HERRIN	COAL	4.0	295.0

MAPID: 11900829000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 33 QUARTERS/FOOTAGES: 990' S line, 330' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.780525 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.745378 DATE COLLECTED:

SURFACE ELEVATION (FT.): 502.0 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	OVERBURDEN COMMENT
234.5	MODESTO	PIASA	LIMESTONE	3.0	267.5
231.5	MODESTO		SHALE	7.0	270.5
224.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	277.5
221.0	CARBONDALE	ENERGY	GRAY SHALE	14.0	281.0
207.0	CARBONDALE	HERRIN	COAL	4.0	295.0

MAPID: 11922879000C VERSION: 1

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.752852 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 38.743286 DATE COLLECTED: 3 / 0 / 1974

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 408.0 LOG TYPE: Electric Log

SOURCE: KOCH EDWARD H WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
290.0	MODESTO	PIASA	UNCLASSIFIED	-	208.0	
222.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	276.0	ENERGY SHALE ROOF
210.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	288.0	THIN OR ABSENT
198.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	300.0	
128.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	370.0	
90.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	408.0	

MAPID: 11922879000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' S line, 2310' E line

QUADRANGLE: ST. JACOB LONGITUDE: -89.752852 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.743286 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 275.0 LOG TYPE:

SOURCE: WELL TYPE:

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
289.0	MODESTO	PIASA	LIMESTONE	5.0	209.0	
284.0	MODESTO		SHALE	9.0	214.0	
275.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	223.0	
273.0	CARBONDALE	ENERGY	SILTY SHALE	50.0	225.0	

MAPID: 11900738000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 35 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.743668 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.752336 DATE COLLECTED: 5 / 0 / 1947

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 320.0 LOG TYPE: Electric Log

SOURCE: EVERHART J WILLIAM WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
278.0	MODESTO	PIASA	LIMESTONE	8.0	242.0
270.0	MODESTO		UNCLASSIFIED	2.0	250.0
268.0	CARBONDALE		UNCLASSIFIED	6.0	252.0
262.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	258.0
259.0	CARBONDALE	ENERGY	UNCLASSIFIED	55.0	261.0
204.0	CARBONDALE	HERRIN	COAL	4.0	316.0

MAPID: 11900738000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 35 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.743668 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.752336 DATE COLLECTED:

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 364.0 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
231.0	MODESTO	PIASA	LIMESTONE	4.0	289.0
227.0	MODESTO		SHALE	10.0	293.0
217.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	303.0
214.5	CARBONDALE	LAWSON	SILTSTONE	11.5	305.5
203.0	CARBONDALE	ENERGY	SHALE	14.0	317.0
189.0	CARBONDALE	ENERGY	SILTY SHALE	14.0	331.0
175.0	CARBONDALE	ENERGY	SHALE	3.0	345.0
172.0	CARBONDALE	ENERGY	SILTY SHALE	13.0	348.0
159.0	CARBONDALE	HERRIN	COAL	3.0	361.0

MAPID: 11900737000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 36 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.720532 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.748663 DATE COLLECTED: 8 / 0 / 1945

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 308.0 LOG TYPE: Electric Log

SOURCE: THOMPSON B F 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	6.0	226.0
278.0	MODESTO		UNCLASSIFIED	2.5	232.0
275.5	CARBONDALE		UNCLASSIFIED	6.5	234.5
269.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	241.0
266.0	CARBONDALE	ENERGY	UNCLASSIFIED	60.0	244.0
206.0	CARBONDALE	HERRIN	COAL	4.0	304.0

MAPID: 11900737000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 6W SECTION: 36 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: HIGHLAND LONGITUDE: -89.720532 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.748663 DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 308.0 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
283.5	MODESTO	PIASA	LIMESTONE	5.5	226.5
278.0	MODESTO		SHALE	8.0	232.0
270.0	CARBONDALE	ENERGY	SILTY SHALE	66.0	240.0
204.0	CARBONDALE	HERRIN	COAL	2.0	306.0

MAPID: 11900936000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 1 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: MARINE LONGITUDE: -89.817647 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.817225 DATE COLLECTED: 12 / 0 / 1944

SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 282.0 LOG TYPE: Electric Log

SOURCE: SOHIO 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
289.0	MODESTO	PIASA	LIMESTONE	5.0	217.0
284.0	MODESTO		UNCLASSIFIED	3.0	222.0
281.0	CARBONDALE		UNCLASSIFIED	8.0	225.0
273.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	233.0
268.0	CARBONDALE	ENERGY	UNCLASSIFIED	40.0	238.0
228.0	CARBONDALE	HERRIN	COAL	4.0	278.0

MAPID: 11900936000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 1 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: MARINE LONGITUDE: -89.817647 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.817225 DATE COLLECTED:

SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 282.0 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
290.0	MODESTO	PIASA	LIMESTONE	6.0	216.0
284.0	MODESTO		SHALE	10.0	222.0
274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	232.0
267.0	CARBONDALE	ENERGY	SILTY SHALE	15.0	239.0
252.0	CARBONDALE	ENERGY	SHALE	24.0	254.0
228.0	CARBONDALE	HERRIN	COAL	4.0	278.0

MAPID: 11926829000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 1 QUARTERS/FOOTAGES: NW SE SE SE

QUADRANGLE: MARINE LONGITUDE: -89.818206 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.817728 DATE COLLECTED: 9 / 16 / 1976

SURFACE ELEVATION (FT.): 509.1 LOGGED (FT.): 285.2 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 666 WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
509.1			CLAY & GRAVEL	25.5	0.0	
483.6			SAND & GRAVEL	6.0	25.5	
477.6			CLAY & GRAVEL	58.5	31.5	
419.1			SHALE	105.0	90.0	
314.1			LIMESTONE	0.5	195.0	
313.6			SHALE	23.5	195.5	
290.1	SHELBURN	PIASA	LIMESTONE	4.5	219.0	
285.6	SHELBURN		SHALE	10.0	223.5	
275.6	SHELBURN	BANKSTON FORK	LIMESTONE	4.5	233.5	
271.1	CARBONDALE	ENERGY	SHALE & SANDSTONE	4.0	238.0	
267.1	CARBONDALE	ENERGY	SHALE	37.7	242.0	
229.4	CARBONDALE	HERRIN	COAL	4.2	279.7	
225.2	CARBONDALE		SHALE	0.4	283.9	FIRM
224.8	CARBONDALE		SHALE WITH LIMESTONE	0.9	284.3	

MAPID: 11923078000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 7 QUARTERS/FOOTAGES: 1200' S line, 1500' W line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.923009

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.80662

DATE COLLECTED: 9 / 26 / 1974

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 235.0

LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE9

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
535.0	PLEISTOCENE		UNCONSOLIDATED	24.0	0.0	
511.0	PLEISTOCENE		CLAY, SAND & GRAVEL	104.4	24.0	GRAY
406.6	MODESTO		CALCAREOUS SHALE	51.1	128.4	
355.5	MODESTO	PIASA	LIMESTONE	5.7	179.5	TAN
349.8			GRAY SHALE	2.0	185.2	
347.8			SHALE	3.0	187.2	MULTI
344.8			CALCAREOUS SHALE	7.1	190.2	
337.7	CARBONDALE	DANVILLE	COAL	1.8	197.3	#7
336.0	CARBONDALE		UNDERCLAY	8.7	199.0	
327.3	CARBONDALE		UNDERCLAY & LIMESTONE	2.3	207.7	
325.0	CARBONDALE	BRERETON	LIMESTONE	6.5	210.0	
318.5	CARBONDALE		GRAY SHALE	2.9	216.5	
315.6	CARBONDALE	ANNA	BLACK SHALE	0.8	219.4	
314.8	CARBONDALE	HERRIN	COAL	2.9	220.2	BLUE
311.9	CARBONDALE		UNDERCLAY	1.2	223.1	
310.7	CARBONDALE		UNDERCLAY	11.0	224.3	UCLY W/ LIME PEBB

MAPID: 11923078000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 7 QUARTERS/FOOTAGES: 1200' S line, 1500' W line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.923009 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.80662 DATE COLLECTED: 9 / 26 / 1974

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 235.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. IE9 WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.0	PLEISTOCENE		UNCONSOLIDATED	24.0	0.0	
501.0	PLEISTOCENE		CLAY & GRAVEL	104.5	24.0	GRAY
396.5			CALCAREOUS SHALE	51.1	128.5	
345.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.6	179.6	TAN
339.8	CARBONDALE	ENERGY	SHALE	2.0	185.2	
337.8	CARBONDALE	ENERGY	SHALE	3.0	187.2	MULTI
334.8	CARBONDALE	ENERGY	CALCAREOUS SHALE	7.1	190.2	
327.7	CARBONDALE	HERRIN	COAL	1.7	197.3	BLUEBAND SPLIT OR OVERLAP
326.0	CARBONDALE		UNDERCLAY	8.8	199.0	
317.2	CARBONDALE		CALCAREOUS SHALE	2.2	207.8	
315.0	CARBONDALE		LIMESTONE	5.6	210.0	
309.4	CARBONDALE		SHALE	3.9	215.6	
305.5	CARBONDALE	TURNER MINE	BLACK SHALE	0.7	219.5	
304.8	CARBONDALE	SPRINGFIELD	COAL	2.9	220.2	
301.9	CARBONDALE		UNDERCLAY	1.2	223.1	
300.7			UNDERCLAY	11.0	224.3	LS PEBB

MAPID: 11900937000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 8 QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899015 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.809587 DATE COLLECTED: 10 / 0 / 1945

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: ALCH, LESSING WELL TYPE: Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
349.1	MODESTO	PIASA	LIMESTONE	5.5	205.9	
343.6	MODESTO		UNCLASSIFIED	2.8	211.4	
340.8	CARBONDALE		UNCLASSIFIED	6.8	214.2	
334.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	221.0	
331.0	CARBONDALE	ENERGY	UNCLASSIFIED	23.0	224.0	
308.0	CARBONDALE	HERRIN	COAL	7.0	247.0	



MAPID: 11926830000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 8 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.906132 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.809637 DATE COLLECTED: 4 / 30 / 1969

SURFACE ELEVATION (FT.): 548.4 LOGGED (FT.): 238.7 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 19A-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.4			CLAY	0.0	25.0	BROWN
523.4			CLAY	16.0	25.0	GRAY
507.4			SANDY CLAY	19.0	41.0	
488.4			SANDY CLAY	83.0	60.0	
405.4			GRAY SHALE	7.0	143.0	
398.4			LIMESTONE	0.3	150.0	
398.1			GRAY SHALE	39.3	150.3	
358.9			LIMESTONE	4.9	189.5	
354.0			GRAY SHALE	8.6	194.4	
345.4			LIMESTONE	1.9	203.0	HARD, WHITE
343.5	CARBONDALE	ENERGY	SANDY SHALE	20.4	204.9	
323.1	CARBONDALE	ENERGY	BLACK SHALE	0.1	225.3	
323.0	CARBONDALE	ENERGY	GRAY SHALE	3.9	225.4	
319.1	CARBONDALE	HERRIN	COAL	6.5	229.3	SOFT, BLACK
312.6	CARBONDALE		CLAYSTONE	0.8	235.8	
311.7	CARBONDALE		CALCAREOUS SHALE	2.0	236.7	

MAPID: 11901236000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 10 QUARTERS/FOOTAGES: 990' N line, 330' W line of NE NW

QUADRANGLE: MARINE LONGITUDE: -89.868174 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.815403 DATE COLLECTED: 1 / 0 / 1967

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 248.0 LOG TYPE: Electric Log

SOURCE: POINTER OIL COMPANY WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
347.0	MODESTO	PIASA	LIMESTONE	4.0	193.0	
343.0	MODESTO		UNCLASSIFIED	3.5	197.0	
339.5	CARBONDALE		UNCLASSIFIED	9.5	200.5	
330.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	210.0	
325.0	CARBONDALE	ENERGY	UNCLASSIFIED	28.0	215.0	
297.0	CARBONDALE	HERRIN	COAL	5.0	243.0	

MAPID: 11902527000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 10 QUARTERS/FOOTAGES: NE

QUADRANGLE: MARINE LONGITUDE: -89.859486 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.814655 DATE COLLECTED:

SURFACE ELEVATION (FT.): 523.0 LOGGED (FT.): 248.8 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO TR-14 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
333.0	MODESTO	PIASA	LIMESTONE	4.3	190.0	
328.7	MODESTO		VARRIGATED SHALE	11.7	194.3	
317.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	206.0	LOWER BENCH
312.5	CARBONDALE	ENERGY	SILTY SHALE	9.5	210.5	
303.0	CARBONDALE	ENERGY	GRAY SHALE	23.5	220.0	
279.0	CARBONDALE	HERRIN	COAL	4.8	244.0	

MAPID: 11902527000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 10 QUARTERS/FOOTAGES: NE

QUADRANGLE: MARINE LONGITUDE: -89.859486 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.814655 DATE COLLECTED:

SURFACE ELEVATION (FT.): 523.0 LOGGED (FT.): 247.8 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-14 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
333.5	MODESTO	PIASA	LIMESTONE	4.3	189.5	
329.2	MODESTO		UNCLASSIFIED	3.0	193.8	
326.2	CARBONDALE		UNCLASSIFIED	8.7	196.8	
317.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	205.5	
313.0	CARBONDALE	ENERGY	SHALE	33.0	210.0	
280.0	CARBONDALE	HERRIN	COAL	4.8	243.0	

MAPID: 11902527000C VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 10 QUARTERS/FOOTAGES: NE

QUADRANGLE: MARINE LONGITUDE: -89.859486 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.814655 DATE COLLECTED: 11 / 0 / 1960

SURFACE ELEVATION (FT.): 523.0 LOGGED (FT.): 250.0 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR14 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.0			NO RECORD	0.0	0.0	DATA NOT ENTERED-SEE ORIGINAL LOG

MAPID: 11926968000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 10 QUARTERS/FOOTAGES: NW SE SW NE

QUADRANGLE: MARINE LONGITUDE: -89.860955 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.81204 DATE COLLECTED: 6 / 17 / 1969

SURFACE ELEVATION (FT.): 523.4 LOGGED (FT.): 248.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 25-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.4			CLAY	14.5	0.0	BROWN
508.9			CLAY	18.5	14.5	TRACE OF GRAVEL
490.4			SAND & GRAVEL	12.5	33.0	
477.9			CLAY	35.9	45.5	
442.0			SHALE	6.8	81.4	
435.2			LIMESTONE	0.7	88.2	
434.5			GRAY SHALE	71.3	88.9	
363.2			LIMESTONE	0.3	160.2	
362.9			GRAY SHALE	28.3	160.5	
334.6			LIMESTONE	0.4	188.8	
334.2			GRAY SHALE	1.9	189.2	
332.3			LIMESTONE	5.2	191.1	
327.1			UNKNOWN	10.1	196.3	
317.0			LIMESTONE	3.6	206.4	
313.4	CARBONDALE	ENERGY	GRAY SHALE	23.3	210.0	
290.1	CARBONDALE	ENERGY	LIMESTONE	0.1	233.3	
290.0	CARBONDALE	ENERGY	SANDY SHALE	9.4	233.4	
280.6	CARBONDALE	HERRIN	COAL	4.8	242.8	
275.8	CARBONDALE		CLAYSTONE	0.3	247.6	
275.5	CARBONDALE		CALCAREOUS SHALE	0.3	247.9	

MAPID: 11926969000C    VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 13    QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: MARINE    LONGITUDE: -89.822573    GEOLOGIST: STRAAYER

CONFIDENTIAL: N    LATITUDE: 38.795201    DATE COLLECTED: 5 / 26 / 1969

SURFACE ELEVATION (FT.): 490.7    LOGGED (FT.): 275.0    LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.    23-MT    WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.7			CLAY	6.0	0.0	BROWN
484.7			CLAY	4.0	6.0	BROWN SANDY
480.7			CLAY	7.0	10.0	TRACE OF GRAVEL
473.7			SAND	61.0	17.0	
412.7			GRAVEL	11.0	78.0	FINE
401.7			SANDY SHALE	29.2	89.0	
372.5			SANDY DARK SHALE	70.1	118.2	
302.4			LIMESTONE	0.3	188.3	
302.2			GRAY SHALE	0.8	188.5	
301.4			COAL	1.3	189.3	
300.1			GRAY SHALE	2.5	190.6	
297.6			UNKNOWN	5.3	193.1	
292.3			LIMESTONE	0.8	198.4	
291.4			SHALE	0.7	199.3	
290.8			LIMESTONE	1.3	199.9	
289.4			SHALE	1.2	201.3	
288.3	SHELburn	PIASA	LIMESTONE	3.3	202.4	
284.9	SHELburn		GRAY SHALE	7.3	205.8	
277.6	SHELburn		BROWN SHALE	2.3	213.1	GRAY-BROWN
275.3	SHELburn	BANKSTON FORK	LIMESTONE	2.7	215.4	
272.6	SHELburn		GRAY SHALE	10.3	218.1	
262.4	SHELburn		LIMESTONE	3.6	228.3	
258.8	SHELburn		GRAY SHALE	28.9	231.9	
229.9	SHELburn	BRERETON	LIMESTONE	0.2	260.8	
229.7	SHELburn	BRERETON	SHALE	2.5	261.0	
227.2	SHELburn	BRERETON	LIMESTONE	0.3	263.5	
226.9	CARBONDALE	ENERGY	GRAY SHALE	4.7	263.8	
222.2	CARBONDALE	ENERGY	BLACK SHALE	0.1	268.5	
222.1	CARBONDALE	HERRIN	COAL	3.8	268.6	
218.3	CARBONDALE		GRAY SHALE	0.7	272.4	
217.6	CARBONDALE		CALCAREOUS SHALE	1.9	273.1	

MAPID: 11900938000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 14 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.839301 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.794656 DATE COLLECTED: 8 / 0 / 1947

SURFACE ELEVATION (FT.): 496.0 LOGGED (FT.): 247.5 LOG TYPE: Electric Log

SOURCE: EVERHART J WILLIAM WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
308.0	MODESTO	PIASA	LIMESTONE	4.0	188.0
304.0	MODESTO		UNCLASSIFIED	4.0	192.0
300.0	CARBONDALE		UNCLASSIFIED	8.0	196.0
292.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	204.0
287.0	CARBONDALE	ENERGY	UNCLASSIFIED	34.0	209.0
253.0	CARBONDALE	HERRIN	COAL	4.5	243.0

MAPID: 11900938000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 14 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.839301 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.794656 DATE COLLECTED:

SURFACE ELEVATION (FT.): 496.0 LOGGED (FT.): 247.0 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
307.0	MODESTO	PIASA	LIMESTONE	3.0	189.0
304.0	MODESTO		SHALE	12.0	192.0
292.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	204.0
286.0	CARBONDALE	ENERGY	SILTY SHALE	33.0	210.0
253.0	CARBONDALE	HERRIN	COAL	4.0	243.0

MAPID: 11901230000C VERSION: 2

PROJECT: BLM

COUNTY: MADISON

TWP/RNG: 4N 7W

SECTION: 15

QUARTERS/FOOTAGES: NE NE NE SW

QUADRANGLE: MARINE

LONGITUDE: -89.865037

GEOLOGIST: TREWORGY,J

CONFIDENTIAL: N

LATITUDE: 38.795387

DATE COLLECTED: 8 / 1 / 1966

SURFACE ELEVATION (FT.): 525.0

LOGGED (FT.): 555.0

LOG TYPE: Drillers Log

SOURCE: ST. CHARLES DRILLING CO.

WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.0			UNCONSOLIDATED	55.0	0.0	
470.0			ROCK	147.0	55.0	
323.0			SHALE	42.0	202.0	
281.0	CARBONDALE	HERRIN	COAL	6.0	244.0	
275.0			ROCK	134.0	250.0	
141.0			COAL	1.0	384.0	
140.0			SHALE	5.0	385.0	
135.0			COAL	1.0	390.0	
134.0			SHALE	13.0	391.0	
121.0			COAL	1.0	404.0	
120.0			ROCK	35.0	405.0	
85.0			COAL	2.0	440.0	
83.0			ROCK	113.0	442.0	

MAPID: 11901230000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 4N 7W

SECTION: 15

QUARTERS/FOOTAGES: NE NE NE SW

QUADRANGLE: MARINE

LONGITUDE: -89.865037

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.795387

DATE COLLECTED: 8 / 1 / 1966

SURFACE ELEVATION (FT.): 525.0

LOGGED (FT.): 555.0

LOG TYPE: Drillers Log

SOURCE: ST. CHARLES DRILLING CO. 1161

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.0			CLAY	35.0	0.0	
490.0			SAND	20.0	35.0	
470.0			CALCAREOUS SHALE	115.0	55.0	
355.0			SANDSTONE	15.0	170.0	
340.0			CALCAREOUS SHALE	10.0	185.0	
330.0			LIMESTONE	7.0	195.0	
323.0			CALCAREOUS SHALE	42.0	202.0	
281.0	CARBONDALE	HERRIN	COAL	6.0	244.0	
275.0			SHALE	30.0	250.0	
245.0			LIMESTONE	104.0	280.0	
141.0			COAL	1.0	384.0	
140.0			SHALE	5.0	385.0	
135.0			COAL	1.0	390.0	
134.0			SHALE	13.0	391.0	
121.0			COAL	1.0	404.0	
120.0			SHALE	20.0	405.0	
100.0			SANDSTONE	15.0	425.0	
85.0			COAL	2.0	440.0	
83.0			SANDSTONE	23.0	442.0	
60.0			LIMESTONE	18.0	465.0	
42.0			SHALE	7.0	483.0	
35.0			LIMESTONE	40.0	490.0	
-5.0			SHALE	25.0	530.0	

MAPID: 11901231000C VERSION: 2

PROJECT: BLM

COUNTY: MADISON

TWP/RNG: 4N 7W

SECTION: 15

QUARTERS/FOOTAGES: NE NE NE SW

QUADRANGLE: MARINE

LONGITUDE: -89.865037

GEOLOGIST: TREWORGY,J

CONFIDENTIAL: N

LATITUDE: 38.795387

DATE COLLECTED: 8 / 11 / 1966

SURFACE ELEVATION (FT.): 525.0

LOGGED (FT.): 405.0

LOG TYPE: Drillers Log

SOURCE: ST. CHARLES DRILLING CO.

WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
525.0			UNCONSOLIDATED	15.0	0.0
510.0			ROCK	15.0	15.0
495.0			COAL	1.0	30.0
494.0			ROCK	114.0	31.0
380.0			SHALE	65.0	145.0
315.0	CARBONDALE	HERRIN	COAL	5.0	210.0
310.0			ROCK	190.0	215.0



MAPID: 11901231000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 4N 7W

SECTION: 15

QUARTERS/FOOTAGES: NE NE NE SW

QUADRANGLE: MARINE

LONGITUDE: -89.865037

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.795387

DATE COLLECTED: 8 / 11 / 1966

SURFACE ELEVATION (FT.):

LOGGED (FT.): 405.0

LOG TYPE: Drillers Log

SOURCE: ST. CHARLES DRILLING CO. 1565

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			CLAY	15.0	0.0
-			CALCAREOUS SHALE	5.0	15.0
-			UNDERCLAY	10.0	20.0
-			COAL	1.0	30.0
-			CALCAREOUS SHALE	7.0	31.0
-			LIMESTONE	2.0	38.0
-			CALCAREOUS SHALE	70.0	40.0
-			LIMESTONE	2.0	110.0
-			CALCAREOUS SHALE	18.0	112.0
-			SHALE	5.0	130.0
-			UNDERCLAY	5.0	135.0
-			LIMESTONE	5.0	140.0
-			CALCAREOUS SHALE	65.0	145.0
-	CARBONDALE	HERRIN	COAL	5.0	210.0
-			CALCAREOUS SHALE	11.0	215.0
-			LIMESTONE	3.0	226.0
-			SHALE	6.0	229.0
-			SANDSTONE	10.0	235.0
-			CALCAREOUS SHALE	145.0	245.0
-			SANDSTONE	11.0	390.0
-			CALCAREOUS SHALE	4.0	401.0

MAPID: 11924638000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 15 QUARTERS/FOOTAGES: 600' N line, 650' W line of NW SW SE

QUADRANGLE: MARINE

LONGITUDE: -89.862119

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.790487

DATE COLLECTED: 4 / 28 / 1982

SURFACE ELEVATION (FT.):

LOGGED (FT.): 35.0

LOG TYPE: Drillers Log

SOURCE: CLARENCE KOHNEN

103245

WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	1.0	0.0	SOIL
-			CLAY	11.0	1.0	
-			SANDSTONE	7.0	12.0	
-			GRAY SHALE	9.0	19.0	
-			COAL	2.0	28.0	
-			GRAY SHALE	5.0	30.0	

MAPID: 11923079000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 17 QUARTERS/FOOTAGES: NE SW

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.905002

GEOLOGIST: UITEMP

CONFIDENTIAL: N

LATITUDE: 38.793921

DATE COLLECTED: 8 / 22 / 1974

SURFACE ELEVATION (FT.): 530.0

LOGGED (FT.): 208.0

LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE6

WELL TYPE:

COMMENT: Core description

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
345.4	CARBONDALE	ENERGY	SHALE	3.8	184.6	
341.6	CARBONDALE	ENERGY	GRAY SHALE	5.5	188.4	
336.1	CARBONDALE	ENERGY	GRAY SHALE	0.4	193.9	
335.6	CARBONDALE	ENERGY	GRAY SHALE	1.3	194.4	
334.4	CARBONDALE	ENERGY	GRAY SHALE	0.9	195.6	
333.5	CARBONDALE	ENERGY	GRAY SHALE	1.4	196.5	
332.1	CARBONDALE	ENERGY	GRAY SHALE	0.4	197.9	
331.6	CARBONDALE	ENERGY	GRAY SHALE	4.1	198.4	
327.5	CARBONDALE	HERRIN	COAL	5.6	202.5	#6
322.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.1	208.0	
321.9	CARBONDALE		CLAYSTONE & SILTSTONE	0.5	208.1	
321.4	CARBONDALE		CLAYSTONE & SILTSTONE	1.3	208.6	
320.2	CARBONDALE		CLAYSTONE & SILTSTONE	0.9	209.8	
319.3	CARBONDALE		GRAY SHALE	0.9	210.7	
318.4	CARBONDALE		GRAY SHALE	1.8	211.6	
316.6	CARBONDALE		CLAYSTONE & SILTSTONE	1.0	213.4	

MAPID: 11923079000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 17 QUARTERS/FOOTAGES: NE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.905002 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.793921 DATE COLLECTED: 0 / 0 / 1974

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 276.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. IE6 WELL TYPE: Coal Test

COMMENT: Drilling log missing

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
540.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
530.0	PLEISTOCENE		SAND & GRAVEL	111.0	10.0	GRAY
419.0			SHALE	24.2	121.0	
394.8			SHALE	12.2	145.2	GR
382.6			SHALE	2.1	157.4	
380.5			LIMESTONE	1.7	159.5	TAN
378.8			SHALY LIMESTONE	8.6	161.2	
370.2			SHALE	7.2	169.8	MULTI
363.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	177.0	GRAY
360.7	CARBONDALE	ENERGY	SHALE	28.2	179.3	
332.5	CARBONDALE	HERRIN	COAL	5.7	207.5	
326.8	CARBONDALE		UNDERCLAY	8.0	213.2	
318.8			LIMESTONE & CLAY	8.8	221.2	
310.0			SHALE	2.0	230.0	MULTI
308.0			SANDY SHALE	4.1	232.0	
303.9			SANDY SHALE	12.5	236.1	
291.4			SHALE	18.4	248.6	GR
273.0			CALCAREOUS SHALE	9.0	267.0	

MAPID: 11901172000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: 371' N line, 70' E line of SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.912309 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.794768 DATE COLLECTED: 2 / 20 / 1957

SURFACE ELEVATION (FT.): 526.1 LOGGED (FT.): 212.1 LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 4 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
526.1	PLEISTOCENE		SANDY CLAY	44.1	0.0	
482.0			GRAY SHALE	7.6	44.1	
474.5			SANDSTONE	3.7	51.6	GRAY
470.8			GRAY SHALE	9.5	55.3	
461.3			GRAY SHALE	27.8	64.8	
433.5			GRAY SHALE	42.3	92.6	
391.3			GRAY SHALE	18.5	134.8	
372.8			GRAY SHALE	6.0	153.3	
366.8	MODESTO	PIASA	LIMESTONE	4.8	159.3	
362.0			GRAY SHALE	12.8	164.1	
349.2	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	176.9	
348.4	CARBONDALE	ENERGY	GRAY SHALE	27.2	177.7	
321.2	CARBONDALE	ENERGY	BLACK SHALE	0.6	204.9	
320.6	CARBONDALE	HERRIN	COAL	0.4	205.5	
320.3	CARBONDALE	HERRIN	COAL	1.0	205.8	
319.2	CARBONDALE	HERRIN	SHALE	0.1	206.9	
319.2	CARBONDALE	HERRIN	COAL	3.2	206.9	
316.0	CARBONDALE	HERRIN	SHALE	0.0	210.1	
316.0	CARBONDALE	HERRIN	COAL	1.1	210.1	
314.9	CARBONDALE		UNDERCLAY	0.9	211.2	

MAPID: 11901172000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: 371' N line, 70' E line of SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.912309 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.794768 DATE COLLECTED: 2 / 20 / 1957

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 212.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. 4 WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
526.0	PLEISTOCENE		UNCONSOLIDATED	44.1	0.0	
481.9			SANDY SHALE	7.6	44.1	
474.4			SANDSTONE	3.7	51.6	GRAY
470.7			SANDY SHALE	9.5	55.3	
461.2			SANDY SHALE	27.8	64.8	
433.4			SHALE	42.3	92.6	
391.2			SANDY SHALE	18.5	134.8	
372.7			SHALE	6.0	153.3	
366.7			LIMESTONE	4.8	159.3	
361.9			SHALE	12.8	164.1	
349.1	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	176.9	
348.3	CARBONDALE	ENERGY	SHALE	27.2	177.7	
321.1	CARBONDALE	ENERGY	BLACK SHALE	0.6	204.9	
320.5	CARBONDALE	HERRIN	COAL	0.4	205.5	DULL
320.2	CARBONDALE	HERRIN	COAL	1.0	205.8	
319.1	CARBONDALE	HERRIN	SHALE	0.1	206.9	
319.1	CARBONDALE	HERRIN	COAL	3.2	206.9	
315.9	CARBONDALE	HERRIN	SHALE	0.0	210.1	
315.9	CARBONDALE	HERRIN	COAL	1.1	210.1	
314.8	CARBONDALE		UNDERCLAY	0.9	211.2	

MAPID: 11901172000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: 371' N line, 70' E line of SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.912309 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.794768 DATE COLLECTED:

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 210.3 LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 4 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
367.0	MODESTO	PIASA	LIMESTONE	4.8	159.0	
362.2	CARBONDALE		GRAY SHALE	12.8	163.8	
349.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	176.6	
348.6	CARBONDALE	ENERGY	GRAY SHALE	27.2	177.4	
321.4	CARBONDALE	ENERGY	BLACK SHALE	0.6	204.6	
321.0	CARBONDALE	HERRIN	COAL	5.3	205.0	

MAPID: 11901172000C VERSION: 4

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: 371' N line, 70' E line of SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.912309 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.794768 DATE COLLECTED:

SURFACE ELEVATION (FT.): 527.0 LOGGED (FT.): 211.7 LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
367.8	MODESTO	PIASA	LIMESTONE	4.8	159.2
363.0	MODESTO		UNCLASSIFIED	2.9	164.0
360.1	CARBONDALE		UNCLASSIFIED	7.9	166.9
352.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	174.8
349.4	CARBONDALE	ANNA	BLACK SHALE	0.6	177.6
348.8	CARBONDALE	ENERGY	SHALE	27.8	178.2
321.0	CARBONDALE	HERRIN	COAL	5.7	206.0

MAPID: 11922973000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.914344 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.801364 DATE COLLECTED: 8 / 20 / 1974

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 193.0 LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE5 WELL TYPE:

COMMENT: Core description

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
332.8	CARBONDALE	ENERGY	SHALE	4.8	172.2
328.1	CARBONDALE	ENERGY	GRAY SHALE	7.1	176.9
321.0	CARBONDALE	ENERGY	BLACK SHALE	0.1	184.0
320.9	CARBONDALE	ENERGY	GRAY SHALE	1.8	184.1
319.1	CARBONDALE	HERRIN	COAL	6.1	185.9 #6
313.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.5	192.0

MAPID: 11922973000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.914344

GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.801364

DATE COLLECTED: 8 / 20 / 1974

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 193.0

LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. IE5

WELL TYPE: Coal Test

COMMENT: Drilling log missing

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
499.0	PLEISTOCENE		SAND & GRAVEL	87.0	6.0	
412.0			SHALE	47.3	93.0	
364.7			SHALE	3.2	140.3	BR
361.5			LIMESTONE	5.4	143.5	TAN
356.1			SHALE	2.0	148.9	
354.1			SHALE	1.1	150.9	
353.0			SHALE	7.1	152.0	BR
345.9	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	159.1	TAN
344.4	CARBONDALE	ENERGY	SHALE	24.8	160.6	
319.6	CARBONDALE	HERRIN	COAL	6.1	185.4	
313.5	CARBONDALE		UNDERCLAY	1.6	191.5	

MAPID: 11925808000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: 1275' S line, 810' E line of SE SW

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.924183

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.791891

DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 549.0

LOGGED (FT.): 237.0

LOG TYPE:

SOURCE: AMAX COAL AM2

WELL TYPE: Coal Test

COMMENT: UPDATED LOCATION INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.0	PLEISTOCENE		UNCONSOLIDATED	70.0	0.0	
479.0			SHALE	1.0	70.0	PLITHO=040, COMPANY CODE
478.0			SANDY SHALE	5.0	71.0	
473.0			SHALE	84.0	76.0	LT GY GN
389.0			SHALE WITH LIMESTONE	22.0	160.0	
367.0			SHALE	12.0	182.0	LT GY GN
355.0			SHALE	1.0	194.0	PLITHO=040, COMPANY CODE
354.0			SHALE	7.0	195.0	LT GY GN
347.0			SHALE	11.1	202.0	
335.9			CARBONACEOUS SHALE	0.4	213.1	
335.5	CARBONDALE	HERRIN	COAL	6.2	213.5	
329.3	CARBONDALE	HERRIN	SHALE	0.1	219.7	
329.2	CARBONDALE	HERRIN	COAL	1.2	219.8	
328.0	CARBONDALE		UNDERCLAY	2.3	221.0	DARK GRAY
325.7			SHALE	3.9	223.3	PLITHO=040, COMPANY CODE
321.8			SHALE WITH LIMESTONE	8.0	227.2	
313.8			SHALE	1.4	235.2	PLITHO=040, COMPANY CODE
312.4			DARK GRAY SHALE	0.4	236.6	



MAPID: 11990396000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 18 QUARTERS/FOOTAGES: 1275' S line, 810' E line of SE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.924251 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.791909 DATE COLLECTED: 7 / 22 / 1981

SURFACE ELEVATION (FT.): 548.7 LOGGED (FT.): 237.5 LOG TYPE: Drillers Log

SOURCE: AMAX 12-002 WELL TYPE: Coal Test

COMMENT: NATIONAL STEEL BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
548.7	PLEISTOCENE		CLAY	7.0	0.0	
541.7	PLEISTOCENE		UNCONSOLIDATED	24.0	7.0	
517.7	PLEISTOCENE		UNCONSOLIDATED	39.0	31.0	SANDY
478.7	SHELBURN		BROWN LIMESTONE	1.0	70.0	
477.7	SHELBURN		SANDY SHALE	5.0	71.0	
472.7	SHELBURN		GRAY SHALE	84.0	76.0	
388.7	SHELBURN		CALCAREOUS SHALE	22.0	160.0	
366.7	SHELBURN		GRAY SHALE	12.0	182.0	
354.7	SHELBURN		BROWN LIMESTONE	1.0	194.0	
353.7	SHELBURN		GRAY SHALE	7.0	195.0	
346.7	SHELBURN		GRAY SHALE	11.1	202.0	
335.6	CARBONDALE	HERRIN	COAL WITH SHALE	0.4	213.1	
335.2	CARBONDALE	HERRIN	COAL	7.5	213.5	
327.7	CARBONDALE		UNDERCLAY	2.3	221.0	
325.4	CARBONDALE		SHALE WITH LIMESTONE	11.9	223.3	
313.5	CARBONDALE		LIMESTONE	1.4	235.2	
312.1	CARBONDALE		GRAY SHALE	0.9	236.6	

MAPID: 11900088000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 19 QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.915631 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.778343 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 569.5 LOGGED (FT.): 251.0 LOG TYPE:

SOURCE: DONK BROS 0006 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
335.5	CARBONDALE	HERRIN	COAL	6.3	234.0	

MAPID: 11900088000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 19 QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.915631 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.778343 DATE COLLECTED: 12 / 0 / 1917

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 240.3 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL & COKE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
385.1	MODESTO	PIASA	LIMESTONE	4.0	184.9
381.1	MODESTO		UNCLASSIFIED	2.0	188.9
379.1	CARBONDALE		UNCLASSIFIED	9.0	190.9
370.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.0	199.9
368.1	CARBONDALE	ANNA	BLACK SHALE	0.3	201.9
367.8	CARBONDALE	ENERGY	UNCLASSIFIED	31.8	202.2
336.0	CARBONDALE	HERRIN	COAL	6.3	234.0

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MAPID: 11900088000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 19 QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.915631 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.778343 DATE COLLECTED: 12 / 4 / 1917

SURFACE ELEVATION (FT.): 569.5 LOGGED (FT.): 251.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. CO CO. 6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
569.5			SOIL	3.0	0.0
566.5			UNDERCLAY	15.0	3.0
551.5			SANDY SHALE	19.0	18.0
532.5			SANDSTONE	11.0	37.0
521.5			SHALE	11.0	48.0
510.5			SANDSTONE	1.0	59.0
509.5			SHALE	10.0	60.0
499.5			COAL	0.3	70.0
499.2			SHALE	11.8	70.3
487.5			SANDY SHALE	3.0	82.0
484.5			SANDSTONE	5.0	85.0
479.5			GRAY SHALE	24.0	90.0
455.5			GRAY SHALE	28.0	114.0
427.5			CALCAREOUS SHALE	22.0	142.0
405.5			SHALE	5.0	164.0
400.5			CALCAREOUS SHALE	9.0	169.0
391.5			SHALE	7.0	178.0
384.5	MODESTO	PIASA	LIMESTONE	4.0	185.0
380.5			SHALE	2.0	189.0
378.5			SHALE	9.0	191.0
369.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	200.0
367.5	CARBONDALE	ANVIL ROCK	SANDY SHALE	31.6	202.0
335.9	CARBONDALE	ANNA	BLACK SHALE	0.3	233.6
335.7	CARBONDALE	HERRIN	COAL	6.3	233.8
329.3			GRAY SHALE	1.0	240.2
328.3			LIMESTONE	1.3	241.2
327.0			GRAY SHALE	8.5	242.5

MAPID: 11901177000C    VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 19    QUARTERS/FOOTAGES: 20' N line, 60' E line of NW SE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.916998    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.781024    DATE COLLECTED:

SURFACE ELEVATION (FT.): 573.0    LOGGED (FT.): 242.4    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    TR29    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
384.4	MODESTO	PIASA	LIMESTONE	5.3	188.6
379.1	MODESTO		UNCLASSIFIED	2.2	193.9
376.9	CARBONDALE		UNCLASSIFIED	6.6	196.1
370.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	202.7
367.4	CARBONDALE	ENERGY	SHALE	30.4	205.6
337.0	CARBONDALE	HERRIN	COAL	6.4	236.0

MAPID: 11901177000C VERSION: 2

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 19 QUARTERS/FOOTAGES: 20' N line, 60' E line of NW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.916998

GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.781024

DATE COLLECTED: 10 / 4 / 1961

SURFACE ELEVATION (FT.): 572.8

LOGGED (FT.): 243.2

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 29

WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
572.8	PLEISTOCENE		SANDY CLAY	63.4	0.0
509.4			SANDY SHALE	22.5	63.4
486.9			SANDSTONE	4.2	85.9
482.7			SANDY SHALE	3.9	90.1
478.8			GRAY SHALE	93.6	94.0
385.2	MODESTO	PIASA	LIMESTONE	5.3	187.6
379.9			GRAY SHALE	8.8	192.9
371.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	201.7
368.2	CARBONDALE	ENERGY	GRAY SHALE	25.7	204.6
342.5	CARBONDALE	ENERGY	GRAY SHALE	0.1	230.3
342.4	CARBONDALE	ENERGY	GRAY SHALE	2.4	230.4
339.9	CARBONDALE	ENERGY	BLACK SHALE	0.1	232.9
339.8	CARBONDALE	ENERGY	GRAY SHALE	2.8	233.0
337.0	CARBONDALE	HERRIN	BONE COAL	0.3	235.8
336.7	CARBONDALE	HERRIN	COAL	1.3	236.1
335.4	CARBONDALE	HERRIN	COAL	0.0	237.4
335.4	CARBONDALE	HERRIN	COAL	1.3	237.4
334.0	CARBONDALE	HERRIN	UNDERCLAY	0.0	238.8
334.0	CARBONDALE	HERRIN	COAL	2.0	238.8
332.0	CARBONDALE	HERRIN	UNDERCLAY	0.1	240.8
331.9	CARBONDALE	HERRIN	COAL	0.5	240.9
331.5	CARBONDALE	HERRIN	COAL	0.0	241.3
331.5	CARBONDALE	HERRIN	COAL	0.8	241.3
330.6	CARBONDALE		UNDERCLAY	1.0	242.2

MAPID: 11901177000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 19 QUARTERS/FOOTAGES: 20' N line, 60' E line of NW SE

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.916998

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.781024

DATE COLLECTED: 10 / 4 / 1961

SURFACE ELEVATION (FT.): 573.0

LOGGED (FT.): 243.0

LOG TYPE:

SOURCE: PEABODY COAL COMPANY 4

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
573.0	PLEISTOCENE		UNCONSOLIDATED	63.4	0.0
509.6			SANDY SHALE	22.5	63.4
487.1			SANDSTONE	4.2	85.9
482.9			SANDY SHALE	3.9	90.1
479.0			SHALE	93.6	94.0
385.4			LIMESTONE	5.3	187.6
380.1			SHALE	8.8	192.9
371.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	201.7
368.4	CARBONDALE	ENERGY	SHALE	25.7	204.6
342.7	CARBONDALE	ENERGY	SHALE	0.1	230.3
342.6	CARBONDALE	ENERGY	SHALE	2.4	230.4
340.1	CARBONDALE	ENERGY	BLACK SHALE	0.1	232.9
340.0	CARBONDALE	ENERGY	SHALE	2.8	233.0
337.2	CARBONDALE	HERRIN	BONE COAL	0.3	235.8
336.9	CARBONDALE	HERRIN	COAL	1.3	236.1
335.6	CARBONDALE	HERRIN	COAL	0.0	237.4
335.6	CARBONDALE	HERRIN	COAL	1.3	237.4
334.2	CARBONDALE	HERRIN	SHALE	0.0	238.8
334.2	CARBONDALE	HERRIN	COAL	2.0	238.8
332.2	CARBONDALE	HERRIN	SHALE	0.1	240.8
332.1	CARBONDALE	HERRIN	COAL	0.5	240.9
331.7	CARBONDALE	HERRIN	COAL	0.0	241.3
331.7	CARBONDALE	HERRIN	COAL	0.8	241.3
330.8	CARBONDALE		UNDERCLAY	1.0	242.2

MAPID: 11922974000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 19 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.926416 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.78289 DATE COLLECTED: 8 / 14 / 1974

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 237.0 LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE4 WELL TYPE:

COMMENT: Core description

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
339.8	CARBONDALE	ENERGY	SHALE	9.2	212.2	
330.6	CARBONDALE	ENERGY	GRAY SHALE	1.3	221.4	
329.2	CARBONDALE	ENERGY	GRAY SHALE	4.2	222.8	
325.1	CARBONDALE	ENERGY	GRAY SHALE	0.9	226.9	
324.2	CARBONDALE	ENERGY	BLACK SHALE	0.4	227.8	
323.8	CARBONDALE	HERRIN	COAL	6.6	228.2	
317.2	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	234.8	

MAPID: 11922974000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 19 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.926416 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.78289 DATE COLLECTED: 8 / 13 / 1974

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 237.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. IE4 WELL TYPE: Coal Test

COMMENT: Drilling log missing

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
555.0	PLEISTOCENE		GLACIAL DRIFT	60.0	0.0	
495.0			SHALY LIMESTONE	5.2	60.0	
489.8			SHALE	91.8	65.2	
398.0			SHALY LIMESTONE	1.3	157.0	
396.7			SHALE	3.0	158.3	
393.7			SHALE	12.2	161.3	GR
381.5			SHALE	5.5	173.5	MULTI
376.0			LIMESTONE	4.1	179.0	TAN
371.9			SHALE	8.9	183.1	
363.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	192.0	
360.2	CARBONDALE	ENERGY	SHALE	33.2	194.8	
327.0	CARBONDALE	HERRIN	COAL	6.8	228.0	
320.2	CARBONDALE		UNDERCLAY	2.2	234.8	

MAPID: 11900089000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 20 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899135 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.781943 DATE COLLECTED: 11 / 0 / 1917

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 255.6 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL & COKE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
356.4	MODESTO	PIASA	LIMESTONE	4.0	198.6
352.4	MODESTO		UNCLASSIFIED	3.0	202.6
349.4	CARBONDALE		UNCLASSIFIED	9.0	205.6
340.4	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.5	214.6
337.9	CARBONDALE	ENERGY	UNCLASSIFIED	33.9	217.1
304.0	CARBONDALE	HERRIN	COAL	4.6	251.0

MAPID: 11900089000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 20 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899135 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.781943 DATE COLLECTED:

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 254.6 LOG TYPE: Drillers Log

SOURCE: POOR DESCRIPTION WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
357.4	MODESTO	PIASA	LIMESTONE	4.0	197.6
353.4	MODESTO		GRAY SHALE	11.0	201.6
342.4	CARBONDALE		SHALE	1.0	212.6
341.4	CARBONDALE		CALCAREOUS SHALE	1.0	213.6
340.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	214.6
338.9	CARBONDALE	ENERGY	SHALE	24.5	216.1
314.4	CARBONDALE	ENERGY	DARK GRAY SHALE	9.4	240.6
305.0	CARBONDALE	HERRIN	COAL	4.6	250.0

MAPID: 11900089000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 20 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899135 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.781943 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 555.4 LOGGED (FT.): 267.0 LOG TYPE:

SOURCE: DONK BROS 0005 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
304.4	CARBONDALE	HERRIN	COAL	4.6	251.0



MAPID: 11900089000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 20 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899135 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.781943 DATE COLLECTED: 11 / 26 / 1917

SURFACE ELEVATION (FT.): 555.4 LOGGED (FT.): 267.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 5 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
555.4			SANDY CLAY	4.0	0.0	
551.4			CLAY	18.0	4.0	YL CLY; YL
533.4			SANDY CLAY	4.0	22.0	
529.4			GRAVEL	4.0	26.0	
525.4			SAND	12.0	30.0	
513.4			GRAY SHALE	90.0	42.0	
423.4			CALCAREOUS SHALE	16.0	132.0	
407.4			SHALE	5.0	148.0	
402.4			CALCAREOUS SHALE	13.0	153.0	
389.4			SHALE	20.0	166.0	
369.4			GRAY SHALE	12.0	186.0	
357.4	MODESTO	PIASA	LIMESTONE	4.0	198.0	
353.4	MODESTO		GRAY SHALE	11.0	202.0	
342.4			SHALE	1.0	213.0	
341.4			CALCAREOUS SHALE	1.0	214.0	
340.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	215.0	
338.9	CARBONDALE		SHALE	24.5	216.5	
314.4	CARBONDALE		DARK SHALE	9.4	241.0	
305.0	CARBONDALE	HERRIN	COAL	4.6	250.4	
300.4			DARK SHALE	3.0	255.0	
297.4			SHALE	4.0	258.0	
293.4			CALCAREOUS SHALE	1.0	262.0	
292.4			SHALE	4.0	263.0	

MAPID: 11901102000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 20 QUARTERS/FOOTAGES: 700' S line, 395' E line of NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.904072 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.782986 DATE COLLECTED: 1 / 0 / 1963

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 265.0 LOG TYPE: Electric Log

SOURCE: BASSETT, CLYDE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
366.0	MODESTO	PIASA	LIMESTONE	4.0	209.0	
362.0	MODESTO		UNCLASSIFIED	3.0	213.0	
359.0	CARBONDALE		UNCLASSIFIED	9.5	216.0	
349.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	225.5	
346.0	CARBONDALE	ENERGY	UNCLASSIFIED	32.0	229.0	
314.0	CARBONDALE	HERRIN	COAL	4.0	261.0	

MAPID: 11922976000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 20 QUARTERS/FOOTAGES: SE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.905041 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.782883 DATE COLLECTED: 8 / 9 / 1974

SURFACE ELEVATION (FT.): 566.0 LOGGED (FT.): 28.4 LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE3 WELL TYPE:

COMMENT: Core description

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	ENERGY	GRAY SHALE	9.6		
-	CARBONDALE	ENERGY	SHALE	1.8		
-	CARBONDALE	ENERGY	SHALE	1.4		
-	CARBONDALE	ENERGY	GRAY SHALE	5.8		
-	CARBONDALE	ENERGY	SHALE	0.6		
-	CARBONDALE	ENERGY	SHALE	3.1		
-	CARBONDALE	ENERGY	SHALE	0.3		
-	CARBONDALE	ENERGY	GRAY SHALE	0.6		
-	CARBONDALE	HERRIN	COAL	5.3		#6

MAPID: 11922976000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 20 QUARTERS/FOOTAGES: SE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.905041 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.782883 DATE COLLECTED: 8 / 8 / 1974

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 266.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. IE3 WELL TYPE: Coal Test

COMMENT: Drilling log missing

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
565.0	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
550.0	PLEISTOCENE		SANDY CLAY	8.0	15.0	
542.0			SANDY SHALE	58.5	23.0	
483.5			SANDY SHALE	13.5	81.5	
470.0			LIMESTONE	1.2	95.0	GRAY
468.8			SANDY SHALE	89.1	96.2	
379.7			SHALE	5.4	185.3	GR
374.3			SHALE	7.3	190.7	MULTI
367.0			SHALY LIMESTONE	6.0	198.0	
361.0			RED SHALE	1.8	204.0	
359.2			LIMESTONE	3.9	205.8	TAN
355.3			SHALE	2.5	209.7	GR
352.8			SHALE	4.8	212.2	
348.0			SHALE	4.5	217.0	BR
343.5			SHALE	0.5	221.5	MULTI
343.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	222.0	
339.8	CARBONDALE	ENERGY	SHALE	6.8	225.2	GR
333.0	CARBONDALE	ENERGY	SHALE	26.8	232.0	
306.2	CARBONDALE	HERRIN	COAL	5.4	258.8	
300.8	CARBONDALE		UNDERCLAY	2.3	264.2	

MAPID: 11900090000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 21 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.887247 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.774593 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 509.8 LOGGED (FT.): 215.0 LOG TYPE:

SOURCE: DONK BROS 0004 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
314.8	CARBONDALE	HERRIN	COAL	4.1	195.0	

MAPID: 11900090000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 21 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.887247 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.774593 DATE COLLECTED: 11 / 0 / 1917

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 199.1 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL & COKE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
369.2	MODESTO	PIASA	LIMESTONE	5.5	140.8
363.7	MODESTO		UNCLASSIFIED	3.0	146.3
360.7	CARBONDALE		UNCLASSIFIED	9.0	149.3
351.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.5	158.3
349.2	CARBONDALE	ANNA	BLACK SHALE	0.2	160.8
349.0	CARBONDALE	ENERGY	UNCLASSIFIED	34.0	161.0
315.0	CARBONDALE	HERRIN	COAL	4.1	195.0

MAPID: 11900090000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 21 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.887247 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.774593 DATE COLLECTED: 11 / 17 / 1917

SURFACE ELEVATION (FT.): 509.8 LOGGED (FT.): 215.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
509.8			SOIL	3.0	0.0
506.8			SANDY CLAY	5.0	3.0
501.8			SAND	37.0	8.0
464.8			SAND	15.0	45.0
449.8			SANDY SHALE	33.0	60.0
416.8			GRAY SHALE	22.0	93.0
394.8			GRAY SHALE	8.0	115.0
386.8			SHALE	1.0	123.0
385.8			GRAY SHALE	17.0	124.0
368.8	MODESTO	PIASA	LIMESTONE	5.5	141.0
363.3			GRAY SHALE	27.5	146.5
335.8			GRAY SHALE	8.0	174.0
327.8	CARBONDALE	ANNA	DARK SHALE	12.8	182.0
315.0	CARBONDALE	ANNA	BLACK SHALE	0.2	194.8
314.8	CARBONDALE	HERRIN	COAL	4.1	195.0
310.7			BLACK SHALE	0.4	199.1
310.3			GRAY SHALE	2.5	199.5
307.8			CALCAREOUS SHALE	1.0	202.0
306.8			DARK SHALE	0.5	203.0
306.3			LIMESTONE	1.0	203.5
305.3			GRAY SHALE	3.5	204.5
301.8			GRAY SHALE	3.5	208.0
298.3			LIMESTONE	3.5	211.5

MAPID: 11902528000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 21 QUARTERS/FOOTAGES: NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.878843 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.784639 DATE COLLECTED:

SURFACE ELEVATION (FT.): 564.0 LOGGED (FT.): 288.0 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO. TR13 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
335.0	MODESTO	PIASA	LIMESTONE	4.4	229.0	
330.6	MODESTO		VARRIGATED SHALE	8.5	233.4	
322.1	CARBONDALE	DANVILLE	COAL	0.2	241.9	
321.9	CARBONDALE		GRAY SHALE	4.9	242.1	
317.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	247.0	LOWER BENCH
315.0	CARBONDALE	ENERGY	GRAY SHALE	10.0	249.0	
305.0	CARBONDALE	ENERGY	DARK GRAY SHALE	15.0	259.0	
290.0	CARBONDALE	ENERGY	GRAY SHALE	9.5	274.0	
281.0	CARBONDALE	HERRIN	COAL	5.0	283.0	

MAPID: 11902528000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 21 QUARTERS/FOOTAGES: NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.878843 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.784639 DATE COLLECTED:

SURFACE ELEVATION (FT.): 564.0 LOGGED (FT.): 288.0 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO. TR13 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
335.5	MODESTO	PIASA	LIMESTONE	4.4	228.5	
331.1	MODESTO		UNCLASSIFIED	3.0	232.9	
328.1	CARBONDALE		UNCLASSIFIED	10.6	235.9	
317.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	246.5	
315.5	CARBONDALE	ENERGY	SHALE	34.5	248.5	
281.0	CARBONDALE	HERRIN	COAL	5.0	283.0	

MAPID: 11902528000C    VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 21    QUARTERS/FOOTAGES: NE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.878843    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.784639    DATE COLLECTED: 10 / 26 / 1960

SURFACE ELEVATION (FT.): 564.0    LOGGED (FT.): 290.0    LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO    TR13    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
564.0			NO RECORD	0.0	0.0	DATA NOT ENTERED-SEE ORIGINAL LOG

MAPID: 11927401000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 21 QUARTERS/FOOTAGES: SW SW SE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.887839 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.781449 DATE COLLECTED: 10 / 26 / 1968

SURFACE ELEVATION (FT.): 560.8 LOGGED (FT.): 282.5 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 9-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.8			CLAY	40.0	0.0	BROWN
520.8			CLAY	28.0	40.0	SOFT
492.8			SHALE	7.0	68.0	BROWN
485.8			GRAY SHALE	27.0	75.0	
458.8			LIMESTONE	5.7	102.0	
453.1			GRAY SHALE	4.3	107.7	
448.8			LIMESTONE	0.3	112.0	
448.5			SANDY SHALE	42.7	112.3	
405.8			GRAY SHALE	40.0	155.0	
365.8			LIMESTONE	0.3	195.0	
365.5			GRAY SHALE	6.7	195.3	
358.8			CALCAREOUS SHALE	8.0	202.0	
350.8			SANDY SHALE	10.5	210.0	
340.3			LIMESTONE	4.7	220.5	
335.6			GRAY SHALE	6.8	225.2	
328.8			LIMESTONE	0.3	232.0	
328.5			SHALE	3.2	232.3	BROWN
325.3			GRAY SHALE	4.0	235.5	
321.3			LIMESTONE	1.8	239.5	
319.5	CARBONDALE	ENERGY	SANDY SHALE	23.8	241.3	
295.8	CARBONDALE	ENERGY	GRAY SHALE	4.5	265.0	
291.3	CARBONDALE	ENERGY	BLACK SHALE	0.3	269.5	
291.0	CARBONDALE	ENERGY	GRAY SHALE	5.0	269.8	
286.0	CARBONDALE		LIMESTONE	0.4	274.8	
285.5	CARBONDALE	HERRIN	COAL	5.2	275.3	
280.4	CARBONDALE		CLAYSTONE	2.1	280.4	



MAPID: 11900939000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 22 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: MARINE LONGITUDE: -89.855995 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.78205 DATE COLLECTED: 6 / 0 / 1952

SURFACE ELEVATION (FT.): 484.0 LOGGED (FT.): 199.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD 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
343.0	MODESTO	PIASA	LIMESTONE	4.0	141.0
339.0	MODESTO		UNCLASSIFIED	2.5	145.0
336.5	CARBONDALE		UNCLASSIFIED	7.5	147.5
329.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	155.0
326.0	CARBONDALE	ENERGY	UNCLASSIFIED	37.0	158.0
289.0	CARBONDALE	HERRIN	COAL	4.0	195.0

MAPID: 11900939000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 22 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: MARINE LONGITUDE: -89.855995 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.78205 DATE COLLECTED:

SURFACE ELEVATION (FT.): 484.0 LOGGED (FT.): 200.0 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
343.0	MODESTO	PIASA	LIMESTONE	4.0	141.0
339.0	MODESTO		SHALE	9.0	145.0
330.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	154.0
326.0	CARBONDALE	BANKSTON FORK	SHALE	1.0	158.0
325.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	159.0
321.0	CARBONDALE	ENERGY	SHALE	5.0	163.0
316.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	15.0	168.0
301.0	CARBONDALE	ENERGY	SHALE	12.0	183.0
289.0	CARBONDALE	HERRIN	COAL	5.0	195.0

MAPID: 11927402000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 23 QUARTERS/FOOTAGES: 660' N, 1' E, C/c

QUADRANGLE: MARINE LONGITUDE: -89.8454 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.782793 DATE COLLECTED: 11 / 16 / 1968

SURFACE ELEVATION (FT.): 494.5 LOGGED (FT.): 230.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 10-MT WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
494.5			CLAY	19.0	0.0	
475.5			CLAY & GRAVEL	14.0	19.0	
461.5			GRAY SHALE	21.5	33.0	
440.0			LIMESTONE	0.3	54.5	
439.7			GRAY SHALE	75.2	54.8	
364.5			LIMESTONE	0.3	130.0	
364.2			GRAY SHALE	21.7	130.3	
342.5			LIMESTONE	0.2	152.0	
342.3			GRAY SHALE	12.3	152.2	
330.0			LIMESTONE	0.3	164.5	
329.7			GRAY SHALE	1.3	164.8	
328.4			LIMESTONE	5.4	166.1	
323.0			GRAY SHALE	8.1	171.5	
314.9			LIMESTONE	3.5	179.6	
311.4	CARBONDALE	ENERGY	SANDY SHALE	34.5	183.1	
276.9	CARBONDALE	ENERGY	BLACK SHALE	0.4	217.6	BLACK
276.5	CARBONDALE	ENERGY	SLATY SHALE	4.8	218.0	
271.6	CARBONDALE	HERRIN	COAL	4.4	222.9	
267.2	CARBONDALE		CLAYSTONE	2.8	227.3	

MAPID: 11924325000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 24 QUARTERS/FOOTAGES: 46' N, 59' E, SW/c  
 QUADRANGLE: MARINE LONGITUDE: -89.835977 GEOLOGIST: LOUCHIOS  
 CONFIDENTIAL: N LATITUDE: 38.773438 DATE COLLECTED: 12 / 6 / 1982  
 SURFACE ELEVATION (FT.): 494.0 LOGGED (FT.): 292.0 LOG TYPE: Survey Core Study  
 SOURCE: ZEIGLER COAL CO. 701 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
494.0			UNCLASSIFIED	245.7	0.0	
248.3			GRAY SHALE	0.5	245.7	
247.8			LIMESTONE	0.3	246.2	
247.5			GRAY SHALE	2.0	246.5	
245.5			DARK SHALE	2.7	248.5	A FEW PLANT FOSSILS
242.8			GRAY SHALE	11.2	251.2	
231.6			DARK SHALE	12.5	262.4	
219.1	CARBONDALE	HERRIN	COAL	4.6	274.9	CORE UNAVAILABLE
214.5	CARBONDALE		UNDERCLAY	3.5	279.5	
211.0	CARBONDALE		NODULAR LIMESTONE	3.9	283.0	
207.1	CARBONDALE		CLAYSTONE & SILTSTONE	5.1	286.9	

MAPID: 11902367000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 25 QUARTERS/FOOTAGES: 1998' N line, 30' W line  
 QUADRANGLE: MARINE LONGITUDE: -89.83625 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.767816 DATE COLLECTED: 10 / 0 / 1963  
 SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 265.5 LOG TYPE: Drillers Log  
 SOURCE: SUN PRODUCTION COMPANY WELL TYPE: Engineering Test Holes  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
284.5	MODESTO	PIASA	LIMESTONE	5.5	200.5	
279.0	MODESTO		UNCLASSIFIED	2.0	206.0	
277.0	CARBONDALE		UNCLASSIFIED	5.0	208.0	
272.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	213.0	
269.0	CARBONDALE	ENERGY	UNCLASSIFIED	45.0	216.0	
224.0	CARBONDALE	HERRIN	COAL	4.5	261.0	

MAPID: 11902367000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 25    QUARTERS/FOOTAGES: 1998' N line, 30' W line

QUADRANGLE: MARINE    LONGITUDE: -89.83625    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.767816    DATE COLLECTED:

SURFACE ELEVATION (FT.): 485.0    LOGGED (FT.): 265.5    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
285.0	MODESTO	PIASA	LIMESTONE	5.0	200.0
280.0	MODESTO		SHALE	7.5	205.0
272.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	212.5
270.0	CARBONDALE	ENERGY	SILTY SHALE	32.0	215.0
238.0	CARBONDALE	ENERGY	GRAY SHALE	13.0	247.0
224.0	CARBONDALE	HERRIN	COAL	4.5	261.0

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MAPID: 11927403000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 25 QUARTERS/FOOTAGES: NE SW SW NE

QUADRANGLE: MARINE LONGITUDE: -89.825171 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.766655 DATE COLLECTED: 6 / 20 / 1969

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 297.6 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 26-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.0			CLAY	21.0	0.0	BROWN
469.0			CLAY	4.4	21.0	SANDY
464.6			GRAVEL	12.6	25.4	
452.0			CLAY	3.4	38.0	SANDY
448.6			SAND & GRAVEL	7.6	41.4	
441.0			GRAVEL	8.5	49.0	
432.5			CLAY & GRAVEL	4.5	57.5	
428.0			CLAY	19.8	62.0	
408.2			SAND & GRAVEL	5.2	81.8	
403.0			CLAY	9.8	87.0	SANDY
393.2			LIMESTONE	0.3	96.8	
392.9			GRAY SHALE	0.3	97.1	
392.7			LIMESTONE	0.5	97.3	
392.2			GRAY SHALE	22.9	97.8	
369.2			LIMESTONE	0.7	120.8	
368.6			SANDY SHALE	81.1	121.4	
287.5			LIMESTONE	0.3	202.5	
287.2			GRAY SHALE	2.0	202.8	
285.1			LIMESTONE	0.2	204.9	
284.9			GRAY SHALE	12.4	205.1	
272.5			LIMESTONE	0.3	217.5	
272.2			GRAY SHALE	14.7	217.8	
257.5			LIMESTONE	5.4	232.5	
252.1			GRAY SHALE	8.2	237.9	
243.9			LIMESTONE	1.7	246.1	
242.2			GRAY SHALE	0.8	247.8	
241.5			LIMESTONE	0.7	248.5	
225.4	CARBONDALE	ENERGY	SANDY SHALE	16.1	264.6	
225.0	CARBONDALE	ENERGY	LIMESTONE	0.4	265.0	
201.0	CARBONDALE	ENERGY	SANDY SHALE	24.0	289.0	
196.7	CARBONDALE	HERRIN	COAL	4.3	293.3	
192.4	CARBONDALE		UNDERCLAY	1.2	297.6	

MAPID: 11902529000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 26 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: MARINE LONGITUDE: -89.854065 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.759964 DATE COLLECTED:

SURFACE ELEVATION (FT.): 477.0 LOGGED (FT.): 223.5 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO TR-3 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
321.0	MODESTO	PIASA	LIMESTONE	4.5	156.0	
316.5	MODESTO		GRAY SHALE	10.5	160.5	
306.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	171.0	LOWER BENCH
303.0	CARBONDALE	LAWSON	GRAY SHALE	5.0	174.0	
298.0	CARBONDALE	JAMESTOWN	COAL	0.3	179.0	
297.7	CARBONDALE	BRERETON	LIMESTONE	0.7	179.3	
297.0	CARBONDALE	ENERGY	SHALE	22.0	180.0	
275.0	CARBONDALE	ENERGY	SANDSTONE	2.0	202.0	
273.0	CARBONDALE	ENERGY	GRAY SHALE	16.0	204.0	
257.0	CARBONDALE	HERRIN	COAL	3.5	220.0	

MAPID: 11902529000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 26 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: MARINE LONGITUDE: -89.854065 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.759964 DATE COLLECTED:

SURFACE ELEVATION (FT.): 477.0 LOGGED (FT.): 223.5 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
320.5	MODESTO	PIASA	LIMESTONE	4.5	156.5	
316.0	MODESTO		UNCLASSIFIED	3.0	161.0	
313.0	CARBONDALE		UNCLASSIFIED	7.5	164.0	
305.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	171.5	
302.5	CARBONDALE	ENERGY	SHALE	45.5	174.5	
257.0	CARBONDALE	HERRIN	COAL	3.5	220.0	

MAPID: 11902529000C    VERSION: 3

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 26    QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: MARINE    LONGITUDE: -89.854065    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.759964    DATE COLLECTED:

SURFACE ELEVATION (FT.): 477.0    LOGGED (FT.): 226.0    LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO    TR3    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
477.0	PLEISTOCENE		CLAY	12.0	0.0	
465.0	PLEISTOCENE		SAND & GRAVEL	6.0	12.0	
459.0			GRAY SHALE	1.0	18.0	
458.0			LIMESTONE	1.0	19.0	GRAY
457.0			GRAY SHALE	17.5	20.0	
439.5			COAL	0.5	37.5	
439.0			CALCAREOUS SHALE	10.0	38.0	
429.0			GREEN SHALE	3.0	48.0	
426.0			LIMESTONE	1.3	51.0	WHITE
424.7			GREEN SHALE	74.7	52.3	
350.0			LIMESTONE	0.3	127.0	
349.7			GRAY SHALE	28.7	127.3	
321.0	MODESTO	PIASA	LIMESTONE	4.5	156.0	WHITE
316.5			GRAY SHALE	10.5	160.5	
306.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	171.0	GRAY
303.0	CARBONDALE		GRAY SHALE	3.0	174.0	
300.0	CARBONDALE		COAL	0.3	177.0	
299.7	CARBONDALE		LIMESTONE	0.7	177.3	SH
299.0	CARBONDALE	ENERGY	SHALE	22.0	178.0	
277.0	CARBONDALE	ENERGY	SANDSTONE	1.5	200.0	
275.5	CARBONDALE	ENERGY	LIMESTONE	0.3	201.5	
275.2	CARBONDALE	ENERGY	SANDSTONE	0.2	201.8	
275.0	CARBONDALE	ENERGY	SHALE	17.5	202.0	
257.5	CARBONDALE	HERRIN	COAL	3.5	219.5	
254.0	CARBONDALE	HERRIN	COAL/CLAYSTONE	0.5	223.0	
253.5	CARBONDALE		UNDERCLAY	0.3	223.5	
253.2	CARBONDALE		UNDERCLAY & LIMESTONE	2.3	223.8	

MAPID: 11902368000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 27 QUARTERS/FOOTAGES: 45' S line, 21' E line

QUADRANGLE: MARINE LONGITUDE: -89.85532 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.759204 DATE COLLECTED: 11 / 0 / 1963

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: SUN PRODUCTION COMPANY WELL TYPE: Engineering Test Holes

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0	
-	MODESTO		UNCLASSIFIED	2.5	
-	CARBONDALE		UNCLASSIFIED	7.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	45.0	
-	CARBONDALE	HERRIN	COAL	4.5	

MAPID: 11902368000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 27 QUARTERS/FOOTAGES: 45' S line, 21' E line

QUADRANGLE: MARINE LONGITUDE: -89.85532 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.759204 DATE COLLECTED:

SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 278.5 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
329.0	MODESTO	PIASA	LIMESTONE	5.5	162.0
323.5	MODESTO		SHALE	10.0	167.5
313.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	177.5
311.0	CARBONDALE	ENERGY	SILTY SHALE	4.5	180.0
306.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	11.0	184.5
295.5	CARBONDALE	ENERGY	SILTY SHALE	21.0	195.5
274.5	CARBONDALE	ENERGY	SHALE	8.5	216.5
217.0	CARBONDALE	HERRIN	COAL	4.5	274.0



MAPID: 11927404000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON

TWP/RNG: 4N 7W

SECTION: 27

QUARTERS/FOOTAGES: NE SW NE

QUADRANGLE: MARINE

LONGITUDE: -89.860988

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 38.769249

DATE COLLECTED: 10 / 21 / 1968

SURFACE ELEVATION (FT.): 478.6

LOGGED (FT.): 223.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 7-MT

WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
478.6			CLAY	15.0	0.0	BROWN
463.6			CLAY	4.5	15.0	SANDY
459.1			GRAY SHALE	28.0	19.5	
431.1			SANDY SHALE	80.0	47.5	
351.1			LIMESTONE	0.4	127.5	
350.7			SANDY SHALE	11.1	127.9	
339.6			BROWN SHALE	2.0	139.0	
337.6			LIMESTONE	6.0	141.0	
331.6			BROWN SHALE	4.5	147.0	
327.1	SHELBURN	PIASA	LIMESTONE	5.3	151.5	
321.8	SHELBURN		GRAY SHALE	11.2	156.8	
310.6	SHELBURN	BANKSTON FORK	LIMESTONE	2.2	168.0	
308.4	CARBONDALE	ENERGY	SANDY SHALE	37.8	170.2	
270.6	CARBONDALE	ENERGY	BLACK SHALE	0.3	208.0	HARD, BLACK
270.3	CARBONDALE	ENERGY	SLATY SHALE	5.4	208.3	
264.8	CARBONDALE	HERRIN	COAL	4.8	213.8	
260.0	CARBONDALE		CLAYSTONE	2.4	218.6	SOFT, GRAY
257.6	CARBONDALE		CARBONACEOUS CLAYSTONE	2.0	221.0	

MAPID: 11900822000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON

TWP/RNG: 4N 7W

SECTION: 28

QUARTERS/FOOTAGES: 475' S line, 300' W line of NW SE

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.882642

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.764225

DATE COLLECTED: 4 / 0 / 1958

SURFACE ELEVATION (FT.): 555.0

LOGGED (FT.): 268.0

LOG TYPE: Electric Log

SOURCE: LIVERMORE, H. E.

WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
349.0	MODESTO	PIASA	LIMESTONE	5.0	206.0	
344.0	MODESTO		UNCLASSIFIED	3.5	211.0	
340.5	CARBONDALE		UNCLASSIFIED	9.5	214.5	
331.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	224.0	
327.0	CARBONDALE	ENERGY	UNCLASSIFIED	38.0	228.0	
289.0	CARBONDALE	HERRIN	COAL	2.0	266.0	

MAPID: 11901179000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 30' S line, 37' E line of SE SE

QUADRANGLE: MARINE LONGITUDE: -89.874348 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.759533 DATE COLLECTED: 10 / 20 / 1961

SURFACE ELEVATION (FT.): 539.7 LOGGED (FT.): 268.1 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 31 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
539.7	PLEISTOCENE		GLACIAL DRIFT	63.0	0.0
476.7			SANDY SHALE	16.4	63.0
460.3			SANDSTONE	0.7	79.4
459.6			SANDY SHALE	80.0	80.1
379.6			GRAY SHALE	36.0	160.1
343.6	MODESTO	PIASA	LIMESTONE	3.9	196.1
339.7			GRAY SHALE	16.5	200.0
323.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	216.5
321.2	CARBONDALE	ENERGY	GRAY SHALE	11.5	218.5
309.7	CARBONDALE	ENERGY	SANDY SHALE	18.1	230.0
291.6	CARBONDALE	ENERGY	GRAY SHALE	7.0	248.1
284.6	CARBONDALE	ENERGY	BLACK SHALE	0.2	255.1
284.5	CARBONDALE	ENERGY	GRAY SHALE	1.4	255.2
283.0	CARBONDALE	ENERGY	BLACK SHALE	0.3	256.7
282.8	CARBONDALE	ENERGY	GRAY SHALE	2.4	256.9
280.4	CARBONDALE	ENERGY	SHALE WITH LIMESTONE	0.9	259.3
279.5	CARBONDALE	ENERGY	GRAY SHALE	0.3	260.2
279.2	CARBONDALE	ENERGY	GRAY SHALE	0.9	260.5
278.3	CARBONDALE	HERRIN	COAL	0.2	261.4
278.1	CARBONDALE	HERRIN	COAL	0.8	261.6
277.3	CARBONDALE	HERRIN	COAL	0.0	262.4
277.2	CARBONDALE	HERRIN	COAL	0.6	262.5
276.6	CARBONDALE	HERRIN	COAL	0.0	263.1
276.6	CARBONDALE	HERRIN	COAL	1.5	263.1
275.1	CARBONDALE	HERRIN	COAL	0.0	264.6
275.1	CARBONDALE	HERRIN	COAL	1.0	264.6
274.1	CARBONDALE	HERRIN	UNDERCLAY	0.1	265.6
274.0	CARBONDALE	HERRIN	COAL	1.7	265.7
272.3	CARBONDALE		UNDERCLAY	0.8	267.4

MAPID: 11901179000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 30' S line, 37' E line of SE SE

QUADRANGLE: MARINE LONGITUDE: -89.874348 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.759533 DATE COLLECTED: 10 / 20 / 1961

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 268.0 LOG TYPE:

SOURCE: PEABODY COAL COMPANY 6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
540.0	PLEISTOCENE		UNCONSOLIDATED	63.0	0.0	
477.0			SANDY SHALE	16.4	63.0	
460.6			SANDSTONE	0.7	79.4	
459.9			SANDY SHALE	80.0	80.1	
379.9			SHALE	36.0	160.1	
343.9			LIMESTONE	3.9	196.1	
340.0			SHALE	16.5	200.0	
323.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	216.5	
321.5	CARBONDALE	ENERGY	SHALE	11.5	218.5	
310.0	CARBONDALE	ENERGY	SANDY SHALE	18.1	230.0	
291.9	CARBONDALE	ENERGY	SHALE	7.0	248.1	
284.9	CARBONDALE	ENERGY	BLACK SHALE	0.2	255.1	
284.8	CARBONDALE	ENERGY	SHALE	1.4	255.2	
283.3	CARBONDALE	ENERGY	BLACK SHALE	0.3	256.7	
283.1	CARBONDALE	ENERGY	SHALE	2.4	256.9	
280.7	CARBONDALE	ENERGY	SHALE	0.9	259.3	
279.8	CARBONDALE	ENERGY	SHALE	0.3	260.2	
279.5	CARBONDALE	ENERGY	SHALE	0.9	260.5	
278.6	CARBONDALE	HERRIN	COAL	0.2	261.4	DULL
278.4	CARBONDALE	HERRIN	COAL	0.8	261.6	
277.6	CARBONDALE	HERRIN	COAL	0.0	262.4	
277.5	CARBONDALE	HERRIN	COAL	0.6	262.5	
276.9	CARBONDALE	HERRIN	COAL	0.0	263.1	
276.9	CARBONDALE	HERRIN	COAL	1.5	263.1	
275.4	CARBONDALE	HERRIN	COAL	0.0	264.6	
275.4	CARBONDALE	HERRIN	COAL	1.0	264.6	
274.4	CARBONDALE	HERRIN	SHALE	0.1	265.6	
274.3	CARBONDALE	HERRIN	COAL	1.7	265.7	
272.6	CARBONDALE		UNDERCLAY	0.8	267.4	

MAPID: 11901179000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 30' S line, 37' E line of SE SE  
 QUADRANGLE: MARINE LONGITUDE: -89.874348 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.759533 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 266.9 LOG TYPE: Survey Core Study  
 SOURCE: PEABODY COAL CO. TR31 WELL TYPE: Coal Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
344.0	MODESTO	PIASA	LIMESTONE	3.9	196.0	
340.1	MODESTO		GRAY SHALE	16.5	199.9	
323.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	216.4	LOWER BENCH
321.6	CARBONDALE	ENERGY	GRAY SHALE	11.5	218.4	
310.1	CARBONDALE	ENERGY	SILTSTONE	22.6	229.9	
287.5	CARBONDALE	ENERGY	GRAY SHALE	4.1	252.5	
283.4	CARBONDALE	ENERGY	COAL	0.1	256.6	
283.3	CARBONDALE	ENERGY	GRAY SHALE	4.7	256.7	
279.0	CARBONDALE	HERRIN	COAL	5.9	261.0	

MAPID: 11901179000C VERSION: 4

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 30' S line, 37' E line of SE SE  
 QUADRANGLE: MARINE LONGITUDE: -89.874348 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.759533 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 267.9 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. TR31 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
344.2	MODESTO	PIASA	LIMESTONE	3.9	195.8	
340.3	MODESTO		UNCLASSIFIED	5.0	199.7	
335.3	CARBONDALE		UNCLASSIFIED	11.5	204.7	
323.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	216.2	
321.8	CARBONDALE	ANNA	BLACK SHALE	0.9	218.2	
320.9	CARBONDALE	ENERGY	SHALE	42.9	219.1	
278.0	CARBONDALE	HERRIN	COAL	5.9	262.0	

MAPID: 11901181000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 905' N line, 27' W line of NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.878814 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.771134 DATE COLLECTED:

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 245.8 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. TR33 WELL TYPE: Coal Test

COMMENT: ORIGINAL SURF ELEV (506') CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
360.3	MODESTO	PIASA	LIMESTONE	5.4	185.7
354.9	MODESTO		UNCLASSIFIED	3.4	191.1
351.5	CARBONDALE		UNCLASSIFIED	9.5	194.5
342.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	204.0
340.3	CARBONDALE	ANNA	BLACK SHALE	0.3	205.7
340.0	CARBONDALE	ENERGY	SHALE	35.0	206.0
305.0	CARBONDALE	HERRIN	COAL	4.8	241.0

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MAPID: 11901181000C VERSION: 2

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 905' N line, 27' W line of NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.878814 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.771134 DATE COLLECTED: 10 / 24 / 1967

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 246.7 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 33 WELL TYPE:

COMMENT: ORIGINAL SURF ELEV (506') CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
546.0	PLEISTOCENE		GLACIAL DRIFT	95.5	0.0	
450.5			SANDY SHALE	61.0	95.5	
389.5			GRAY SHALE	29.8	156.5	
359.7	MODESTO	PIASA	LIMESTONE	5.4	186.3	
354.3			GRAY SHALE	13.9	191.7	
340.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.7	205.6	
339.7	CARBONDALE	ENERGY	GRAY SHALE	11.2	206.3	
328.5	CARBONDALE	ENERGY	SANDY SHALE	19.4	217.5	
309.1	CARBONDALE	ENERGY	GRAY SHALE	4.2	236.9	
304.9	CARBONDALE	ENERGY	DARK SHALE	0.3	241.1	
304.6	CARBONDALE	HERRIN	COAL	0.4	241.4	
304.3	CARBONDALE	HERRIN	UNDERCLAY	0.0	241.7	
304.2	CARBONDALE	HERRIN	COAL	0.4	241.8	
303.8	CARBONDALE	HERRIN	PYRITE	0.1	242.2	
303.7	CARBONDALE	HERRIN	COAL	1.4	242.3	
302.3	CARBONDALE	HERRIN	COAL	0.0	243.7	
302.3	CARBONDALE	HERRIN	COAL	1.0	243.7	
301.3	CARBONDALE	HERRIN	COAL	0.0	244.7	
301.3	CARBONDALE	HERRIN	COAL	0.2	244.7	
301.1	CARBONDALE	HERRIN	UNDERCLAY	0.0	244.9	MOTHER CO
301.1	CARBONDALE	HERRIN	COAL	1.2	244.9	
299.8	CARBONDALE		UNDERCLAY	1.0	246.2	

MAPID: 11901181000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 905' N line, 27' W line of NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.878814 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.771134 DATE COLLECTED: 10 / 24 / 1967

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 247.0 LOG TYPE:

SOURCE: PEABODY COAL COMPANY 8 WELL TYPE: Coal Test

COMMENT: ORIGINAL SURF ELEV (506') CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
546.0	PLEISTOCENE		UNCONSOLIDATED	95.5	0.0	
450.5			SANDY SHALE	60.5	95.5	
390.0			SHALE	29.8	156.0	
360.2			LIMESTONE	5.4	185.8	
354.8			SHALE	13.9	191.2	
340.9			LIMESTONE	0.7	205.1	
340.2	CARBONDALE	ENERGY	SHALE	11.2	205.8	
329.0	CARBONDALE	ENERGY	SANDY SHALE	19.4	217.0	
309.6	CARBONDALE	ENERGY	SHALE	4.2	236.4	
305.4	CARBONDALE	ENERGY	DARK SHALE	0.3	240.6	
305.1	CARBONDALE	HERRIN	COAL	0.4	240.9	
304.8	CARBONDALE	HERRIN	SHALE	0.0	241.2	
304.7	CARBONDALE	HERRIN	COAL	0.4	241.3	
304.3	CARBONDALE	HERRIN	PYRITE	0.1	241.7	
304.2	CARBONDALE	HERRIN	COAL	1.4	241.8	
302.8	CARBONDALE	HERRIN	COAL	0.0	243.2	
302.8	CARBONDALE	HERRIN	COAL	1.0	243.2	
301.8	CARBONDALE	HERRIN	COAL	0.0	244.2	
301.8	CARBONDALE	HERRIN	COAL	0.2	244.2	
301.6	CARBONDALE	HERRIN	SHALE/COAL	0.1	244.4	
301.5	CARBONDALE	HERRIN	COAL	1.2	244.5	
300.3	CARBONDALE		UNDERCLAY	1.0	245.7	

MAPID: 11901182000C    VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 28    QUARTERS/FOOTAGES: 53' N line, 84' W line of NW NW

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.892919    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.773563    DATE COLLECTED:

SURFACE ELEVATION (FT.): 517.0    LOGGED (FT.): 212.3    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    TR34    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
361.7	MODESTO	PIASA	LIMESTONE	5.8	155.3
355.9	MODESTO		UNCLASSIFIED	4.0	161.1
351.9	CARBONDALE		UNCLASSIFIED	12.1	165.1
339.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	177.2
338.1	CARBONDALE	ENERGY	SHALE	28.1	178.9
310.0	CARBONDALE	HERRIN	COAL	5.3	207.0



MAPID: 11901182000C VERSION: 2

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 53' N line, 84' W line of NW NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.892919 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.773563 DATE COLLECTED: 10 / 26 / 1961

SURFACE ELEVATION (FT.): 517.3 LOGGED (FT.): 213.5 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 34 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
517.3	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0
503.3	PLEISTOCENE		SAND	4.0	14.0
499.3	PLEISTOCENE		UNCONSOLIDATED	14.0	18.0
485.3			SANDY SHALE	7.5	32.0
477.8			SANDSTONE	0.7	39.5
477.1			SANDY SHALE	2.7	40.2
474.4			SANDSTONE	1.8	42.9
472.6			SANDY SHALE	80.3	44.7
392.3			GRAY SHALE	30.7	125.0
361.6	MODESTO	PIASA	LIMESTONE	5.8	155.7
355.8			GRAY SHALE	16.1	161.5
339.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	177.6
338.0	CARBONDALE	ENERGY	GRAY SHALE	20.0	179.3
318.0	CARBONDALE	ENERGY	SHALY LIMESTONE	1.6	199.3
316.4	CARBONDALE	ENERGY	GRAY SHALE	1.3	200.9
315.1	CARBONDALE	ENERGY	LIMESTONE	0.1	202.2
315.0	CARBONDALE	ENERGY	GRAY SHALE	1.8	202.3
313.2	CARBONDALE	ENERGY	LIMESTONE	0.1	204.1
313.1	CARBONDALE	ENERGY	DARK SHALE	0.5	204.2
312.6	CARBONDALE	ENERGY	GRAY SHALE	2.7	204.7
309.9	CARBONDALE	HERRIN	COAL	5.3	207.4
304.6	CARBONDALE		UNDERCLAY	0.8	212.7

MAPID: 11901182000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: 53' N line, 84' W line of NW NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.892919 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.773563 DATE COLLECTED: 10 / 26 / 1961

SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 213.0 LOG TYPE:

SOURCE: PEABODY COAL CO. 9 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
517.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0
503.0	PLEISTOCENE		SAND	4.0	14.0
499.0	PLEISTOCENE		UNCONSOLIDATED	14.0	18.0
485.0			SANDY SHALE	7.5	32.0
477.5			SANDSTONE	0.7	39.5
476.8			SANDY SHALE	2.7	40.2
474.1			SANDSTONE	1.8	42.9
472.3			SANDY SHALE	80.3	44.7
392.0			SHALE	30.7	125.0
361.3			LIMESTONE	5.8	155.7
355.5			SHALE	16.1	161.5
339.4			LIMESTONE	1.7	177.6
337.7			SHALE	20.0	179.3
317.7			SHALY LIMESTONE	1.6	199.3
316.1			SHALE	1.3	200.9
314.8			LIMESTONE	0.1	202.2
314.7			SHALE	1.8	202.3
312.9	CARBONDALE	BANKSTON FORK	LIMESTONE	0.1	204.1
312.8	CARBONDALE	ENERGY	DARK SHALE	0.5	204.2
312.3	CARBONDALE	ENERGY	SHALE	2.7	204.7
309.6	CARBONDALE	HERRIN	COAL	8.3	207.4
301.3	CARBONDALE		UNDERCLAY	0.8	215.7

MAPID: 11922975000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.875324 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.772724 DATE COLLECTED: 8 / 6 / 1974

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 242.4 LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE2 WELL TYPE:

COMMENT: Core description

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
325.2			GRAY SHALE	9.8	219.8	
315.4			CORE LOSS	1.1	229.6	
314.3			GRAY SHALE	4.9	230.7	CARBONACEOUS IN LAST 0.4'
309.4			GRAY SHALE	0.6	235.6	SPLITS EASILY INTO LAMINATIONS
308.9	CARBONDALE	HERRIN	COAL	3.0	236.1	
305.9	CARBONDALE	HERRIN	BLACK SHALE	0.0	239.1	
305.9	CARBONDALE	HERRIN	COAL	0.6	239.1	
305.3	CARBONDALE	HERRIN	SHALE	0.1	239.7	
305.2	CARBONDALE	HERRIN	COAL	1.5	239.8	

MAPID: 11922975000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.875324 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.772724 DATE COLLECTED: 8 / 5 / 1974

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 242.0 LOG TYPE:

SOURCE: NATIONAL STEEL IE2 WELL TYPE: Coal Test

COMMENT: Drilling log missing

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
512.0	PLEISTOCENE		UNCONSOLIDATED	60.0	18.0	GRAY
452.0			SANDY SHALE	83.2	78.0	
368.8			SHALE	2.3	161.2	MULTI
366.5			SHALY LIMESTONE	1.1	163.5	
365.4			SANDY SHALE	7.4	164.6	
358.0			SHALE	3.0	172.0	MULTI
355.0			GREEN SHALE	2.1	175.0	
352.9			CALCAREOUS SHALE	4.4	177.1	
348.5			LIMESTONE	4.5	181.5	
344.0			CALCAREOUS SHALE	12.0	186.0	
332.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	198.0	
328.8	CARBONDALE	ENERGY	SHALE	34.8	201.2	
294.0	CARBONDALE	HERRIN	COAL	5.3	236.0	
288.7	CARBONDALE		UNDERCLAY	1.2	241.3	

MAPID: 1192308000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 28 QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.877756 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.763849 DATE COLLECTED: 9 / 23 / 1974

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 239.0 LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE8 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
510.0	PLEISTOCENE		BOULDER	1.2	20.0	
508.8	PLEISTOCENE		UNCONSOLIDATED	63.6	21.2	GRAY
445.2			GRAY SHALE	12.0	84.8	
433.2			SANDY SHALE	49.2	96.8	
384.0			LIMESTONE	0.5	146.0	
383.5			SHALE	27.5	146.5	MULTI
356.0	MODESTO	PIASA	LIMESTONE	4.5	174.0	LIGHT
351.5			GREEN SHALE	16.5	178.5	
335.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	195.0	
331.8	CARBONDALE	ENERGY	CALCAREOUS SHALE	2.0	198.2	
329.8	CARBONDALE	ENERGY	GRAY SHALE	33.5	200.2	
296.3	CARBONDALE	HERRIN	COAL	5.3	233.7	
291.0	CARBONDALE		UNDERCLAY	3.0	239.0	

MAPID: 11900091000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899097 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.760097 DATE COLLECTED: 11 / 0 / 1917

SURFACE ELEVATION (FT.): 537.0 LOGGED (FT.): 216.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL & COKE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
382.7	MODESTO	PIASA	LIMESTONE	4.0	154.3	
378.7	MODESTO		UNCLASSIFIED	3.0	158.3	
375.7	CARBONDALE		UNCLASSIFIED	8.0	161.3	
367.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	169.3	
363.7	CARBONDALE	ANNA	BLACK SHALE	0.3	173.3	
363.4	CARBONDALE	ENERGY	UNCLASSIFIED	36.4	173.6	
327.0	CARBONDALE	HERRIN	COAL	6.0	210.0	

MAPID: 11900091000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899097 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.760097 DATE COLLECTED:

SURFACE ELEVATION (FT.): 537.0 LOGGED (FT.): 215.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
383.4	MODESTO	PIASA	LIMESTONE	4.0	153.6	
379.4	MODESTO		SHALE	11.0	157.6	
368.4	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	168.6	
366.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	170.6	
364.4	CARBONDALE	ENERGY	SILTY SHALE	36.2	172.6	
328.2	CARBONDALE	ENERGY	BLACK SHALE	0.3	208.8	
328.0	CARBONDALE	HERRIN	COAL	6.0	209.0	

MAPID: 11900091000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899097 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.760097 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 537.1 LOGGED (FT.): 219.0 LOG TYPE:

SOURCE: DONK BROS 0002 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
327.1	CARBONDALE	HERRIN	COAL	6.0	210.0	

MAPID: 11900091000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.899097 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.760097 DATE COLLECTED: 11 / 2 / 1917

SURFACE ELEVATION (FT.): 537.1 LOGGED (FT.): 219.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
537.1			SOIL	11.0	0.0
526.1			SANDY CLAY	5.0	11.0
521.1			SAND	3.0	16.0
518.1			SANDY CLAY	10.0	19.0
508.1			SHALE	13.0	29.0
495.1			SANDSTONE	3.0	42.0
492.1			GRAY SHALE	6.0	45.0
486.1			LIMESTONE	2.0	51.0
484.1			SANDY SHALE	16.0	53.0
468.1			CALCAREOUS SHALE	45.0	69.0
423.1			CALCAREOUS SHALE	29.0	114.0
394.1			SHALE	11.0	143.0
383.1	MODESTO	PIASA	LIMESTONE	4.0	154.0
379.1			SHALE	11.0	158.0
368.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	169.0
366.1	CARBONDALE		CALCAREOUS SHALE	2.0	171.0
364.1	CARBONDALE		SANDY SHALE	36.0	173.0
328.1	CARBONDALE		SANDY SHALE	0.2	209.0
327.9	CARBONDALE		BLACK SHALE	0.3	209.2
327.7	CARBONDALE	HERRIN	COAL	6.0	209.4
321.7			BLACK SHALE	0.3	215.4
321.3			GRAY SHALE	1.0	215.8
320.3			LIMESTONE	2.3	216.8

MAPID: 11900378000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: 2900' S line, 4250' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.908199 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.767197 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 536.0 LOGGED (FT.): 210.0 LOG TYPE: Drillers Log

SOURCE: YOUNG MINE (COAL SECTION NOTES) WELL TYPE: Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
331.9	CARBONDALE	HERRIN	COAL	5.9	204.1

MAPID: 11900940000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.894376 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.769171 DATE COLLECTED: 11 / 0 / 1945

SURFACE ELEVATION (FT.): 561.0 LOGGED (FT.): 258.0 LOG TYPE: Electric Log

SOURCE: ALCH, LESSING WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
365.0	MODESTO	PIASA	LIMESTONE	6.0	196.0
359.0	MODESTO		UNCLASSIFIED	5.0	202.0
354.0	CARBONDALE		UNCLASSIFIED	14.0	207.0
340.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	221.0
335.0	CARBONDALE	ENERGY	UNCLASSIFIED	27.0	226.0
308.0	CARBONDALE	HERRIN	COAL	5.0	253.0

MAPID: 11923161000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.900299 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.768284 DATE COLLECTED: 8 / 27 / 1979

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 321.0 LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE7 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.0	PLEISTOCENE		UNCONSOLIDATED	26.4	0.0	
493.6	PLEISTOCENE		UNCONSOLIDATED	32.6	26.4	GRAY
461.0			GRAY SHALE	4.1	59.0	
456.9			SANDY SHALE	19.6	63.1	
437.3			GRAY SHALE	82.3	82.7	
355.0			CALCAREOUS SHALE	8.8	165.0	
346.2			SHALE	3.1	173.8	MULTI
343.1	MODESTO	PIASA	LIMESTONE	4.2	176.9	TAN
338.9			CALCAREOUS SHALE	2.0	181.1	
336.9			GRAY SHALE	3.2	183.1	
333.7			GREEN SHALE	8.7	186.3	
325.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	195.0	GRAY
323.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	3.4	197.0	
319.6	CARBONDALE	ENERGY	GRAY SHALE	29.3	200.4	
290.3	CARBONDALE	HERRIN	COAL	5.4	229.7	
284.9	CARBONDALE		UNDERCLAY	4.2	235.1	
280.7	CARBONDALE		LIMESTONE	5.9	239.3	
274.8	CARBONDALE		LIMESTONE	5.4	245.2	GRAY
269.4	CARBONDALE		GRAY SHALE	3.0	250.6	
266.4	CARBONDALE		SHALE	2.5	253.6	MULTI
263.9	CARBONDALE		SANDY SHALE	30.5	256.1	
233.4	CARBONDALE		GRAY SHALE	26.5	286.6	
206.9	CARBONDALE	SURVANT	COAL	1.6	313.1	
205.3	CARBONDALE		UNDERCLAY	6.9	314.7	



MAPID: 11923161000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.900299 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.768284 DATE COLLECTED: 8 / 27 / 1974

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 321.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. IE7 WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
552.0	PLEISTOCENE		UNCONSOLIDATED	26.4	0.0	
525.6	PLEISTOCENE		UNCONSOLIDATED	32.6	26.4	GRAY
493.0			SHALE	4.1	59.0	
488.9			SANDY SHALE	19.6	63.1	
469.3			SHALE	82.3	82.7	
387.0			CALCAREOUS SHALE	8.8	165.0	
378.2			SHALE	3.1	173.8	MULTI
375.1			LIMESTONE	4.2	176.9	TAN
370.9			SHALE WITH LIMESTONE	2.0	181.1	
368.9			SHALE	3.2	183.1	
365.7			BROWN SHALE	7.7	186.3	
358.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	194.0	GRAY
356.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	3.4	196.0	
352.6	CARBONDALE	ENERGY	SHALE	29.7	199.4	
322.9	CARBONDALE	HERRIN	COAL	5.4	229.1	
317.5	CARBONDALE		UNDERCLAY	4.2	234.5	
313.3	CARBONDALE		LIMESTONE & CLAY	5.9	238.7	
307.4	CARBONDALE		LIMESTONE	4.4	244.6	GRAY
303.0	CARBONDALE		SHALE	3.0	249.0	
300.0	CARBONDALE		SHALE	2.5	252.0	MULTI
297.5	CARBONDALE		SANDY SHALE	30.5	254.5	
267.0	CARBONDALE		SOFT SHALE	26.5	285.0	
240.5	CARBONDALE	SURVANT	COAL	1.6	311.5	
238.9	CARBONDALE		UNDERCLAY	7.9	313.1	

MAPID: 11925807000C    VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 29    QUARTERS/FOOTAGES: 102' S line, 67' E line of SW SW SW

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.909925

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.75947

DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 559.0

LOGGED (FT.): 277.0

LOG TYPE:

SOURCE: AMAX COAL    AM1

WELL TYPE: Coal Test

COMMENT: UPDATED LOCATION INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
559.0	PLEISTOCENE		UNCONSOLIDATED	65.0	0.0	
494.0			SHALE	1.0	65.0	
493.0			COAL	1.0	66.0	
492.0			UNDERCLAY	1.0	67.0	
491.0			SHALE	7.0	68.0	
484.0			SANDSTONE	4.0	75.0	GRAY
480.0			SHALE	1.0	79.0	LT GY GN
479.0			SANDSTONE	4.0	80.0	GRAY
475.0			SANDY SHALE	18.0	84.0	
457.0			DARK GRAY SHALE	69.0	102.0	
388.0			SHALE	19.0	171.0	LT GY GN
369.0			SHALE	5.0	190.0	PLITHO=040, COMPANY CODE
364.0			SHALE	11.0	195.0	LT GY GN
353.0			SHALE	2.0	206.0	PLITHO=040, COMPANY CODE
351.0			SANDY SHALE	13.0	208.0	
338.0			SANDY SHALE	17.2	221.0	
320.8			SHALE	3.3	238.2	
317.5			DARK GRAY SHALE	3.2	241.5	
314.3			BLACK SHALE	0.3	244.7	
314.0			DARK GRAY SHALE	3.6	245.0	
310.4			BLACK SHALE	0.2	248.6	
310.2	CARBONDALE	HERRIN	COAL	5.1	248.8	
305.1	CARBONDALE		UNDERCLAY	1.2	253.9	
303.9	CARBONDALE		UNDERCLAY	2.9	255.1	
301.0	CARBONDALE		UNDERCLAY	0.4	258.0	GN
300.6			SHALE WITH LIMESTONE	1.7	258.4	
298.9			DARK GRAY SHALE	4.4	260.1	
294.5			SHALE	1.3	264.5	
293.2			SHALE	1.7	265.8	PLITHO=040, COMPANY CODE
291.5			SHALE	3.4	267.5	
288.1			SANDY SHALE	6.1	270.9	

MAPID: 11990394000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 29 QUARTERS/FOOTAGES: 120' S line, 67' E line of SE SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.893445 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.75952 DATE COLLECTED: 7 / 22 / 1981

SURFACE ELEVATION (FT.): 559.2 LOGGED (FT.): 277.2 LOG TYPE: Drillers Log

SOURCE: AMAX 12-001 WELL TYPE: Coal Test

COMMENT: NATIONAL STEEL BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
559.2	PLEISTOCENE		CLAY	10.0	0.0	
549.2	PLEISTOCENE		UNCONSOLIDATED	55.0	10.0	
494.2	SHELBURN		GRAY SHALE	1.0	65.0	
493.2	SHELBURN		COAL	1.0	66.0	
492.2	SHELBURN		UNDERCLAY	1.0	67.0	
491.2	SHELBURN		GRAY SHALE	7.0	68.0	
484.2	SHELBURN		GRAY SANDSTONE	4.0	75.0	
480.2	SHELBURN		GRAY SHALE	1.0	79.0	
479.2	SHELBURN		GRAY SANDSTONE	4.0	80.0	
475.2	SHELBURN		BROWN LIMESTONE	3.0	84.0	
472.2	SHELBURN		SANDY SHALE	15.0	87.0	
457.2	SHELBURN		DARK SHALE	69.0	102.0	
388.2	SHELBURN		GRAY SHALE	19.0	171.0	
369.2	SHELBURN		BROWN LIMESTONE	5.0	190.0	
364.2	SHELBURN		GRAY SHALE	11.0	195.0	
353.2	SHELBURN		BROWN LIMESTONE	2.0	206.0	
351.2	SHELBURN		SANDY SHALE	13.0	208.0	
338.2	SHELBURN		SANDY SHALE	17.2	221.0	GRAY
321.0	SHELBURN		SANDY SHALE	3.3	238.2	GRAY
317.7	SHELBURN		DARK SHALE	3.2	241.5	
314.5	SHELBURN		BLACK SHALE	0.3	244.7	
314.2	SHELBURN		DARK SHALE	3.6	245.0	
310.6	CARBONDALE	ANNA	BLACK SHALE	0.2	248.6	
310.4	CARBONDALE	HERRIN	COAL	5.1	248.8	
305.3	CARBONDALE		UNDERCLAY	4.5	253.9	
300.8	CARBONDALE		SHALE WITH LIMESTONE	1.7	258.4	
299.1	CARBONDALE		GRAY SHALE	4.4	260.1	
294.7	CARBONDALE		SHALE	1.3	264.5	
293.4	CARBONDALE		LIMESTONE	1.7	265.8	
291.7	CARBONDALE		GRAY SHALE	3.4	267.5	
288.3	CARBONDALE		SANDY SHALE	6.3	270.9	

MAPID: 11900092000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 30 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.920254 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.767372 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 563.9 LOGGED (FT.): 254.0 LOG TYPE:

SOURCE: DONK BROS 3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
332.9	CARBONDALE	HERRIN	COAL	5.7	231.0	

MAPID: 11900092000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 30 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.920254 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.767372 DATE COLLECTED: 11 / 0 / 1917

SURFACE ELEVATION (FT.): 564.0 LOGGED (FT.): 236.7 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL & COKE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
384.2	MODESTO	PIASA	LIMESTONE	5.0	179.8	
379.2	MODESTO		UNCLASSIFIED	2.5	184.8	
376.7	CARBONDALE		UNCLASSIFIED	6.5	187.3	
370.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	193.8	
366.2	CARBONDALE	ANNA	BLACK SHALE	1.1	197.8	
365.1	CARBONDALE	ENERGY	UNCLASSIFIED	32.1	198.9	
333.0	CARBONDALE	HERRIN	COAL	5.7	231.0	

MAPID: 11900092000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 30 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.920254 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.767372 DATE COLLECTED: 11 / 10 / 1917

SURFACE ELEVATION (FT.): 563.9 LOGGED (FT.): 254.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
563.9			UNCONSOLIDATED	2.0	0.0
561.9			CLAY	3.0	2.0
558.9			SAND	4.0	5.0
554.9			SANDY CLAY	14.0	9.0
540.9			SAND	7.0	23.0
533.9			SANDY CLAY	10.0	30.0
523.9			SANDSTONE	1.0	40.0
522.9			SANDSTONE	2.0	41.0
520.9			GRAY SHALE	3.0	43.0
517.9			SHALE	3.0	46.0
514.9			SANDSTONE	7.0	49.0
507.9			CALCAREOUS SHALE	7.0	56.0
500.9			SHALE	8.0	63.0
492.9			SANDY SHALE	4.0	71.0
488.9			SHALE	2.0	75.0
486.9			LIMESTONE	2.0	77.0
484.9			SANDY SHALE	40.0	79.0
444.9			GRAY SHALE	30.0	119.0
414.9			DARK SHALE	8.0	149.0
406.9			SHALE	11.0	157.0
395.9			SANDSTONE	2.0	168.0
393.9			SHALE	7.0	170.0
386.9			GRAY SHALE	4.0	177.0
382.9	MODESTO	PIASA	LIMESTONE	5.0	181.0
377.9			GRAY SHALE	9.0	186.0
368.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	195.0
366.9	CARBONDALE		CALCAREOUS SHALE	2.0	197.0
364.9	CARBONDALE		SANDY SHALE	25.0	199.0
339.9	CARBONDALE	ANNA	DARK SHALE	6.0	224.0
333.9	CARBONDALE	ANNA	DARK SHALE	1.1	230.0
332.8	CARBONDALE	HERRIN	COAL	5.7	231.1
327.1			SHALE	3.3	236.8
323.9			CALCAREOUS SHALE	2.0	240.0
321.9			SHALE	12.0	242.0

MAPID: 11925809000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 30 QUARTERS/FOOTAGES: 187' N line, 42' E line of NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.912299 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.77328 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 255.0 LOG TYPE:

SOURCE: AMAX COAL AM3 WELL TYPE: Coal Test

COMMENT: UPDATED LOCATION INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
565.0	PLEISTOCENE		UNCONSOLIDATED	43.0	0.0	
522.0			SANDSTONE	32.0	43.0	GRAY
490.0			SANDY SHALE	5.0	75.0	
485.0			SHALE	4.0	80.0	LT GY GN
481.0			SHALE	2.0	84.0	PLITHO=040, COMPANY CODE
479.0			SANDY SHALE	5.0	86.0	
474.0			DARK GRAY SHALE	73.0	91.0	
401.0			SHALE	18.0	164.0	LT GY GN
383.0			SHALE	5.0	182.0	PLITHO=040, COMPANY CODE
378.0			SHALE	10.0	187.0	LT GY GN
368.0			SHALE	3.0	197.0	PLITHO=040, COMPANY CODE
365.0			SANDY SHALE	9.0	200.0	
356.0			SHALE	26.0	209.0	LT GY GN
330.0			CARBONACEOUS SHALE	0.6	235.0	
329.4	CARBONDALE	HERRIN	COAL	0.8	235.6	
328.6	CARBONDALE	HERRIN	SHALE	0.1	236.4	
328.5	CARBONDALE	HERRIN	COAL	3.2	236.5	
325.3	CARBONDALE	HERRIN	SHALE	0.1	239.7	
325.2	CARBONDALE	HERRIN	COAL	1.7	239.8	
323.5	CARBONDALE		UNDERCLAY	2.6	241.5	DARK GRAY
320.9			SHALE WITH LIMESTONE	2.7	244.1	
318.2			DARK GRAY SHALE	3.3	246.8	
314.9			SHALE WITH LIMESTONE	3.2	250.1	
311.7			SHALE	0.5	253.3	PLITHO=040, COMPANY CODE
311.2			SHALE	1.2	253.8	

MAPID: 11990397000C    VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON    TWP/RNG: 4N 7W    SECTION: 30    QUARTERS/FOOTAGES: 187' N line, 42' E line of NE NE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.912301    GEOLOGIST: STRAAYER

CONFIDENTIAL: N    LATITUDE: 38.773275    DATE COLLECTED: 8 / 3 / 1981

SURFACE ELEVATION (FT.): 565.3    LOGGED (FT.): 255.2    LOG TYPE: Drillers Log

SOURCE: AMAX    12-003    WELL TYPE: Coal Test

COMMENT: NATIONAL STEEL BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
565.3	PLEISTOCENE		CLAY	8.0	0.0	
557.3	PLEISTOCENE		UNCONSOLIDATED	19.0	8.0	
538.3	PLEISTOCENE		UNCONSOLIDATED	10.0	27.0	SANDY
528.3	PLEISTOCENE		GRAVEL	6.0	37.0	
522.3	PLEISTOCENE		SAND	32.0	43.0	
490.3	SHELBURN		SANDY SHALE	5.0	75.0	
485.3	SHELBURN		GRAY SHALE	4.0	80.0	
481.3	SHELBURN		BROWN LIMESTONE	2.0	84.0	
479.3	SHELBURN		SANDY SHALE	5.0	86.0	
474.3	SHELBURN		DARK SHALE	73.0	91.0	
401.3	SHELBURN		GRAY SHALE	18.0	164.0	
383.3	SHELBURN		BROWN LIMESTONE	5.0	182.0	
378.3	SHELBURN		GRAY SHALE	10.0	187.0	
368.3	SHELBURN		BROWN LIMESTONE	3.0	197.0	
365.3	SHELBURN		SANDY SHALE	9.0	200.0	
356.3	SHELBURN		GRAY SHALE	26.0	209.0	
330.3	CARBONDALE	ANNA	DARK SHALE	0.6	235.0	
329.7	CARBONDALE	HERRIN	COAL	5.9	235.6	
323.8	CARBONDALE		UNDERCLAY	2.5	241.5	
321.3	CARBONDALE		SHALE WITH LIMESTONE	3.0	244.0	
318.3	CARBONDALE		UNDERCLAY	3.0	247.0	
315.3	CARBONDALE		SHALE	2.0	250.0	
313.3	CARBONDALE		LIMESTONE	2.0	252.0	
311.3	CARBONDALE		BROWN SHALE	1.2	254.0	

MAPID: 11900093000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: NE SW NE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.917785 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.754659 DATE COLLECTED: 10 / 0 / 1917  
 SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 250.1 LOG TYPE: Drillers Log  
 SOURCE: DONK BROS. COAL & COKE WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
365.1	MODESTO	PIASA	LIMESTONE	6.0	186.9
359.1	MODESTO		UNCLASSIFIED	3.0	192.9
356.1	CARBONDALE		UNCLASSIFIED	9.0	195.9
347.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.0	204.9
345.1	CARBONDALE	ANNA	BLACK SHALE	0.2	206.9
344.9	CARBONDALE	ENERGY	UNCLASSIFIED	36.9	207.1
308.0	CARBONDALE	HERRIN	COAL	6.1	244.0

MAPID: 11900093000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: NE SW NE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.917785 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.754659 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 249.1 LOG TYPE: Drillers Log  
 SOURCE: WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
365.9	MODESTO	PIASA	LIMESTONE	6.0	186.1
359.9	MODESTO		DARK GRAY SHALE	12.0	192.1
347.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	204.1
345.9	CARBONDALE	ENERGY	SILTY SHALE	30.0	206.1
315.9	CARBONDALE	ENERGY	DARK GRAY SHALE	6.8	236.1
309.2	CARBONDALE	ENERGY	BLACK SHALE	0.2	242.8
309.0	CARBONDALE	HERRIN	COAL	6.1	243.0

MAPID: 11900093000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: NE SW NE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.917785 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.754659 DATE COLLECTED: 0 / 0 / 1917  
 SURFACE ELEVATION (FT.): 551.7 LOGGED (FT.): 258.0 LOG TYPE:  
 SOURCE: DONK BROS 0001 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
307.7	CARBONDALE	HERRIN	COAL	6.1	244.0



MAPID: 11900093000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: NE SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.917785 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.754659 DATE COLLECTED: 10 / 25 / 1917

SURFACE ELEVATION (FT.): 551.7 LOGGED (FT.): 258.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
551.7			SOIL	6.0	0.0
545.7			CLAY	10.0	6.0
535.7			SAND	5.0	16.0
530.7			SHALE	2.0	21.0
528.7			CALCAREOUS SHALE	22.0	23.0
506.7			LIMESTONE	2.0	45.0
504.7			CALCAREOUS SHALE	26.0	47.0
478.7			CALCAREOUS SHALE	5.0	73.0
473.7			SANDY SHALE	82.0	78.0
391.7			SHALE	5.0	160.0
386.7			SANDSTONE	5.0	165.0
381.7			SHALE	17.0	170.0
364.7	MODESTO	PIASA	LIMESTONE	6.0	187.0
358.7			DARK SHALE	12.0	193.0
346.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	205.0
344.7	CARBONDALE		SANDY SHALE	30.0	207.0
314.7	CARBONDALE	ANNA	DARK SHALE	6.8	237.0
307.9	CARBONDALE	ANNA	BLACK SHALE	0.2	243.8
307.8	CARBONDALE	HERRIN	COAL	6.1	243.9
301.7			UNDERCLAY	8.0	250.0

MAPID: 11901169000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.922407 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.75285 DATE COLLECTED:

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 261.1 LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
369.5	MODESTO	PIASA	LIMESTONE	5.5	199.5
364.0	MODESTO		UNCLASSIFIED	2.5	205.0
361.5	CARBONDALE		UNCLASSIFIED	7.6	207.5
353.9	CARBONDALE	BANKSTON FORK	LIMESTONE	3.1	215.1
350.8	CARBONDALE	ENERGY	SHALE	36.8	218.2
314.0	CARBONDALE	HERRIN	COAL	6.1	255.0

MAPID: 11901169000C VERSION: 2

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.922407 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.75285 DATE COLLECTED: 2 / 6 / 1957

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 263.0 LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 1 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
569.0	PLEISTOCENE		UNCONSOLIDATED	14.9	0.0	
554.1	PLEISTOCENE		SAND/CLAY	22.0	14.9	
532.1	PLEISTOCENE		CLAY	7.2	36.9	GRAY
524.9			GRAY SHALE	14.8	44.1	
510.1			LIMESTONE	2.0	58.9	
508.2			GRAY SHALE	34.6	60.8	
473.5			SANDSTONE	2.2	95.5	GRAY
471.4			GRAY SHALE	55.9	97.6	
415.4			GRAY SHALE	45.7	153.6	
369.7	MODESTO	PIASA	LIMESTONE	4.4	199.3	
365.3	MODESTO	PIASA	LIMESTONE	1.1	203.7	
364.2			GRAY SHALE	10.1	204.8	
354.1	CARBONDALE	BANKSTON FORK	LIMESTONE	3.1	214.9	
351.0	CARBONDALE		GRAY SHALE	36.8	218.0	
314.2	CARBONDALE	HERRIN	COAL	2.6	254.8	
311.6	CARBONDALE	HERRIN	GRAY SHALE	0.1	257.4	
311.5	CARBONDALE	HERRIN	COAL	1.2	257.5	
310.3	CARBONDALE	HERRIN	GRAY SHALE	0.0	258.7	
310.3	CARBONDALE	HERRIN	COAL	1.8	258.7	
308.5	CARBONDALE	HERRIN	RASH	0.1	260.5	
308.4	CARBONDALE	HERRIN	SHALE	0.0	260.6	
308.4	CARBONDALE	HERRIN	COAL	0.6	260.6	
307.8	CARBONDALE	HERRIN	COAL	0.2	261.2	
307.7	CARBONDALE	HERRIN	COAL	0.8	261.3	
306.8	CARBONDALE		UNDERCLAY	0.9	262.2	

MAPID: 11901169000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.922407 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.75285 DATE COLLECTED: 2 / 6 / 1957

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 263.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. 1 WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
569.0	PLEISTOCENE		UNCONSOLIDATED	14.9	0.0	
554.1	PLEISTOCENE		SAND/CLAY	22.0	14.9	
532.1	PLEISTOCENE		CLAY	7.2	36.9	GRAY
524.9			SHALE	14.8	44.1	
510.1			LIMESTONE	2.0	58.9	
508.2			SHALE	34.6	60.8	
473.5			SANDSTONE	2.2	95.5	GRAY
471.4			SANDY SHALE	55.9	97.6	
415.4			SHALE	45.7	153.6	
369.7			LIMESTONE	4.4	199.3	
365.3			LIMESTONE	1.1	203.7	
364.2			SHALE	10.1	204.8	
354.1	CARBONDALE	BANKSTON FORK	LIMESTONE	3.1	214.9	
351.0	CARBONDALE	ENERGY	SHALE	36.8	218.0	
314.2	CARBONDALE	HERRIN	COAL	2.6	254.8	
311.6	CARBONDALE	HERRIN	SHALE	0.1	257.4	
311.5	CARBONDALE	HERRIN	COAL	1.2	257.5	
310.3	CARBONDALE	HERRIN	SHALE	0.0	258.7	
310.3	CARBONDALE	HERRIN	COAL	1.8	258.7	
308.5	CARBONDALE	HERRIN	COAL	0.1	260.5	RASH
308.4	CARBONDALE	HERRIN	SHALE	0.0	260.6	
308.4	CARBONDALE	HERRIN	COAL	0.6	260.6	
307.8	CARBONDALE	HERRIN	COAL	0.2	261.2	
307.7	CARBONDALE	HERRIN	COAL	0.8	261.3	
306.8	CARBONDALE		UNDERCLAY	0.9	262.2	

MAPID: 11925810000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: 34' S line, 203' W line

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.927992 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.744852 DATE COLLECTED: 8 / 11 / 1981

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 279.0 LOG TYPE:

SOURCE: AMAX COAL AM5 WELL TYPE: Coal Test

COMMENT: UPDATED LOCATION INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
572.0	PLEISTOCENE		UNCONSOLIDATED	60.0	0.0	
512.0			SHALE	14.0	60.0	
498.0			SHALE	2.0	74.0	PLITHO=040, COMPANY CODE
496.0			SHALE	18.0	76.0	
478.0			SANDY SHALE	20.0	94.0	
458.0			SHALE	3.0	114.0	PLITHO=040, COMPANY CODE
455.0			SANDSTONE	3.0	117.0	GRAY
452.0			DARK GRAY SHALE	4.0	120.0	
448.0			SANDY SHALE	6.0	124.0	
442.0			SHALE	60.0	130.0	LT GY GN
382.0			SANDY SHALE	6.0	190.0	
376.0			SHALE	13.0	196.0	LT GY GN
363.0			SHALE	5.0	209.0	PLITHO=040, COMPANY CODE
358.0			SHALE	49.3	214.0	
308.7	CARBONDALE	HERRIN	COAL	0.1	263.3	
308.6	CARBONDALE	HERRIN	COAL	0.2	263.4	
308.4	CARBONDALE	HERRIN	COAL	6.0	263.6	
302.4	CARBONDALE		UNDERCLAY	5.0	269.6	
297.4			SHALE	1.0	274.6	PLITHO=040, COMPANY CODE
296.4			SHALE	3.4	275.6	

MAPID: 11990399000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 31 QUARTERS/FOOTAGES: 34' S line, 203' W line of SW SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.920392 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.744832 DATE COLLECTED: 8 / 11 / 1981

SURFACE ELEVATION (FT.): 572.8 LOGGED (FT.): 279.0 LOG TYPE: Drillers Log

SOURCE: AMAX 12-005 WELL TYPE: Coal Test

COMMENT: NATIONAL STEEL BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
572.8	PLEISTOCENE		CLAY	7.0	0.0
565.8	PLEISTOCENE		UNCONSOLIDATED	53.0	7.0
512.8	SHELBURN		GRAY SHALE	14.0	60.0
498.8	SHELBURN		BROWN LIMESTONE	2.0	74.0
496.8	SHELBURN		GRAY SHALE	18.0	76.0
478.8	SHELBURN		SANDY SHALE	20.0	94.0
458.8	SHELBURN		BROWN LIMESTONE	3.0	114.0
455.8	SHELBURN		GRAY SANDSTONE	3.0	117.0
452.8	SHELBURN		DARK SHALE	4.0	120.0
448.8	SHELBURN		SANDY SHALE	6.0	124.0
442.8	SHELBURN		GRAY SHALE	60.0	130.0
382.8	SHELBURN		SANDY SHALE	6.0	190.0
376.8	SHELBURN		GRAY SHALE	13.0	196.0
363.8	SHELBURN		BROWN LIMESTONE	5.0	209.0
358.8	SHELBURN		GRAY SHALE	49.0	214.0
309.8	CARBONDALE	HERRIN	COAL	6.6	263.0
303.2	CARBONDALE		UNDERCLAY	5.0	269.6
298.2	CARBONDALE		LIMESTONE	1.0	274.6
297.2	CARBONDALE		SHALE	3.4	275.6

MAPID: 11901176000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 32 QUARTERS/FOOTAGES: 625' N line, 23' E line of NW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.897832 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.75021 DATE COLLECTED: 10 / 2 / 1961

SURFACE ELEVATION (FT.): 567.7 LOGGED (FT.): 252.2 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 28 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
567.7	PLEISTOCENE		UNCONSOLIDATED	54.0	0.0	
513.7			SANDY SHALE	100.4	54.0	
413.3			GRAY SHALE	35.4	154.4	
377.9	MODESTO	PIASA	LIMESTONE	3.7	189.8	
374.2			GRAY SHALE	11.3	193.5	
362.9	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	204.8	
361.1	CARBONDALE	ENERGY	GRAY SHALE	7.2	206.6	
353.9	CARBONDALE	ENERGY	SANDY SHALE	20.3	213.8	
333.6	CARBONDALE	ENERGY	GRAY SHALE	8.5	234.1	
325.1	CARBONDALE	HERRIN	BLACK SHALE	0.4	242.6	
324.7	CARBONDALE	HERRIN	GRAY SHALE	3.3	243.0	
321.4	CARBONDALE	HERRIN	BONE COAL	0.1	246.3	
321.3	CARBONDALE	HERRIN	COAL	0.7	246.4	
320.6	CARBONDALE	HERRIN	CLAYSTONE	0.0	247.1	
320.6	CARBONDALE	HERRIN	COAL	0.1	247.1	
320.5	CARBONDALE	HERRIN	CLAYSTONE	0.0	247.2	
320.5	CARBONDALE	HERRIN	COAL	1.1	247.2	
319.4	CARBONDALE	HERRIN	CLAYSTONE	0.0	248.3	
319.4	CARBONDALE	HERRIN	COAL	2.0	248.3	
317.4	CARBONDALE	HERRIN	CLAYSTONE	0.1	250.3	
317.4	CARBONDALE	HERRIN	COAL	0.9	250.3	
316.5	CARBONDALE		UNDERCLAY	1.0	251.2	

MAPID: 11901176000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 32 QUARTERS/FOOTAGES: 625' N line, 23' E line of NW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.897832 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.75021 DATE COLLECTED: 10 / 2 / 1961

SURFACE ELEVATION (FT.): 568.0 LOGGED (FT.): 252.0 LOG TYPE:

SOURCE: PEABODY COAL COMPANY 3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
568.0	PLEISTOCENE		UNCONSOLIDATED	54.0	0.0
514.0			SANDY SHALE	100.4	54.0
413.6			SHALE	35.4	154.4
378.2			LIMESTONE	3.7	189.8
374.5			SHALE	11.3	193.5
363.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	204.8
361.4	CARBONDALE	ENERGY	SHALE	7.2	206.6
354.2	CARBONDALE	ENERGY	SANDY SHALE	20.3	213.8
333.9	CARBONDALE	ENERGY	SHALE	8.5	234.1
325.4	CARBONDALE	ENERGY	BLACK SHALE	0.4	242.6
325.0	CARBONDALE	ENERGY	SHALE	3.3	243.0
321.7	CARBONDALE	HERRIN	BONE COAL	0.1	246.3
321.6	CARBONDALE	HERRIN	COAL	0.7	246.4
320.9	CARBONDALE	HERRIN	SHALE	0.0	247.1
320.9	CARBONDALE	HERRIN	COAL	0.1	247.1
320.8	CARBONDALE	HERRIN	SHALE	0.0	247.2
320.8	CARBONDALE	HERRIN	COAL	1.1	247.2
319.7	CARBONDALE	HERRIN	SHALE	0.0	248.3
319.7	CARBONDALE	HERRIN	COAL	2.0	248.3
317.7	CARBONDALE	HERRIN	SHALE	0.1	250.3
317.7	CARBONDALE	HERRIN	COAL	0.9	250.3
316.8	CARBONDALE		UNDERCLAY	1.0	251.2

MAPID: 11901176000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 32 QUARTERS/FOOTAGES: 625' N line, 23' E line of NW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.897832

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.75021

DATE COLLECTED:

SURFACE ELEVATION (FT.): 568.0 LOGGED (FT.): 250.8

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. TR28

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
378.0	MODESTO	PIASA	LIMESTONE	3.7	190.0	
374.3	MODESTO		GRAY SHALE	11.3	193.7	
363.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	205.0	LOWER BENCH
361.2	CARBONDALE	ENERGY	GRAY SHALE	7.2	206.8	
354.0	CARBONDALE	ENERGY	SILTY SHALE	20.3	214.0	
333.7	CARBONDALE	ENERGY	GRAY SHALE	8.5	234.3	
325.2	CARBONDALE	ENERGY	BLACK SHALE	0.4	242.8	
324.8	CARBONDALE	ENERGY	GRAY SHALE	3.3	243.2	
322.0	CARBONDALE	HERRIN	COAL	4.8	246.0	

MAPID: 11901176000C VERSION: 4

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 32 QUARTERS/FOOTAGES: 625' N line, 23' E line of NW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.897832

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.75021

DATE COLLECTED:

SURFACE ELEVATION (FT.): 568.0 LOGGED (FT.): 251.8

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. TR28

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
377.5	MODESTO	PIASA	LIMESTONE	3.7	190.5	
373.8	MODESTO		UNCLASSIFIED	3.0	194.2	
370.8	CARBONDALE		UNCLASSIFIED	8.3	197.2	
362.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	205.5	
360.7	CARBONDALE	ENERGY	SHALE	39.7	207.3	
321.0	CARBONDALE	HERRIN	COAL	4.8	247.0	



MAPID: 11900953000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.875552 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.756581 DATE COLLECTED: 2 / 0 / 1943

SURFACE ELEVATION (FT.): 559.0 LOGGED (FT.): 264.0 LOG TYPE: Electric Log

SOURCE: ALCH, LESSING WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
303.0	CARBONDALE	HERRIN	COAL	8.0	256.0

MAPID: 11901178000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 400' S line, 386' E line of SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.876418 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.74548 DATE COLLECTED: 10 / 17 / 1961

SURFACE ELEVATION (FT.): 504.0 LOGGED (FT.): 221.3 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 30 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
504.0	PLEISTOCENE		CLAY	30.0	0.0
474.0			SANDY SHALE	104.0	30.0
370.0			GRAY SHALE	3.8	134.0
366.2			LIMESTONE	0.3	137.8
365.9			GRAY SHALE	16.8	138.1
349.1			LIMESTONE	3.6	154.9
345.5			GRAY SHALE	12.5	158.5
333.0	MODESTO	PIASA	LIMESTONE	4.1	171.0
328.9	CARBONDALE	ENERGY	GRAY SHALE	35.3	175.1
293.6	CARBONDALE	ENERGY	BLACK SHALE	0.0	210.4
293.6	CARBONDALE	ENERGY	GRAY SHALE	1.3	210.4
292.3	CARBONDALE	ENERGY	BLACK SHALE	0.3	211.7
292.0	CARBONDALE	ENERGY	GRAY SHALE	2.6	212.0
289.4	CARBONDALE	ENERGY	GRAY SHALE	0.6	214.6
288.9	CARBONDALE	HERRIN	COAL	0.5	215.1
288.4	CARBONDALE	HERRIN	UNDERCLAY	0.1	215.6
288.3	CARBONDALE	HERRIN	COAL	2.1	215.7
286.2	CARBONDALE	HERRIN	COAL	0.0	217.8
286.2	CARBONDALE	HERRIN	COAL	0.4	217.8
285.8	CARBONDALE	HERRIN	COAL	0.0	218.2
285.8	CARBONDALE	HERRIN	COAL	0.5	218.2
285.3	CARBONDALE	HERRIN	UNDERCLAY	0.0	218.7
285.3	CARBONDALE	HERRIN	COAL	1.5	218.7
283.7	CARBONDALE		UNDERCLAY	1.0	220.3

MAPID: 11901178000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 400' S line, 386' E line of SE SE

QUADRANGLE: COLLINSVILLE

LONGITUDE: -89.876418

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.74548

DATE COLLECTED: 10 / 17 / 1961

SURFACE ELEVATION (FT.): 504.0

LOGGED (FT.): 221.0

LOG TYPE:

SOURCE: PEABODY 5-30

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
504.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0
474.0			SANDY SHALE	104.0	30.0
370.0			SHALE	3.8	134.0
366.2			LIMESTONE	0.3	137.8
365.9			SHALE	16.8	138.1
349.1			LIMESTONE	3.6	154.9
345.5			SHALE	12.5	158.5
333.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	171.0
328.9	CARBONDALE	ENERGY	SHALE	35.3	175.1
293.6	CARBONDALE	ENERGY	BLACK SHALE	0.0	210.4
293.6	CARBONDALE	ENERGY	SHALE	1.3	210.4
292.3	CARBONDALE	ENERGY	BLACK SHALE	0.3	211.7
292.0	CARBONDALE	ENERGY	SHALE	2.6	212.0
289.4	CARBONDALE	ENERGY	SHALE	0.6	214.6
288.9	CARBONDALE	HERRIN	COAL	0.5	215.1
288.4	CARBONDALE	HERRIN	SHALE	0.1	215.6
288.3	CARBONDALE	HERRIN	COAL	2.1	215.7
286.2	CARBONDALE	HERRIN	COAL	0.0	217.8
286.2	CARBONDALE	HERRIN	COAL	0.4	217.8
285.8	CARBONDALE	HERRIN	COAL	0.0	218.2
285.8	CARBONDALE	HERRIN	COAL	0.5	218.2
285.3	CARBONDALE	HERRIN	SHALE	0.0	218.7
285.3	CARBONDALE	HERRIN	COAL	1.5	218.7
283.7	CARBONDALE		UNDERCLAY	1.0	220.3

MAPID: 11901178000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 400' S line, 386' E line of SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.876418

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.74548

DATE COLLECTED:

SURFACE ELEVATION (FT.): 504.0 LOGGED (FT.): 220.2

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. TR30

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
349.0	MODESTO	PIASA	LIMESTONE	3.6	155.0	
345.4	MODESTO		GRAY SHALE	12.5	158.6	
332.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	171.1	LOWER BENCH
328.8	CARBONDALE	ENERGY	GRAY SHALE	35.3	175.2	
293.5	CARBONDALE	ENERGY	GRAY SHALE	1.3	210.5	
292.2	CARBONDALE	ENERGY	BLACK SHALE	0.3	211.8	
291.9	CARBONDALE	ENERGY	GRAY SHALE	2.6	212.1	
289.3	CARBONDALE	ENERGY	CARBONACEOUS SHALE	0.6	214.7	
289.0	CARBONDALE	HERRIN	COAL	5.2	215.0	

MAPID: 11901178000C VERSION: 4

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 400' S line, 386' E line of SE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.876418

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.74548

DATE COLLECTED:

SURFACE ELEVATION (FT.): 504.0 LOGGED (FT.): 220.2

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. TR30

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
349.7	MODESTO	PIASA	LIMESTONE	3.6	154.3	
346.1	MODESTO		UNCLASSIFIED	3.5	157.9	
342.6	CARBONDALE		UNCLASSIFIED	9.0	161.4	
333.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	170.4	
329.5	CARBONDALE	ANNA	BLACK SHALE	0.5	174.5	
329.0	CARBONDALE	ENERGY	SHALE	40.0	175.0	
289.0	CARBONDALE	HERRIN	COAL	5.2	215.0	

MAPID: 11901180000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 712' N line, 430' W line of NW NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.891655 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.757243 DATE COLLECTED:

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 224.1 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. TR32 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
367.3	MODESTO	PIASA	LIMESTONE	4.4	162.7
362.9	MODESTO		UNCLASSIFIED	2.5	167.1
360.4	CARBONDALE		UNCLASSIFIED	7.2	169.6
353.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.4	176.8
348.8	CARBONDALE	ENERGY	SHALE	37.8	181.2
311.0	CARBONDALE	HERRIN	COAL	5.1	219.0

MAPID: 11901180000C VERSION: 2

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 712' N line, 430' W line of NW NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.891655 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.757243 DATE COLLECTED: 10 / 6 / 1961

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 225.4 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 32 WELL TYPE:

COMMENT: CONFIDENTIAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
530.0	PLEISTOCENE		CLAY	28.4	0.0
501.6			SANDSTONE	1.1	28.4 BROWN
500.5			SANDY SHALE	4.5	29.5
496.0			SANDY SHALE	22.6	34.0
473.4			SANDSTONE	3.5	56.6 GRAY
469.9			SANDY SHALE	83.1	60.1
386.8			GRAY SHALE	19.7	143.2
367.1	MODESTO	PIASA	LIMESTONE	4.4	162.9
362.7			GRAY SHALE	9.7	167.3
353.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	177.0
350.3	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	179.7
348.6	CARBONDALE	ENERGY	GRAY SHALE	37.9	181.4
310.7	CARBONDALE	HERRIN	COAL	5.1	219.3
305.6	CARBONDALE		UNDERCLAY	1.0	224.4

MAPID: 1190118000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: 712' N line, 430' W line of NW NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.891655 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.757243 DATE COLLECTED: 10 / 6 / 1961

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 225.0 LOG TYPE:

SOURCE: PEABODY COAL COMPANY 7 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0	PLEISTOCENE		UNCONSOLIDATED	28.4	0.0	
501.6			SANDSTONE	1.1	28.4	BROWN
500.5			SANDY SHALE	4.5	29.5	
496.0			SANDY SHALE	22.0	34.0	
474.0			SANDSTONE	4.1	56.0	GRAY
469.9			SANDY SHALE	83.1	60.1	
386.8			SHALE	19.7	143.2	
367.1			LIMESTONE	4.4	162.9	
362.7			SHALE	9.7	167.3	
353.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	177.0	
350.3	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	179.7	
348.6	CARBONDALE	ENERGY	SHALE	37.9	181.4	
310.7	CARBONDALE	HERRIN	COAL	5.1	219.3	
305.6	CARBONDALE		UNDERCLAY	1.0	224.4	

MAPID: 11922971000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.877066 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.750028 DATE COLLECTED: 8 / 5 / 1974

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 200.9 LOG TYPE: Drillers Log

SOURCE: NATIONAL MINES CORP IE1 WELL TYPE:

COMMENT: Core description

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
378.0	CARBONDALE	ENERGY	SHALE	16.4	172.0	
361.6	CARBONDALE	ENERGY	GRAY SHALE	1.0	188.4	
360.6	CARBONDALE	ENERGY	GRAY SHALE	1.6	189.4	
359.0	CARBONDALE	ENERGY	GRAY SHALE	4.0	191.0	
355.0	CARBONDALE	HERRIN	COAL	5.2	195.0	

MAPID: 11922971000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 33 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.877066 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.750028 DATE COLLECTED: 8 / 1 / 1974

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 202.0 LOG TYPE:

SOURCE: NATIONAL STEEL IE1 WELL TYPE: Coal Test

COMMENT: Drilling log missing

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.0	PLEISTOCENE		GLACIAL DRIFT	8.0	0.0	
482.0	PLEISTOCENE		SAND & GRAVEL	12.4	8.0	
469.6			SANDY SHALE	14.6	20.4	
455.0			SHALE	79.0	35.0	
376.0			COAL	0.2	114.0	
375.8			GREEN SHALE	9.3	114.2	
366.5			SHALE WITH LIMESTONE	0.8	123.5	
365.7			GREEN SHALE	8.4	124.3	
357.3			SHALE	3.3	132.7	MULTI
354.0			LIMESTONE	4.2	136.0	
349.8			CALCAREOUS SHALE	8.9	140.2	
340.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	149.1	
336.4	CARBONDALE	ENERGY	SHALE	14.4	153.6	
322.0	CARBONDALE	ENERGY	SHALE	26.9	168.0	
295.1	CARBONDALE	HERRIN	COAL	5.2	194.9	
289.9	CARBONDALE		UNDERCLAY	1.9	200.1	

MAPID: 11902369000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 35 QUARTERS/FOOTAGES: 1363' S line, 952' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.85217 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.747618 DATE COLLECTED: 10 / 0 / 1963

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 243.0 LOG TYPE: Electric Log

SOURCE: SUN PRODUCTION COMPANY WELL TYPE: Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
315.5	MODESTO	PIASA	LIMESTONE	5.5	174.5	
310.0	MODESTO		UNCLASSIFIED	3.0	180.0	
307.0	CARBONDALE		UNCLASSIFIED	8.5	183.0	
298.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	191.5	
293.0	CARBONDALE	ENERGY	UNCLASSIFIED	41.0	197.0	
252.0	CARBONDALE	HERRIN	COAL	5.0	238.0	

MAPID: 11902369000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 35 QUARTERS/FOOTAGES: 1363' S line, 952' W line

QUADRANGLE: ST. JACOB LONGITUDE: -89.85217 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.747618 DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 242.5 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
315.0	MODESTO	PIASA	LIMESTONE	5.0	175.0
310.0	MODESTO		SHALE	11.0	180.0
299.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	191.0
297.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	35.0	193.0
262.0	CARBONDALE	ENERGY	SHALE	10.0	228.0
252.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	4.5	238.0

MAPID: 11901133000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 36 QUARTERS/FOOTAGES: 680' N line, 740' E line

QUADRANGLE: MARINE LONGITUDE: -89.820066 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.755888 DATE COLLECTED: 10 / 0 / 1963

SURFACE ELEVATION (FT.): 458.0 LOGGED (FT.): 274.0 LOG TYPE: Electric Log

SOURCE: SUN PRODUCTION COMPANY WELL TYPE: Structure Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
256.1	MODESTO	PIASA	LIMESTONE	5.5	201.9
250.6	MODESTO		UNCLASSIFIED	2.3	207.4
248.3	CARBONDALE		UNCLASSIFIED	6.3	209.7
242.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	216.0
238.0	CARBONDALE	ENERGY	UNCLASSIFIED	48.0	220.0
190.0	CARBONDALE	HERRIN	COAL	6.0	268.0

MAPID: 11901133000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 7W SECTION: 36 QUARTERS/FOOTAGES: 680' N line, 740' E line

QUADRANGLE: MARINE LONGITUDE: -89.820066 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.755888 DATE COLLECTED:

SURFACE ELEVATION (FT.): 458.0 LOGGED (FT.): 272.0 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
256.0	MODESTO	PIASA	LIMESTONE	5.0	202.0
251.0	MODESTO		SHALE	9.0	207.0
242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	216.0
238.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	30.0	220.0
208.0	CARBONDALE	ENERGY	SHALE	18.0	250.0
190.0	CARBONDALE	HERRIN	COAL	4.0	268.0

MAPID: 11900117000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 1 QUARTERS/FOOTAGES: 720' S line, 450' W line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.946018 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.820238 DATE COLLECTED:

SURFACE ELEVATION (FT.): 542.8 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: HENRIET CC WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
373.8	CARBONDALE	HERRIN	COAL	6.0	169.0

MAPID: 11900207000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 3 QUARTERS/FOOTAGES: 2000' S line, 1400' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.971508 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.824033 DATE COLLECTED:

SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: WONDERLY C WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
294.0	CARBONDALE	HERRIN	COAL	5.5	148.0



**MAPID:** 11900208000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 3    **QUARTERS/FOOTAGES:** 525' S line, 2100' E line  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.973917    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.819982    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 455.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** WINKLE CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
320.0	CARBONDALE	HERRIN	COAL	6.0	135.0	

**MAPID:** 11900209000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 3    **QUARTERS/FOOTAGES:** 1650' S line, 100' W line  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.984585    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.823173    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 460.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** KELLY SONS    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
350.0	CARBONDALE	HERRIN	COAL	5.5	110.0	

**MAPID:** 11900118000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 10    **QUARTERS/FOOTAGES:** 900' S line, 850' E line  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.969307    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.806056    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 498.2    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HENRIET CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
363.2	CARBONDALE	HERRIN	COAL	5.3	135.0	

**MAPID:** 11900146000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 10    **QUARTERS/FOOTAGES:** SW SW SE  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.974413    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.804525    **DATE COLLECTED:** 0 / 0 / 1926  
**SURFACE ELEVATION (FT.):** 470.0    **LOGGED (FT.):** 173.0    **LOG TYPE:**  
**SOURCE:** ALTON BRICK    **WELL TYPE:** Unsuccessful or Unknown Results  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
391.0	CARBONDALE	HERRIN	COAL	5.7	79.0	

MAPID: 11900146000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 4N 8W    SECTION: 10    QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.974413

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.804525

DATE COLLECTED:

SURFACE ELEVATION (FT.): 470.0

LOGGED (FT.): 84.7

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
423.0	MODESTO	PIASA	LIMESTONE	4.0	47.0
419.0	MODESTO		GRAY SHALE	9.0	51.0
410.0	CARBONDALE	DANVILLE	COAL	0.3	60.0
409.7	CARBONDALE		CLAYSTONE	8.5	60.3
401.2	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	8.4	68.8
392.7	CARBONDALE	ANNA	BLACK SHALE	2.6	77.3
391.0	CARBONDALE	HERRIN	COAL	5.7	79.0

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MAPID: 11900146000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 4N 8W    SECTION: 10    QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.974413    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.804525    DATE COLLECTED: 6 / 6 / 1926

SURFACE ELEVATION (FT.): 470.0    LOGGED (FT.): 173.8    LOG TYPE: Drillers Log

SOURCE: ALTON BRICK CO.    1    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
470.0			CALCAREOUS SHALE	19.0	0.0	
451.0			LIMESTONE	0.3	19.0	
450.7			CALCAREOUS SHALE	12.3	19.3	
438.3			SHALE	15.3	31.7	
423.0	MODESTO	PIASA	LIMESTONE	4.0	47.0	
419.0	MODESTO		DARK SHALE	5.0	51.0	
414.0	MODESTO		SHALE	1.0	56.0	
413.0	MODESTO		CALCAREOUS SHALE	3.0	57.0	
410.0	CARBONDALE	DANVILLE	COAL	0.3	60.0	
409.7	CARBONDALE		UNDERCLAY	8.5	60.3	
401.2	CARBONDALE	BRERETON	LIMESTONE	2.7	68.8	LS W/SH
398.5	CARBONDALE	BRERETON	LIMESTONE	5.8	71.5	
392.7	CARBONDALE	ANNA	SHALE	1.5	77.3	
391.2	CARBONDALE		BLACK SHALE	0.6	78.8	
390.7	CARBONDALE	HERRIN	COAL	5.7	79.3	
385.0			UNDERCLAY	0.5	85.0	
384.5			UNDERCLAY	2.0	85.5	
382.5			LIMESTONE	2.0	87.5	
380.5			LIMESTONE	2.7	89.5	
377.8			UNDERCLAY	7.0	92.2	
370.8			LIMESTONE	0.3	99.2	
370.6			UNDERCLAY	2.6	99.4	
368.0			CALCAREOUS SHALE	5.0	102.0	
363.0			SANDY SHALE	3.0	107.0	
360.0			CALCAREOUS SHALE	42.5	110.0	
317.5			CALCAREOUS SHALE	11.5	152.5	
306.0			CALCAREOUS SHALE	3.7	164.0	
302.3	CARBONDALE		COAL	0.7	167.7	
301.7			CALCAREOUS SHALE	1.7	168.3	
300.0			SANDSTONE	3.8	170.0	

MAPID: 11900210000C    VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 4N 8W    SECTION: 10    QUARTERS/FOOTAGES: NE/c NW

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.980287    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.814842    DATE COLLECTED:

SURFACE ELEVATION (FT.): 450.0    LOGGED (FT.): 0.0    LOG TYPE:

SOURCE: HENKHAUS J    WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
385.0	CARBONDALE	HERRIN	COAL	6.0	65.0	

MAPID: 11900119000C    VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 4N 8W    SECTION: 11    QUARTERS/FOOTAGES: SW SE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.954565    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.805322    DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.9    LOGGED (FT.): 0.0    LOG TYPE:

SOURCE: EDWARDSVCC0003    WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
334.9	CARBONDALE	HERRIN	COAL	6.5	216.0	

MAPID: 11900119000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 11 QUARTERS/FOOTAGES: SW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.954565 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.805322 DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.9 LOGGED (FT.): 222.3 LOG TYPE: Drillers Log

SOURCE: THE EDWARDSVILLE COAL CO. 3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
550.9			UNCONSOLIDATED	3.0	0.0	SOIL
547.9			CLAY	26.0	3.0	
521.9			SANDY CLAY	9.0	29.0	
512.9			GRAVEL	30.0	38.0	HARDPAN AND GRAVEL
482.9			CLAY	1.0	68.0	
481.9			SHALE	16.0	69.0	
465.9			SANDSTONE	15.0	85.0	
450.9			SHALE	45.0	100.0	
405.9			SANDSTONE	2.0	145.0	
403.9			SHALE	3.0	147.0	
400.9			UNDERCLAY	2.0	150.0	
398.9			BLACK SHALE	1.0	152.0	
397.9			ROCK	1.0	153.0	
396.9			ROCK	1.0	154.0	
395.9			UNDERCLAY	4.0	155.0	
391.9			SHALE	4.0	159.0	
387.9	CARBONDALE	HERRIN	COAL	0.3	163.0	
387.6			ROCK	1.8	163.3	
385.9			UNDERCLAY	4.0	165.0	
381.9			LIMESTONE	4.0	169.0	
377.9			LIMESTONE	2.0	173.0	
375.9			UNDERCLAY	10.0	175.0	
365.9			SHALE	1.0	185.0	
364.9			UNDERCLAY	4.0	186.0	
360.9			BLACK SHALE	7.0	190.0	
353.9			LIMESTONE	2.0	197.0	
351.9			LIMESTONE	4.0	199.0	
347.9			LIMESTONE	5.0	203.0	
342.9			SHALE	5.0	208.0	
337.9			ROCK	1.8	213.0	
336.1			SHALE	1.0	214.8	
335.1	CARBONDALE	HERRIN	COAL	6.5	215.8	

MAPID: 11900120000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 12 QUARTERS/FOOTAGES: 3300' S line, 1620' W line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.941879 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.812502 DATE COLLECTED:

SURFACE ELEVATION (FT.): 487.4 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: EASTSIDECC WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
354.4	CARBONDALE	HERRIN	COAL	6.0	133.0	

MAPID: 11900941000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 15 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.979041 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.795448 DATE COLLECTED:

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 227.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
399.0	MODESTO	PIASA	LIMESTONE	3.0	191.0	
396.0	MODESTO		SHALE	15.0	194.0	
381.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	209.0	
379.0	CARBONDALE		SHALE	1.5	211.0	
377.5	CARBONDALE	BRERETON	LIMESTONE	6.5	212.5	
371.0	CARBONDALE	ANNA	DARK GRAY SHALE	3.3	219.0	
368.0	CARBONDALE	HERRIN	COAL	5.0	222.0	

MAPID: 11900941000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 15 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.979041 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.795448 DATE COLLECTED: 0 / 0 / 1918

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 237.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 10 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.0			UNCONSOLIDATED	2.0	0.0	SOIL
588.0			CLAY	33.0	2.0	
555.0			SAND	5.0	35.0	
550.0			GRAVEL	5.0	40.0	
545.0			SANDY CLAY	8.0	45.0	
537.0			SAND	4.0	53.0	
533.0			SHALE	3.0	57.0	
530.0			SHALE	18.0	60.0	
512.0			CALCAREOUS SHALE	3.0	78.0	
509.0			SHALE	8.0	81.0	
501.0			GRAY SHALE	8.0	89.0	
493.0			SANDY SHALE	36.0	97.0	
457.0			GRAY SHALE	10.0	133.0	
447.0			SANDY SHALE	10.0	143.0	
437.0			DARK SHALE	6.0	153.0	
431.0			SHALE	8.0	159.0	
423.0			SHALE	16.0	167.0	
407.0			SHALE	8.0	183.0	
399.0	MODESTO	PIASA	LIMESTONE	3.0	191.0	
396.0			SHALE	1.0	194.0	
395.0			SHALE	3.0	195.0	
392.0			CALCAREOUS SHALE	1.0	198.0	
391.0			SHALE	10.0	199.0	
381.0			CALCAREOUS SHALE	2.0	209.0	
379.0			SHALE	1.5	211.0	
377.5	CARBONDALE	BRERETON	LIMESTONE	6.5	212.5	
371.0	CARBONDALE	ANNA	DARK SHALE	3.3	219.0	
367.7	CARBONDALE	HERRIN	COAL	5.0	222.3	
362.7			DARK SHALE	0.5	227.3	
362.2			LIMESTONE	5.7	227.8	
356.5			GRAY SHALE	3.5	233.5	

**MAPID:** 11900370000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 18    **QUARTERS/FOOTAGES:** 40' N line, 3880' E line  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.035284    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.803744    **DATE COLLECTED:** 0 / 0 / 1938  
**SURFACE ELEVATION (FT.):** 428.2    **LOGGED (FT.):** 400.0    **LOG TYPE:**  
**SOURCE:** PEN ILL OC    **WELL TYPE:** Coal Test  
**COMMENT:**

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

**MAPID:** 11900433000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 19    **QUARTERS/FOOTAGES:** 150' N line, 150' E line  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.022017    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.78923    **DATE COLLECTED:** 0 / 0 / 1939  
**SURFACE ELEVATION (FT.):** 430.4    **LOGGED (FT.):** 1415.0    **LOG TYPE:**  
**SOURCE:** PEN ILL OC    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900536000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 19    **QUARTERS/FOOTAGES:** NE NE NE NE  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.02207    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.789192    **DATE COLLECTED:** 0 / 0 / 1938  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 402.0    **LOG TYPE:**  
**SOURCE:** PEN ILL OC    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900363000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 21    **QUARTERS/FOOTAGES:** 1320' N line, 20' W line of NE NW  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.998459    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.785952    **DATE COLLECTED:** 0 / 0 / 1938  
**SURFACE ELEVATION (FT.):** 520.4    **LOGGED (FT.):** 587.0    **LOG TYPE:**  
**SOURCE:** PEN ILL OC    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
366.4	CARBONDALE	HERRIN	COAL	3.0    154.0	



MAPID: 11900942000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 22 QUARTERS/FOOTAGES: 2359' S line, 1681' W line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.978859

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.780965

DATE COLLECTED:

SURFACE ELEVATION (FT.): 581.0

LOGGED (FT.): 201.3

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
355.0	MODESTO	PIASA	LIMESTONE	3.0	226.0
352.0	MODESTO		SHALE	5.0	229.0
347.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	15.0	234.0
332.0	CARBONDALE	BRERETON	LIMESTONE	3.3	249.0
328.7	CARBONDALE	ANNA	BLACK SHALE	0.2	252.3
385.0	CARBONDALE	HERRIN	COAL	5.3	196.0

MAPID: 11900139000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 23 QUARTERS/FOOTAGES: 4250' S line, 3300' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.959267

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.786036

DATE COLLECTED:

SURFACE ELEVATION (FT.): 573.0

LOGGED (FT.): 0.0

LOG TYPE:

SOURCE: MADI CO MC

WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
369.0	CARBONDALE	HERRIN	COAL	7.0	204.0

MAPID: 11901011000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 23 QUARTERS/FOOTAGES: SW NE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.960389

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.786136

DATE COLLECTED:

SURFACE ELEVATION (FT.): 568.0

LOGGED (FT.): 198.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
412.1	MODESTO		SHALE	10.0	155.9
402.1	CARBONDALE		CLAYSTONE	12.5	165.9
389.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	7.2	178.4
382.4	CARBONDALE	BRERETON	LIMESTONE	3.0	185.6
379.4	CARBONDALE	ANNA	BLACK SHALE	4.4	188.6
375.0	CARBONDALE	HERRIN	COAL	5.0	193.0

MAPID: 11901011000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 23 QUARTERS/FOOTAGES: SW NE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.960389 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.786136 DATE COLLECTED: 0 / 0 / 1918

SURFACE ELEVATION (FT.): 568.2 LOGGED (FT.): 220.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
568.2			UNCONSOLIDATED	1.0	0.0
567.2			CLAY	5.0	1.0
562.2			CLAY	16.5	6.0
545.7			CLAY	9.3	22.5
536.4			SANDY CLAY	12.5	31.8
523.9			GRAVEL	0.5	44.3
523.4			SAND	1.0	44.8
522.4			GRAVEL	0.2	45.8
522.2			SAND	14.0	46.0
508.2			SHALE	4.5	60.0
503.7			CALCAREOUS SHALE	9.7	64.5
494.0			SANDSTONE	27.0	74.2
467.0			SANDY SHALE	30.9	101.2
436.1			SHALE	2.2	132.1
433.9			SHALE	5.8	134.3
428.2			SHALE	10.0	140.0
418.2			CALCAREOUS SHALE	6.0	150.0
412.2			SHALE	7.0	156.0
405.2			CALCAREOUS SHALE	3.0	163.0
402.2			CALCAREOUS SHALE	12.5	166.0
389.7			CALCAREOUS SHALE	7.2	178.5
382.5	CARBONDALE	BRERETON	LIMESTONE	3.0	185.7
379.5	CARBONDALE		SANDY SHALE	2.3	188.7
377.2	CARBONDALE	ANNA	BLACK SHALE	2.1	191.0
375.1	CARBONDALE	HERRIN	COAL	1.3	193.1
373.8	CARBONDALE	HERRIN	BONE COAL	0.0	194.4
373.7	CARBONDALE	HERRIN	COAL	2.5	194.5
371.3	CARBONDALE	HERRIN	UNDERCLAY	0.2	196.9
371.1	CARBONDALE	HERRIN	COAL	1.0	197.1
370.1			UNDERCLAY	1.3	198.1
368.8			CALCAREOUS SHALE	6.6	199.4
362.2			SHALE	7.5	206.0
354.7			LIMESTONE	1.2	213.5
353.5			SHALE	1.3	214.7
352.2			SANDY SHALE	4.0	216.0

MAPID: 11901012000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 23 QUARTERS/FOOTAGES: NW SE NW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.960388 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.784317 DATE COLLECTED: 0 / 0 / 1918

SURFACE ELEVATION (FT.): 570.6 LOGGED (FT.): 214.0 LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.6			UNCONSOLIDATED	1.5	0.0	
569.1			CLAY	5.5	1.5	
563.6			CLAY	10.0	7.0	
553.6			CLAY	16.0	17.0	BLU; BLU; BLU; BLU; BLU; BLU
537.6			SANDY CLAY	17.0	33.0	
520.6			SAND	11.0	50.0	
509.6			SHALE	3.0	61.0	
506.6			SHALE	5.0	64.0	
501.6			CALCAREOUS SHALE	9.8	69.0	
491.8			SANDSTONE	2.3	78.8	
489.6			SANDSTONE	6.8	81.0	SS W/ SH PARTINGS
482.8			SANDY SHALE	48.6	87.8	
434.3			SHALE	2.2	136.3	
432.1			UNDERCLAY	27.3	138.5	
404.8			LIMESTONE	2.5	165.8	
402.3			UNDERCLAY	11.7	168.3	
390.6			CALCAREOUS SHALE	11.2	180.0	
379.4	CARBONDALE	BRERETON	LIMESTONE	3.8	191.2	
375.6	CARBONDALE		ROCK	0.5	195.0	
375.1	CARBONDALE	ANNA	BLACK SHALE	0.8	195.5	
374.3	CARBONDALE	HERRIN	COAL	4.8	196.3	
369.5	CARBONDALE	HERRIN	UNDERCLAY	0.2	201.1	
369.3	CARBONDALE	HERRIN	COAL	0.9	201.3	
368.4			UNDERCLAY	4.8	202.2	
363.6			CALCAREOUS SHALE	7.0	207.0	

MAPID: 11900943000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 24 QUARTERS/FOOTAGES: SW NW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.936825

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.785885

DATE COLLECTED:

SURFACE ELEVATION (FT.): 554.0

LOGGED (FT.): 212.4

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.0	MODESTO	PIASA	LIMESTONE	4.0	174.0
376.0	MODESTO		SHALE	6.0	178.0
370.0	CARBONDALE	LAWSON	GRAY SHALE	7.0	184.0
363.0	CARBONDALE	BRERETON	LIMESTONE	9.0	191.0
354.0	CARBONDALE	ANNA	BLACK SHALE	6.7	200.0
347.0	CARBONDALE	HERRIN	COAL	5.4	207.0

MAPID: 11900943000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 24 QUARTERS/FOOTAGES: SW NW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.936825

GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.785885

DATE COLLECTED: 0 / 0 / 1918

SURFACE ELEVATION (FT.): 553.5

LOGGED (FT.): 227.0

LOG TYPE: Drillers Log

SOURCE: DONK BROS. COAL CO. 7

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
553.5			SANDY CLAY	41.0	0.0
512.5			SAND	12.0	41.0
500.5			SHALE	13.0	53.0
487.5			SANDSTONE	1.5	66.0
486.0			SHALE	41.5	67.5
444.5			GRAY SHALE	33.0	109.0
411.5			SHALE	32.0	142.0
379.5	MODESTO	PIASA	LIMESTONE	4.0	174.0
375.5			SHALE	6.0	178.0
369.5			GRAY SHALE	7.0	184.0
362.5	CARBONDALE	BRERETON	LIMESTONE	9.0	191.0
353.5	CARBONDALE		GRAY SHALE	2.0	200.0
351.5	CARBONDALE	ANNA	BLACK SHALE	4.7	202.0
346.8	CARBONDALE	HERRIN	COAL	5.4	206.7
341.4			DARK SHALE	1.9	212.1
339.5			GRAY SHALE	5.0	214.0
334.5			CALCAREOUS SHALE	3.0	219.0
331.5			GRAY SHALE	5.0	222.0

MAPID: 11900944000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 25 QUARTERS/FOOTAGES: 215' N line, 750' W line

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.94502

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.773571

DATE COLLECTED:

SURFACE ELEVATION (FT.): 581.0

LOGGED (FT.): 223.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
400.0	MODESTO	PIASA	LIMESTONE	3.5	181.0
396.5	MODESTO		SHALE	4.5	184.5
392.0	CARBONDALE		CALCAREOUS SHALE	2.0	189.0
390.0	CARBONDALE	LAWSON	SHALE	13.0	191.0
377.0	CARBONDALE	BRERETON	LIMESTONE	11.0	204.0
366.0	CARBONDALE	ANNA	CALCAREOUS SHALE	1.8	215.0
364.0	CARBONDALE	HERRIN	COAL	6.0	217.0

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MAPID: 11901170000C    VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON    TWP/RNG: 4N 8W    SECTION: 25    QUARTERS/FOOTAGES: NW NW SE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.93691    GEOLOGIST: UITEMP

CONFIDENTIAL: N    LATITUDE: 38.765891    DATE COLLECTED: 2 / 12 / 1957

SURFACE ELEVATION (FT.): 570.8    LOGGED (FT.): 241.5    LOG TYPE: Drillers Log

SOURCE: NORTHERN ILLINOIS COAL CORP. 2    WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.8	PLEISTOCENE		SANDY CLAY	38.5	0.0	
532.4			GRAY SHALE	6.7	38.4	
525.6			LIMESTONE	2.3	45.2	
523.4			GRAY SHALE	44.4	47.4	
479.0			SANDSTONE	1.3	91.8	GRAY
477.7			GRAY SHALE	9.4	93.1	
468.3			GRAY SHALE	27.6	102.5	
440.8			GRAY SHALE	28.2	130.0	
412.6			GRAY SHALE	7.5	158.2	
405.1			SANDSTONE	2.5	165.7	GRAY
402.7			GRAY SHALE	17.0	168.1	
385.7	MODESTO	PIASA	LIMESTONE	5.3	185.1	
380.4			GRAY SHALE	11.0	190.4	
369.4	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	201.4	
367.1	CARBONDALE	ENERGY	GRAY SHALE	31.0	203.7	
336.1	CARBONDALE	HERRIN	COAL	0.2	234.7	
336.0	CARBONDALE	HERRIN	PYRITE	0.1	234.8	
335.9	CARBONDALE	HERRIN	COAL	0.9	234.9	
335.0	CARBONDALE	HERRIN	GRAY SHALE	0.0	235.8	
335.0	CARBONDALE	HERRIN	COAL	2.5	235.8	
332.5	CARBONDALE	HERRIN	PYRITE	0.1	238.3	
332.4	CARBONDALE	HERRIN	COAL	0.5	238.4	
331.9	CARBONDALE	HERRIN	GRAY SHALE	0.1	238.9	
331.8	CARBONDALE	HERRIN	COAL	1.0	239.0	
330.8	CARBONDALE		UNDERCLAY	1.5	240.0	

MAPID: 11901170000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 25 QUARTERS/FOOTAGES: NW NW SE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.93691 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.765891 DATE COLLECTED: 2 / 2 / 1957

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 241.0 LOG TYPE:

SOURCE: NORTHERN ILLINOIS COAL CORP. 2 WELL TYPE: Coal Test

COMMENT: LOG OBTAINED FROM ANOTHER COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
571.0	PLEISTOCENE		UNCONSOLIDATED	38.5	0.0	
532.6			SHALE	6.7	38.4	
525.8			LIMESTONE	2.3	45.2	
523.6			SHALE	44.4	47.4	
479.2			SANDSTONE	1.3	91.8	GRAY
477.9			SANDY SHALE	9.4	93.1	
468.5			SANDY SHALE	27.6	102.5	
441.0			SHALE	28.2	130.0	
412.8			SHALE	7.5	158.2	
405.3			SANDSTONE	2.5	165.7	GRAY
402.9			SHALE	17.0	168.1	
385.9			LIMESTONE	5.3	185.1	
380.6			SHALE	11.0	190.4	
369.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	201.4	
367.3	CARBONDALE	ENERGY	SANDY SHALE	31.0	203.7	
336.3	CARBONDALE	HERRIN	COAL	0.2	234.7	
336.2	CARBONDALE	HERRIN	PYRITE	0.1	234.8	
336.1	CARBONDALE	HERRIN	COAL	0.9	234.9	
335.2	CARBONDALE	HERRIN	SHALE	0.0	235.8	
335.2	CARBONDALE	HERRIN	COAL	2.5	235.8	
332.7	CARBONDALE	HERRIN	PYRITE	0.1	238.3	
332.6	CARBONDALE	HERRIN	COAL	0.5	238.4	
332.1	CARBONDALE	HERRIN	SHALE	0.1	238.9	
332.0	CARBONDALE	HERRIN	COAL	1.0	239.0	
331.0	CARBONDALE		UNDERCLAY	1.5	240.0	

MAPID: 11900096000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 26 QUARTERS/FOOTAGES: 375' S line, 340' E line of SW SE SW

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.960309 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.760738 DATE COLLECTED: 0 / 0 / 1923

SURFACE ELEVATION (FT.): 502.6 LOGGED (FT.): 2500.0 LOG TYPE:

SOURCE: MADISON CC0006 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
363.6	CARBONDALE	HERRIN	COAL	7.5	139.0	

MAPID: 11900096000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 4N 8W    SECTION: 26    QUARTERS/FOOTAGES: 375' S line, 340' E line of SW SE SW

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.960309

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.760738

DATE COLLECTED:

SURFACE ELEVATION (FT.): 503.0

LOGGED (FT.): 145.5

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
403.0	MODESTO	PIASA	LIMESTONE	8.8	100.0
394.2	MODESTO		SHALE	7.2	108.8
387.0	CARBONDALE		CLAYSTONE & SHALE	6.8	116.0
380.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	5.0	122.8
375.2	CARBONDALE	BRERETON	LIMESTONE	6.5	127.8
368.7	CARBONDALE	ANNA	BLACK SHALE	3.3	134.3
365.0	CARBONDALE	HERRIN	COAL	7.5	138.0

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MAPID: 11900096000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 26 QUARTERS/FOOTAGES: 375' S line, 340' E line of SW SE SW

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.960309

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.760738

DATE COLLECTED: 0 / 0 / 1923

SURFACE ELEVATION (FT.): 520.0

LOGGED (FT.): 315.0

LOG TYPE: Drillers Log

SOURCE: MADISON COAL CORP. 6

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.0			UNCONSOLIDATED	45.0	0.0	SURFACE SAND AND CLAY
475.0			CLAY	20.0	45.0	
455.0			DARK GRAY SHALE	17.0	65.0	
438.0			CALCAREOUS SHALE	34.0	82.0	
404.0			CALCAREOUS SHALE	15.0	116.0	
389.0	CARBONDALE	BRERETON	LIMESTONE	4.0	131.0	
385.0	CARBONDALE	ENERGY	SANDY SHALE	3.3	135.0	
381.7	CARBONDALE	ENERGY	DARK SHALE	0.3	138.3	
381.5	CARBONDALE	HERRIN	COAL	7.4	138.5	
374.1			UNDERCLAY	1.6	145.9	
372.5			CALCAREOUS SHALE	20.5	147.5	
352.0			SANDY SHALE	21.0	168.0	
331.0			GRAY SHALE	34.5	189.0	
296.5			COAL	1.8	223.5	
294.7			SANDSTONE	1.1	225.3	
293.7			SANDSTONE	3.3	226.3	SS W/ SH STREAKS
290.3			SANDY SHALE	1.3	229.7	
289.0			SANDY SHALE	7.3	231.0	
281.7			DARK GRAY SHALE	19.7	238.3	
262.0			CALCAREOUS SHALE	1.8	258.0	
260.2			BLACK SHALE	2.8	259.8	
257.5			COAL	2.5	262.5	
255.0			UNDERCLAY	8.0	265.0	
247.0			CALCAREOUS SHALE	1.2	273.0	
245.8			SHALE	19.8	274.2	
226.0			CALCAREOUS SHALE	1.0	294.0	
225.0			SHALE	7.5	295.0	
217.5			CALCAREOUS SHALE	2.0	302.5	
215.5			LIMESTONE	6.5	304.5	
209.0			CALCAREOUS SHALE	4.0	311.0	

**MAPID:** 11900122000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 26    **QUARTERS/FOOTAGES:** 350' S line, 1325' W line  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.961392    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.760675    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 500.9    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** MADISON CC0004    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
326.9	CARBONDALE	HERRIN	COAL	6.0	174.0	

**MAPID:** 11900241000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 29    **QUARTERS/FOOTAGES:** 500' S line, 1500' E line  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.008329    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.76136    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 446.3    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SUNSETHILL    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
370.3	CARBONDALE	HERRIN	COAL	6.0	76.0	

**MAPID:** 11900242000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 29    **QUARTERS/FOOTAGES:** 3800' S line, 1500' E line  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.008323    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.770471    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 492.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** TRUCKTRADE    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
389.0	CARBONDALE	HERRIN	COAL	6.0	103.0	

**MAPID:** 11900371000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 30    **QUARTERS/FOOTAGES:** 2740' S line, 1310' E line  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.025975    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.767783    **DATE COLLECTED:** 0 / 0 / 1938  
**SURFACE ELEVATION (FT.):** 421.8    **LOGGED (FT.):** 448.0    **LOG TYPE:**  
**SOURCE:** PEN ILL OC    **WELL TYPE:** Coal Test  
**COMMENT:**

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

**MAPID:** 11900121000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 400' S line, 2600' E line  
**QUADRANGLE:** COLLINSVILLE    **LONGITUDE:** -89.97499    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.746162    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 476.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** MADISON CC0002    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
383.0	CARBONDALE	HERRIN	COAL	6.5	93.0	

**MAPID:** 11900211000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 2220' S line, 330' W line  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.983337    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.751153    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 475.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** MADISON CC0001    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
392.0	CARBONDALE	HERRIN	COAL	7.0	83.0	

**MAPID:** 11901174000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 4N 8W    **SECTION:** 36    **QUARTERS/FOOTAGES:** 49' S line, 145' W line of SW NE  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.937525    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.752331    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 593.0    **LOGGED (FT.):** 263.5    **LOG TYPE:** Survey Core Study  
**SOURCE:** PEABODY COAL CO.    TR26    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
390.0	MODESTO	PIASA	LIMESTONE	5.6	203.0	
384.4	MODESTO		GRAY SHALE	14.0	208.6	
370.4	CARBONDALE	GALUM	LIMESTONE	0.6	222.6	
369.8	CARBONDALE		GRAY SHALE	3.7	223.2	
366.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	226.9	LOWER BENCH
363.7	CARBONDALE	ENERGY	GRAY SHALE	11.9	229.3	
351.8	CARBONDALE	ENERGY	SILTSTONE	15.1	241.2	
337.0	CARBONDALE	HERRIN	COAL	7.5	256.0	

MAPID: 11901174000C VERSION: 2

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 36 QUARTERS/FOOTAGES: 49' S line, 145' W line of SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.937525 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.752331 DATE COLLECTED: 9 / 25 / 1961

SURFACE ELEVATION (FT.): 593.0 LOGGED (FT.): 265.0 LOG TYPE:

SOURCE: PEABODY COAL COMPANY 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
593.0	PLEISTOCENE		UNCONSOLIDATED	33.8	0.0	
559.2			SHALE	15.0	33.8	
544.2			LIMESTONE	0.4	48.8	
543.8			SHALE	13.3	49.2	
530.5			LIMESTONE	2.5	62.5	
528.0			SHALE	6.9	65.0	
521.1			LIMESTONE	2.0	71.9	
519.1			SHALE	14.1	73.9	
505.0			SANDY SHALE	10.5	88.0	
494.5			SANDSTONE	2.2	98.5	
492.3			SANDY SHALE	63.3	100.7	
429.0			SHALE	39.2	164.0	
389.8			LIMESTONE	5.6	203.2	
384.2			SHALE	14.0	208.8	
370.2			LIMESTONE	0.6	222.8	
369.6			SHALE	3.7	223.4	
365.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	227.1	
363.5	CARBONDALE	ENERGY	SHALE	11.9	229.5	
351.6	CARBONDALE	ENERGY	SANDY SHALE	10.0	241.4	
341.6	CARBONDALE	ENERGY	SHALE	5.1	251.4	
336.5	CARBONDALE	HERRIN	COAL	1.6	256.5	
335.0	CARBONDALE	HERRIN	COAL	0.1	258.0	DULL
334.9	CARBONDALE	HERRIN	COAL	1.3	258.1	
333.6	CARBONDALE	HERRIN	SHALE	0.0	259.4	
333.6	CARBONDALE	HERRIN	COAL	0.4	259.4	
333.2	CARBONDALE	HERRIN	COAL	0.5	259.8	
332.7	CARBONDALE	HERRIN	COAL	2.2	260.3	
330.6	CARBONDALE	HERRIN	SHALE	0.1	262.4	
330.5	CARBONDALE	HERRIN	COAL	1.5	262.5	
329.0	CARBONDALE		UNDERCLAY	1.0	264.0	

MAPID: 11925806000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 36 QUARTERS/FOOTAGES: 1034' S line, 179' W line of NW NE

QUADRANGLE: EDWARDSVILLE

LONGITUDE: -89.937446

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.7587

DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 570.0

LOGGED (FT.): 250.0

LOG TYPE:

SOURCE: AMAX COAL AM4

WELL TYPE: Coal Test

COMMENT: UPDATED LOCATION INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.0	PLEISTOCENE		UNCONSOLIDATED	35.0	0.0	
535.0			SHALE	5.0	35.0	
530.0			SHALE	3.0	40.0	PLITHO=040, COMPANY CODE
527.0			SHALE	8.0	43.0	
519.0			SANDSTONE	4.0	51.0	GRAY
515.0			SHALE	15.0	55.0	
500.0			SANDY SHALE	5.0	70.0	
495.0			SHALE	5.0	75.0	
490.0			SHALE	2.0	80.0	PLITHO=040, COMPANY CODE
488.0			SANDY SHALE	23.0	82.0	
465.0			DARK GRAY SHALE	70.0	105.0	
395.0			SHALE	5.0	175.0	LT GY GN
390.0			SHALE	6.0	180.0	PLITHO=040, COMPANY CODE
384.0			SANDY SHALE	4.0	186.0	
380.0			SANDSTONE	28.0	190.0	GRAY
352.0			SANDY SHALE	12.3	218.0	
339.7			DARK GRAY SHALE	0.2	230.3	
339.5	CARBONDALE	HERRIN	COAL	2.5	230.5	
337.0	CARBONDALE	HERRIN	COAL	4.1	233.0	
332.9	CARBONDALE		UNDERCLAY	3.9	237.1	DARK GRAY
329.0			SHALE WITH LIMESTONE	0.9	241.0	
328.1			SHALE	1.0	241.9	PLITHO=040, COMPANY CODE
327.1			SHALE WITH LIMESTONE	5.5	242.9	
321.6			NO RECORD	1.6	248.4	

MAPID: 11925811000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 36 QUARTERS/FOOTAGES:

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.939287

GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.745364

DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 593.0

LOGGED (FT.): 285.0

LOG TYPE:

SOURCE: AMAX COAL AM6

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
593.0	PLEISTOCENE		UNCONSOLIDATED	60.0	0.0	
533.0			SHALE	38.0	60.0	
495.0			SANDY SHALE	10.0	98.0	
485.0			SHALE	6.0	108.0	PLITHO=040, COMPANY CODE
479.0			SANDY SHALE	6.0	114.0	
473.0			DARK GRAY SHALE	73.0	120.0	
400.0			SHALE	22.0	193.0	LT GY GN
378.0			SHALE	5.0	215.0	PLITHO=040, COMPANY CODE
373.0			SHALE	6.0	220.0	
367.0			SHALE	3.0	226.0	PLITHO=040, COMPANY CODE
364.0			SHALE	35.9	229.0	
328.1	CARBONDALE	HERRIN	COAL	6.6	264.9	
321.5	CARBONDALE	HERRIN	SHALE	0.1	271.5	
321.4	CARBONDALE	HERRIN	COAL	1.8	271.6	
319.7	CARBONDALE		UNDERCLAY	4.6	273.3	
315.1			SHALE WITH LIMESTONE	1.3	277.9	
313.8			SHALE	1.0	279.2	PLITHO=040, COMPANY CODE
312.8			UNDERCLAY	0.5	280.2	
312.3			SHALE	0.6	280.7	PLITHO=040, COMPANY CODE
311.7			UNDERCLAY	3.7	281.3	

MAPID: 11990398000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 36 QUARTERS/FOOTAGES: 1034' S line, 179' W line of NW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.937445 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.758714 DATE COLLECTED: 8 / 6 / 1981

SURFACE ELEVATION (FT.): 570.6 LOGGED (FT.): 250.0 LOG TYPE: Drillers Log

SOURCE: AMAX 12-004 WELL TYPE: Coal Test

COMMENT: NATIONAL STEEL BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.6	PLEISTOCENE		CLAY	5.0	0.0	
565.6	PLEISTOCENE		UNCONSOLIDATED	30.0	5.0	
535.6	SHELBURN		GRAY SHALE	5.0	35.0	
530.6	SHELBURN		LIMESTONE	3.0	40.0	
527.6	SHELBURN		GRAY SHALE	8.0	43.0	
519.6	SHELBURN		GRAY SANDSTONE	4.0	51.0	
515.6	SHELBURN		GRAY SHALE	15.0	55.0	
500.6	SHELBURN		SANDY SHALE	5.0	70.0	
495.6	SHELBURN		GRAY SHALE	5.0	75.0	
490.6	SHELBURN		BROWN LIMESTONE	2.0	80.0	
488.6	SHELBURN		SANDY SHALE	23.0	82.0	
465.6	SHELBURN		DARK SHALE	70.0	105.0	
395.6	SHELBURN		GRAY SHALE	5.0	175.0	
390.6	SHELBURN		BROWN LIMESTONE	6.0	180.0	
384.6	SHELBURN		SANDY SHALE	4.0	186.0	
380.6	SHELBURN		SANDSTONE	28.0	190.0	GRAY
352.6	SHELBURN		SANDY SHALE	12.5	218.0	
340.1	CARBONDALE	HERRIN	COAL	6.5	230.5	
333.6	CARBONDALE		UNDERCLAY	5.0	237.0	
328.6	CARBONDALE		CALCAREOUS SHALE	0.9	242.0	
327.7	CARBONDALE		SHALE WITH LIMESTONE	7.1	242.9	

MAPID: 1199040000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 4N 8W SECTION: 36 QUARTERS/FOOTAGES: 48' S line, 415' E line of SE SW

QUADRANGLE: COLLINSVILLE LONGITUDE: -89.939454 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.745018 DATE COLLECTED: 8 / 14 / 1981

SURFACE ELEVATION (FT.): 592.9 LOGGED (FT.): 285.1 LOG TYPE: Drillers Log

SOURCE: AMAX 12-006 WELL TYPE: Coal Test

COMMENT: NATIONAL STEEL BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
592.9	PLEISTOCENE		CLAY	8.0	0.0
584.9	PLEISTOCENE		UNCONSOLIDATED	52.0	8.0
532.9	SHELBURN		GRAY SHALE	38.0	60.0
494.9	SHELBURN		SANDY SHALE	10.0	98.0
484.9	SHELBURN		BROWN LIMESTONE	6.0	108.0
478.9	SHELBURN		SANDY SHALE	6.0	114.0
472.9	SHELBURN		DARK SHALE	73.0	120.0
399.9	SHELBURN		GRAY SHALE	22.0	193.0
377.9	SHELBURN		BROWN LIMESTONE	5.0	215.0
372.9	SHELBURN		GRAY SHALE	6.0	220.0
366.9	SHELBURN		BROWN LIMESTONE	3.0	226.0
363.9	SHELBURN		SANDY SHALE	36.0	229.0
327.9	CARBONDALE	HERRIN	COAL	8.3	265.0
319.6	CARBONDALE		UNDERCLAY	4.7	273.3
314.9	CARBONDALE		SHALE WITH LIMESTONE	1.0	278.0
313.9	CARBONDALE		LIMESTONE	2.0	279.0
311.9	CARBONDALE		GRAY SHALE	4.1	281.0

MAPID: 11900417000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 4N 9W SECTION: 12 QUARTERS/FOOTAGES: 2400' S line, 3630' E line

QUADRANGLE: WOOD RIVER LONGITUDE: -90.051641 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.81113 DATE COLLECTED: 0 / 0 / 1938

SURFACE ELEVATION (FT.): 424.6 LOGGED (FT.): 2093.0 LOG TYPE:

SOURCE: PEN ILL OC WELL TYPE: Oil and Gas Test

COMMENT:

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



MAPID: 11900715000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 4 QUARTERS/FOOTAGES: 330' N line, 2310' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.666037

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.916971

DATE COLLECTED:

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 420.0

LOG TYPE: Electric Log

SOURCE: SPADE DRILLING CO. Brown 1

WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
212.0	MODESTO	PIASA	LIMESTONE	4.0	378.0	
208.0	MODESTO		SHALE	3.0	382.0	
205.0	CARBONDALE		SHALE	3.0	385.0	
202.0	CARBONDALE		SHALE	3.0	388.0	
199.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	391.0	LOWER BENCH
195.0	CARBONDALE	LAWSON	GRAY SHALE	6.5	395.0	
188.5	CARBONDALE	BRERETON	LIMESTONE	3.5	401.5	
185.0	CARBONDALE	ANNA	SHALE	2.0	405.0	
183.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	13.0	407.0	

MAPID: 11902448000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 4 QUARTERS/FOOTAGES: 34' S line, 59' W line of SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.660498

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.903424

DATE COLLECTED:

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 907.0

LOG TYPE: Drillers Log

SOURCE: SOHIO PETROLEUM CO. 1

WELL TYPE: Coal Test

COMMENT: NO DATE GIVEN, ELECTRIC LOG ENCLOSED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	0.0		OIL TEST E-LOG ONLY

MAPID: 11902448000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 4 QUARTERS/FOOTAGES: 34' S line, 59' W line of SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.660498 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.903424 DATE COLLECTED: 9 / 0 / 1949

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 390.0 LOG TYPE: Electric Log

SOURCE: SOHIO 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
246.0	MODESTO	PIASA	LIMESTONE	3.0	330.0
243.0	MODESTO		UNCLASSIFIED	1.0	333.0
242.0	CARBONDALE		UNCLASSIFIED	2.0	334.0
240.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	336.0
236.0	CARBONDALE	ENERGY	UNCLASSIFIED	47.0	340.0
189.0	CARBONDALE	HERRIN	COAL	3.0	387.0

MAPID: 11923996000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 4 QUARTERS/FOOTAGES: 2130' N line, 60' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.674107 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.911896 DATE COLLECTED: 4 / 25 / 1979

SURFACE ELEVATION (FT.): 597.0 LOGGED (FT.): 480.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-4-2 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
148.0	CARBONDALE	HERRIN	COAL	3.0	449.0

MAPID: 11923996000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 4 QUARTERS/FOOTAGES: 2130' N line, 60' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.674107 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.911896 DATE COLLECTED: 4 / 25 / 1979

SURFACE ELEVATION (FT.): 597.0 LOGGED (FT.): 480.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-4-2 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
597.0			UNCONSOLIDATED	118.0	0.0
479.0	MODESTO	MACOUPIN	LIMESTONE	1.0	118.0
478.0	MODESTO		BLACK SHALE	1.5	119.0
476.5	MODESTO		GRAY SHALE	35.0	120.5
441.5	MODESTO	CARLINVILLE	LIMESTONE	3.5	155.5
438.0	MODESTO		GRAY SHALE	2.0	159.0
436.0	MODESTO		BLACK SHALE	2.0	161.0
434.0	MODESTO		GRAY SHALE	27.5	163.0
406.5	MODESTO	CHAPEL	COAL	1.0	190.5
405.5	MODESTO		GRAY SHALE	41.5	191.5
364.0	MODESTO		CALCAREOUS SHALE	4.0	233.0
360.0	MODESTO		SANDY SHALE	117.0	237.0
243.0	MODESTO		SANDY SHALE	8.0	354.0
235.0	MODESTO		COAL	0.5	362.0
234.5	MODESTO		SANDY SHALE	13.5	362.5
221.0	MODESTO		GRAY SHALE	2.0	376.0
219.0	MODESTO	PIASA	LIMESTONE	6.0	378.0
213.0	MODESTO		BLACK SHALE	3.0	384.0
210.0	MODESTO		GRAY SHALE	7.0	387.0
203.0	MODESTO		LIMESTONE	3.0	394.0
200.0	MODESTO		BLACK SHALE	2.0	397.0
198.0	CARBONDALE		GRAY SHALE	15.0	399.0
183.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	7.5	414.0
175.5	CARBONDALE		BLACK SHALE	2.0	421.5
173.5	CARBONDALE	BRERETON CYCLOTH	LIMESTONE	2.5	423.5
171.0	CARBONDALE	ENERGY	GRAY SHALE	25.0	426.0
146.0	CARBONDALE	HERRIN	COAL	3.0	451.0
143.0	CARBONDALE		GRAY SHALE	26.0	454.0

MAPID: 11900424000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' E line of NE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.675539 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.909539 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 599.6 LOGGED (FT.): 2099.0 LOG TYPE:

SOURCE: CHERRY KID WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
184.6	CARBONDALE	HERRIN	COAL	10.0	415.0

MAPID: 11900424000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' E line of NE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.675539 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.909539 DATE COLLECTED: 8 / 0 / 1940

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 414.0 LOG TYPE: Electric Log

SOURCE: KIDD, BARRON, ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
237.0	MODESTO	PIASA	LIMESTONE	7.0	363.0
230.0	MODESTO		UNCLASSIFIED	5.0	370.0
225.0	CARBONDALE		UNCLASSIFIED	12.0	375.0
213.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	387.0
206.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	394.0
203.0	CARBONDALE	BRERETON	LIMESTONE	8.0	397.0
195.0	CARBONDALE	ANNA	BLACK SHALE	4.0	405.0
191.0	CARBONDALE	HERRIN	COAL	5.0	409.0

MAPID: 11900516000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 5 QUARTERS/FOOTAGES: NE NW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.688297

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.910268

DATE COLLECTED:

SURFACE ELEVATION (FT.): 596.0

LOGGED (FT.): 419.6

LOG TYPE: Survey Core Study

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
215.4	MODESTO	PIASA	LIMESTONE	4.3	380.6	
211.1	MODESTO		BLACK SHALE	0.5	384.9	
210.6	CARBONDALE	DANVILLE	COAL	0.2	385.4	
210.4	CARBONDALE		GRAY SHALE	4.0	385.6	
206.4	CARBONDALE		GRAY SHALE	9.3	389.6	
197.1	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	398.9	UPPER BENCH
195.6	CARBONDALE	BANKSTON FORK	GRAY SHALE	1.5	400.4	SHALE PARTING
194.1	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	401.9	LOWER BENCH
189.6	CARBONDALE	LAWSON	GRAY SHALE	0.9	406.4	
188.7	CARBONDALE	BRERETON	LIMESTONE	1.1	407.3	
187.6	CARBONDALE	ANNA	DARK GRAY SHALE	0.6	408.4	
187.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	10.6	409.0	

MAPID: 11900516000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 5 QUARTERS/FOOTAGES: NE NW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.688297

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.910268

DATE COLLECTED:

SURFACE ELEVATION (FT.): 596.0

LOGGED (FT.): 420.8

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
228.2	MODESTO	PIASA	LIMESTONE	4.4	367.8	
223.8	MODESTO		UNCLASSIFIED	6.0	372.2	
217.8	CARBONDALE		UNCLASSIFIED	13.1	378.2	
204.7	CARBONDALE	BANKSTON FORK	LIMESTONE	9.9	391.3	
194.8	CARBONDALE	ANVIL ROCK	SANDSTONE	0.8	401.2	
194.0	CARBONDALE		SHALE	0.8	402.0	
193.2	CARBONDALE	BRERETON	LIMESTONE	6.5	402.8	
186.7	CARBONDALE	ANNA	BLACK SHALE	3.7	409.3	
183.0	CARBONDALE	HERRIN	COAL	7.8	413.0	

MAPID: 11900542000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 5 QUARTERS/FOOTAGES: 100' S line, 20' E line of SE SW SW  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.688412 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.903216 DATE COLLECTED: 0 / 0 / 1945  
 SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 411.9 LOG TYPE: Drillers Log  
 SOURCE: NO COMPANY DD111 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
224.3	MODESTO	PIASA	LIMESTONE	2.6	370.7
221.7	MODESTO		UNCLASSIFIED	2.7	373.3
219.0	CARBONDALE	DANVILLE	COAL	0.3	376.0
218.7	CARBONDALE		UNCLASSIFIED	9.9	376.3
208.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	386.2
204.6	CARBONDALE	BRERETON	LIMESTONE	7.3	390.4
197.3	CARBONDALE	ENERGY	SHALE	11.3	397.7
186.0	CARBONDALE	HERRIN	COAL	2.9	409.0

MAPID: 11900541000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 6 QUARTERS/FOOTAGES: 2640' N line, 0' W line  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.708168 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.910049 DATE COLLECTED: 0 / 0 / 1945  
 SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 0.0 LOG TYPE: Survey Core Study  
 SOURCE: NO COMPANY DD108 WELL TYPE: Coal Test  
 COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO		GRAY SHALE	52.8	
-	CARBONDALE	DANVILLE	COAL	0.2	
-	CARBONDALE		GRAY SHALE	9.6	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	1.2	UPPER BENCH
-	CARBONDALE	BANKSTON FORK	SHALE	0.4	SHALE PARTING
-	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	LOWER BENCH
-	CARBONDALE	ENERGY	GRAY SHALE	64.4	

MAPID: 11900541000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 6 QUARTERS/FOOTAGES: 2640' N line, 0' W line  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.708168 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.910049 DATE COLLECTED: 0 / 0 / 1945  
 SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 0.0 LOG TYPE: Drillers Log  
 SOURCE: NO COMPANY DD108 WELL TYPE: Coal Test  
 COMMENT:

MAPID: 11900717000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.6994 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.901923 DATE COLLECTED: 6 / 0 / 1931

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: EVERHART J WILLIAM WELL TYPE: Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	4.0	
-	MODESTO		UNCLASSIFIED	4.5	
-	CARBONDALE		UNCLASSIFIED	10.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	27.0	
-	CARBONDALE	HERRIN	COAL	4.0	

MAPID: 11900718000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.677838 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.894827 DATE COLLECTED: 6 / 0 / 1946

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 369.5 LOG TYPE: Electric Log

SOURCE: JARVIS BROS-MARCELL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
267.5	MODESTO	PIASA	LIMESTONE	3.5	321.5
264.0	MODESTO		UNCLASSIFIED	2.5	325.0
261.5	CARBONDALE		UNCLASSIFIED	7.0	327.5
254.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	334.5
250.5	CARBONDALE	ENERGY	UNCLASSIFIED	26.5	338.5
224.0	CARBONDALE	HERRIN	COAL	4.5	365.0

MAPID: 11900719000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 9 QUARTERS/FOOTAGES: 2310' S line, 2310' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.663993 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.894897 DATE COLLECTED: 6 / 0 / 1951

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: EVERHART J WILLIAM 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	2.5	
-	CARBONDALE		UNCLASSIFIED	7.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	6.0	
-	CARBONDALE		UNCLASSIFIED	3.0	
-	CARBONDALE	BRERETON	LIMESTONE	4.0	

MAPID: 11900719000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 9 QUARTERS/FOOTAGES: 2310' S line, 2310' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.663993 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.894897 DATE COLLECTED:

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 567.5 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
251.0	MODESTO	PIASA	LIMESTONE	9.0	322.0
242.0	MODESTO		SHALE	5.0	331.0
237.0	CARBONDALE		SHALE	5.0	336.0
232.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	341.0
229.0	CARBONDALE	LAWSON	SHALE	1.5	344.0
228.0	CARBONDALE	BRERETON	LIMESTONE	3.5	345.0
225.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	24.0	348.0
201.0	CARBONDALE	ENERGY	SANDSTONE	40.0	372.0
161.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	50.0	412.0
111.0	CARBONDALE	ENERGY	SANDSTONE	94.0	462.0



MAPID: 11900720000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 9 QUARTERS/FOOTAGES: 1650' N line, 1650' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.668619 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.898675 DATE COLLECTED: 6 / 0 / 1953

SURFACE ELEVATION (FT.): 577.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: MCDANIEL, ROBERT H. 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	3.5	
-	CARBONDALE	DANVILLE	COAL	0.5	
-	CARBONDALE		UNCLASSIFIED	6.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	
-	CARBONDALE		UNCLASSIFIED	2.5	
-	CARBONDALE	BRERETON	LIMESTONE	4.0	

MAPID: 11900720000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 9 QUARTERS/FOOTAGES: 1650' N line, 1650' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.668619 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.898675 DATE COLLECTED:

SURFACE ELEVATION (FT.): 577.0 LOGGED (FT.): 452.0 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
239.0	MODESTO	PIASA	LIMESTONE	7.0	338.0
232.0	MODESTO		SHALE	4.0	345.0
228.0	CARBONDALE	DANVILLE	COAL	1.0	349.0
227.0	CARBONDALE		SHALE	5.0	350.0
222.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	355.0
218.0	CARBONDALE	LAWSON	SHALE	6.0	359.0
212.0	CARBONDALE	BRERETON	LIMESTONE	3.0	365.0
209.0	CARBONDALE	ENERGY	SHALE	11.0	368.0
198.0	CARBONDALE	ENERGY	SANDSTONE	25.0	379.0
173.0	CARBONDALE	ENERGY	SHALE	18.0	404.0
155.0	CARBONDALE	ENERGY	SANDSTONE	24.0	422.0

MAPID: 11900721000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.649853 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.882266 DATE COLLECTED: 12 / 0 / 1947

SURFACE ELEVATION (FT.): 567.0 LOGGED (FT.): 357.0 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	OVERBURDEN COMMENT
254.0	MODESTO	PIASA	LIMESTONE	7.0	313.0
247.0	MODESTO		UNCLASSIFIED	3.0	320.0
244.0	CARBONDALE		UNCLASSIFIED	8.0	323.0
236.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	331.0
231.0	CARBONDALE	ENERGY	UNCLASSIFIED	16.0	336.0
215.0	CARBONDALE	HERRIN	COAL	5.0	352.0

MAPID: 11900722000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 17 QUARTERS/FOOTAGES: 1650' S line, 330' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.675327 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.878261 DATE COLLECTED: 10 / 0 / 1952

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A 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	10.0	

MAPID: 11900722000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 17 QUARTERS/FOOTAGES: 1650' S line, 330' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.675327 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.878261 DATE COLLECTED:

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 489.0 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
313.0	MODESTO	PIASA	LIMESTONE	4.0	260.0
309.0	MODESTO		SHALE	6.0	264.0
303.0	CARBONDALE		SHALE	6.0	270.0
297.0	CARBONDALE		SHALE	6.0	276.0
291.0	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	282.0
279.0	CARBONDALE	ENERGY	GRAY SHALE	45.0	294.0
234.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	60.0	339.0
174.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	90.0	399.0

MAPID: 11900537000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 18 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693867 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.883697 DATE COLLECTED: 7 / 0 / 1947

SURFACE ELEVATION (FT.): 586.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. 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	3.0	
-	CARBONDALE		UNCLASSIFIED	8.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	

MAPID: 11900537000C VERSION: 3

PROJECT: CONTROL

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 18 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693867 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 38.883697 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 2755.0 LOG TYPE: Survey Sample Study

SOURCE: TEXACO, INC. 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: 11901534000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 18 QUARTERS/FOOTAGES: 1820' N line, 820' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.695593 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.883261 DATE COLLECTED: 7 / 0 / 1947

SURFACE ELEVATION (FT.): 586.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL 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	3.0	
-	CARBONDALE		UNCLASSIFIED	9.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	

MAPID: 11901534000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 18 QUARTERS/FOOTAGES: 1820' N line, 820' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.695593 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.883261 DATE COLLECTED:

SURFACE ELEVATION (FT.): 586.0 LOGGED (FT.): 437.0 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
273.0	MODESTO	PIASA	LIMESTONE	4.0	313.0
269.0	MODESTO		SHALE	4.0	317.0
265.0	CARBONDALE		SHALE	4.0	321.0
261.0	CARBONDALE		SHALE	4.0	325.0
257.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	329.0
251.0	CARBONDALE	ENERGY	GRAY SHALE	36.0	335.0
215.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	66.0	371.0

MAPID: 11900572000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SE

QUADRANGLE: GRANTFORK LONGITUDE: -89.696004 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.863485 DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: JET 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	10.5	
-	MODESTO		UNCLASSIFIED	6.5	
-	CARBONDALE	DANVILLE	COAL	1.5	
-	CARBONDALE		UNCLASSIFIED	8.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11900616000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW

QUADRANGLE: GRANTFORK LONGITUDE: -89.684517 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.872719 DATE COLLECTED: 5 / 0 / 1956

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: SKILES OIL CORP 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	5.0	

MAPID: 11900631000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SE

QUADRANGLE: GRANTFORK LONGITUDE: -89.677513 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.865445 DATE COLLECTED: 11 / 0 / 1956

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 0.0 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	4.5	
-	MODESTO		UNCLASSIFIED	4.5	
-	CARBONDALE	DANVILLE	COAL	0.5	
-	CARBONDALE		UNCLASSIFIED	12.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	
-	CARBONDALE		UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	5.5	

MAPID: 11900723000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 20 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.682229 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.867271 DATE COLLECTED: 10 / 0 / 1945

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL 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	3.0	
-	CARBONDALE		UNCLASSIFIED	10.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	

MAPID: 11900723000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 20 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.682229 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.867271 DATE COLLECTED:

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 455.0 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
297.0	MODESTO	PIASA	LIMESTONE	4.0	274.0
293.0	MODESTO		SHALE	5.0	278.0
288.0	CARBONDALE		SHALE	4.0	283.0
284.0	CARBONDALE		SHALE	4.0	287.0
280.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	291.0
276.0	CARBONDALE	LAWSON	GRAY SHALE	16.0	295.0
260.0	CARBONDALE	ENERGY	GRAY SHALE	34.0	311.0
226.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	20.0	345.0
206.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	90.0	365.0

MAPID: 11901535000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 20 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.675201 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.859952 DATE COLLECTED: 4 / 0 / 1946

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD 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	8.5	
-	CARBONDALE	DANVILLE	COAL	1.0	
-	CARBONDALE		UNCLASSIFIED	15.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	

MAPID: 11900725000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 21 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.668229 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.863667 DATE COLLECTED: 11 / 0 / 1945

SURFACE ELEVATION (FT.): 559.0 LOGGED (FT.): 328.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
276.0	MODESTO	PIASA	LIMESTONE	7.0	283.0
269.0	MODESTO		UNCLASSIFIED	4.0	290.0
265.0	CARBONDALE		UNCLASSIFIED	13.0	294.0
252.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	307.0
247.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	312.0
244.0	CARBONDALE		UNCLASSIFIED	1.0	315.0
243.0	CARBONDALE	BRERETON	LIMESTONE	4.0	316.0
239.0	CARBONDALE	ANNA	BLACK SHALE	4.0	320.0
235.0	CARBONDALE	HERRIN	COAL	4.0	324.0

MAPID: 11900725000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 21 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.668229 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.863667 DATE COLLECTED:

SURFACE ELEVATION (FT.): 559.0 LOGGED (FT.): 379.5 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
273.0	MODESTO	PIASA	LIMESTONE	6.0	286.0
267.0	MODESTO		SHALE	4.5	292.0
263.0	CARBONDALE		SHALE	5.0	296.0
258.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	301.0
253.0	CARBONDALE	LAWSON	SHALE	10.5	306.0
243.0	CARBONDALE	LAWSON	SANDSTONE	4.0	316.0
239.0	CARBONDALE		SHALE	5.0	320.0
234.0	CARBONDALE	BRERETON	LIMESTONE	3.0	325.0
231.0	CARBONDALE	ENERGY	SILTY SHALE	33.0	328.0

MAPID: 11924124000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 22 QUARTERS/FOOTAGES: 1300' S line, 250' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.637708 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.863039 DATE COLLECTED: 9 / 25 / 1979

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 355.0 LOG TYPE: Other Core Study

SOURCE: CARTER OIL 1B-508 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
208.3	CARBONDALE	HERRIN	COAL	2.9	336.7
205.4	CARBONDALE	HERRIN	CLAY & COAL	0.4	339.6
205.0	CARBONDALE	HERRIN	COAL	0.4	340.0
204.7	CARBONDALE	HERRIN	COAL	3.4	340.3
201.2	CARBONDALE	HERRIN	CLAYSTONE	0.5	343.8
200.7	CARBONDALE	HERRIN	COAL	1.1	344.3



MAPID: 11924133000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 22 QUARTERS/FOOTAGES: 35' N line, 15' W line of NW NW NE

QUADRANGLE: GRANTFORK LONGITUDE: -89.646273 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.874 DATE COLLECTED: 8 / 14 / 1979

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 386.4 LOG TYPE: Other Core Study

SOURCE: CARTER OIL 1B-502 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
213.3	CARBONDALE	HERRIN	COAL	4.7	346.7	
208.6	CARBONDALE	HERRIN	CLAYSTONE & SHALE	3.9	351.4	SOME COAL LAMS & SPARS
204.7	CARBONDALE	HERRIN	COAL	1.1	355.3	

MAPID: 11926199000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 22 QUARTERS/FOOTAGES: SE NE SW NE

QUADRANGLE: GRANTFORK LONGITUDE: -89.642032 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.868947 DATE COLLECTED: 6 / 15 / 1981

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 372.0 LOG TYPE: Other Core Study

SOURCE: EXXON COAL RESOURCES 1B-529-2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
211.3	CARBONDALE	HERRIN	COAL	3.2	341.7	
208.1	CARBONDALE	HERRIN	SHALY COAL	0.2	344.9	70% COAL
207.9	CARBONDALE	HERRIN	COAL	2.1	345.1	
205.8	CARBONDALE	HERRIN	SHALE W/ COAL STREAKS	2.0	347.2	10% COAL
203.9	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	0.6	349.1	
203.3	CARBONDALE	HERRIN	COAL	1.7	349.7	

MAPID: 11926200000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 22 QUARTERS/FOOTAGES: SE NE SW NE

QUADRANGLE: GRANTFORK LONGITUDE: -89.642032 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.868947 DATE COLLECTED: 6 / 10 / 1981

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 362.0 LOG TYPE: Other Core Study

SOURCE: EXXON COAL RESOURCES 1B-529 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
211.1	CARBONDALE	HERRIN	COAL	5.1	341.9	
206.0	CARBONDALE	HERRIN	SHALE W/ COAL STREAKS	2.0	347.0	SHALE W/COAL STRKS, 15% COAL
204.0	CARBONDALE	HERRIN	CLAYSTONE	0.2	349.0	
203.8	CARBONDALE	HERRIN	COAL	1.4	349.2	
202.4	CARBONDALE	HERRIN	CORE LOSS	1.4	350.6	
201.0	CARBONDALE	HERRIN	COAL	0.6	352.0	

MAPID: 11900811000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 23 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.621591 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.864189 DATE COLLECTED: 11 / 0 / 1957

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 353.0 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	OVERBURDEN COMMENT
241.0	MODESTO	PIASA	LIMESTONE	6.0	305.0
235.0	MODESTO		UNCLASSIFIED	6.0	311.0
229.0	CARBONDALE	DANVILLE	COAL	1.0	317.0
228.0	CARBONDALE		UNCLASSIFIED	16.0	318.0
212.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	334.0
207.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	339.0
205.5	CARBONDALE		UNCLASSIFIED	0.5	340.5
205.0	CARBONDALE	BRERETON	LIMESTONE	3.0	341.0
202.0	CARBONDALE	ANNA	BLACK SHALE	3.0	344.0
199.0	CARBONDALE	HERRIN	COAL	6.0	347.0

MAPID: 11900811000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 23 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.621591 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.864189 DATE COLLECTED:

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 351.0 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
242.0	MODESTO	PIASA	LIMESTONE	4.5	304.0
237.5	MODESTO		SHALE	6.0	308.5
231.5	CARBONDALE	DANVILLE	COAL	0.5	314.5
231.0	CARBONDALE		SHALE	6.0	315.0
225.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	321.0
222.0	CARBONDALE	LAWSON	SHALE	7.5	324.0
214.5	CARBONDALE	LAWSON	SANDSTONE	7.0	331.5
207.5	CARBONDALE		SHALE	1.0	338.5
206.5	CARBONDALE	BRERETON	LIMESTONE	3.0	339.5
203.5	CARBONDALE	ANNA	SHALE	3.5	342.5
200.0	CARBONDALE	HERRIN	COAL	5.0	346.0

MAPID: 11900727000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 24 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.609911 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.862478 DATE COLLECTED: 12 / 0 / 1951

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 343.0 LOG TYPE: Electric Log

SOURCE: EVERHART J WILLIAM WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
249.0	MODESTO	PIASA	LIMESTONE	5.5	294.0
243.5	MODESTO		UNCLASSIFIED	7.0	299.5
236.5	CARBONDALE		UNCLASSIFIED	17.5	306.5
219.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	324.0
214.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	329.0
213.0	CARBONDALE		UNCLASSIFIED	0.5	330.0
212.5	CARBONDALE	BRERETON	LIMESTONE	3.5	330.5
209.0	CARBONDALE	ANNA	BLACK SHALE	2.0	334.0
207.0	CARBONDALE	HERRIN	COAL	7.0	336.0

MAPID: 11900727000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 24 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.609911 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.862478 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 343.5 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
248.5	MODESTO	PIASA	LIMESTONE	4.5	294.5
244.0	MODESTO		SHALE	6.0	299.0
238.0	CARBONDALE	DANVILLE	COAL	0.5	305.0
237.5	CARBONDALE		SHALE	5.0	305.5
232.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	310.5
231.0	CARBONDALE	LAWSON	SHALE	13.0	312.0
218.0	CARBONDALE	LAWSON	SANDSTONE	4.5	325.0
213.5	CARBONDALE		SHALE	2.0	329.5
211.5	CARBONDALE	BRERETON	LIMESTONE	3.0	331.5
208.5	CARBONDALE	ANNA	SHALE	2.5	334.5
206.0	CARBONDALE	HERRIN	COAL	6.5	337.0

**MAPID:** 11923365000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 5N 5W    **SECTION:** 24    **QUARTERS/FOOTAGES:** 132' N line, 29' E line of NW  
**QUADRANGLE:** POCAHONTAS    **LONGITUDE:** -89.609021    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.874038    **DATE COLLECTED:** 6 / 10 / 1974  
**SURFACE ELEVATION (FT.):** 540.0    **LOGGED (FT.):** 417.6    **LOG TYPE:** Other Core Study  
**SOURCE:** CARTER OIL COMPANY    1B-821    **WELL TYPE:** Coal Test  
**COMMENT:** "COMPANY SAMPLE STUDY INCLUDED"

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
175.8	CARBONDALE	HERRIN	COAL	6.7	364.2	REMOVED BY CO.

**MAPID:** 11923365000C    **VERSION:** 2    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 5N 5W    **SECTION:** 24    **QUARTERS/FOOTAGES:** 132' N line, 29' E line of NW  
**QUADRANGLE:** POCAHONTAS    **LONGITUDE:** -89.609021    **GEOLOGIST:** E. PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.874038    **DATE COLLECTED:** 4 / 23 / 1974  
**SURFACE ELEVATION (FT.):** 540.0    **LOGGED (FT.):** 417.6    **LOG TYPE:** Other Core Study  
**SOURCE:** CARTER OIL    1B-821    **WELL TYPE:** Coal Test  
**COMMENT:** COMP. THINKS #7 COAL REPEATED-SEE LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
175.8	CARBONDALE	HERRIN	COAL	6.3	364.2	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.4		TOTAL IN-SEAM PARTINGS-SEE LOG

**MAPID:** 11926201000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 5N 5W    **SECTION:** 24    **QUARTERS/FOOTAGES:** SW NW SW SE  
**QUADRANGLE:** POCAHONTAS    **LONGITUDE:** -89.608655    **GEOLOGIST:** E. PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.861184    **DATE COLLECTED:** 6 / 1 / 1981  
**SURFACE ELEVATION (FT.):** 542.0    **LOGGED (FT.):** 357.0    **LOG TYPE:** Other Core Study  
**SOURCE:** EXXON COAL RESOURCES    IB-525    **WELL TYPE:** Coal Test  
**COMMENT:** NOTES SAY 4W, MUST BE 5W FOR MADISON CO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
212.2	CARBONDALE	HERRIN	COAL	7.1	329.8	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.1		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926202000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 24 QUARTERS/FOOTAGES: 56' S line, 60' W line  
 QUADRANGLE: POCAHONTAS LONGITUDE: -89.617809 GEOLOGIST: E. PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.859831 DATE COLLECTED: 7 / 23 / 1974  
 SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 360.0 LOG TYPE: Other Core Study  
 SOURCE: CARTER OIL 1B-853 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
212.2	CARBONDALE	HERRIN	COAL	7.0	332.8	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.4		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926203000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 24 QUARTERS/FOOTAGES: 130' N line, 40' E line  
 QUADRANGLE: POCAHONTAS LONGITUDE: -89.599708 GEOLOGIST: E. PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.874099 DATE COLLECTED: 11 / 26 / 1968  
 SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 366.0 LOG TYPE: Other Core Study  
 SOURCE: CARTER OIL WF-203 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
191.4	CARBONDALE	HERRIN	COAL	7.8	353.6	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.2		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926204000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 24 QUARTERS/FOOTAGES: 88' N line, 22' W line of NW NW NW  
 QUADRANGLE: POCAHONTAS LONGITUDE: -89.618189 GEOLOGIST: E. PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.874103 DATE COLLECTED: 7 / 23 / 1969  
 SURFACE ELEVATION (FT.): 548.0 LOGGED (FT.): 396.0 LOG TYPE: Other Core Study  
 SOURCE: CARTER OIL WF-244 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
169.3	CARBONDALE	HERRIN	COAL	7.2	378.7	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.2		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900587000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 25 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SE NE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.602867 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.853393 DATE COLLECTED: 12 / 0 / 1955

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 338.0 LOG TYPE: Electric Log

SOURCE: WEDER HERBERT R WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
256.5	MODESTO	PIASA	LIMESTONE	6.0	287.5
250.5	MODESTO		UNCLASSIFIED	5.5	293.5
245.0	CARBONDALE		UNCLASSIFIED	15.0	299.0
230.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	314.0
226.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	318.0
224.0	CARBONDALE		UNCLASSIFIED	1.0	320.0
223.0	CARBONDALE	BRERETON	LIMESTONE	6.0	321.0
217.0	CARBONDALE	ANNA	BLACK SHALE	4.0	327.0
213.0	CARBONDALE	HERRIN	COAL	7.0	331.0

MAPID: 11900726000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 25 QUARTERS/FOOTAGES: 2470' S line, 1650' E line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.605181 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.851933 DATE COLLECTED:

SURFACE ELEVATION (FT.): 547.0 LOGGED (FT.): 344.0 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
250.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	297.0
247.0	MODESTO		SHALE	6.5	300.0
240.5	CARBONDALE	DANVILLE	COAL	0.5	306.5
240.0	CARBONDALE		SHALE	7.0	307.0
233.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	314.0
231.0	CARBONDALE	LAWSON	SHALE	10.0	316.0
221.0	CARBONDALE	LAWSON	SANDSTONE	4.0	326.0
217.0	CARBONDALE		SHALE	2.0	330.0
215.0	CARBONDALE	BRERETON	LIMESTONE	2.5	332.0
212.5	CARBONDALE	ANNA	BLACK SHALE	3.5	334.5
209.0	CARBONDALE	HERRIN	COAL	6.0	338.0

MAPID: 11901079000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 25 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.605255 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.858874 DATE COLLECTED: 8 / 0 / 1962

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J. 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	6.0
-	MODESTO		UNCLASSIFIED	5.0
-	CARBONDALE		UNCLASSIFIED	19.0
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0
-	CARBONDALE		UNCLASSIFIED	1.0
-	CARBONDALE	BRERETON	LIMESTONE	3.0
-	CARBONDALE	ANNA	BLACK SHALE	3.0
-	CARBONDALE	HERRIN	COAL	6.0

MAPID: 11901141000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 25 QUARTERS/FOOTAGES: 405' N line, 330' W line of NW NE NE

QUADRANGLE: POCAHONTAS

LONGITUDE: -89.602924

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.858688

DATE COLLECTED: 4 / 7 / 1964

SURFACE ELEVATION (FT.): 538.0

LOGGED (FT.): 657.0

LOG TYPE: Drillers Log

SOURCE: JOHN T. MITCHELL 1

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
538.0			UNCONSOLIDATED	1.0	0.0	SOIL
537.0			CLAY	17.0	1.0	
520.0			CLAY	4.0	18.0	
516.0			UNCLASSIFIED	2.0	22.0	
514.0			GRAY SHALE	16.0	24.0	
498.0			LIMESTONE	5.0	40.0	
493.0			GRAY SHALE	110.0	45.0	
383.0			SANDY SHALE	15.0	155.0	
368.0			SANDSTONE	5.0	170.0	
363.0			SANDSTONE	31.0	175.0	
332.0			LIMESTONE	6.0	206.0	
326.0			GRAY SHALE	6.0	212.0	
320.0			SANDY SHALE	32.0	218.0	
288.0			LIMESTONE	4.0	250.0	
284.0			GRAY SHALE	27.0	254.0	
257.0			COAL	2.0	281.0	
255.0			GRAY SHALE	9.0	283.0	
246.0			LIMESTONE	6.0	292.0	
240.0			GRAY SHALE	3.0	298.0	
237.0			LIMESTONE	6.0	301.0	
231.0			COAL	2.0	307.0	
229.0			GRAY SHALE	2.0	309.0	
227.0			COAL	1.0	311.0	
226.0			GRAY SHALE	58.0	312.0	
168.0			GRAY SHALE	60.0	370.0	
108.0			BLACK SHALE	8.0	430.0	
100.0			GRAY SHALE	4.0	438.0	
96.0			LIMESTONE	5.0	442.0	
91.0			GRAY SHALE	18.0	447.0	
73.0			SHALE	10.0	465.0	
63.0			GRAY SHALE	4.0	475.0	
59.0			LIMESTONE	1.0	479.0	
58.0			GRAY SHALE	4.0	480.0	
54.0			SHALE	6.0	484.0	
48.0			GRAY SHALE	4.0	490.0	
44.0			SANDSTONE	14.0	494.0	
30.0			GRAY SHALE	6.0	508.0	
24.0			SANDY SHALE	18.0	514.0	
6.0			SANDSTONE	16.0	532.0	



-10.0	BLACK SHALE	10.0	548.0
-20.0	GRAY SHALE	52.0	558.0
-72.0	DARK GRAY SHALE	35.0	610.0
-107.0	SANDSTONE	12.0	645.0

**MAPID:** 11926205000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 5N 5W    **SECTION:** 25    **QUARTERS/FOOTAGES:** 78' N line, 658' E line of NE NW  
**QUADRANGLE:** POCAHONTAS    **LONGITUDE:** -89.611061    **GEOLOGIST:** E. PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.85952    **DATE COLLECTED:** 8 / 12 / 1969  
**SURFACE ELEVATION (FT.):** 536.1    **LOGGED (FT.):** 345.3    **LOG TYPE:** Other Core Study  
**SOURCE:** CARTER OIL    WF-255    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
208.2	CARBONDALE	HERRIN	COAL	7.2	327.9	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.2		TOTAL IN-SEAM PARTINGS, SEE LOG

**MAPID:** 11926219000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 5N 5W    **SECTION:** 25    **QUARTERS/FOOTAGES:** SE NE NW SE  
**QUADRANGLE:** POCAHONTAS    **LONGITUDE:** -89.604594    **GEOLOGIST:** E. PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.851078    **DATE COLLECTED:** 5 / 27 / 1981  
**SURFACE ELEVATION (FT.):** 542.0    **LOGGED (FT.):** 360.4    **LOG TYPE:** Other Core Study  
**SOURCE:** EXXON COAL RESOURCES    IB-523    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
208.4	CARBONDALE	HERRIN	COAL	6.9	333.6	CLEAN COAL-SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.1		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900577000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.628622 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.858643 DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: JET OIL CO. WELL TYPE: Producer-Gas

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0	
-	MODESTO		UNCLASSIFIED	5.0	
-	CARBONDALE	DANVILLE	COAL	1.0	
-	CARBONDALE		UNCLASSIFIED	16.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	
-	CARBONDALE		UNCLASSIFIED	0.5	
-	CARBONDALE	BRERETON	LIMESTONE	3.0	
-	CARBONDALE	ANNA	BLACK SHALE	3.5	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11900577000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.628622 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.858643 DATE COLLECTED:

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 317.5 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
278.0	MODESTO	PIASA	LIMESTONE	6.0	264.0
272.0	MODESTO		SHALE	6.0	270.0
266.0	CARBONDALE	DANVILLE	COAL	0.5	276.0
265.5	CARBONDALE		SHALE	5.0	276.5
260.5	CARBONDALE		SHALE	4.0	281.5
256.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	285.5
252.5	CARBONDALE	LAWSON	SHALE	9.0	289.5
243.5	CARBONDALE	LAWSON	SANDSTONE	5.0	298.5
238.5	CARBONDALE		SHALE	2.5	303.5
236.0	CARBONDALE	BRERETON	LIMESTONE	2.0	306.0
234.0	CARBONDALE	ANNA	BLACK SHALE	4.0	308.0
230.0	CARBONDALE	HERRIN	COAL	5.5	312.0

MAPID: 11926206000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 26 QUARTERS/FOOTAGES: 91' N line, 26' W line of NE NE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.622617 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.85937 DATE COLLECTED: 4 / 28 / 1969

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 336.3 LOG TYPE: Other Core Study

SOURCE: CARTER OIL WF-214 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
222.1	CARBONDALE	HERRIN	COAL	7.5	317.9	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.1		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926207000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 26 QUARTERS/FOOTAGES: NE NE NE SW

QUADRANGLE: GRANTFORK LONGITUDE: -89.62748 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.852077 DATE COLLECTED: 5 / 20 / 1981

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 357.3 LOG TYPE: Other Core Study

SOURCE: EXXON COAL RESOURCES IB-520 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
211.4	CARBONDALE	HERRIN	COAL	6.9	330.6	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.3		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926208000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 26 QUARTERS/FOOTAGES: 19' S line, 79' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.636335 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.844922 DATE COLLECTED: 10 / 17 / 1977

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 333.4 LOG TYPE: Other Core Study

SOURCE: CARTER OIL IB-968 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
213.3	CARBONDALE	HERRIN	COAL	7.1	316.7	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.7		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926209000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON

TWP/RNG: 5N 5W

SECTION: 27

QUARTERS/FOOTAGES: NE NE SW NW

QUADRANGLE: GRANTFORK

LONGITUDE: -89.650877

GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N

LATITUDE: 38.855475

DATE COLLECTED: 5 / 20 / 1981

SURFACE ELEVATION (FT.): 552.0

LOGGED (FT.): 381.0

LOG TYPE: Other Core Study

SOURCE: EXXON COAL RESOURCES

IB-521

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
200.5	CARBONDALE	HERRIN	COAL	5.1	351.5	
195.4	CARBONDALE	HERRIN	SHALE & CLAYSTONE	1.3	356.6	CAOL SHALE & CLYST W/ 10% COAL STREAKS
194.1	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	1.2	357.9	
192.9	CARBONDALE	HERRIN	COAL	1.6	359.1	

MAPID: 11926210000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON

TWP/RNG: 5N 5W

SECTION: 27

QUARTERS/FOOTAGES: 60' N line, 40' E line of NE SE SE

QUADRANGLE: GRANTFORK

LONGITUDE: -89.636794

GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N

LATITUDE: 38.84835

DATE COLLECTED: 8 / 3 / 1967

SURFACE ELEVATION (FT.): 518.0

LOGGED (FT.): 316.8

LOG TYPE: Other Core Study

SOURCE: CARTER OIL WF-38

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
212.3	CARBONDALE	HERRIN	COAL	6.9	305.7	
205.4	CARBONDALE	HERRIN	SHALY COAL	0.6	312.6	0.1' COAL IN THIS INTERVAL
204.9	CARBONDALE	HERRIN	COAL	1.3	313.1	

MAPID: 11926211000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON

TWP/RNG: 5N 5W

SECTION: 27

QUARTERS/FOOTAGES: 21' S line, 58' W line of SE SW

QUADRANGLE: GRANTFORK

LONGITUDE: -89.650406

GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N

LATITUDE: 38.844772

DATE COLLECTED: 10 / 27 / 1977

SURFACE ELEVATION (FT.): 532.0

LOGGED (FT.): 346.4

LOG TYPE: Other Core Study

SOURCE: CARTER OIL IB-970

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
210.7	CARBONDALE	HERRIN	COAL	5.9	321.3	
204.9	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	1.6	327.1	
203.3	CARBONDALE	HERRIN	COAL	1.4	328.7	

MAPID: 11926212000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 27 QUARTERS/FOOTAGES: 50' N line, 75' W line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.655203 GEOLOGIST: E. PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.859121 DATE COLLECTED: 10 / 31 / 1977  
 SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 384.0 LOG TYPE: Other Core Study  
 SOURCE: CARTER OIL IB-971 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
201.4	CARBONDALE	HERRIN	COAL	5.6	351.6
195.8	CARBONDALE	HERRIN	ROCK	3.7	357.2
192.1	CARBONDALE	HERRIN	COAL	1.5	360.9

MAPID: 11900728000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 28 QUARTERS/FOOTAGES: 1650' N line, 1650' W line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.668165 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.854557 DATE COLLECTED: 1 / 0 / 1946  
 SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 327.0 LOG TYPE: Electric Log  
 SOURCE: OBERING ERNEST A WELL TYPE: Dry Hole  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
273.0	MODESTO	PIASA	LIMESTONE	3.0	283.0
270.0	MODESTO		UNCLASSIFIED	5.0	286.0
265.0	CARBONDALE	DANVILLE	COAL	2.0	291.0
263.0	CARBONDALE		UNCLASSIFIED	14.0	293.0
249.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	307.0
243.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	312.5
241.0	CARBONDALE		UNCLASSIFIED	1.0	315.0
240.0	CARBONDALE	BRERETON	LIMESTONE	3.0	316.0
237.0	CARBONDALE	ANNA	BLACK SHALE	3.0	319.0
234.0	CARBONDALE	HERRIN	COAL	5.0	322.0

MAPID: 11900728000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 28 QUARTERS/FOOTAGES: 1650' N line, 1650' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.668165 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.854557 DATE COLLECTED:

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 328.0 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
273.5	MODESTO	PIASA	LIMESTONE	4.0	282.5
269.5	MODESTO		SHALE	6.0	286.5
263.5	CARBONDALE	DANVILLE	COAL	0.5	292.5
263.0	CARBONDALE		SHALE	7.5	293.0
255.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	300.5
251.5	CARBONDALE	LAWSON	SHALE	5.0	304.5
246.5	CARBONDALE	LAWSON	SANDSTONE	5.5	309.5
241.0	CARBONDALE		SHALE	1.5	315.0
239.5	CARBONDALE	BRERETON	LIMESTONE	1.5	316.5
238.0	CARBONDALE	ANNA	SHALE	4.0	318.0
234.0	CARBONDALE	HERRIN	COAL	6.0	322.0

MAPID: 11900729000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 29 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: GRANTFORK LONGITUDE: -89.682046 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.852633 DATE COLLECTED: 6 / 0 / 1949

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 326.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
282.0	MODESTO	PIASA	LIMESTONE	4.0	274.0
278.0	MODESTO		UNCLASSIFIED	6.0	278.0
272.0	CARBONDALE	DANVILLE	COAL	2.0	284.0
270.0	CARBONDALE		UNCLASSIFIED	12.0	286.0
258.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	298.0
254.0	CARBONDALE	ENERGY	UNCLASSIFIED	20.0	302.0
234.0	CARBONDALE	HERRIN	COAL	4.0	322.0

MAPID: 11900731000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' E line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.675189 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.85813 DATE COLLECTED: 1 / 0 / 1943  
 SURFACE ELEVATION (FT.): 557.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: KINGWOOD 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	7.0	
-	MODESTO		UNCLASSIFIED	9.0	
-	CARBONDALE	DANVILLE	COAL	2.0	
-	CARBONDALE		UNCLASSIFIED	13.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	

MAPID: 11900334000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 33 QUARTERS/FOOTAGES: 1665' S line, 1665' E line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.660928 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.83459 DATE COLLECTED: 0 / 0 / 1924  
 SURFACE ELEVATION (FT.): 536.0 LOGGED (FT.): 1015.0 LOG TYPE:  
 SOURCE: OHIO OIL WELL TYPE: Oil and Gas Test  
 COMMENT:

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

MAPID: 11900730000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 990' E line  
 QUADRANGLE: GRANTFORK LONGITUDE: -89.658749 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.843723 DATE COLLECTED: 1 / 0 / 1949  
 SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 344.5 LOG TYPE: Electric Log  
 SOURCE: REWARD & ASHLAND OIL WELL TYPE: Dry Hole  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
251.0	MODESTO	PIASA	LIMESTONE	7.0	292.0
244.0	MODESTO		UNCLASSIFIED	5.0	299.0
239.0	CARBONDALE	DANVILLE	COAL	1.0	304.0
238.0	CARBONDALE		UNCLASSIFIED	17.0	305.0
221.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	322.0
214.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	328.5
212.5	CARBONDALE	BRERETON	LIMESTONE	3.0	330.5
209.5	CARBONDALE	ANNA	BLACK SHALE	4.5	333.5
205.0	CARBONDALE	HERRIN	COAL	6.5	338.0

MAPID: 11900730000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.658749 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.843723 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 344.0 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
256.0	MODESTO	PIASA	LIMESTONE	7.5	287.0
248.5	MODESTO		SHALE	4.0	294.5
244.5	CARBONDALE	DANVILLE	COAL	0.5	298.5
244.0	CARBONDALE		SHALE	7.0	299.0
237.0	CARBONDALE		SHALE	4.0	306.0
233.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	310.0
230.0	CARBONDALE	LAWSON	SHALE	8.0	313.0
222.0	CARBONDALE	LAWSON	SANDSTONE	7.0	321.0
215.0	CARBONDALE		SHALE	2.0	328.0
213.0	CARBONDALE	BRERETON	LIMESTONE	2.0	330.0
211.0	CARBONDALE	ANNA	SHALE	4.0	332.0
207.0	CARBONDALE	HERRIN	COAL	8.0	336.0

MAPID: 11924126000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 33 QUARTERS/FOOTAGES: 2550' S line, 100' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.655459 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.837071 DATE COLLECTED: 9 / 21 / 1979

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 321.5 LOG TYPE: Other Core Study

SOURCE: CARTER OIL IB-507 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
221.7	CARBONDALE	HERRIN	COAL	5.0	303.3
216.7	CARBONDALE	HERRIN	CLAY & COAL	0.7	308.3 50/50
216.0	CARBONDALE	HERRIN	CLAYSTONE	3.3	309.0
212.7	CARBONDALE	HERRIN	COAL	1.5	312.3



MAPID: 11924134000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 33 QUARTERS/FOOTAGES: 195' N line, 100' W line of NW NE NW

QUADRANGLE: GRANTFORK LONGITUDE: -89.668874 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.844026 DATE COLLECTED: 8 / 10 / 1979

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 340.6 LOG TYPE: Other Core Study

SOURCE: CARTER OIL IB-501 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
240.1	CARBONDALE	HERRIN	BONE COAL	1.0	298.9	"POOR"

MAPID: 11901833000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 34 QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.642334 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.836464 DATE COLLECTED: 6 / 0 / 1954

SURFACE ELEVATION (FT.): 549.0 LOGGED (FT.): 345.0 LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
247.0	MODESTO	PIASA	LIMESTONE	4.5	302.0	
242.5	MODESTO		UNCLASSIFIED	4.0	306.5	
238.5	CARBONDALE		UNCLASSIFIED	13.5	310.5	
225.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	324.0	
222.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	327.0	
220.0	CARBONDALE	BRERETON	LIMESTONE	6.0	329.0	
214.0	CARBONDALE	ANNA	BLACK SHALE	5.0	335.0	
209.0	CARBONDALE	HERRIN	COAL	5.0	340.0	

MAPID: 11901833000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 34 QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.642334

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.836464

DATE COLLECTED:

SURFACE ELEVATION (FT.): 549.0

LOGGED (FT.): 344.5

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
247.0	MODESTO	PIASA	LIMESTONE	4.0	302.0	
243.0	MODESTO		SHALE	3.0	306.0	
240.0	CARBONDALE		SHALE	3.0	309.0	
237.0	CARBONDALE		SHALE	3.0	312.0	
234.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	315.0	
230.0	CARBONDALE	LAWSON	SHALE	9.5	319.0	
220.5	CARBONDALE	BRERETON	LIMESTONE	5.0	328.5	
215.5	CARBONDALE	ANNA	SHALE	5.0	333.5	
209.0	CARBONDALE	HERRIN	COAL	4.5	340.0	

MAPID: 11926213000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 34 QUARTERS/FOOTAGES: 40' S line, 200' E line of SE SE SE

QUADRANGLE: GRANTFORK LONGITUDE: -89.63714

GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.83022

DATE COLLECTED: 8 / 12 / 1969

SURFACE ELEVATION (FT.): 575.0

LOGGED (FT.): 361.9

LOG TYPE: Other Core Study

SOURCE: CARTER OIL WF-256

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
230.7	CARBONDALE	HERRIN	COAL	7.3	344.3	CLEAN COAL, SEE LOG; COAL ANALYZED
-	CARBONDALE	HERRIN	ROCK	0.3		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926214000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 34 QUARTERS/FOOTAGES: 77' S line, 92' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.636762

GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.830323

DATE COLLECTED: 10 / 24 / 1977

SURFACE ELEVATION (FT.): 575.0

LOGGED (FT.): 357.5

LOG TYPE: Other Core Study

SOURCE: CARTER OIL IB-969

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
225.1	CARBONDALE	HERRIN	COAL	7.1	349.9	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	0.5		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900618000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 35 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.628381 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.838556 DATE COLLECTED: 8 / 0 / 1956

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: REDWINE NASH ETAL 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	16.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	
-	CARBONDALE		UNCLASSIFIED	1.0	
-	CARBONDALE	BRERETON	LIMESTONE	4.0	
-	CARBONDALE	ANNA	BLACK SHALE	3.5	
-	CARBONDALE	HERRIN	COAL	5.5	

MAPID: 11900618000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 35 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.628381 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.838556 DATE COLLECTED:

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 327.0 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
271.0	MODESTO	PIASA	LIMESTONE	7.0	274.0
264.0	MODESTO		SHALE	4.0	281.0
260.0	CARBONDALE	DANVILLE	COAL	0.5	285.0
259.5	CARBONDALE		SHALE	6.0	285.5
253.5	CARBONDALE		LIMESTONE	4.5	291.5
249.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	296.0
245.0	CARBONDALE	LAWSON	SHALE	6.5	300.0
238.5	CARBONDALE	LAWSON	SANDSTONE	3.5	306.5
235.0	CARBONDALE		SHALE	3.0	310.0
232.0	CARBONDALE	BRERETON	LIMESTONE	4.0	313.0
228.0	CARBONDALE	ANNA	SHALE	3.0	317.0
225.0	CARBONDALE	HERRIN	COAL	7.0	320.0

MAPID: 11926215000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 35 QUARTERS/FOOTAGES: 40' N line, 295' E line of NE NE NE

QUADRANGLE: POCAHONTAS LONGITUDE: -89.619037 GEOLOGIST: E. PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.844897 DATE COLLECTED: 8 / 25 / 1969

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 343.0 LOG TYPE: Other Core Study

SOURCE: CARTER OIL WF-263 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
212.0	CARBONDALE	HERRIN	COAL	6.7	326.0	CLEAN COAL, SEE LOG; COAL ANALYZED
-	CARBONDALE	HERRIN	ROCK	0.3		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900732000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 36 QUARTERS/FOOTAGES: 990' S line, 1650' W line

QUADRANGLE: POCAHONTAS LONGITUDE: -89.611947 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.833071 DATE COLLECTED: 10 / 0 / 1949

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 370.0 LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
244.0	MODESTO	PIASA	LIMESTONE	7.0	321.0	
237.0	MODESTO		UNCLASSIFIED	4.0	328.0	
233.0	CARBONDALE		UNCLASSIFIED	18.0	332.0	
215.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	350.0	
209.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	356.0	
207.0	CARBONDALE		UNCLASSIFIED	1.0	358.0	
206.0	CARBONDALE	BRERETON	LIMESTONE	4.0	359.0	
202.0	CARBONDALE	ANNA	BLACK SHALE	2.0	363.0	
200.0	CARBONDALE	HERRIN	COAL	5.0	365.0	

MAPID: 11900732000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 36 QUARTERS/FOOTAGES: 990' S line, 1650' W line  
 QUADRANGLE: POCAHONTAS LONGITUDE: -89.611947 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.833071 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 370.0 LOG TYPE: Electric Log  
 SOURCE: WELL TYPE: Oil and Gas Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
333.0	MODESTO	PIASA	LIMESTONE	6.5	232.0	
326.5	MODESTO		SHALE	6.0	238.5	
320.5	CARBONDALE		SHALE	6.5	244.5	
314.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	251.0	
311.0	CARBONDALE	LAWSON	SHALE	10.0	254.0	
301.0	CARBONDALE	LAWSON	SANDSTONE	4.0	264.0	
297.0	CARBONDALE		SHALE	3.5	268.0	
293.5	CARBONDALE	BRERETON	LIMESTONE	3.5	271.5	
290.0	CARBONDALE	ANNA	SHALE	2.0	275.0	
288.0	CARBONDALE	ENERGY	UNKNOWN	88.0	277.0	
200.0	CARBONDALE	HERRIN	COAL	5.0	365.0	

MAPID: 11924127000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 36 QUARTERS/FOOTAGES: 2640' S line, 2600' E line  
 QUADRANGLE: POCAHONTAS LONGITUDE: -89.608351 GEOLOGIST: E. PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.837657 DATE COLLECTED: 10 / 1 / 1979  
 SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 363.5 LOG TYPE: Other Core Study  
 SOURCE: CARTER OIL IB-509 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
203.9	CARBONDALE	HERRIN	COAL	6.3	341.1	CLEAN COAL, SEE LOG
-	CARBONDALE	HERRIN	ROCK	1.2		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11926216000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 5N 5W SECTION: 36 QUARTERS/FOOTAGES: 77' S line, 80' E line of SE SE  
 QUADRANGLE: POCAHONTAS LONGITUDE: -89.599375 GEOLOGIST: E. PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.830656 DATE COLLECTED: 5 / 21 / 1969  
 SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 435.2 LOG TYPE: Other Core Study  
 SOURCE: CARTER OIL WF-232 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
156.8	CARBONDALE	HERRIN	COAL	6.3	418.2	CLEAN COAL, SEE LOG; COAL ANALYZED
-	CARBONDALE	HERRIN	ROCK	0.6		TOTAL IN-SEAM PARTINGS-SEE LOG

MAPID: 11900375000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 1 QUARTERS/FOOTAGES: 150' S line, 300' W line of SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.725358 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.903206 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 569.6 LOGGED (FT.): 1879.0 LOG TYPE:

SOURCE: WILSON WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
179.6	CARBONDALE	HERRIN	COAL	5.0	390.0	

MAPID: 11900375000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 1 QUARTERS/FOOTAGES: 150' S line, 300' W line of SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.725358 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.903206 DATE COLLECTED: 5 / 0 / 1940

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 395.0 LOG TYPE: Electric Log

SOURCE: WILSON JESSE R WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
180.0	CARBONDALE	HERRIN	COAL	5.0	390.0	

MAPID: 11924043000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 1 QUARTERS/FOOTAGES: 1450' N line, 1390' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.713072 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.913353 DATE COLLECTED: 12 / 3 / 1979

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 420.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-1-45C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
590.0			UNCONSOLIDATED	86.0	0.0
504.0	MODESTO		SHALE	13.0	86.0
491.0	MODESTO		SHALE	9.5	99.0
481.5	MODESTO	CARLINVILLE	LIMESTONE	4.5	108.5
477.0	MODESTO		BLACK SHALE	4.0	113.0
473.0	MODESTO		GRAY SHALE	13.0	117.0
460.0	MODESTO		GRAY SHALE	13.5	130.0
446.5	MODESTO	CHAPEL	COAL	1.5	143.5
445.0	MODESTO		GRAY SHALE	65.0	145.0
380.0	MODESTO		SANDY SHALE	98.0	210.0
282.0	MODESTO		SANDSTONE/LIMESTONE	2.0	308.0
280.0	MODESTO		CALCAREOUS SHALE	10.0	310.0
270.0	MODESTO		SHALE	4.0	320.0
266.0	MODESTO		SHALE	2.0	324.0
264.0	MODESTO		GRAY SHALE	10.0	326.0
254.0	MODESTO	PIASA	LIMESTONE	2.7	336.0
251.3	CARBONDALE		GRAY SHALE	21.3	338.7
230.0	CARBONDALE	ENERGY	GRAY SHALE	12.0	360.0
218.0	CARBONDALE	ENERGY	GRAY SHALE	23.0	372.0
195.0	CARBONDALE	ENERGY	SHALE	3.0	395.0
192.0	CARBONDALE	ENERGY	BLACK SHALE	2.5	398.0
189.5	CARBONDALE	HERRIN	BONE COAL	0.8	400.5
188.8	CARBONDALE		UNDERCLAY	1.7	401.2
187.1	CARBONDALE		CORE LOSS	0.2	402.9
187.0	CARBONDALE		GRAY SHALE	2.0	403.0
185.0	CARBONDALE		LIMESTONE	6.0	405.0
179.0	CARBONDALE		GRAY SHALE	5.0	411.0
174.0	CARBONDALE		CALCAREOUS SHALE	4.0	416.0

MAPID: 11924044000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 1 QUARTERS/FOOTAGES: 33' S line, 1365' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.713016 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.902879 DATE COLLECTED: 12 / 10 / 1979

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 415.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-1-46C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
580.0			UNCONSOLIDATED	89.0	0.0
491.0	MODESTO		SHALE	19.5	89.0
471.5	MODESTO	CARLINVILLE	LIMESTONE	4.5	108.5
467.0	MODESTO		BLACK SHALE	3.0	113.0
464.0	MODESTO		GRAY SHALE	24.5	116.0
439.5	MODESTO	CHAPEL	COAL	2.0	140.5
437.5	MODESTO		GRAY SHALE	49.0	142.5
388.5	MODESTO		SANDY SHALE	62.0	191.5
326.5			SHALY SANDSTONE	44.5	253.5
282.0	CARBONDALE		SANDSTONE	42.0	298.0
240.0	CARBONDALE		GRAY SHALE	21.0	340.0
219.0	CARBONDALE	ENERGY	SANDY SHALE	32.0	361.0
187.0	CARBONDALE	ENERGY	SANDSTONE	1.5	393.0
185.5	CARBONDALE	ENERGY	BLACK SHALE	2.0	394.5
183.5	CARBONDALE	HERRIN	COAL	1.5	396.5
182.0	CARBONDALE		UNDERCLAY	1.1	398.0
180.9	CARBONDALE		CORE LOSS	0.9	399.1
180.0	CARBONDALE		LIMESTONE	3.0	400.0
177.0	CARBONDALE		GRAY SHALE	2.0	403.0
175.0	CARBONDALE		LIMESTONE	1.0	405.0
174.0	CARBONDALE		SHALE	9.0	406.0



MAPID: 11924183000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 1 QUARTERS/FOOTAGES: 57' S line, 1450' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.721297 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.902949 DATE COLLECTED: 10 / 17 / 1977

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 395.0 WELL TYPE: Coal Test

SOURCE: MOBIL OIL NDI-77-34

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
575.0			UNCONSOLIDATED	60.0	0.0
515.0	MODESTO		SHALE	10.0	60.0
505.0	MODESTO		GRAY SHALE	19.0	70.0
486.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	89.0
481.0	MODESTO		SHALE	1.0	94.0
480.0	MODESTO		BLACK SHALE	2.5	95.0
477.5	MODESTO		GRAY SHALE	21.5	97.5
456.0	MODESTO	CHAPEL	COAL	2.0	119.0
454.0	MODESTO		GRAY SHALE	10.0	121.0
444.0	MODESTO		SHALY SANDSTONE	3.0	131.0
441.0	MODESTO		GRAY SHALE	27.0	134.0
414.0	MODESTO		SHALE	4.0	161.0
410.0	MODESTO		SANDY SHALE	50.0	165.0
360.0	MODESTO		SANDSTONE	25.5	215.0
334.5	MODESTO		GRAY SHALE	4.0	240.5
330.5	MODESTO		SANDY SHALE	16.5	244.5
314.0	MODESTO		SHALY SANDSTONE	49.0	261.0
265.0	MODESTO		SANDSTONE/LIMESTONE	5.0	310.0
260.0	MODESTO		CARBONACEOUS SHALE	1.0	315.0
259.0	MODESTO		CALCAREOUS SANDSTONE	2.0	316.0
257.0	MODESTO		GRAY SHALE	3.5	318.0
253.5	MODESTO		CALCAREOUS SHALE	3.0	321.5
250.5	MODESTO	PIASA	LIMESTONE	3.0	324.5
247.5	CARBONDALE	ENERGY	SILTY SHALE	45.0	327.5
202.5	CARBONDALE	HERRIN	COAL	3.5	372.5
199.0	CARBONDALE		UNDERCLAY	3.5	376.0
195.5	CARBONDALE		CALCAREOUS SHALE	4.5	379.5
191.0	CARBONDALE		GRAY SHALE	11.0	384.0

MAPID: 11900698000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 2 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.743927 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.907263 DATE COLLECTED: 12 / 0 / 1951

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 351.0 LOG TYPE: Electric Log

SOURCE: EVERHART J WILLIAM WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
269.0	MODESTO	PIASA	LIMESTONE	4.0	293.0
265.0	CARBONDALE	ENERGY	UNCLASSIFIED	50.0	297.0
215.0	CARBONDALE	HERRIN	COAL	4.0	347.0

MAPID: 11900698000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 2 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.743927 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.907263 DATE COLLECTED:

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 367.0 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
270.0	MODESTO	PIASA	SHALE	4.0	292.0
266.0	MODESTO		SHALE	20.0	296.0
246.0	CARBONDALE		SHALE	2.0	316.0
244.0	CARBONDALE		SHALE	10.0	318.0
234.0	CARBONDALE	LAWSON	SHALE	10.0	328.0
224.0	CARBONDALE		SHALE	2.0	338.0
222.0	CARBONDALE	BRERETON	LIMESTONE	6.0	340.0
216.0	CARBONDALE	ANNA	BLACK SHALE	6.0	346.0
210.0	CARBONDALE	ENERGY	GRAY SHALE	7.0	352.0
203.0	CARBONDALE	HERRIN	COAL	8.0	359.0

MAPID: 11901541000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 2 QUARTERS/FOOTAGES: 330' S line, 330' E line of SE NW SW

QUADRANGLE: NEW DOUGLAS

LONGITUDE: -89.741582

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.90735

DATE COLLECTED: 12 / 0 / 1950

SURFACE ELEVATION (FT.): 562.0

LOGGED (FT.): 366.0

LOG TYPE: Electric Log

SOURCE: GROSSMANN WALTER G

WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
267.0	MODESTO	PIASA	LIMESTONE	5.0	295.0
262.0	CARBONDALE	ENERGY	UNCLASSIFIED	62.0	300.0
200.0	CARBONDALE	HERRIN	COAL	4.0	362.0

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MAPID: 11901541000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 2    QUARTERS/FOOTAGES: 330' S line, 330' E line of SE NW SW

QUADRANGLE: NEW DOUGLAS

LONGITUDE: -89.741582

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.90735

DATE COLLECTED: 12 / 22 / 1950

SURFACE ELEVATION (FT.): 562.0

LOGGED (FT.): 604.0

LOG TYPE: Drillers Log

SOURCE: WALTER G. GROSSMAN    1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
562.0			UNCONSOLIDATED	3.0	0.0	SOIL
559.0			UNDERCLAY	11.0	3.0	
548.0			SANDSTONE	14.0	14.0	
534.0			SHALE	28.0	28.0	
506.0			SANDSTONE	6.0	56.0	
500.0			GRAY SHALE	13.0	62.0	
487.0			LIMESTONE	4.0	75.0	
483.0			GRAY SHALE	10.0	79.0	
473.0			LIMESTONE	7.0	89.0	
466.0			SHALE	2.0	96.0	
464.0			GRAY SHALE	22.0	98.0	
442.0			SHALE	1.0	120.0	
441.0			LIMESTONE	3.0	121.0	
438.0			SANDSTONE	5.0	124.0	
433.0			GRAY SHALE	6.0	129.0	
427.0			SANDY SHALE	10.0	135.0	
417.0			GRAY SHALE	17.0	145.0	
400.0			LIMESTONE	4.0	162.0	
396.0			CALCAREOUS SHALE	29.0	166.0	
367.0			SANDY SHALE	45.0	195.0	
322.0			CALCAREOUS SHALE	12.0	240.0	
310.0			SANDSTONE	38.0	252.0	
272.0			GRAY SHALE	5.0	290.0	
267.0			LIMESTONE	5.0	295.0	
262.0			GRAY SHALE	62.0	300.0	
200.0	CARBONDALE	HERRIN	COAL	4.0	362.0	
196.0			LIMESTONE	7.0	366.0	
189.0			SHALE	139.0	373.0	
50.0			LIMESTONE	4.0	512.0	
46.0			SHALE	3.0	516.0	
43.0			LIMESTONE	13.0	519.0	
30.0			CALCAREOUS SHALE	4.0	532.0	
26.0			LIMESTONE	4.0	536.0	
22.0			CALCAREOUS SHALE	34.0	540.0	
-12.0			ROCK	3.0	574.0	
-15.0			GRAY SHALE	18.0	577.0	
-33.0			COAL	2.0	595.0	
-35.0			LIMESTONE	3.0	597.0	
-38.0			SANDSTONE	4.0	600.0	

MAPID: 11923659000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 2    QUARTERS/FOOTAGES: 1050' S line, 900' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.741933

GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.905616

DATE COLLECTED: 11 / 27 / 1978

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 375.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-50

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	56.0	0.0
504.0	MODESTO		GRAY SHALE	27.5	56.0
476.5	MODESTO	CARLINVILLE	LIMESTONE	3.5	83.5
473.0	MODESTO		BLACK SHALE	3.5	87.0
469.5	MODESTO		GRAY SHALE	28.5	90.5
441.0	MODESTO	CHAPEL	COAL	1.0	119.0
440.0	MODESTO		GRAY SHALE	39.0	120.0
401.0	MODESTO		GRAY SHALE	135.5	159.0
265.5	MODESTO		LIMESTONE	2.0	294.5
263.5	MODESTO		GRAY SHALE	3.5	296.5
260.0	MODESTO	PIASA	LIMESTONE	2.3	300.0
257.7	MODESTO		GRAY SHALE	2.7	302.3
255.0	CARBONDALE		LIMESTONE	0.5	305.0
254.5	CARBONDALE		GRAY SHALE	11.5	305.5
243.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	317.0
242.0	CARBONDALE	ENERGY	GRAY SHALE	36.8	318.0
205.2	CARBONDALE	HERRIN	COAL	7.2	354.8
198.0	CARBONDALE		UNDERCLAY	0.3	362.0
197.7	CARBONDALE		SHALY LIMESTONE	0.7	362.3
197.0	CARBONDALE		GRAY SHALE	5.0	363.0
192.0	CARBONDALE		LIMESTONE	1.5	368.0
190.5	CARBONDALE		GRAY SHALE	5.5	369.5

MAPID: 11924045000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 2 QUARTERS/FOOTAGES: 1362' N line, 30' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.726447 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.913645 DATE COLLECTED: 12 / 5 / 1979

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 400.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-2-48 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
580.0			UNCONSOLIDATED	47.0	0.0
533.0	BOND		GRAY SHALE	18.8	47.0
514.2	BOND	CARTHAGE	LIMESTONE	1.2	65.8
513.0	MODESTO		GRAY SHALE	35.5	67.0
477.5	MODESTO	CARLINVILLE	LIMESTONE	5.0	102.5
472.5	MODESTO		BLACK SHALE	3.5	107.5
469.0	MODESTO		GRAY SHALE	23.5	111.0
445.5	MODESTO	CHAPEL	COAL	1.7	134.5
443.8	MODESTO		SANDY SHALE	163.5	136.2
280.3	MODESTO		COAL	0.6	299.7
279.7	MODESTO		SANDSTONE	13.7	300.3
266.0	MODESTO		SANDY SHALE	10.5	314.0
255.5	MODESTO	PIASA	LIMESTONE	9.0	324.5
246.5	MODESTO		GRAY SHALE	12.5	333.5
234.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	346.0
231.5	CARBONDALE	ENERGY	GRAY SHALE	14.5	348.5
217.0	CARBONDALE	ENERGY	GRAY SHALE	17.0	363.0
200.0	CARBONDALE	ENERGY	SHALE	3.0	380.0
197.0	CARBONDALE	HERRIN	COAL	1.5	383.0
195.5	CARBONDALE		GRAY SHALE	15.5	384.5

MAPID: 11924046000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 2 QUARTERS/FOOTAGES: 1280' S line, 33' E line

QUADRANGLE: NEW DOUGLAS

LONGITUDE: -89.726512

GEOLOGIST: SROKA

CONFIDENTIAL: N

LATITUDE: 38.906323

DATE COLLECTED: 12 / 6 / 1979

SURFACE ELEVATION (FT.): 576.0

LOGGED (FT.): 400.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NO-79-2-47C

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
576.0			UNCONSOLIDATED	57.0	0.0
519.0	BOND	CARTHAGE	LIMESTONE	1.5	57.0
517.5	MODESTO		SHALE	13.5	58.5
504.0	MODESTO		GRAY SHALE	15.0	72.0
489.0	MODESTO	CARLINVILLE	LIMESTONE	5.0	87.0
484.0	MODESTO		BLACK SHALE	4.0	92.0
480.0	MODESTO		GRAY SHALE	16.0	96.0
464.0	MODESTO	CHAPEL	COAL	2.5	112.0
461.5	MODESTO		SANDY SHALE	129.5	114.5
332.0	MODESTO		SANDSTONE	41.0	244.0
291.0	MODESTO		SANDY SHALE	19.0	285.0
272.0	MODESTO		SANDSTONE	5.5	304.0
266.5	MODESTO		SANDY SHALE	12.5	309.5
254.0	MODESTO	PIASA	LIMESTONE	3.5	322.0
250.5	CARBONDALE	ENERGY	SANDY SHALE	56.3	325.5
194.2	CARBONDALE	HERRIN	COAL	3.0	381.8
191.2	CARBONDALE		UNDERCLAY	2.2	384.8
189.0	CARBONDALE		GRAY SHALE	13.0	387.0

MAPID: 11924184000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 2 QUARTERS/FOOTAGES: 1297' N line, 1377' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.740148 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.914007 DATE COLLECTED: 10 / 18 / 1977

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 360.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-33 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	47.0	0.0
513.0	MODESTO		GRAY SHALE	24.0	47.0
489.0	MODESTO	CARLINVILLE	LIMESTONE	4.5	71.0
484.5	MODESTO		BLACK SHALE	3.5	75.5
481.0	MODESTO		GRAY SHALE	25.0	79.0
456.0	MODESTO	CHAPEL	COAL	1.5	104.0
454.5	MODESTO		GRAY SHALE	41.5	105.5
413.0	MODESTO		SANDY SHALE	113.5	147.0
299.5	MODESTO		GRAY SHALE	21.5	260.5
278.0	MODESTO		COAL	1.0	282.0
277.0	MODESTO		GRAY SHALE	4.0	283.0
273.0	MODESTO		BLACK SHALE	1.0	287.0
272.0	MODESTO		SANDY SHALE	15.0	288.0
257.0	MODESTO		BLACK SHALE	2.0	303.0
255.0	MODESTO		SANDY SHALE	7.0	305.0
248.0	MODESTO		LIMESTONE	3.5	312.0
244.5	MODESTO		BLACK SHALE	1.0	315.5
243.5	CARBONDALE	DANVILLE	COAL	1.0	316.5
242.5	CARBONDALE		GRAY SHALE	5.5	317.5
237.0	CARBONDALE	BRERETON	SHALY LIMESTONE	9.0	323.0
228.0	CARBONDALE	ANNA	BLACK SHALE	2.4	332.0
225.6	CARBONDALE	HERRIN	COAL	7.9	334.4
217.7	CARBONDALE		UNDERCLAY	5.7	342.3
212.0	CARBONDALE		SHALY LIMESTONE	4.0	348.0
208.0	CARBONDALE		GRAY SHALE	5.5	352.0
202.5	CARBONDALE		SHALE	2.5	357.5



MAPID: 11900588000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.757785 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.907354 DATE COLLECTED: 11 / 0 / 1955

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 309.0 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	OVERBURDEN COMMENT
267.0	MODESTO	PIASA	LIMESTONE	6.0	265.0
261.0	MODESTO		UNCLASSIFIED	5.5	271.0
255.5	CARBONDALE		UNCLASSIFIED	13.5	276.5
242.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	290.0
237.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	295.0
236.0	CARBONDALE	BRERETON	LIMESTONE	5.0	296.0
231.0	CARBONDALE	ENERGY	UNCLASSIFIED	5.0	301.0
226.0	CARBONDALE	HERRIN	COAL	3.0	306.0

MAPID: 11901014000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 3 QUARTERS/FOOTAGES: 330' N line, 430' W line of SW NW SW

QUADRANGLE: WORDEN LONGITUDE: -89.762054 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.907392 DATE COLLECTED: 7 / 0 / 1960

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND WELL TYPE: Oil and Gas 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	12.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	5.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	2.0	

MAPID: 11901014000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 3 QUARTERS/FOOTAGES: 330' N line, 430' W line of SW NW SW

QUADRANGLE: WORDEN

LONGITUDE: -89.762054

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.907392

DATE COLLECTED: 7 / 0 / 1960

SURFACE ELEVATION (FT.):

LOGGED (FT.): 560.0

LOG TYPE: Drillers Log

SOURCE: FERDINAND SUHRE 3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	1.0	0.0	SOIL
-			CLAY	17.0	1.0	YL CLY; YL
-			SAND	2.0	18.0	SD AND GRAVEL
-			CLAY	64.0	20.0	BLU CLY; BLU
-			GRAY SHALE	38.0	84.0	
-			SANDY SHALE	13.0	122.0	
-			GRAY SHALE	9.0	135.0	
-			LIMESTONE	6.0	144.0	
-			SANDY SHALE	20.0	150.0	
-			GRAY SHALE	64.0	170.0	
-			LIMESTONE	2.0	234.0	
-			CALCAREOUS SHALE	25.0	236.0	
-			GRAY SHALE	3.0	261.0	
-	MODESTO	PIASA	LIMESTONE	4.0	264.0	
-			GRAY SHALE	16.0	268.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	284.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	296.0	
-	CARBONDALE	HERRIN	COAL	2.0	297.0	
-			CALCAREOUS SHALE	31.0	299.0	
-			SANDY SHALE	40.0	330.0	
-			GRAY SHALE	20.0	370.0	
-			COAL	1.0	390.0	
-			SANDY SHALE	15.0	391.0	
-			SANDY SHALE	26.0	406.0	
-			LIMESTONE	1.0	432.0	
-			COAL	2.0	433.0	
-			GRAY SHALE	13.0	435.0	
-			SHALE	24.0	448.0	
-			GRAY SHALE	8.0	472.0	
-			DARK GRAY SHALE	24.0	480.0	
-			LIMESTONE	5.0	504.0	
-			SANDSTONE	6.0	509.0	
-			SANDSTONE	25.0	515.0	SS W/ SH BREAKS
-			GRAY SHALE	5.0	540.0	
-			SANDY SHALE	15.0	545.0	

MAPID: 11901017000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 440' W line of SW SW NW

QUADRANGLE: WORDEN

LONGITUDE: -89.762014

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.911072

DATE COLLECTED: 12 / 0 / 1960

SURFACE ELEVATION (FT.): 545.0

LOGGED (FT.): 553.0

LOG TYPE: Drillers Log

SOURCE: FERDINAND SUHRE 1

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
545.0			CLAY	20.0	0.0	
525.0			CLAY	55.0	20.0	
470.0			SAND	15.0	75.0	SD AND GRAVEL
455.0			CLAY	6.0	90.0	
449.0			HARD PAN	4.0	96.0	
445.0			GRAY SHALE	20.0	100.0	
425.0			LIMESTONE	6.0	120.0	
419.0			GRAY SHALE	24.0	126.0	
395.0			SANDY SHALE	20.0	150.0	
375.0			GRAY SHALE	38.0	170.0	
337.0			GRAY SHALE	36.0	208.0	
301.0			SHALE	5.0	244.0	
296.0			GRAY SHALE	21.0	249.0	
275.0			LIMESTONE	4.0	270.0	
271.0			GRAY SHALE	18.0	274.0	
253.0			LIMESTONE	10.0	292.0	
243.0			BLACK SHALE	6.0	302.0	
237.0			GRAY SHALE	24.0	308.0	
213.0			SHALE	10.0	332.0	
203.0			SANDY SHALE	3.0	342.0	
200.0			SANDY SHALE	20.0	345.0	
180.0			SANDY SHALE	31.0	365.0	
149.0			BLACK SHALE	4.0	396.0	
145.0			SANDY SHALE	12.0	400.0	
133.0			SANDY SHALE	36.0	412.0	
97.0			COAL	2.0	448.0	
95.0			LIMESTONE	1.0	450.0	
94.0			GRAY SHALE	5.0	451.0	
89.0			SHALE	12.0	456.0	
77.0			SHALE	6.0	468.0	
71.0			SHALE	3.0	474.0	
68.0			LIMESTONE	1.0	477.0	
67.0			GRAY SHALE	7.0	478.0	
60.0			GRAY SHALE	5.0	485.0	
55.0			GRAY SHALE	12.0	490.0	
43.0			BLACK SHALE	4.0	502.0	
39.0			DARK GRAY SHALE	6.0	506.0	
33.0			GRAY SHALE	16.0	512.0	
17.0			SANDSTONE	2.0	528.0	

15.0	GRAY SHALE	2.0	530.0
13.0	SANDSTONE	13.0	532.0
0.0	SANDSTONE	8.0	545.0

**MAPID:** 11902142000C    **VERSION:** 1    **PROJECT:** NCRDS94  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 3    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW SW SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.762411    **GEOLOGIST:** HOKE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.905497    **DATE COLLECTED:** 12 / 15 / 1967  
**SURFACE ELEVATION (FT.):** 530.0    **LOGGED (FT.):** 547.0    **LOG TYPE:** Drillers Log  
**SOURCE:** WILBUR SUHRE    4    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0			CLAY	30.0	0.0	YL CLY; YL
500.0			GRAVEL	2.0	30.0	
498.0			CLAY	48.0	32.0	BLU CLY; BLU
450.0			CLAY	15.0	80.0	BR CLY; BR
435.0			CLAY	11.0	95.0	YL CLY; YL
424.0			GRAY SHALE	29.0	106.0	
395.0			LIMESTONE	2.0	135.0	
393.0			GRAY SHALE	135.0	137.0	
258.0	MODESTO	PIASA	LIMESTONE	4.0	272.0	
254.0	CARBONDALE		BLACK SHALE	4.0	276.0	
250.0			GRAY SHALE	18.0	280.0	
232.0			LIMESTONE	11.0	298.0	
221.0	CARBONDALE	HERRIN	COAL	2.0	309.0	
219.0			CALCAREOUS SHALE	14.0	311.0	
205.0			SANDY SHALE	40.0	325.0	
165.0			GRAY SHALE	35.0	365.0	
130.0			COAL	2.0	400.0	
128.0			GRAY SHALE	44.0	402.0	
84.0			LIMESTONE	2.0	446.0	
82.0			COAL	2.0	448.0	
80.0			BLACK SHALE	10.0	450.0	
70.0			SHALE	14.0	460.0	
56.0			GRAY SHALE	52.0	474.0	
4.0			SANDY SHALE	2.0	526.0	
2.0			SANDSTONE	7.0	528.0	
-5.0			SANDSTONE	2.0	535.0	
-7.0			CALCAREOUS SHALE	10.0	537.0	

MAPID: 11902174000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 3 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE SW

QUADRANGLE: WORDEN LONGITUDE: -89.757793 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.905532 DATE COLLECTED: 9 / 0 / 1968

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 300.0 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
255.0	MODESTO	PIASA	LIMESTONE	6.0	260.0
249.0	MODESTO		UNCLASSIFIED	4.5	266.0
244.5	CARBONDALE		UNCLASSIFIED	12.5	270.5
232.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	283.0
227.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	288.0
225.0	CARBONDALE	BRERETON	LIMESTONE	5.0	290.0
220.0	CARBONDALE	ANNA	BLACK SHALE	1.0	295.0
219.0	CARBONDALE	HERRIN	COAL	4.0	296.0

MAPID: 11923085000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 3 QUARTERS/FOOTAGES: 460' S line, 555' W line of SW SW SW

QUADRANGLE: WORDEN

LONGITUDE: -89.761617

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.903997

DATE COLLECTED: 6 / 26 / 1975

SURFACE ELEVATION (FT.): 547.0

LOGGED (FT.): 560.0

LOG TYPE: Drillers Log

SOURCE: FERDINAND SUHRE 1

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
547.0			UNCONSOLIDATED	2.0	0.0	SOIL
545.0			CLAY	9.0	2.0	YL CLY; YL
536.0			SANDY CLAY	24.0	11.0	
512.0			UNCONSOLIDATED	85.0	35.0	
427.0			GRAY SHALE	4.0	120.0	
423.0			DARK GRAY SHALE	30.0	124.0	
393.0			LIMESTONE	3.0	154.0	
390.0			GRAY SHALE	15.0	157.0	
375.0			DARK GRAY SHALE	59.0	172.0	
316.0			SANDSTONE	2.0	231.0	
314.0			DARK SHALE	22.0	233.0	
292.0			LIGHT SHALE	16.0	255.0	
276.0			LIMESTONE	8.0	271.0	
268.0			LIGHT SHALE	21.0	279.0	
247.0			LIMESTONE	6.0	300.0	
241.0			CALCAREOUS SHALE	4.0	306.0	
237.0	CARBONDALE	HERRIN	COAL	6.0	310.0	
231.0			DARK SHALE	8.0	316.0	
223.0			CALCAREOUS SHALE	16.0	324.0	
207.0			CALCAREOUS SHALE	20.0	340.0	
187.0			GRAY SHALE	35.0	360.0	
152.0			SANDY SHALE	35.0	395.0	
117.0			DARK SHALE	25.0	430.0	
92.0			CALCAREOUS SHALE	12.0	455.0	
80.0			LIGHT SHALE	45.0	467.0	
35.0			LIGHT SHALE	6.0	512.0	
29.0			COAL	2.0	518.0	
27.0			SANDY SHALE	4.0	520.0	
23.0			LIGHT SHALE	4.0	524.0	
19.0			SANDSTONE	12.0	528.0	
7.0			CALCAREOUS SHALE	20.0	540.0	

MAPID: 11924047000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 3    QUARTERS/FOOTAGES: 2440' S line, 2150' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.755973    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.909454    DATE COLLECTED: 12 / 13 / 1979

SURFACE ELEVATION (FT.): 516.0    LOGGED (FT.): 320.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-3-49C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
516.0			UNCONSOLIDATED	62.0	0.0
454.0	MODESTO		SILTSTONE	10.0	62.0
444.0	MODESTO	CHAPEL	COAL	1.5	72.0
442.5	MODESTO		GRAY SHALE	137.5	73.5
305.0	MODESTO		GRAY SHALE	7.0	211.0
298.0	MODESTO		GRAY SHALE	9.0	218.0
289.0	MODESTO		SHALE	18.0	227.0
271.0	MODESTO		SANDY SHALE	10.0	245.0
261.0	MODESTO		COAL	2.0	255.0
259.0	MODESTO		SHALE	4.5	257.0
254.5	MODESTO	WEST FRANKLIN	LIMESTONE	4.0	261.5
250.5	MODESTO	WEST FRANKLIN	GRAY SHALE	8.0	265.5
242.5	MODESTO	WEST FRANKLIN	LIMESTONE	4.0	273.5
238.5	CARBONDALE	DANVILLE	COAL	1.0	277.5
237.5	CARBONDALE		GRAY SHALE	3.5	278.5
234.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	1.7	282.0
232.3	CARBONDALE		SHALE	2.3	283.7
230.0	CARBONDALE	BRERETON	LIMESTONE	5.6	286.0
224.4	CARBONDALE	ANNA	BLACK SHALE	1.7	291.6
222.7	CARBONDALE	HERRIN	COAL	6.7	293.3
216.0	CARBONDALE		SHALE	0.7	300.0
215.3	CARBONDALE		CORE LOSS	0.8	300.7
214.5	CARBONDALE		SHALE	17.5	301.5
197.0	CARBONDALE		LIMESTONE	1.0	319.0

MAPID: 11900594000C VERSION: 1

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: 330' S line, 500' E line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.774703 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 38.907437 DATE COLLECTED: 10 / 0 / 1956

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 458.0 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF, NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
265.0	MODESTO	PIASA	UNCLASSIFIED	-	281.0	
231.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	315.0	
217.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	329.0	THIN OR ABSENT
206.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	340.0	
134.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	412.0	
88.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	458.0	

MAPID: 11900594000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: 330' S line, 500' E line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.774703 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.907437 DATE COLLECTED: 10 / 0 / 1956

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 321.5 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND WELL TYPE: Junked Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
264.0	MODESTO	PIASA	LIMESTONE	5.0	282.0	
259.0	MODESTO		UNCLASSIFIED	5.5	287.0	
253.5	CARBONDALE		UNCLASSIFIED	13.5	292.5	
240.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	306.0	
235.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	311.0	
233.0	CARBONDALE	ANNA	BLACK SHALE	3.0	313.0	
230.0	CARBONDALE	HERRIN	COAL	5.5	316.0	



MAPID: 11900641000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE SE

QUADRANGLE: WORDEN LONGITUDE: -89.767082 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.905558 DATE COLLECTED: 12 / 0 / 1956

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 324.0 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
259.5	MODESTO	PIASA	LIMESTONE	3.0	286.5
256.5	MODESTO		UNCLASSIFIED	5.0	289.5
251.5	CARBONDALE		UNCLASSIFIED	14.5	294.5
237.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	309.0
232.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	314.0
231.0	CARBONDALE	BRERETON	LIMESTONE	2.0	315.0
229.0	CARBONDALE	ANNA	BLACK SHALE	1.0	317.0
228.0	CARBONDALE	HERRIN	COAL	6.0	318.0

MAPID: 11900643000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: WORDEN LONGITUDE: -89.774102 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.905531 DATE COLLECTED: 11 / 0 / 1956

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 327.0 LOG TYPE: Electric Log

SOURCE: JET 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
258.5	MODESTO	PIASA	LIMESTONE	5.5	286.5
253.0	MODESTO		UNCLASSIFIED	4.0	292.0
249.0	CARBONDALE		UNCLASSIFIED	11.0	296.0
238.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	307.0
232.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	313.0
230.0	CARBONDALE	BRERETON	LIMESTONE	3.0	315.0
227.0	CARBONDALE	ANNA	BLACK SHALE	2.0	318.0
225.0	CARBONDALE	HERRIN	COAL	7.0	320.0

MAPID: 11900643000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: WORDEN LONGITUDE: -89.774102 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.905531 DATE COLLECTED:

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 326.5 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
258.5	MODESTO	PIASA	LIMESTONE	5.5	286.5
253.0	MODESTO		SHALE	10.0	292.0
243.0	CARBONDALE		SHALE	6.0	302.0
237.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	308.0
233.0	CARBONDALE	LAWSON	SHALE	4.0	312.0
229.0	CARBONDALE	ANNA	SHALE	4.0	316.0
225.0	CARBONDALE	HERRIN	COAL	6.5	320.0

MAPID: 11900872000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: WORDEN LONGITUDE: -89.767085 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.9074 DATE COLLECTED: 1 / 0 / 1951

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 314.0 LOG TYPE: Electric Log

SOURCE: LIVERMORE, H. E. WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
271.0	MODESTO	PIASA	LIMESTONE	6.0	274.0
265.0	MODESTO		UNCLASSIFIED	4.0	280.0
261.0	CARBONDALE		UNCLASSIFIED	12.0	284.0
249.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	296.0
244.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	301.0
241.0	CARBONDALE	BRERETON	LIMESTONE	8.0	304.0
233.0	CARBONDALE	HERRIN	COAL	2.0	312.0

MAPID: 11900872000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 4    QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: WORDEN    LONGITUDE: -89.767085    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.9074    DATE COLLECTED: 1 / 0 / 1951

SURFACE ELEVATION (FT.): 545.0    LOGGED (FT.): 602.0    LOG TYPE: Drillers Log

SOURCE: H.E. LIVERMORE    1    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
545.0			UNCONSOLIDATED	3.0	0.0	TOP SOIL
542.0			SANDY CLAY	24.0	3.0	
518.0			GRAVEL	31.0	27.0	
487.0			GRAY SHALE	4.0	58.0	
483.0			CALCAREOUS SHALE	6.0	62.0	
477.0			GREEN SHALE	14.0	68.0	
463.0			GRAY SHALE	41.0	82.0	
422.0			LIMESTONE	15.0	123.0	
407.0			GRAY SHALE	17.0	138.0	
390.0			LIMESTONE	39.0	155.0	
351.0			SHALE	8.0	194.0	
343.0			COAL	2.0	202.0	
341.0			SHALE	26.0	204.0	
315.0			LIMESTONE	4.0	230.0	
311.0			GRAY SHALE	12.0	234.0	
299.0			CALCAREOUS SHALE	22.0	246.0	
277.0	MODESTO	PIASA	LIMESTONE	12.0	268.0	
265.0			SHALE	24.0	280.0	
241.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	304.0	
233.0	CARBONDALE	HERRIN	COAL	2.0	312.0	
231.0	CARBONDALE		SHALE	39.0	314.0	
192.0	CARBONDALE		SANDY SHALE	57.0	353.0	
135.0	CARBONDALE	SURVANT	COAL	2.0	410.0	
133.0	CARBONDALE		CALCAREOUS SHALE	24.0	412.0	
109.0	CARBONDALE		SHALE	13.0	436.0	BR SH; BRN
96.0	CARBONDALE	COLCHESTER	COAL	3.0	449.0	
93.0			GRAY SHALE	8.0	452.0	
85.0			LIMESTONE	4.0	460.0	
81.0			SHALE	13.0	464.0	
68.0			ROCK	5.0	477.0	
63.0			SHALE	5.0	482.0	
58.0			SHALE	11.0	487.0	
47.0			DARK SHALE	4.0	498.0	
43.0			COAL	2.0	502.0	
41.0			SHALE	28.0	504.0	
13.0			LIMESTONE	3.0	532.0	
10.0			SANDSTONE	5.0	535.0	
5.0			SHALE	34.0	540.0	
-29.0			LIMESTONE	16.0	574.0	

-45.0

SHALE

12.0

590.0

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MAPID: 11901037000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: 350' S line, 500' E line of SE SE NW

QUADRANGLE: WORDEN

LONGITUDE: -89.774736

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.911214

DATE COLLECTED: 6 / 0 / 1961

SURFACE ELEVATION (FT.): 552.0

LOGGED (FT.): 560.0

LOG TYPE: Drillers Log

SOURCE: FERDINAND SUHRE 1

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
552.0			CLAY	14.0	0.0	YL CLY; YELLOW
538.0			HARD PAN	6.0	14.0	
532.0			CLAY	56.0	20.0	
476.0			UNCONSOLIDATED	4.0	76.0	
472.0			CLAY	28.0	80.0	
444.0			GRAVEL	4.0	108.0	
440.0			UNCLASSIFIED	3.0	112.0	MISSING INTERVAL
437.0			LIMESTONE	1.0	115.0	
436.0			BLACK SHALE	2.0	116.0	
434.0			GRAY SHALE	27.0	118.0	
407.0			SANDY SHALE	16.0	145.0	
391.0			GRAY SHALE	11.0	161.0	
380.0			GRAY SHALE	13.0	172.0	
367.0			GRAY SHALE	70.0	185.0	
297.0			LIMESTONE	7.0	255.0	
290.0			GRAY SHALE	17.0	262.0	
273.0			CALCAREOUS SHALE	6.0	279.0	
267.0			GRAY SHALE	6.0	285.0	
261.0			COAL	6.0	291.0	
255.0			GRAY SHALE	3.0	297.0	
252.0			CALCAREOUS SHALE	65.0	300.0	
187.0			SANDY SHALE	57.0	365.0	
130.0			LIMESTONE	2.0	422.0	
128.0			BLACK SHALE	6.0	424.0	
122.0			GRAY SHALE	3.0	430.0	
119.0			LIMESTONE	4.0	433.0	
115.0			GRAY SHALE	5.0	437.0	
110.0			SHALE	6.0	442.0	
104.0			SHALE	2.0	448.0	
102.0			SHALE	8.0	450.0	
94.0			GRAY SHALE	10.0	458.0	
84.0			LIMESTONE	2.0	468.0	
82.0			GRAY SHALE	6.0	470.0	
76.0			COAL	2.0	476.0	
74.0			GRAY SHALE	12.0	478.0	
62.0			LIMESTONE	8.0	490.0	
54.0			SANDSTONE	7.0	498.0	
47.0			SANDY SHALE	7.0	505.0	
40.0			GRAY SHALE	6.0	512.0	

34.0	COAL	2.0	518.0
32.0	SANDY SHALE	8.0	520.0
24.0	SANDSTONE	6.0	528.0
18.0	LIMESTONE	18.0	534.0
0.0	GRAY SHALE	8.0	552.0

**MAPID:** 11901069000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 4    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW SW NE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.771803    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.911174    **DATE COLLECTED:** 5 / 0 / 1962  
**SURFACE ELEVATION (FT.):** 519.0    **LOGGED (FT.):** 283.0    **LOG TYPE:** Electric Log  
**SOURCE:** SUHRE, FERINAND    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
277.0	MODESTO	PIASA	LIMESTONE	6.0	242.0
271.0	MODESTO		UNCLASSIFIED	3.0	248.0
268.0	CARBONDALE		UNCLASSIFIED	9.0	251.0
259.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	260.0
253.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	265.5
251.0	CARBONDALE	BRERETON	LIMESTONE	7.0	268.0
244.0	CARBONDALE	ANNA	BLACK SHALE	2.0	275.0
242.0	CARBONDALE	HERRIN	COAL	6.0	277.0

**MAPID:** 11901542000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 4    **QUARTERS/FOOTAGES:** 84' N line, 517' W line of SW NW NW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.780619    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.915653    **DATE COLLECTED:** 9 / 0 / 1954  
**SURFACE ELEVATION (FT.):** 544.0    **LOGGED (FT.):** 312.0    **LOG TYPE:** Electric Log  
**SOURCE:** SMITH SHERMAN    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
270.0	MODESTO	PIASA	LIMESTONE	4.0	274.0
266.0	MODESTO		UNCLASSIFIED	4.5	278.0
261.5	CARBONDALE		UNCLASSIFIED	13.5	282.5
248.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	296.0
243.0	CARBONDALE	BRERETON	LIMESTONE	5.0	301.0
238.0	CARBONDALE	HERRIN	COAL	6.0	306.0

MAPID: 11901544000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 4 QUARTERS/FOOTAGES: 120' N line, 227' E line of SE SE NW

QUADRANGLE: WORDEN

LONGITUDE: -89.773773

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.911771

DATE COLLECTED: 3 / 0 / 1954

SURFACE ELEVATION (FT.): 548.0

LOGGED (FT.): 314.0

LOG TYPE: Electric Log

SOURCE: SMITH & LEHR

WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
278.0	MODESTO	PIASA	LIMESTONE	4.0	270.0
274.0	MODESTO		UNCLASSIFIED	3.0	274.0
271.0	CARBONDALE		UNCLASSIFIED	9.0	277.0
262.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	286.0
257.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	291.0
255.0	CARBONDALE	BRERETON	LIMESTONE	7.0	293.0
248.0	CARBONDALE	ANNA	BLACK SHALE	4.0	300.0
244.0	CARBONDALE	ENERGY	UNCLASSIFIED	4.0	304.0
240.0	CARBONDALE	HERRIN	COAL	6.0	308.0

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MAPID: 11901544000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 4    QUARTERS/FOOTAGES: 120' N line, 227' E line of SE SE NW

QUADRANGLE: WORDEN    LONGITUDE: -89.773773    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.911771    DATE COLLECTED: 3 / 0 / 1954

SURFACE ELEVATION (FT.): 548.0    LOGGED (FT.): 553.0    LOG TYPE: Drillers Log

SOURCE: SHERMAN C. SMITH-ELMER LEHR 2    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
548.0			UNCONSOLIDATED	1.0	0.0	TOPSOIL
547.0			CLAY	29.0	1.0	
518.0			CLAY	22.0	30.0	
496.0			SAND	3.0	52.0	
493.0			CLAY	37.0	55.0	
456.0			SAND	3.0	92.0	
453.0			CLAY	33.0	95.0	
420.0			GRAVEL	2.0	128.0	
418.0			UNCONSOLIDATED	10.0	130.0	SD AND GRAVEL
408.0			GRAY SHALE	18.0	140.0	
390.0			SANDSTONE	20.0	158.0	
370.0			GRAY SHALE	48.0	178.0	
322.0			GRAY SHALE	38.0	226.0	
284.0			LIMESTONE	3.0	264.0	
281.0			CALCAREOUS SHALE	3.0	267.0	
278.0			GRAY SHALE	4.0	270.0	
274.0			LIMESTONE	4.0	274.0	
270.0			GRAY SHALE	19.0	278.0	
251.0			LIMESTONE	7.0	297.0	
244.0			GRAY SHALE	4.0	304.0	
240.0			BLACK SHALE	6.0	308.0	
234.0			GRAY SHALE	13.0	314.0	
221.0			GRAY SHALE	6.0	327.0	
215.0			LIMESTONE	3.0	333.0	
212.0			DARK GRAY SHALE	4.0	336.0	
208.0			GRAY SHALE	60.0	340.0	
148.0			COAL	2.0	400.0	
146.0			GRAY SHALE	3.0	402.0	
143.0			SANDY SHALE	15.0	405.0	
128.0			GRAY SHALE	27.0	420.0	
101.0			BLACK SHALE	5.0	447.0	
96.0			GRAY SHALE	8.0	452.0	
88.0			SHALE	11.0	460.0	
77.0			SHALE	5.0	471.0	
72.0			GRAY SHALE	18.0	476.0	
54.0			COAL	1.0	494.0	
53.0			GRAY SHALE	15.0	495.0	
38.0			CALCAREOUS SHALE	6.0	510.0	
32.0			SHALE	14.0	516.0	



18.0	SANDSTONE	1.0	530.0
17.0	LIMESTONE	5.0	531.0
12.0	GRAY SHALE	8.0	536.0
4.0	SHALE	3.0	544.0
1.0	SANDY SHALE	3.0	547.0
-2.0	SANDSTONE	3.0	550.0

**MAPID:** 11901545000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 4    **QUARTERS/FOOTAGES:** 474' N line, 20' W line of SW NE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.772911    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.912645    **DATE COLLECTED:** 4 / 0 / 1954  
**SURFACE ELEVATION (FT.):** 548.0    **LOGGED (FT.):** 314.0    **LOG TYPE:** Electric Log  
**SOURCE:** SMITH SHERMAN    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
281.0	MODESTO	PIASA	LIMESTONE	4.0	267.0
277.0	MODESTO		UNCLASSIFIED	3.0	271.0
274.0	CARBONDALE		UNCLASSIFIED	9.0	274.0
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	283.0
261.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	287.0
259.0	CARBONDALE	BRERETON	LIMESTONE	4.0	289.0
255.0	CARBONDALE	ANNA	BLACK SHALE	7.0	293.0
248.0	CARBONDALE	ENERGY	UNCLASSIFIED	7.0	300.0
241.0	CARBONDALE	HERRIN	COAL	7.0	307.0

MAPID: 11901547000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 5N 6W

SECTION: 4

QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: WORDEN

LONGITUDE: -89.769435

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.909277

DATE COLLECTED: 8 / 0 / 1951

SURFACE ELEVATION (FT.):

LOGGED (FT.): 576.0

LOG TYPE: Drillers Log

SOURCE: H.E. LIVERMORE

1

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	5.0	0.0	SOIL
-			CLAY	20.0	5.0	
-			UNCONSOLIDATED	110.0	25.0	CLY,SOIL,AND MUD
-			CALCAREOUS SHALE	14.0	135.0	
-			LIMESTONE	21.0	149.0	
-			SANDY SHALE	50.0	170.0	
-			CALCAREOUS SHALE	12.0	220.0	
-			LIMESTONE	4.0	232.0	
-			SANDY SHALE	14.0	236.0	
-			LIMESTONE	25.0	250.0	
-			CALCAREOUS SHALE	1.0	275.0	
-			SANDSTONE	5.0	276.0	LOG SAYS WATER
-			COAL	2.0	281.0	
-			SANDSTONE	10.0	283.0	
-	CARBONDALE	HERRIN	COAL	2.0	293.0	
-	CARBONDALE	HERRIN	COAL	5.0	295.0	
-			LIMESTONE	2.0	300.0	
-			CALCAREOUS SHALE	1.0	302.0	
-			LIMESTONE	7.0	303.0	
-			COAL	2.0	310.0	
-			UNCLASSIFIED	8.0	312.0	
-			SANDSTONE	15.0	320.0	
-			SHALE	10.0	335.0	
-			GREEN SHALE	5.0	345.0	
-			CALCAREOUS SHALE	31.0	350.0	
-			GRAY SHALE	9.0	381.0	
-			SHALE	15.0	390.0	45
-			COAL	1.0	405.0	
-			SHALE	39.0	406.0	
-			SHALE	2.0	445.0	SH W/ CO
-			LIMESTONE	25.0	447.0	
-			LIMESTONE	4.0	472.0	
-			SHALE	14.0	476.0	
-			SANDSTONE	1.0	490.0	
-			SHALE	2.0	491.0	
-			LIMESTONE	11.0	493.0	
-			SANDSTONE	1.0	504.0	
-			LIMESTONE	38.0	505.0	
-			SHALE	1.0	543.0	

-	LIMESTONE	1.0	544.0
-	LIMESTONE	1.0	545.0
-	SHALE	6.0	546.0
-	LIMESTONE	8.0	552.0
-	LIMESTONE	6.0	560.0
-	SANDSTONE	8.0	566.0
-	LIMESTONE	2.0	574.0

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MAPID: 11901552000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 5N 6W

SECTION: 4

QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: WORDEN

LONGITUDE: -89.769425

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.907416

DATE COLLECTED: 1 / 0 / 1951

SURFACE ELEVATION (FT.):

LOGGED (FT.): 600.0

LOG TYPE: Drillers Log

SOURCE: H.E. LIVERMORE 1

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	3.0	0.0	TOPSOIL
-			SANDY CLAY	11.0	3.0	
-			GRAVEL	16.0	14.0	
-			GRAY SHALE	12.0	30.0	
-			SANDSTONE	8.0	42.0	
-			GRAY SHALE	72.0	50.0	
-			UNCLASSIFIED	10.0	122.0	
-			SHALE	20.0	132.0	
-			COAL	2.0	152.0	
-			LIMESTONE	16.0	154.0	
-			SHALE	65.0	170.0	
-			LIMESTONE	11.0	235.0	
-			CALCAREOUS SHALE	24.0	246.0	
-			LIMESTONE	8.0	270.0	
-			CALCAREOUS SHALE	9.0	278.0	
-			COAL	2.0	287.0	
-			LIMESTONE	11.0	289.0	
-			CALCAREOUS SHALE	47.0	300.0	
-			LIMESTONE	9.0	347.0	
-			SHALE	46.0	356.0	
-			COAL	2.0	402.0	
-			SANDSTONE	5.0	404.0	
-			SANDY SHALE	11.0	409.0	
-			SHALE	22.0	420.0	
-			LIMESTONE	2.0	442.0	
-			SHALE	4.0	444.0	
-			SHALE	22.0	448.0	
-			SHALE	4.0	470.0	
-			LIMESTONE	4.0	474.0	
-			GRAY SHALE	19.0	478.0	
-			SHALE	5.0	497.0	
-			GRAY SHALE	32.0	502.0	
-			LIMESTONE	6.0	534.0	
-			LIMESTONE	6.0	540.0	
-			LIMESTONE	15.0	546.0	
-			LIMESTONE	2.0	561.0	
-			SHALE	19.0	563.0	
-			SHALE	4.0	582.0	
-			GRAY SHALE	14.0	586.0	

MAPID: 11924048000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 4    QUARTERS/FOOTAGES: 1360' N line, 2500' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.77358    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.913927    DATE COLLECTED: 12 / 13 / 1979

SURFACE ELEVATION (FT.): 540.0    LOGGED (FT.): 330.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-4-50C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0			UNCONSOLIDATED	123.5	0.0
416.5	MODESTO	CARLINVILLE	SHALY LIMESTONE	3.5	123.5
413.0	MODESTO		BLACK SHALE	1.5	127.0
411.5	MODESTO		SHALE	3.5	128.5
408.0	MODESTO		SHALE	20.5	132.0
387.5	MODESTO	CHAPEL	COAL	1.0	152.5
386.5	MODESTO		SANDY SHALE	8.5	153.5
378.0	MODESTO		GRAY SHALE	58.0	162.0
320.0	MODESTO		GRAY SHALE	40.0	220.0
280.0	MODESTO		SANDY SHALE	11.5	260.0
268.5	MODESTO	PIASA	LIMESTONE	5.0	271.5
263.5	MODESTO		BLACK SHALE	1.5	276.5
262.0	MODESTO		GRAY SHALE	9.0	278.0
253.0	MODESTO		BLACK SHALE	1.4	287.0
251.6	CARBONDALE	DANVILLE	COAL	1.0	288.4
250.6	CARBONDALE		GRAY SHALE	4.6	289.4
246.0	CARBONDALE	BRERETON	LIMESTONE	6.8	294.0
239.2	CARBONDALE		SHALE	3.2	300.8
236.0	CARBONDALE	ANNA	BLACK SHALE	0.8	304.0
235.2	CARBONDALE	HERRIN	COAL	6.4	304.8
228.8	CARBONDALE		CLAYSTONE & SILTSTONE	0.9	311.2
227.9	CARBONDALE		CORE LOSS	0.9	312.1
227.0	CARBONDALE		GRAY SHALE	6.0	313.0
221.0	CARBONDALE		LIMESTONE	1.0	319.0
220.0	CARBONDALE		GRAY SHALE	10.0	320.0

**MAPID:** 11900082000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 80' S line, 2155' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.789837    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.903179    **DATE COLLECTED:** 0 / 0 / 1923  
**SURFACE ELEVATION (FT.):** 544.7    **LOGGED (FT.):** 338.0    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 0024    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
221.7	CARBONDALE	HERRIN	COAL	7.3	323.0	

**MAPID:** 11900082000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 80' S line, 2155' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.789837    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.903179    **DATE COLLECTED:** 0 / 0 / 1923  
**SURFACE ELEVATION (FT.):** 545.0    **LOGGED (FT.):** 331.3    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
221.0	CARBONDALE	HERRIN	COAL	7.3	324.0	

**MAPID:** 11900082000C    **VERSION:** 3    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 80' S line, 2155' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.789837    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.903179    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 545.0    **LOGGED (FT.):** 331.3    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 24    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
254.5	MODESTO	PIASA	LIMESTONE	6.0	290.5	
248.5	MODESTO		SHALE	9.3	296.5	
239.3	CARBONDALE	DANVILLE	COAL	0.2	305.7	
239.1	CARBONDALE		SHALE	1.2	305.9	
237.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.4	307.1	LOWER BENCH
233.5	CARBONDALE	LAWSON	GRAY SHALE	4.0	311.5	
229.5	CARBONDALE	ANNA	DARK GRAY SHALE	8.5	315.5	
221.0	CARBONDALE	HERRIN	COAL	7.3	324.0	

MAPID: 11901553000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 990' W line of SW

QUADRANGLE: WORDEN LONGITUDE: -89.797326 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.909557 DATE COLLECTED: 1 / 0 / 1951

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 330.0 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
254.5	MODESTO	PIASA	LIMESTONE	5.0	289.5
249.5	MODESTO		UNCLASSIFIED	4.0	294.5
245.5	CARBONDALE		UNCLASSIFIED	11.0	298.5
234.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	309.5
229.5	CARBONDALE	BRERETON	LIMESTONE	5.0	314.5
224.5	CARBONDALE	ANNA	BLACK SHALE	5.5	319.5
219.0	CARBONDALE	HERRIN	COAL	5.0	325.0

MAPID: 11901554000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 5 QUARTERS/FOOTAGES: 500' S line, 330' W line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.790351 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.904346 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 328.0 LOG TYPE: Electric Log

SOURCE: KESEL JOSEPH WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
262.0	MODESTO	PIASA	LIMESTONE	7.0	280.0
255.0	MODESTO		UNCLASSIFIED	5.0	287.0
250.0	CARBONDALE		UNCLASSIFIED	13.0	292.0
237.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	305.0
231.0	CARBONDALE	BRERETON	LIMESTONE	6.0	311.0
225.0	CARBONDALE	ANNA	BLACK SHALE	5.0	317.0
220.0	CARBONDALE	HERRIN	COAL	6.0	322.0

MAPID: 11901555000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 5 QUARTERS/FOOTAGES: 975' N line, 360' E line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.788313 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.915118 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 328.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
257.0	MODESTO	PIASA	LIMESTONE	5.0	288.0
252.0	MODESTO		UNCLASSIFIED	3.0	293.0
249.0	CARBONDALE		UNCLASSIFIED	6.0	296.0
243.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	302.0
238.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	307.0
235.0	CARBONDALE		UNCLASSIFIED	1.0	310.0
234.0	CARBONDALE	BRERETON	LIMESTONE	6.0	311.0
228.0	CARBONDALE	ANNA	BLACK SHALE	5.0	317.0
223.0	CARBONDALE	HERRIN	COAL	6.0	322.0

MAPID: 11901556000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 6 QUARTERS/FOOTAGES: 361' N line, 358' W line

QUADRANGLE: WORDEN LONGITUDE: -89.812793 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.917072 DATE COLLECTED: 3 / 0 / 1953

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 323.0 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND 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	3.0	276.0
281.0	MODESTO		UNCLASSIFIED	6.0	279.0
275.0	CARBONDALE		UNCLASSIFIED	16.0	285.0
259.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	301.0
254.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	306.0
252.0	CARBONDALE	BRERETON	LIMESTONE	6.0	308.0
246.0	CARBONDALE	ANNA	BLACK SHALE	3.0	314.0
243.0	CARBONDALE	HERRIN	COAL	6.0	317.0



MAPID: 11901557000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 6 QUARTERS/FOOTAGES: 660' N line, 330' E line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.806693 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.916161 DATE COLLECTED: 3 / 0 / 1953

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 315.0 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
275.0	MODESTO	PIASA	LIMESTONE	3.0	275.0
272.0	MODESTO		UNCLASSIFIED	5.0	278.0
267.0	CARBONDALE		UNCLASSIFIED	15.0	283.0
252.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	298.0
247.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	303.0
245.0	CARBONDALE	BRERETON	LIMESTONE	7.0	305.0
238.0	CARBONDALE	HERRIN	COAL	3.0	312.0

MAPID: 11901558000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 6 QUARTERS/FOOTAGES: 613' N line, 761' E line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.808217 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.916312 DATE COLLECTED: 5 / 0 / 1953

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 315.0 LOG TYPE: Electric Log

SOURCE: SUHRE, FERINAND WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
280.0	MODESTO	PIASA	LIMESTONE	8.0	270.0
272.0	MODESTO		UNCLASSIFIED	4.0	278.0
268.0	CARBONDALE		UNCLASSIFIED	12.0	282.0
256.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	294.0
251.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	299.0
250.0	CARBONDALE	BRERETON	LIMESTONE	8.0	300.0
242.0	CARBONDALE	ANNA	BLACK SHALE	4.0	308.0
238.0	CARBONDALE	HERRIN	COAL	3.0	312.0

MAPID: 11900697000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 990' E line  
 QUADRANGLE: WORDEN LONGITUDE: -89.8043 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.889612 DATE COLLECTED: 12 / 0 / 1947  
 SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 288.0 LOG TYPE: Electric Log  
 SOURCE: TABLOT C W & J W WELL TYPE: Dry Hole  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
275.0	MODESTO	PIASA	LIMESTONE	4.0	250.0
271.0	MODESTO		UNCLASSIFIED	3.5	254.0
267.5	CARBONDALE		UNCLASSIFIED	12.5	257.5
255.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	270.0
250.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	275.0
248.0	CARBONDALE		UNCLASSIFIED	2.0	277.0
246.0	CARBONDALE	BRERETON	LIMESTONE	2.0	279.0
244.0	CARBONDALE	ANNA	BLACK SHALE	2.0	281.0
242.0	CARBONDALE	HERRIN	COAL	5.0	283.0

MAPID: 11900697000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 990' E line  
 QUADRANGLE: WORDEN LONGITUDE: -89.8043 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.889612 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 289.0 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
275.0	MODESTO	PIASA	LIMESTONE	4.0	250.0
271.0	MODESTO		SHALE	10.0	254.0
261.0	CARBONDALE		SHALE	1.0	264.0
260.0	CARBONDALE		SHALE	6.0	265.0
254.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	271.0
249.0	CARBONDALE	LAWSON	SHALE	3.5	276.0
245.5	CARBONDALE	ANNA	SHALE	3.5	279.5
241.0	CARBONDALE	HERRIN	COAL	5.0	284.0

MAPID: 11900697000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 990' E line  
 QUADRANGLE: WORDEN LONGITUDE: -89.8043 GEOLOGIST: C TREWORGY  
 CONFIDENTIAL: N LATITUDE: 38.889612 DATE COLLECTED: 12 / 0 / 1947  
 SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 416.0 LOG TYPE: Electric Log  
 SOURCE: TABLOT C W & J W WELL TYPE: Producer-Oil  
 COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
276.0	MODESTO	PIASA	UNCLASSIFIED	5.0	249.0	
242.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	283.0	
232.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	293.0	THIN OR ABSENT
223.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	302.0	
147.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	378.0	
109.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	4.0	416.0	

MAPID: 11900989000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SE SW  
 QUADRANGLE: WORDEN LONGITUDE: -89.792678 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.889537 DATE COLLECTED: 10 / 0 / 1960  
 SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 290.0 LOG TYPE: Electric Log  
 SOURCE: CAHILL & SMITH WELL TYPE: Dry Hole  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
261.0	MODESTO	PIASA	LIMESTONE	6.0	245.0	
255.0	MODESTO		UNCLASSIFIED	4.0	251.0	
251.0	CARBONDALE		UNCLASSIFIED	10.0	255.0	
241.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	265.0	
236.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	270.0	
233.0	CARBONDALE		UNCLASSIFIED	1.0	273.0	
232.0	CARBONDALE	BRERETON	LIMESTONE	8.0	274.0	
224.0	CARBONDALE	ANNA	BLACK SHALE	3.0	282.0	
221.0	CARBONDALE	HERRIN	COAL	5.0	285.0	

MAPID: 11901559000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 8 QUARTERS/FOOTAGES: 384' S line, 140' E line of SW NE SE

QUADRANGLE: WORDEN

LONGITUDE: -89.785052

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.893228

DATE COLLECTED: 11 / 0 / 1952

SURFACE ELEVATION (FT.): 518.0

LOGGED (FT.): 320.0

LOG TYPE: Drillers Log

SOURCE: GROSSMANN WALTER G

WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
245.0	MODESTO	PIASA	LIMESTONE	7.0	273.0
238.0	MODESTO		UNCLASSIFIED	5.0	280.0
233.0	CARBONDALE		UNCLASSIFIED	12.0	285.0
221.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	297.0
216.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	302.0
214.0	CARBONDALE		UNCLASSIFIED	1.0	304.0
213.0	CARBONDALE	BRERETON	LIMESTONE	7.0	305.0
206.0	CARBONDALE	ANNA	BLACK SHALE	3.0	312.0
203.0	CARBONDALE	HERRIN	COAL	5.0	315.0

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MAPID: 11923644000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 8    QUARTERS/FOOTAGES: 1796' S line, 750' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.798149    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.893606    DATE COLLECTED: 11 / 6 / 1978

SURFACE ELEVATION (FT.): 540.0    LOGGED (FT.): 328.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-25C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0			UNCONSOLIDATED	109.0	0.0
431.0	MODESTO		GRAY SHALE	14.5	109.0
416.5	MODESTO	CARLINVILLE	LIMESTONE	0.5	123.5
416.0	MODESTO	CARLINVILLE	BLACK SHALE	2.0	124.0
414.0	MODESTO	CARLINVILLE	LIMESTONE	1.8	126.0
412.2	MODESTO		GRAY SHALE	17.7	127.8
394.5	MODESTO		SANDY SHALE	5.5	145.5
389.0	MODESTO		LIMESTONE	5.0	151.0
384.0	MODESTO		SANDSTONE	17.0	156.0
367.0	MODESTO		SANDY SHALE	42.0	173.0
325.0	MODESTO		CALCAREOUS SHALE	26.5	215.0
298.5	MODESTO		LIMESTONE	1.0	241.5
297.5	MODESTO		BLACK SHALE	1.5	242.5
296.0	MODESTO		SANDY SHALE	18.0	244.0
278.0	MODESTO		SHALE	6.0	262.0
272.0	MODESTO	PIASA	SHALY LIMESTONE	6.0	268.0
266.0	MODESTO		BLACK SHALE	2.5	274.0
263.5	MODESTO		CALCAREOUS SHALE	8.5	276.5
255.0	CARBONDALE	DANVILLE	COAL	1.0	285.0
254.0	CARBONDALE		GRAY SHALE	7.0	286.0
247.0	CARBONDALE	BRERETON	LIMESTONE	4.0	293.0
243.0	CARBONDALE	ANNA	BLACK SHALE	6.6	297.0
236.4	CARBONDALE	HERRIN	COAL	7.9	303.6
228.5	CARBONDALE		CLAYSTONE & SHALE	0.9	311.5
227.6	CARBONDALE		CORE LOSS	0.1	312.4
227.5	CARBONDALE		GRAY SHALE	3.5	312.5
224.0	CARBONDALE		SHALY LIMESTONE	2.0	316.0
222.0	CARBONDALE		CALCAREOUS SHALE	8.0	318.0
214.0	CARBONDALE		GRAY SHALE	1.7	326.0
212.3	CARBONDALE		LIMESTONE	0.3	327.7

MAPID: 11924185000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 8 QUARTERS/FOOTAGES: 468' N line, 63' E line

QUADRANGLE: WORDEN LONGITUDE: -89.782443 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.901563 DATE COLLECTED: 10 / 20 / 1977

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 310.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-28 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
510.0			UNCONSOLIDATED	91.0	0.0
419.0	MODESTO		GRAY SHALE	17.0	91.0
402.0	MODESTO	CARLINVILLE	LIMESTONE	1.0	108.0
401.0	MODESTO	CARLINVILLE	BLACK SHALE	1.0	109.0
400.0	MODESTO	CARLINVILLE	LIMESTONE	2.0	110.0
398.0	MODESTO		GRAY SHALE	15.0	112.0
383.0	MODESTO	CHAPEL	COAL	0.5	127.0
382.5	MODESTO		GRAY SHALE	8.0	127.5
374.5	MODESTO		SANDSTONE	23.5	135.5
351.0	MODESTO		SANDY SHALE	59.0	159.0
292.0	MODESTO		SHALE	3.0	218.0
289.0	MODESTO		LIMESTONE	3.5	221.0
285.5	MODESTO		CALCAREOUS SHALE	22.5	224.5
263.0	MODESTO		SHALE	4.0	247.0
259.0	MODESTO	PIASA	LIMESTONE	5.0	251.0
254.0	MODESTO		GRAY SHALE	10.0	256.0
244.0	CARBONDALE	DANVILLE	COAL	1.5	266.0
242.5	CARBONDALE		SHALE	3.5	267.5
239.0	CARBONDALE	BRERETON	SHALY LIMESTONE	7.0	271.0
232.0	CARBONDALE	ANNA	BLACK SHALE	5.9	278.0
226.1	CARBONDALE	HERRIN	COAL	7.9	283.9
218.2	CARBONDALE		UNDERCLAY	0.7	291.8
217.5	CARBONDALE		GRAY SHALE	2.5	292.5
215.0	CARBONDALE		LIMESTONE	3.5	295.0
211.5	CARBONDALE		GRAY SHALE	11.5	298.5

MAPID: 11901560000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 9 QUARTERS/FOOTAGES: 2110' N line, 640' E line  
 QUADRANGLE: WORDEN LONGITUDE: -89.765831 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.89692 DATE COLLECTED: 11 / 0 / 1953  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: KOHLBRECKER JOE WELL TYPE: Dry Hole  
 COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0	
-	MODESTO		UNCLASSIFIED	5.0	
-	CARBONDALE		UNCLASSIFIED	14.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	BRERETON	LIMESTONE	6.0	
-	CARBONDALE	ANNA	BLACK SHALE	4.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11901560000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 9 QUARTERS/FOOTAGES: 2110' N line, 640' E line  
 QUADRANGLE: WORDEN LONGITUDE: -89.765831 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.89692 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 264.0 LOG TYPE: Drillers Log  
 SOURCE: WELL TYPE: Oil and Gas Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
269.0	MODESTO	PIASA	LIMESTONE	6.0	251.0
263.0	CARBONDALE	ENERGY	GRAY SHALE	7.0	257.0

MAPID: 11902144000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: WORDEN LONGITUDE: -89.778731 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.896597 DATE COLLECTED: 12 / 0 / 1967

SURFACE ELEVATION (FT.): 537.0 LOGGED (FT.): 320.0 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	OVERBURDEN COMMENT
257.0	MODESTO	PIASA	LIMESTONE	5.0	280.0
252.0	MODESTO		UNCLASSIFIED	4.0	285.0
248.0	CARBONDALE		UNCLASSIFIED	10.0	289.0
238.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	299.0
233.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	304.0
231.0	CARBONDALE	BRERETON	LIMESTONE	6.0	306.0
225.0	CARBONDALE	ANNA	BLACK SHALE	2.0	312.0
223.0	CARBONDALE	HERRIN	COAL	6.0	314.0



MAPID: 11927405000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 9 QUARTERS/FOOTAGES: NE SW NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.771149 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.893381 DATE COLLECTED: 3 / 25 / 1971

SURFACE ELEVATION (FT.): 549.0 LOGGED (FT.): 325.2 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 63-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.0			CLAY	35.0	0.0	BROWN
514.0			GLACIAL DRIFT	75.0	35.0	
439.0			GLACIAL DRIFT	41.0	110.0	
398.0			GRAY SHALE	66.0	151.0	
332.0			SANDY SHALE	2.0	217.0	
330.0			GRAY SHALE	37.0	219.0	
293.0			SANDY SHALE	4.0	256.0	BROWN
289.0			GRAY SHALE	28.0	260.0	
261.0			LIMESTONE	6.0	288.0	
255.0			SANDY SHALE	2.0	294.0	
253.0			COAL	1.0	296.0	
252.0			SANDY SHALE	2.0	297.0	
250.0			LIMESTONE	0.8	299.0	
249.2			CALCAREOUS SHALE	3.7	299.8	
245.5			GRAY SHALE	6.3	303.5	
239.2			BLACK SHALE	2.1	309.8	
237.1	CARBONDALE	HERRIN	COAL	7.3	311.9	
229.8	CARBONDALE		GRAY SHALE	2.4	319.2	
227.4	CARBONDALE		CALCAREOUS SHALE	3.6	321.6	

MAPID: 11901087000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.750922 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.901798 DATE COLLECTED: 11 / 0 / 1962

SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 349.0 LOG TYPE: Electric Log

SOURCE: ZICOS, GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
248.0	MODESTO	PIASA	LIMESTONE	6.0	310.0	
242.0	MODESTO		UNCLASSIFIED	4.0	316.0	
238.0	CARBONDALE		UNCLASSIFIED	11.0	320.0	
227.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	331.0	
222.0	CARBONDALE	BRERETON	LIMESTONE	5.0	336.0	
217.0	CARBONDALE	ANNA	BLACK SHALE	3.0	341.0	
214.0	CARBONDALE	HERRIN	COAL	5.0	344.0	

MAPID: 11923629000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 10    QUARTERS/FOOTAGES: 45' S line, 1020' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.759953    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.888483    DATE COLLECTED: 11 / 2 / 1978

SURFACE ELEVATION (FT.): 550.0    LOGGED (FT.): 360.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-24    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
550.0			UNCONSOLIDATED	92.0	0.0
458.0	MODESTO		BLACK SHALE	3.0	92.0
455.0	MODESTO		GRAY SHALE	27.5	95.0
427.5	MODESTO		COAL	1.0	122.5
426.5	MODESTO		GRAY SHALE	38.0	123.5
388.5	MODESTO		COAL	1.0	161.5
387.5	MODESTO		GRAY SHALE	75.5	162.5
312.0	MODESTO		SANDSTONE	17.0	238.0
295.0	MODESTO		GRAY SHALE	15.0	255.0
280.0	MODESTO		LIMESTONE	2.5	270.0
277.5	MODESTO		GRAY SHALE	2.5	272.5
275.0	MODESTO		LIMESTONE	1.0	275.0
274.0	MODESTO		SANDY SHALE	31.0	276.0
243.0	MODESTO	PIASA	LIMESTONE	2.5	307.0
240.5	MODESTO		GRAY SHALE	10.5	309.5
230.0	MODESTO		BLACK SHALE	1.5	320.0
228.5	CARBONDALE	DANVILLE	COAL	1.0	321.5
227.5	CARBONDALE		SHALE	9.0	322.5
218.5	CARBONDALE	BRERETON	LIMESTONE	3.0	331.5
215.5	CARBONDALE	ENERGY	GRAY SHALE	5.5	334.5
210.0	CARBONDALE	HERRIN	COAL	7.0	340.0
203.0	CARBONDALE		SHALE	0.2	347.0
202.8	CARBONDALE		CORE LOSS	0.8	347.2
202.0	CARBONDALE		GRAY SHALE	5.5	348.0
196.5	CARBONDALE		LIMESTONE	1.0	353.5
195.5	CARBONDALE		GRAY SHALE	5.5	354.5

MAPID: 11924186000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 10    QUARTERS/FOOTAGES: 516' S line, 1686' E line of SE

QUADRANGLE: WORDEN    LONGITUDE: -89.75107    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.889747    DATE COLLECTED: 10 / 17 / 1977

SURFACE ELEVATION (FT.): 555.0    LOGGED (FT.): 375.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-27    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0			UNCONSOLIDATED	60.0	0.0
495.0	BOND		GRAY SHALE	22.5	60.0
472.5	BOND	CARTHAGE	LIMESTONE	4.5	82.5
468.0	MODESTO		BLACK SHALE	3.5	87.0
464.5	MODESTO		GRAY SHALE	29.5	90.5
435.0	MODESTO		COAL	0.5	120.0
434.5	MODESTO		GRAY SHALE	109.5	120.5
325.0	MODESTO		SANDSTONE	8.0	230.0
317.0	MODESTO		SANDY SHALE	21.5	238.0
295.5	MODESTO		COAL	1.0	259.5
294.5	MODESTO		SANDY SHALE	3.5	260.5
291.0	MODESTO		LIMESTONE	1.0	264.0
290.0	MODESTO		GRAY SHALE	7.0	265.0
283.0	MODESTO		SANDY SHALE	25.0	272.0
258.0	MODESTO		SHALE	3.5	297.0
254.5	MODESTO	PIASA	SHALY LIMESTONE	5.5	300.5
249.0	MODESTO		BLACK SHALE	2.0	306.0
247.0	MODESTO		GRAY SHALE	8.0	308.0
239.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	316.0
236.0	CARBONDALE	ENERGY	GRAY SHALE	28.5	319.0
207.0	CARBONDALE	HERRIN	COAL	8.0	348.0
199.0	CARBONDALE		UNDERCLAY	3.5	356.0
195.5	CARBONDALE		LIMESTONE	1.5	359.5
194.0	CARBONDALE		GRAY SHALE	6.0	361.0
188.0	CARBONDALE		LIMESTONE	1.0	367.0
187.0	CARBONDALE		SHALE	7.0	368.0

MAPID: 11923597000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 11    QUARTERS/FOOTAGES: 63' N line, 2631' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.735852    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.902572    DATE COLLECTED: 6 / 5 / 1978

SURFACE ELEVATION (FT.): 570.0    LOGGED (FT.): 400.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-14    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
570.0			UNCONSOLIDATED	65.0	0.0
505.0	MODESTO		GRAY SHALE	31.0	65.0
474.0	MODESTO	CARLINVILLE	LIMESTONE	3.0	96.0
471.0	MODESTO		BLACK SHALE	4.0	99.0
467.0	MODESTO		SANDSTONE	3.0	103.0
464.0	MODESTO		GRAY SHALE	16.0	106.0
448.0	MODESTO		BLACK SHALE	3.0	122.0
445.0	MODESTO	CHAPEL	COAL	1.5	125.0
443.5	MODESTO		GRAY SHALE	43.5	126.5
400.0	MODESTO		SANDY SHALE	4.0	170.0
396.0	MODESTO		SANDSTONE	107.0	174.0
289.0	MODESTO		GRAY SHALE	24.0	281.0
265.0	MODESTO		SANDSTONE	10.0	305.0
255.0	MODESTO	PIASA	LIMESTONE	5.0	315.0
250.0	MODESTO		BLACK SHALE	2.0	320.0
248.0	CARBONDALE		GRAY SHALE	10.0	322.0
238.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	332.0
235.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	21.0	335.0
214.0	CARBONDALE	ENERGY	GRAY SHALE	23.0	356.0
191.0	CARBONDALE	HERRIN	COAL	4.6	379.0
186.4	CARBONDALE		UNDERCLAY	1.4	383.6
185.0	CARBONDALE		CORE LOSS	1.0	385.0
184.0	CARBONDALE		UNDERCLAY	2.0	386.0
182.0	CARBONDALE		LIMESTONE	1.5	388.0
180.5	CARBONDALE		BLACK SHALE	2.5	389.5
178.0	CARBONDALE		GRAY SHALE	3.0	392.0
175.0	CARBONDALE		LIMESTONE	1.2	395.0
173.8	CARBONDALE		GRAY SHALE	3.8	396.2

MAPID: 11900699000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 2310' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.716334 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.88916 DATE COLLECTED: 4 / 0 / 1959

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR 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	8.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ENERGY	UNCLASSIFIED	44.0	
-	CARBONDALE	HERRIN	COAL	3.0	

MAPID: 11900699000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 2310' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.716334 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.88916 DATE COLLECTED:

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 474.0 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
244.0	MODESTO	PIASA	LIMESTONE	5.0	321.0
239.0	MODESTO		SHALE	4.0	326.0
235.0	CARBONDALE		SHALE	3.5	330.0
231.5	CARBONDALE		SHALE	3.5	333.5
228.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	337.0
223.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	66.0	342.0

MAPID: 11900694000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 13 QUARTERS/FOOTAGES: 330' N line, 330' E line  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.709331 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.887315 DATE COLLECTED: 11 / 0 / 1946  
 SURFACE ELEVATION (FT.): 581.0 LOGGED (FT.): 392.5 LOG TYPE: Electric Log  
 SOURCE: DORAN PAUL EST WELL TYPE: Dry Hole  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
257.5	MODESTO	PIASA	LIMESTONE	4.0	323.5
253.5	MODESTO		UNCLASSIFIED	4.0	327.5
249.5	CARBONDALE		UNCLASSIFIED	11.0	331.5
238.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	342.5
233.5	CARBONDALE	ENERGY	UNCLASSIFIED	39.5	347.5
194.0	CARBONDALE	HERRIN	COAL	5.5	387.0

MAPID: 11900694000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 13 QUARTERS/FOOTAGES: 330' N line, 330' E line  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.709331 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.887315 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 581.0 LOGGED (FT.): 392.0 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
257.0	MODESTO	PIASA	LIMESTONE	3.5	324.0
193.0	CARBONDALE	HERRIN	COAL	4.0	388.0

MAPID: 11901446000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 13 QUARTERS/FOOTAGES: 660' N line, 330' W line of NE  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.716177 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.886427 DATE COLLECTED: 6 / 0 / 1967  
 SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 403.0 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
253.5	MODESTO	PIASA	LIMESTONE	3.5	324.5
250.0	MODESTO		UNCLASSIFIED	6.0	328.0
244.0	CARBONDALE		UNCLASSIFIED	16.0	334.0
228.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	350.0
221.5	CARBONDALE	ENERGY	UNCLASSIFIED	42.5	356.5
179.0	CARBONDALE	HERRIN	COAL	4.0	399.0

MAPID: 11923598000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 14 QUARTERS/FOOTAGES: 336' N line, 40' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.744972 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.887372 DATE COLLECTED: 6 / 6 / 1978

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 385.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-15 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
556.0			UNCONSOLIDATED	62.0	0.0
494.0	MODESTO		GRAY SHALE	34.0	62.0
460.0	MODESTO		BLACK SHALE	5.0	96.0
455.0	MODESTO		GRAY SHALE	16.0	101.0
439.0	MODESTO	CHAPEL	COAL	2.0	117.0
437.0	MODESTO		SANDY SHALE	16.0	119.0
421.0	MODESTO		GRAY SHALE	9.0	135.0
412.0	MODESTO		CALCAREOUS SHALE	12.0	144.0
400.0	MODESTO		SANDY SHALE	35.0	156.0
365.0	MODESTO		GRAY SHALE	34.0	191.0
331.0	MODESTO		SHALY SANDSTONE	67.0	225.0
264.0	MODESTO		COAL	1.0	292.0
263.0	MODESTO		GRAY SHALE	5.0	293.0
258.0	MODESTO		SHALE	10.0	298.0
248.0	MODESTO	PIASA	LIMESTONE	4.0	308.0
244.0	MODESTO		BLACK SHALE	1.0	312.0
243.0	CARBONDALE		GRAY SHALE	4.5	313.0
238.5	CARBONDALE		SHALE	6.5	317.5
232.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	324.0
229.0	CARBONDALE	ENERGY	GRAY SHALE	36.0	327.0
193.0	CARBONDALE	HERRIN	COAL	6.1	363.0
186.9	CARBONDALE		UNDERCLAY	6.9	369.1
180.0	CARBONDALE		LIMESTONE	1.0	376.0
179.0	CARBONDALE		GRAY SHALE	5.0	377.0
174.0	CARBONDALE		LIMESTONE	1.0	382.0
173.0	CARBONDALE		GRAY SHALE	2.0	383.0

MAPID: 11900967000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE

QUADRANGLE: MARINE LONGITUDE: -89.790234 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.875008 DATE COLLECTED: 3 / 0 / 1960

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 277.0 LOG TYPE: Electric Log

SOURCE: CAHILL & SMITH WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
280.0	MODESTO	PIASA	LIMESTONE	5.0	220.0
275.0	MODESTO		UNCLASSIFIED	5.0	225.0
270.0	CARBONDALE		UNCLASSIFIED	13.0	230.0
257.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	243.0
250.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	5.0	250.0
245.0	CARBONDALE		UNCLASSIFIED	1.0	255.0
244.0	CARBONDALE	BRERETON	LIMESTONE	7.0	256.0
237.0	CARBONDALE	ANNA	BLACK SHALE	7.0	263.0
230.0	CARBONDALE	HERRIN	COAL	7.0	270.0

MAPID: 11902180000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SW

QUADRANGLE: WORDEN LONGITUDE: -89.799591 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.876919 DATE COLLECTED: 11 / 0 / 1968

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 304.0 LOG TYPE: Electric Log

SOURCE: EGG OIL, INC. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
275.5	MODESTO	PIASA	LIMESTONE	3.5	258.5
272.0	MODESTO		UNCLASSIFIED	4.0	262.0
268.0	CARBONDALE		UNCLASSIFIED	10.0	266.0
258.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	276.0
253.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	281.0
249.0	CARBONDALE		UNCLASSIFIED	2.0	285.0
247.0	CARBONDALE	BRERETON	LIMESTONE	4.5	287.0
242.5	CARBONDALE	ANNA	BLACK SHALE	5.5	291.5
237.0	CARBONDALE	HERRIN	COAL	7.0	297.0



MAPID: 11923599000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 17 QUARTERS/FOOTAGES: 630' N line, 55' E line

QUADRANGLE: WORDEN LONGITUDE: -89.782416 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.886843 DATE COLLECTED: 6 / 5 / 1978

SURFACE ELEVATION (FT.): 541.0 LOGGED (FT.): 355.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-13 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
541.0			UNCONSOLIDATED	120.0	0.0
421.0	MODESTO		GRAY SHALE	30.0	120.0
391.0	MODESTO	CARLINVILLE	LIMESTONE	2.0	150.0
389.0	MODESTO	CARLINVILLE	BLACK SHALE	1.0	152.0
388.0	MODESTO	CARLINVILLE	LIMESTONE	2.0	153.0
386.0	MODESTO		GRAY SHALE	14.0	155.0
372.0	MODESTO	CHAPEL	COAL	1.0	169.0
371.0	MODESTO		SANDY SHALE	91.0	170.0
280.0	MODESTO		COAL	3.0	261.0
277.0	MODESTO		SHALE	2.0	264.0
275.0	MODESTO		LIMESTONE	1.5	266.0
273.5	MODESTO		BLACK SHALE	1.0	267.5
272.5	MODESTO		SANDY SHALE	19.5	268.5
253.0	MODESTO		SHALE	3.0	288.0
250.0	MODESTO	PIASA	LIMESTONE	3.0	291.0
247.0	MODESTO		SHALE	4.0	294.0
243.0	MODESTO		BLACK SHALE	2.0	298.0
241.0	MODESTO		GRAY SHALE	8.0	300.0
233.0	CARBONDALE	DANVILLE	COAL	1.0	308.0
232.0	CARBONDALE		GRAY SHALE	6.0	309.0
226.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	315.0
223.0	CARBONDALE		SHALE	4.0	318.0
219.0	CARBONDALE	ANNA	BLACK SHALE	6.3	322.0
212.7	CARBONDALE	HERRIN	COAL	6.6	328.3
206.1	CARBONDALE		GRAY SHALE	2.2	334.9
204.0	CARBONDALE		LIMESTONE	1.0	337.0
203.0	CARBONDALE		SHALE	15.0	338.0
188.0	CARBONDALE		LIMESTONE	2.0	353.0

MAPID: 11900695000C VERSION: 1

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 330' W line  
 QUADRANGLE: MARINE LONGITUDE: -89.814234 GEOLOGIST: C TREWORGY  
 CONFIDENTIAL: N LATITUDE: 38.860258 DATE COLLECTED: 10 / 0 / 1948  
 SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 414.0 LOG TYPE: Electric Log  
 SOURCE: MACDONELL CO. OF LIMA WELL TYPE: Producer-Oil  
 COMMENT: ELEV. IS SURF, NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
302.0	MODESTO	PIASA	UNCLASSIFIED	5.0	224.0	
250.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	276.0	
240.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	286.0	THIN OR ABSENT
232.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	294.0	
152.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	374.0	
112.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	2.5	414.0	

MAPID: 11900695000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 330' W line  
 QUADRANGLE: MARINE LONGITUDE: -89.814234 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.860258 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 280.5 LOG TYPE: Electric Log  
 SOURCE: WELL TYPE: Oil and Gas Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
272.0	CARBONDALE	ENERGY	SHALE	22.0	254.0	PICKED BY C TREWORGY FROM ELOG
250.0	CARBONDALE	HERRIN	COAL	4.5	276.0	

MAPID: 11923610000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 19 QUARTERS/FOOTAGES: 60' S line, 90' E line

QUADRANGLE: MARINE LONGITUDE: -89.801074 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.859503 DATE COLLECTED: 6 / 12 / 1978

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 285.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-18 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
498.0			UNCONSOLIDATED	86.0	0.0
412.0	MODESTO	CARLINVILLE	LIMESTONE	1.5	86.0
410.5	MODESTO		GRAY SHALE	19.5	87.5
391.0	MODESTO	CHAPEL	COAL	1.0	107.0
390.0	MODESTO		GRAY SHALE	16.0	108.0
374.0	MODESTO		SANDY SHALE	60.0	124.0
314.0	MODESTO		GRAY SHALE	16.0	184.0
298.0	MODESTO		SANDSTONE	8.0	200.0
290.0	MODESTO		GRAY SHALE	5.0	208.0
285.0	MODESTO	PIASA	LIMESTONE	3.0	213.0
282.0			SHALE	9.5	216.0
272.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	225.5
270.0	CARBONDALE	ENERGY	GRAY SHALE	38.0	228.0
232.0	CARBONDALE	HERRIN	COAL	4.1	266.0
227.9	CARBONDALE		GRAY SHALE	6.9	270.1
221.0	CARBONDALE		LIMESTONE	0.5	277.0
220.5	CARBONDALE		GRAY SHALE	6.5	277.5
214.0	CARBONDALE		SHALY LIMESTONE	1.0	284.0

MAPID: 11900696000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 21 QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.766973 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.871019 DATE COLLECTED: 12 / 0 / 1942

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 356.0 LOG TYPE: Electric Log

SOURCE: POWERS ROY R ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
256.0	MODESTO	PIASA	LIMESTONE	5.0	290.0
251.0	MODESTO		UNCLASSIFIED	2.5	295.0
248.5	CARBONDALE		UNCLASSIFIED	7.5	297.5
241.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	305.0
236.0	CARBONDALE	ENERGY	UNCLASSIFIED	40.0	310.0
196.0	CARBONDALE	HERRIN	COAL	6.0	350.0

MAPID: 11900696000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 21 QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: MARINE LONGITUDE: -89.766973 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.871019 DATE COLLECTED:

SURFACE ELEVATION (FT.): 546.0 LOGGED (FT.): 356.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
256.0	MODESTO	PIASA	LIMESTONE	5.0	290.0	
251.0	MODESTO		DARK GRAY SHALE	7.0	295.0	
244.0	CARBONDALE		DARK GRAY SHALE	2.0	302.0	
242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	304.0	
236.0	CARBONDALE	BANKSTON FORK	SHALE	2.0	310.0	
234.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	312.0	
229.0	CARBONDALE	LAWSON	GRAY SHALE	5.0	317.0	
224.0	CARBONDALE	ENERGY	GRAY SHALE	28.0	322.0	
196.0	CARBONDALE	HERRIN	COAL	6.0	350.0	

MAPID: 11927406000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 21 QUARTERS/FOOTAGES: 1320' S, 1' E, C/c

QUADRANGLE: MARINE LONGITUDE: -89.772828 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.862906 DATE COLLECTED: 12 / 15 / 1999

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 331.2 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 67-MT WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
528.0			CLAY	15.0	0.0	BROWN
513.0			GLACIAL DRIFT	45.0	15.0	
468.0			SAND/CLAY	56.0	60.0	
412.0			SANDY SHALE	109.0	116.0	
303.0			SANDSTONE	15.0	225.0	
288.0			SANDY SHALE	22.0	240.0	
266.0			LIMESTONE	6.0	262.0	
260.0			GRAY SHALE	9.0	268.0	
251.0	SHELBURN	BRERETON	LIMESTONE	5.0	277.0	
246.0	CARBONDALE	ENERGY	SANDY SHALE	39.7	282.0	
206.3	CARBONDALE	HERRIN	COAL	4.9	321.7	
201.4	CARBONDALE		SHALE	4.6	326.6	

MAPID: 11901564000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 24 QUARTERS/FOOTAGES: 466' S line, 1400' E line

QUADRANGLE: GRANTFORK LONGITUDE: -89.71299 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.860181 DATE COLLECTED: 3 / 0 / 1945

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 387.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
243.0	MODESTO	PIASA	LIMESTONE	8.0	330.0
235.0	MODESTO		UNCLASSIFIED	5.0	338.0
230.0	CARBONDALE		UNCLASSIFIED	15.0	343.0
215.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	358.0
209.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	364.0
207.0	CARBONDALE		UNCLASSIFIED	1.0	366.0
206.0	CARBONDALE	BRERETON	LIMESTONE	5.0	367.0
201.0	CARBONDALE	ENERGY	UNCLASSIFIED	13.0	372.0
188.0	CARBONDALE	HERRIN	COAL	2.0	385.0

MAPID: 11900688000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 28 QUARTERS/FOOTAGES: 990' S line, 330' E line

QUADRANGLE: MARINE LONGITUDE: -89.764716 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.847268 DATE COLLECTED: 9 / 0 / 1949

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 343.0 LOG TYPE: Electric Log

SOURCE: CAMPBELL & DELEE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
262.1	MODESTO	PIASA	LIMESTONE	5.5	287.9
256.6	MODESTO		UNCLASSIFIED	2.8	293.4
253.8	CARBONDALE		UNCLASSIFIED	7.8	296.2
246.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	304.0
242.0	CARBONDALE	ENERGY	UNCLASSIFIED	31.0	308.0
211.0	CARBONDALE	HERRIN	COAL	4.0	339.0

MAPID: 11900688000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 28 QUARTERS/FOOTAGES: 990' S line, 330' E line

QUADRANGLE: MARINE LONGITUDE: -89.764716 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.847268 DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 523.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
162.0	MODESTO	PIASA	LIMESTONE	5.0	388.0	
157.0	MODESTO		DARK GRAY SHALE	9.0	393.0	
148.0	CARBONDALE		DARK GRAY SHALE	2.0	402.0	
146.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	404.0	
139.0	CARBONDALE	LAWSON	DARK GRAY SHALE	6.0	411.0	
133.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	50.0	417.0	

MAPID: 11900688000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 28 QUARTERS/FOOTAGES: 990' S line, 330' E line

QUADRANGLE: MARINE LONGITUDE: -89.764716 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 38.847268 DATE COLLECTED: 9 / 0 / 1949

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 488.0 LOG TYPE: Electric Log

SOURCE: CAMPBELL & DELEE WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
264.0	MODESTO	PIASA	UNCLASSIFIED	-	286.0	
201.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	349.0	
188.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	362.0	THIN OR ABSENT
178.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	372.0	
108.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	442.0	
62.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	488.0	

**MAPID:** 1192360000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 2382' S line, 1002' W line  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.778663    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.851269    **DATE COLLECTED:** 6 / 6 / 1978  
**SURFACE ELEVATION (FT.):** 540.0    **LOGGED (FT.):** 345.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL ND-78-16    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0			UNCONSOLIDATED	129.0	0.0
411.0	MODESTO		GRAY SHALE	25.5	129.0
385.5	MODESTO		SANDY SHALE	93.5	154.5
292.0	MODESTO		SANDSTONE	3.5	248.0
288.5	MODESTO		SANDY SHALE	10.0	251.5
278.5	MODESTO		SHALE	3.0	261.5
275.5	MODESTO	PIASA	LIMESTONE	4.0	264.5
271.5	MODESTO		BLACK SHALE	1.5	268.5
270.0	CARBONDALE		GRAY SHALE	9.5	270.0
260.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	279.5
258.0	CARBONDALE	ENERGY	GRAY SHALE	39.0	282.0
219.0	CARBONDALE	ENERGY	BLACK SHALE	1.0	321.0
218.0	CARBONDALE	HERRIN	COAL	0.8	322.0
217.2	CARBONDALE	HERRIN	BLACK SHALE	1.0	322.8
216.3	CARBONDALE	HERRIN	SHALE	3.3	323.7
213.0	CARBONDALE	HERRIN	BLACK SHALE	0.5	327.0
212.5	CARBONDALE	HERRIN	COAL	2.6	327.5
210.0	CARBONDALE		GRAY SHALE	0.7	330.0
209.3	CARBONDALE		CORE LOSS	0.4	330.7
209.0	CARBONDALE		SHALE	14.0	331.0

**MAPID:** 11900689000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 6W    **SECTION:** 29    **QUARTERS/FOOTAGES:** 1650' S line, 2310' W line  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.792692    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.849318    **DATE COLLECTED:** 6 / 0 / 1951  
**SURFACE ELEVATION (FT.):** 526.0    **LOGGED (FT.):** 310.0    **LOG TYPE:** Electric Log  
**SOURCE:** EISENSTEIN, ETAL    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
279.0	MODESTO	PIASA	LIMESTONE	5.5	247.0
273.5	MODESTO		UNCLASSIFIED	2.5	252.5
271.0	CARBONDALE		UNCLASSIFIED	7.5	255.0
263.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	262.5
259.0	CARBONDALE	ENERGY	UNCLASSIFIED	39.0	267.0
220.0	CARBONDALE	HERRIN	COAL	4.0	306.0

MAPID: 11900689000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 29 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MARINE LONGITUDE: -89.792692 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.849318 DATE COLLECTED:

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 309.0 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
278.0	MODESTO	PIASA	LIMESTONE	4.0	248.0
274.0	MODESTO		DARK GRAY SHALE	8.0	252.0
266.0	CARBONDALE		DARK GRAY SHALE	2.0	260.0
264.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	262.0
256.0	CARBONDALE	LAWSON	DARK GRAY SHALE	6.0	270.0
250.0	CARBONDALE	ENERGY	GRAY SHALE	30.0	276.0
220.0	CARBONDALE	HERRIN	COAL	3.0	306.0

MAPID: 11924187000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 29 QUARTERS/FOOTAGES: 1300' N line, 1680' E line

QUADRANGLE: MARINE LONGITUDE: -89.788097 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.855702 DATE COLLECTED: 4 / 28 / 1975

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 322.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-1 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
530.0			UNCONSOLIDATED	130.0	0.0
400.0	MODESTO		SHALE	2.0	130.0
398.0	MODESTO	CARLINVILLE	SANDY LIMESTONE	4.0	132.0
394.0	MODESTO		SHALY SANDSTONE	22.0	136.0
372.0	MODESTO		GRAY SHALE	61.0	158.0
311.0	MODESTO		SHALY LIMESTONE	2.5	219.0
308.5	MODESTO		SANDY SHALE	20.0	221.5
288.5	MODESTO		SHALE	7.5	241.5
281.0	MODESTO	PIASA	LIMESTONE	5.0	249.0
276.0	MODESTO		BLACK SHALE	2.0	254.0
274.0	CARBONDALE		GRAY SHALE	8.0	256.0
266.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	264.0
262.0	CARBONDALE	ENERGY	SILTY SHALE	40.5	268.0
221.5	CARBONDALE	HERRIN	COAL	4.0	308.5
217.5	CARBONDALE		UNDERCLAY	1.0	312.5
216.5	CARBONDALE		SANDY LIMESTONE	4.5	313.5
212.0	CARBONDALE		GRAY SHALE	4.0	318.0



MAPID: 11927407000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON

TWP/RNG: 5N 6W

SECTION: 29

QUARTERS/FOOTAGES: 500' S, 1' E, C/c

QUADRANGLE: MARINE

LONGITUDE: -89.791517

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 38.85066

DATE COLLECTED: 2 / 13 / 1970

SURFACE ELEVATION (FT.): 531.0

LOGGED (FT.): 301.3

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 35A-MT

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
531.0			CLAY	3.0	0.0	BLACK
528.0			CLAY	8.5	3.0	BROWN
519.5			CLAY, SAND & SILTSTONE	5.5	11.5	
514.0			GRAVEL	2.7	17.0	
511.3			CLAY & GRAVEL	1.8	19.7	
509.5			CLAY	54.5	21.5	
455.0			GRAVEL	1.2	76.0	
453.8			CLAY	54.8	77.2	SANDY, GRAY
399.0			GRAVEL	1.5	132.0	
397.5			GRAY SHALE	69.3	133.5	
328.2			LIMESTONE	0.3	202.8	
327.9			GRAY SHALE	7.6	203.1	
320.3			LIMESTONE	0.3	210.7	
320.0			GRAY SHALE	24.2	211.0	
295.8			LIMESTONE	5.7	235.2	WHITE
290.1			GRAY SHALE	9.1	240.9	
281.0			LIMESTONE	3.0	250.0	
278.0			GRAY SHALE	3.9	253.0	
274.1			LIMESTONE	0.5	256.9	
273.6	CARBONDALE	ENERGY	GRAY SHALE	35.2	257.4	
238.4	CARBONDALE	ENERGY	BLACK SHALE	0.3	292.6	
238.1	CARBONDALE	ENERGY	SANDY SHALE	3.5	292.9	
234.6	CARBONDALE	HERRIN	COAL	4.1	296.4	
230.5	CARBONDALE		CLAYSTONE	0.8	300.5	

MAPID: 11902530000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 30 QUARTERS/FOOTAGES:

QUADRANGLE: MARINE LONGITUDE: -89.808238 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.852111 DATE COLLECTED:

SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 277.3 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO TR-15 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
290.3	MODESTO	PIASA	LIMESTONE	5.5	216.7	
284.8	MODESTO		UNCLASSIFIED	2.3	222.2	INTERVAL ABOVE DANVILLE, BELOW PIASA
282.5	CARBONDALE		UNCLASSIFIED	6.3	224.5	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
276.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	230.8	
272.2	CARBONDALE	ENERGY	UNCLASSIFIED	38.2	234.8	
234.0	CARBONDALE	HERRIN	COAL	4.3	273.0	

MAPID: 11902530000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 30 QUARTERS/FOOTAGES:

QUADRANGLE: MARINE LONGITUDE: -89.808238 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.852111 DATE COLLECTED:

SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 277.3 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO TR-15 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
286.2	MODESTO	PIASA	LIMESTONE	4.0	220.8	
282.2	MODESTO		GRAY SHALE	10.0	224.8	
272.2	CARBONDALE	ENERGY	UNCLASSIFIED	38.2	234.8	
234.0	CARBONDALE	HERRIN	COAL	4.3	273.0	

MAPID: 11924188000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 30 QUARTERS/FOOTAGES: 1100' S line, 1700' W line

QUADRANGLE: MARINE LONGITUDE: -89.809784 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.847935 DATE COLLECTED: 4 / 29 / 1975

SURFACE ELEVATION (FT.): 512.0 LOGGED (FT.): 293.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-2 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
512.0			UNCONSOLIDATED	90.0	0.0
422.0	MODESTO	CARLINVILLE	LIMESTONE	1.0	90.0
421.0	MODESTO		GRAY SHALE	10.0	91.0
411.0	MODESTO		GRAY SHALE	26.0	101.0
385.0	MODESTO		GRAY SHALE	76.0	127.0
309.0	MODESTO		BLACK SHALE	1.5	203.0
307.5	MODESTO		SHALE	19.0	204.5
288.5	MODESTO	PIASA	LIMESTONE	3.5	223.5
285.0	MODESTO		BLACK SHALE	4.0	227.0
281.0	CARBONDALE		SHALE	7.0	231.0
274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	238.0
271.5	CARBONDALE	ENERGY	GRAY SHALE	3.5	240.5
268.0	CARBONDALE	ENERGY	GRAY SHALE	35.5	244.0
232.5	CARBONDALE	HERRIN	COAL	4.5	279.5
228.0	CARBONDALE		UNDERCLAY	3.0	284.0
225.0	CARBONDALE		GRAY SHALE	6.0	287.0

MAPID: 11901203000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 31 QUARTERS/FOOTAGES: 2310' N line, 1652' E line

QUADRANGLE: MARINE LONGITUDE: -89.806704 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.838482 DATE COLLECTED: 10 / 0 / 1965

SURFACE ELEVATION (FT.): 519.0 LOGGED (FT.): 280.0 LOG TYPE: Electric Log

SOURCE: MORGAN DAVE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
301.0	MODESTO	PIASA	LIMESTONE	4.5	218.0
296.5	MODESTO		UNCLASSIFIED	3.0	222.5
293.5	CARBONDALE		UNCLASSIFIED	8.0	225.5
285.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	233.5
281.0	CARBONDALE	ENERGY	UNCLASSIFIED	39.0	238.0
242.0	CARBONDALE	HERRIN	COAL	3.0	277.0

MAPID: 11901203000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 31 QUARTERS/FOOTAGES: 2310' N line, 1652' E line

QUADRANGLE: MARINE LONGITUDE: -89.806704 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.838482 DATE COLLECTED:

SURFACE ELEVATION (FT.): 519.0 LOGGED (FT.): 281.5 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
299.0	MODESTO	PIASA	LIMESTONE	4.0	220.0
295.0	MODESTO		SHALE	3.0	224.0
292.0	CARBONDALE		SHALE	10.0	227.0
282.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	237.0
276.0	CARBONDALE	LAWSON	DARK GRAY SHALE	7.0	243.0
269.0	CARBONDALE	ENERGY	GRAY SHALE	26.0	250.0
243.0	CARBONDALE	HERRIN	COAL	5.5	276.0

MAPID: 11924189000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 31 QUARTERS/FOOTAGES: 75' S line, 2000' W line

QUADRANGLE: MARINE LONGITUDE: -89.809154 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.830481 DATE COLLECTED: 4 / 30 / 1975

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 272.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-3 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
490.0			UNCONSOLIDATED	97.0	0.0
393.0	MODESTO		LIMESTONE	3.5	97.0
389.5	MODESTO		GRAY SHALE	5.0	100.5
384.5	MODESTO		LIMESTONE	1.0	105.5
383.5	MODESTO		GRAY SHALE	13.5	106.5
370.0	MODESTO		GRAY SHALE	82.0	120.0
288.0	MODESTO	PIASA	LIMESTONE	3.0	202.0
285.0			SHALE	11.0	205.0
274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	216.0
271.0	CARBONDALE	ENERGY	GRAY SHALE	42.5	219.0
228.5	CARBONDALE	HERRIN	COAL	4.0	261.5
224.5	CARBONDALE		UNDERCLAY	2.5	265.5
222.0	CARBONDALE		SHALE	4.0	268.0

MAPID: 11924190000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 31 QUARTERS/FOOTAGES: 925' N line, 1700' W line

QUADRANGLE: MARINE LONGITUDE: -89.80994 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.842347 DATE COLLECTED: 10 / 10 / 1977

SURFACE ELEVATION (FT.): 512.0 LOGGED (FT.): 300.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-25 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
512.0			UNCONSOLIDATED	112.0	0.0	
400.0	MODESTO		SANDY SHALE	82.0	112.0	
318.0	MODESTO		GRAY SHALE	4.0	194.0	
314.0	MODESTO		BLACK SHALE	2.0	198.0	
312.0	MODESTO		GRAY SHALE	4.0	200.0	
308.0	MODESTO		SANDY SHALE	11.5	204.0	
296.5	MODESTO		SHALE	4.5	215.5	
292.0	MODESTO	PIASA	LIMESTONE	3.0	220.0	
289.0	MODESTO		BLACK SHALE	3.0	223.0	
286.0	CARBONDALE	ENERGY	GRAY SHALE	2.0	226.0	
284.0	CARBONDALE	ENERGY	GRAY SHALE	5.0	228.0	
279.0	CARBONDALE	ENERGY	SANDY SHALE	32.0	233.0	
247.0	CARBONDALE	ENERGY	GRAY SHALE	8.8	265.0	
238.2	CARBONDALE	HERRIN	COAL	3.6	273.8	
234.6	CARBONDALE		UNDERCLAY	3.6	277.4	
231.0	CARBONDALE		LIMESTONE	5.0	281.0	
226.0	CARBONDALE		SHALE	14.0	286.0	
212.0	CARBONDALE		UNCLASSIFIED	0.0	300.0	

MAPID: 11900690000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: MARINE LONGITUDE: -89.78809 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.838281 DATE COLLECTED:

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 336.0 LOG TYPE: Electric Log

SOURCE: TEXAS COMPANY Carroll 1 WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
263.0	MODESTO	PIASA	LIMESTONE	5.0	271.0	
258.0	MODESTO		SHALE	13.0	276.0	
245.0	CARBONDALE		BLACK SHALE	1.0	289.0	
244.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	290.0	LOWER BENCH
236.0	CARBONDALE	LAWSON	GRAY SHALE	6.0	298.0	
230.0	CARBONDALE	BRERETON	LIMESTONE	3.0	304.0	
227.0	CARBONDALE	ANNA	BLACK SHALE	1.0	307.0	
226.0	CARBONDALE	ENERGY	GRAY SHALE	15.0	308.0	
211.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	13.0	323.0	

MAPID: 11900690000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: MARINE LONGITUDE: -89.78809 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.838281 DATE COLLECTED: 8 / 0 / 1953

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 333.0 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.)		COMMENT
				UNIT	OVERBURDEN	
268.0	MODESTO	PIASA	LIMESTONE	5.0	266.0	
263.0	MODESTO		UNCLASSIFIED	2.5	271.0	
260.5	CARBONDALE		UNCLASSIFIED	7.5	273.5	
253.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	281.0	
249.0	CARBONDALE	ENERGY	UNCLASSIFIED	45.0	285.0	
204.0	CARBONDALE	HERRIN	COAL	3.0	330.0	

MAPID: 11923601000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 6W    SECTION: 32    QUARTERS/FOOTAGES: 2064' N line, 34' W line

QUADRANGLE: MARINE    LONGITUDE: -89.800751    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.839086    DATE COLLECTED: 6 / 7 / 1978

SURFACE ELEVATION (FT.): 503.0    LOGGED (FT.): 310.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-17    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
503.0			UNCONSOLIDATED	111.0	0.0	
392.0	MODESTO		GRAY SHALE	21.0	111.0	
371.0	MODESTO		LIMESTONE	1.0	132.0	
370.0	MODESTO		CALCAREOUS SHALE	35.0	133.0	
335.0	MODESTO		SANDY SHALE	20.0	168.0	
315.0	MODESTO		GRAY SHALE	26.0	188.0	
289.0	MODESTO		SHALE	6.0	214.0	
283.0	MODESTO		GRAY SHALE	4.0	220.0	
279.0	MODESTO	PIASA	LIMESTONE	5.0	224.0	
274.0	MODESTO		GRAY SHALE	3.0	229.0	
271.0	CARBONDALE		SHALE	6.0	232.0	
265.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	238.0	
262.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	8.0	241.0	
254.0	CARBONDALE	ENERGY	GRAY SHALE	7.0	249.0	
247.0	CARBONDALE	ENERGY	SANDY SHALE	28.5	256.0	
218.5	CARBONDALE	HERRIN	COAL	1.9	284.5	
216.6	CARBONDALE		UNDERCLAY	1.9	286.4	
214.7	CARBONDALE		LIMESTONE	3.3	288.3	
211.4	CARBONDALE		CORE LOSS	0.1	291.6	
211.3	CARBONDALE		CALCAREOUS SHALE	6.3	291.7	
205.0	CARBONDALE		GRAY SHALE	12.0	298.0	

MAPID: 11924191000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 32 QUARTERS/FOOTAGES: 35' N line, 1350' E line

QUADRANGLE: MARINE LONGITUDE: -89.787021 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.84465 DATE COLLECTED: 10 / 10 / 1977

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 340.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-26 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
525.0			UNCONSOLIDATED	139.0	0.0
386.0	MODESTO		GRAY SHALE	6.0	139.0
380.0	MODESTO		SHALE	4.0	145.0
376.0			GRAY SHALE	11.0	149.0
365.0			GRAY SHALE	10.0	160.0
355.0	MODESTO		SILTY SHALE	60.0	170.0
295.0	MODESTO		CALCAREOUS SHALE	3.5	230.0
291.5	MODESTO		BLACK SHALE	1.0	233.5
290.5	MODESTO		SHALE	6.5	234.5
284.0	MODESTO		GRAY SHALE	16.0	241.0
268.0	MODESTO	PIASA	LIMESTONE	3.0	257.0
265.0			SHALE	10.0	260.0
255.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	270.0
252.5	CARBONDALE	ENERGY	GRAY SHALE	41.5	272.5
211.0	CARBONDALE	HERRIN	COAL	1.5	314.0
209.5	CARBONDALE	HERRIN	SHALE	4.0	315.5
205.5	CARBONDALE	HERRIN	COAL	2.5	319.5
203.0	CARBONDALE		UNDERCLAY	1.5	322.0
201.5	CARBONDALE		SHALY LIMESTONE	5.5	323.5
196.0	CARBONDALE		GRAY SHALE	11.0	329.0

MAPID: 11900428000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 33 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: MARINE LONGITUDE: -89.776427 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.841885 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 541.0 LOGGED (FT.): 341.0 LOG TYPE: Electric Log

SOURCE: ALCH, LESSING WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
271.0	MODESTO	PIASA	LIMESTONE	10.0	270.0
261.0	MODESTO		UNCLASSIFIED	1.5	280.0
259.5	CARBONDALE		UNCLASSIFIED	3.5	281.5
256.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	285.0
251.0	CARBONDALE	ENERGY	UNCLASSIFIED	47.0	290.0
204.0	CARBONDALE	HERRIN	COAL	4.0	337.0



MAPID: 11900691000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 33 QUARTERS/FOOTAGES: 330' S line, 382' W line of SE SW

QUADRANGLE: MARINE LONGITUDE: -89.776302 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.830806 DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 345.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	4.0		
-	MODESTO		DARK GRAY SHALE	9.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0		LOWER BENCH
-	CARBONDALE	LAWSON	GRAY SHALE	9.0		
-	CARBONDALE	BRERETON	LIMESTONE	3.0		
-	CARBONDALE	ENERGY	GRAY SHALE	22.0		

MAPID: 11900691000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 33 QUARTERS/FOOTAGES: 330' S line, 382' W line of SE SW

QUADRANGLE: MARINE LONGITUDE: -89.776302 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.830806 DATE COLLECTED: 2 / 0 / 1947

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 331.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
276.5	MODESTO	PIASA	LIMESTONE	4.0	261.5	
272.5	MODESTO		UNCLASSIFIED	2.5	265.5	
270.0	CARBONDALE		UNCLASSIFIED	7.0	268.0	
263.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	275.0	
259.0	CARBONDALE	ENERGY	UNCLASSIFIED	49.0	279.0	
210.0	CARBONDALE	HERRIN	COAL	3.0	328.0	

MAPID: 11901084000C VERSION: 1

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE

QUADRANGLE: MARINE LONGITUDE: -89.764799 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 38.83625 DATE COLLECTED: 11 / 0 / 1962

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 470.0 LOG TYPE: Electric Log

SOURCE: KAUFMAN, E.H. WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
271.0	MODESTO	PIASA	UNCLASSIFIED	-	268.0	
201.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	338.0	ENERGY SHALE ROOF
191.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	348.0	THIN OR ABSENT
182.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	357.0	
113.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	426.0	
69.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	470.0	

MAPID: 11901084000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE

QUADRANGLE: MARINE LONGITUDE: -89.764799 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.83625 DATE COLLECTED: 11 / 0 / 1962

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 337.0 LOG TYPE: Electric Log

SOURCE: KAUFMAN, E.H. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
273.5	MODESTO	PIASA	LIMESTONE	4.0	265.5	
269.5	MODESTO		UNCLASSIFIED	2.5	269.5	
267.0	CARBONDALE		UNCLASSIFIED	8.0	272.0	
259.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	280.0	
255.0	CARBONDALE	ENERGY	UNCLASSIFIED	51.0	284.0	
204.0	CARBONDALE	HERRIN	COAL	2.0	335.0	

MAPID: 11900692000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' N line, 550' E line of NW SE

QUADRANGLE: MARINE LONGITUDE: -89.751819 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.836165 DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 324.5 LOG TYPE: Electric Log

SOURCE: CAMPBELL & DELEE WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION, DEPTHS CORRECTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	4.5		
-	MODESTO		DARK GRAY SHALE	10.0		
-	CARBONDALE		SHALE	2.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0		UPPER BENCH
-	CARBONDALE	BANKSTON FORK	SHALE	2.0		SHALE PARTING
-	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0		LOWER BENCH
-	CARBONDALE	LAWSON	GRAY SHALE	6.0		
-	CARBONDALE	BRERETON	LIMESTONE	3.0		
-	CARBONDALE	ENERGY	GRAY SHALE	20.0		

MAPID: 11900692000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' N line, 550' E line of NW SE

QUADRANGLE: MARINE LONGITUDE: -89.751819 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.836165 DATE COLLECTED: 10 / 0 / 1949

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 323.5 LOG TYPE: Electric Log

SOURCE: CAMPBELL & DELEE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
278.0	MODESTO	PIASA	LIMESTONE	7.0	238.0	
271.0	MODESTO		UNCLASSIFIED	3.0	245.0	
268.0	CARBONDALE		UNCLASSIFIED	10.0	248.0	
258.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	258.0	
254.0	CARBONDALE	ENERGY	UNCLASSIFIED	57.0	262.0	
197.0	CARBONDALE	HERRIN	COAL	4.5	319.0	

MAPID: 11901103000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: MARINE LONGITUDE: -89.757898 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.834349 DATE COLLECTED: 2 / 0 / 1963

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 347.0 LOG TYPE: Electric Log

SOURCE: KAUFMAN, E.H. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
269.0	MODESTO	PIASA	LIMESTONE	4.0	275.0	
265.0	MODESTO		UNCLASSIFIED	3.0	279.0	
262.0	CARBONDALE		UNCLASSIFIED	9.0	282.0	
253.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	291.0	
248.5	CARBONDALE	ENERGY	UNCLASSIFIED	48.5	295.5	
200.0	CARBONDALE	HERRIN	COAL	3.0	344.0	

MAPID: 11900693000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 6W SECTION: 35 QUARTERS/FOOTAGES: 990' N line, 1650' W line

QUADRANGLE: GRANTFORK LONGITUDE: -89.739469 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.841586 DATE COLLECTED:

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 399.0 LOG TYPE: Electric Log

SOURCE: KESL, JOE Messerli 1 WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
293.0	MODESTO	PIASA	LIMESTONE	5.0	238.0	
288.0	MODESTO		DARK GRAY SHALE	11.0	243.0	
277.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	254.0	LOWER BENCH
270.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	261.0	
262.0	CARBONDALE	BRERETON	LIMESTONE	3.0	269.0	
259.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	42.0	272.0	

MAPID: 11900517000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 1 QUARTERS/FOOTAGES: 1320' S line, 1320' E line

QUADRANGLE: WORDEN LONGITUDE: -89.818957 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.90709 DATE COLLECTED:

SURFACE ELEVATION (FT.): 548.0 LOGGED (FT.): 322.5 LOG TYPE: Survey Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 17 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
244.8	CARBONDALE	DANVILLE	COAL	0.8	303.2
244.1	CARBONDALE		CLAYSTONE	3.0	303.9
241.1	CARBONDALE		SILTSTONE	2.0	306.9
239.1	CARBONDALE		GRAY SHALE	0.7	308.9
238.4	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	309.6
235.6	CARBONDALE	LAWSON	MOTTLED SHALE	2.2	312.4
233.4	CARBONDALE	ANNA	BLACK SHALE	1.4	314.6
232.0	CARBONDALE	HERRIN	COAL	6.5	316.0

MAPID: 11900517000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 1 QUARTERS/FOOTAGES: 1320' S line, 1320' E line

QUADRANGLE: WORDEN LONGITUDE: -89.818957 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.90709 DATE COLLECTED:

SURFACE ELEVATION (FT.): 548.0 LOGGED (FT.): 322.5 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 17 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
266.5	MODESTO	PIASA	LIMESTONE	5.0	281.5
261.5	MODESTO		UNCLASSIFIED	5.3	286.5
256.2	CARBONDALE	DANVILLE	COAL	0.1	291.8
256.1	CARBONDALE		UNCLASSIFIED	8.9	291.9
247.2	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	300.8
241.9	CARBONDALE	ANVIL ROCK	SANDSTONE	0.7	306.1
241.2	CARBONDALE	BRERETON	LIMESTONE	6.0	306.8
235.2	CARBONDALE	ANNA	BLACK SHALE	3.2	312.8
232.0	CARBONDALE	HERRIN	COAL	6.5	316.0

MAPID: 11900928000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 1 QUARTERS/FOOTAGES: 951' S line, 368' W line of SE NE

QUADRANGLE: WORDEN LONGITUDE: -89.817558 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.91341 DATE COLLECTED: 12 / 0 / 1950

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 338.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
262.0	MODESTO	PIASA	LIMESTONE	6.0	298.0
256.0	MODESTO		UNCLASSIFIED	3.0	304.0
253.0	CARBONDALE		UNCLASSIFIED	7.0	307.0
246.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	314.0
241.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	319.0
238.0	CARBONDALE		UNCLASSIFIED	2.0	322.0
236.0	CARBONDALE	BRERETON	LIMESTONE	6.0	324.0
230.0	CARBONDALE	ANNA	BLACK SHALE	3.0	330.0
227.0	CARBONDALE	HERRIN	COAL	5.0	333.0

MAPID: 11900929000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 1 QUARTERS/FOOTAGES: 250' S line, 240' E line of NE NE

QUADRANGLE: WORDEN LONGITUDE: -89.81495 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.915118 DATE COLLECTED: 11 / 0 / 1948

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 320.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE 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	5.0	275.0
280.0	MODESTO		UNCLASSIFIED	6.0	280.0
274.0	CARBONDALE		UNCLASSIFIED	14.0	286.0
260.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	300.0
255.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	305.0
253.0	CARBONDALE	BRERETON	LIMESTONE	5.0	307.0
248.0	CARBONDALE	ANNA	BLACK SHALE	2.0	312.0
246.0	CARBONDALE	HERRIN	COAL	6.0	314.0

MAPID: 11923922000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 1    QUARTERS/FOOTAGES: 1650' N line, 2620' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.823743    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.913674    DATE COLLECTED: 10 / 12 / 1977

SURFACE ELEVATION (FT.): 562.0    LOGGED (FT.): 340.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-29    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
562.0			UNCONSOLIDATED	104.0	0.0
458.0	MODESTO		SHALE	22.0	104.0
436.0	MODESTO	CARLINVILLE	SHALY LIMESTONE	4.0	126.0
432.0	MODESTO	CARLINVILLE	GRAY SHALE	3.0	130.0
429.0	MODESTO	CARLINVILLE	LIMESTONE	3.0	133.0
426.0	MODESTO		BLACK SHALE	1.0	136.0
425.0	MODESTO		GRAY SHALE	17.0	137.0
408.0	MODESTO	CHAPEL	COAL	2.0	154.0
406.0	MODESTO		SANDY SHALE	29.0	156.0
377.0	MODESTO		GRAY SHALE	69.0	185.0
308.0	MODESTO		SHALE	5.0	254.0
303.0	MODESTO		GRAY SHALE	21.0	259.0
282.0	MODESTO	PIASA	LIMESTONE	5.0	280.0
277.0	MODESTO		BLACK SHALE	1.3	285.0
275.7	MODESTO		CLAYSTONE	4.8	286.3
271.0	MODESTO		CALCAREOUS SHALE	3.5	291.0
267.5	CARBONDALE	DANVILLE	COAL	1.1	294.5
266.4	CARBONDALE		CLAYSTONE	3.9	295.6
262.6	CARBONDALE	BANKSTON FORK	LIMESTONE	0.9	299.4
261.7	CARBONDALE		CLAYSTONE	2.5	300.3
259.2	CARBONDALE	BRERETON	LIMESTONE	5.1	302.8
254.1	CARBONDALE	ANNA	BLACK SHALE	5.1	307.9
249.0	CARBONDALE	HERRIN	COAL	6.5	313.0
242.5	CARBONDALE		CLAYSTONE	1.9	319.5
240.6	CARBONDALE		LIMESTONE	3.6	321.4
237.0	CARBONDALE		GRAY SHALE	8.0	325.0
229.0	CARBONDALE		LIMESTONE	1.0	333.0
228.0	CARBONDALE		GRAY SHALE	6.0	334.0

MAPID: 11900066000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 2 QUARTERS/FOOTAGES: 5250' S line, 1400' E line

QUADRANGLE: WORDEN LONGITUDE: -89.83786 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.91806 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 569.4 LOGGED (FT.): 276.0 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 0008 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
299.4	CARBONDALE	HERRIN	COAL	5.8	270.0

MAPID: 11900066000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 2 QUARTERS/FOOTAGES: 5250' S line, 1400' E line

QUADRANGLE: WORDEN LONGITUDE: -89.83786 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.91806 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 274.8 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
336.6	MODESTO	PIASA	LIMESTONE	4.3	232.4
332.3	MODESTO		UNCLASSIFIED	3.2	236.7
329.1	CARBONDALE	DANVILLE	COAL	0.3	239.9
328.8	CARBONDALE		UNCLASSIFIED	13.0	240.2
315.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.7	253.2
310.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	258.9
308.1	CARBONDALE	BRERETON	LIMESTONE	5.8	260.9
302.3	CARBONDALE	ANNA	BLACK SHALE	2.3	266.7
300.0	CARBONDALE	HERRIN	COAL	5.8	269.0



MAPID: 11900066000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 2 QUARTERS/FOOTAGES: 5250' S line, 1400' E line

QUADRANGLE: WORDEN LONGITUDE: -89.83786

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.91806

DATE COLLECTED:

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 275.8

LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 8

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
336.0	MODESTO	PIASA	LIMESTONE	4.3	233.0
331.7	MODESTO		CALCAREOUS SHALE	3.2	237.3
328.6	CARBONDALE	DANVILLE	COAL	0.3	240.4
328.3	CARBONDALE		CLAYSTONE & SHALE	9.4	240.7
318.9	CARBONDALE	ALLENBY	COAL	1.5	250.1
317.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	9.7	251.6
307.7	CARBONDALE	BRERETON	LIMESTONE	5.8	261.3
302.0	CARBONDALE	ANNA	DARK GRAY SHALE	2.3	267.0
299.0	CARBONDALE	HERRIN	COAL	5.8	270.0

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MAPID: 11923602000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 2 QUARTERS/FOOTAGES: 57' S line, 1173' E line

QUADRANGLE: WORDEN LONGITUDE: -89.837336 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.903722 DATE COLLECTED: 6 / 8 / 1978

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 294.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-54 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
556.0			UNCONSOLIDATED	91.0	0.0
465.0	MODESTO		GRAY SHALE	42.0	91.0
423.0	MODESTO		BLACK SHALE	3.0	133.0
420.0	MODESTO		GRAY SHALE	12.0	136.0
408.0	MODESTO		GRAY SHALE	82.0	148.0
326.0	MODESTO		SHALE	5.0	230.0
321.0	MODESTO	PIASA	LIMESTONE	4.0	235.0
317.0	MODESTO		GRAY SHALE	3.0	239.0
314.0	MODESTO		GRAY SHALE	7.0	242.0
307.0	CARBONDALE		SHALE	4.0	249.0
303.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	253.0
298.0	CARBONDALE		CALCAREOUS SHALE	3.0	258.0
295.0	CARBONDALE	BRERETON	SHALY LIMESTONE	7.0	261.0
288.0	CARBONDALE	ANNA	BLACK SHALE	2.0	268.0
286.0	CARBONDALE	HERRIN	COAL	7.3	270.0
278.7	CARBONDALE		UNDERCLAY	1.5	277.3
277.2	CARBONDALE		CORE LOSS	0.2	278.8
277.0	CARBONDALE		LIMESTONE	6.0	279.0
271.0	CARBONDALE		GRAY SHALE	9.0	285.0

MAPID: 11900519000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 3 QUARTERS/FOOTAGES: 2640' N line, 1900' W line

QUADRANGLE: WORDEN LONGITUDE: -89.864376

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.911442

DATE COLLECTED:

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 221.3

LOG TYPE: Survey Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 21

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
382.0	MODESTO	PIASA	LIMESTONE	8.0	170.0
374.0	MODESTO		SHALE	21.0	178.0
353.0	CARBONDALE	DANVILLE	COAL	0.3	199.0
352.7	CARBONDALE		CLAYSTONE	3.2	199.3
349.6	CARBONDALE	BANKSTON FORK	LIMESTONE/SILTSTONE	9.7	202.4
339.9	CARBONDALE	LAWSON	GRAY SHALE	1.6	212.1
338.3	CARBONDALE	ANNA	BLACK SHALE	1.0	213.7
337.3	CARBONDALE	HERRIN	COAL	6.6	214.7

MAPID: 11900519000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 3 QUARTERS/FOOTAGES: 2640' N line, 1900' W line

QUADRANGLE: WORDEN LONGITUDE: -89.864376

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.911442

DATE COLLECTED:

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 212.6

LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 21

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.7	MODESTO	PIASA	LIMESTONE	8.0	171.3
372.7	MODESTO		UNCLASSIFIED	4.0	179.3
368.7	CARBONDALE		UNCLASSIFIED	7.8	183.3
360.9	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	191.1
356.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	195.6
355.2	CARBONDALE	BRERETON	LIMESTONE	6.6	196.8
348.6	CARBONDALE	ANNA	BLACK SHALE	2.6	203.4
346.0	CARBONDALE	HERRIN	COAL	6.6	206.0

MAPID: 11900930000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 3 QUARTERS/FOOTAGES: 200' S line, 330' W line of NE SE

QUADRANGLE: WORDEN LONGITUDE: -89.855934 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.907915 DATE COLLECTED: 0 / 0 / 1948

SURFACE ELEVATION (FT.): 554.0 LOGGED (FT.): 240.0 LOG TYPE: Drillers Log

SOURCE: SHULL C R WELL TYPE: Mineral Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
356.0	MODESTO	PIASA	LIMESTONE	7.0	198.0
349.0	MODESTO		UNCLASSIFIED	2.0	205.0
347.0	CARBONDALE		UNCLASSIFIED	6.0	207.0
341.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	213.0
336.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	218.0
334.0	CARBONDALE	BRERETON	LIMESTONE	10.0	220.0
324.0	CARBONDALE	ANNA	BLACK SHALE	4.0	230.0
320.0	CARBONDALE	HERRIN	COAL	6.0	234.0

MAPID: 11923997000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 3 QUARTERS/FOOTAGES: 2050' N line, 2350' E line

QUADRANGLE: WORDEN LONGITUDE: -89.860677 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.913044 DATE COLLECTED: 5 / 10 / 1979

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 240.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-3-5 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0			UNCONSOLIDATED	154.0	0.0
401.0	MODESTO		GRAY SHALE	21.0	154.0
380.0	MODESTO		SHALE	4.0	175.0
376.0	MODESTO	PIASA	LIMESTONE	4.0	179.0
372.0	MODESTO		GRAY SHALE	11.5	183.0
360.5	CARBONDALE	DANVILLE	COAL	0.5	194.5
360.0	CARBONDALE		GRAY SHALE	8.0	195.0
352.0	CARBONDALE	BRERETON	SHALY LIMESTONE	9.0	203.0
343.0	CARBONDALE	ANNA	BLACK SHALE	4.0	212.0
339.0	CARBONDALE	HERRIN	COAL	6.5	216.0
332.5	CARBONDALE		GRAY SHALE	3.5	222.5
329.0	CARBONDALE		SHALY LIMESTONE	4.0	226.0
325.0	CARBONDALE		GRAY SHALE	1.0	230.0
324.0	CARBONDALE		LIMESTONE	1.0	231.0
323.0	CARBONDALE		GRAY SHALE	3.0	232.0
320.0	CARBONDALE		LIMESTONE	1.0	235.0
319.0	CARBONDALE		GRAY SHALE	4.0	236.0

MAPID: 11900067000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 4 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.887535 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.913438 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 542.9 LOGGED (FT.): 166.0 LOG TYPE: Drillers Log

SOURCE: SOU COAL X 10 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
383.9	CARBONDALE	HERRIN	COAL	5.8	159.0

MAPID: 11900067000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 4 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.887535 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.913438 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 165.8 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
416.3	MODESTO	PIASA	LIMESTONE	4.0	126.7
412.3	MODESTO		UNCLASSIFIED	3.5	130.7
408.8	CARBONDALE		UNCLASSIFIED	8.5	134.2
400.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	142.7
394.3	CARBONDALE	BRERETON	LIMESTONE	11.0	148.7
383.3	CARBONDALE	ANNA	BLACK SHALE	0.3	159.7
383.0	CARBONDALE	HERRIN	COAL	5.8	160.0

MAPID: 11900067000C    VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 4    QUARTERS/FOOTAGES: SW NW

QUADRANGLE: PRAIRIETOWN    LONGITUDE: -89.887535

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.913438

DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0    LOGGED (FT.): 164.8

LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 10

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
417.0	MODESTO	PIASA	LIMESTONE	4.0	126.0
413.0	MODESTO		CALCAREOUS SHALE	10.3	130.0
402.7	CARBONDALE	DANVILLE	COAL	0.6	140.3
402.2	CARBONDALE		CLAYSTONE & SHALE	1.2	140.8
401.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	142.0
393.5	CARBONDALE	BRERETON	LIMESTONE	9.5	149.5
384.0	CARBONDALE	ANNA	SHALE	0.3	159.0
384.0	CARBONDALE	HERRIN	COAL	5.8	159.0

MAPID: 11924024000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 4    QUARTERS/FOOTAGES: 45' S line, 990' E line

QUADRANGLE: WORDEN    LONGITUDE: -89.87471    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.903911    DATE COLLECTED: 11 / 5 / 1979

SURFACE ELEVATION (FT.): 549.0    LOGGED (FT.): 240.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-4-54C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.0			UNCONSOLIDATED	110.0	0.0	
439.0	MODESTO		GRAY SHALE	32.0	110.0	
407.0	MODESTO		LIMESTONE	1.0	142.0	
406.0	MODESTO	CHAPEL	COAL	0.5	143.0	UNCERTAIN CORRELATION
405.5	MODESTO		GRAY SHALE	10.5	143.5	
395.0	MODESTO		SHALE	1.5	154.0	
393.5	MODESTO		SANDY SHALE	14.5	155.5	
379.0	MODESTO		SHALE	2.5	170.0	
376.5	MODESTO	PIASA	LIMESTONE	5.0	172.5	
371.5	MODESTO		GRAY SHALE	8.0	177.5	
363.5	MODESTO		SHALE	0.2	185.5	
363.3	CARBONDALE	DANVILLE	COAL	1.1	185.7	
362.2	CARBONDALE		GRAY SHALE	2.5	186.8	
359.7	CARBONDALE		CORE LOSS	4.7	189.3	
355.0	CARBONDALE		GRAY SHALE	1.2	194.0	
353.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	195.2	
351.7	CARBONDALE		SHALE	1.2	197.3	
350.5	CARBONDALE	BRERETON	LIMESTONE	5.4	198.5	
345.1	CARBONDALE	BRERETON	CORE LOSS	0.1	203.9	
345.0	CARBONDALE	BRERETON	LIMESTONE	0.2	204.0	
344.8	CARBONDALE	ENERGY	SHALE	2.1	204.2	
342.7	CARBONDALE	ENERGY	GRAY SHALE	1.6	206.3	
341.1	CARBONDALE		CORE LOSS	1.6	207.9	
339.5	CARBONDALE	HERRIN	COAL	4.2	209.5	
335.3	CARBONDALE		UNDERCLAY	2.2	213.7	
333.1	CARBONDALE		CORE LOSS	0.6	215.9	
332.5	CARBONDALE		GRAY SHALE	0.5	216.5	
332.0	CARBONDALE		LIMESTONE	0.5	217.0	
331.5	CARBONDALE		SHALE	1.4	217.5	
330.1	CARBONDALE		UNCLASSIFIED	0.2	218.9	
330.0	CARBONDALE		GRAY SHALE	21.0	219.0	

**MAPID:** 11900179000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 315' S line, 2540' E line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.898876    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.904911    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 505.3    **LOGGED (FT.):** 139.0    **LOG TYPE:**  
**SOURCE:** BACH    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
380.3	CARBONDALE	HERRIN	COAL	5.5	125.0	

**MAPID:** 11900179000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 315' S line, 2540' E line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.898876    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.904911    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 505.0    **LOGGED (FT.):** 130.5    **LOG TYPE:** Drillers Log  
**SOURCE:** NO COMPANY    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
380.0	CARBONDALE	HERRIN	COAL	5.5	125.0	



MAPID: 11923603000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 5 QUARTERS/FOOTAGES: 1575' N line, 1900' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.901268 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.914927 DATE COLLECTED: 6 / 13 / 1978

SURFACE ELEVATION (FT.): 470.0 LOGGED (FT.): 115.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-23 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
470.0			UNCONSOLIDATED	35.0	0.0	
435.0	MODESTO		SHALE	2.0	35.0	
433.0	MODESTO		SANDSTONE	6.0	37.0	
427.0	MODESTO		SHALE	7.0	43.0	
420.0	MODESTO		SHALE	5.0	50.0	
415.0	MODESTO	PIASA	LIMESTONE	3.0	55.0	
412.0	MODESTO		GRAY SHALE	13.5	58.0	
398.5	CARBONDALE	DANVILLE	COAL	2.0	71.5	
396.5	CARBONDALE		GRAY SHALE	3.0	73.5	
393.5	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.0	76.5	
389.5	CARBONDALE		GRAY SHALE	7.5	80.5	
382.0	CARBONDALE	BRERETON	LIMESTONE	2.0	88.0	
380.0	CARBONDALE	ANNA	BLACK SHALE	1.0	90.0	
379.0	CARBONDALE		GRAY SHALE	0.2	91.0	
378.8	CARBONDALE	HERRIN	COAL	4.8	91.2	
374.0	CARBONDALE		UNDERCLAY	2.0	96.0	
372.0	CARBONDALE		SHALE	5.0	98.0	
367.0	CARBONDALE		LIMESTONE	1.0	103.0	
366.0	CARBONDALE		BLACK SHALE	2.0	104.0	
364.0	CARBONDALE		GRAY SHALE	6.5	106.0	
357.5	CARBONDALE		LIMESTONE	2.5	112.5	

MAPID: 11902672000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 6 QUARTERS/FOOTAGES: 660' N line, 2640' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.917281

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.917606

DATE COLLECTED:

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 119.1

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 12062-C

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
447.0	MODESTO	PIASA	LIMESTONE	5.0	83.0	
442.0	MODESTO		GRAY SHALE	13.2	88.0	
428.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	101.2	UPPER BENCH
425.0	CARBONDALE	BANKSTON FORK	GRAY SHALE	0.4	105.0	SHALE PARTING
424.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.2	105.4	LOWER BENCH
422.4	CARBONDALE	LAWSON	CLAYSTONE	4.5	107.6	
417.0	CARBONDALE	HERRIN	COAL	6.1	113.0	

MAPID: 11924163000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 6 QUARTERS/FOOTAGES: 70' S line, 1568' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.913638

GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.904318

DATE COLLECTED: 10 / 3 / 1977

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 110.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-12

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
468.0			UNCONSOLIDATED	78.0	0.0	
390.0	CARBONDALE		GRAY SHALE	3.5	78.0	
386.5	CARBONDALE	BRERETON	LIMESTONE	7.5	81.5	
379.0	CARBONDALE		GRAY SHALE	1.0	89.0	
378.0	CARBONDALE	HERRIN	COAL	6.0	90.0	
372.0	CARBONDALE		UNDERCLAY/SHALE	13.0	96.0	
359.0	CARBONDALE		LIMESTONE	1.0	109.0	

MAPID: 11900069000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 7 QUARTERS/FOOTAGES: 5180' S line, 50' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.908276

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.904019

DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 513.8 LOGGED (FT.): 153.0

LOG TYPE:

SOURCE: SOU COAL X 11

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
373.8	CARBONDALE	HERRIN	COAL	5.4	140.0	

MAPID: 11900069000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 7 QUARTERS/FOOTAGES: 5180' S line, 50' E line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.908276 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.904019 DATE COLLECTED: 0 / 0 / 1921  
 SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 137.4 LOG TYPE: Drillers Log  
 SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
401.6	CARBONDALE		UNCLASSIFIED	5.5	112.4
396.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	117.9
389.6	CARBONDALE	BRERETON	LIMESTONE	4.0	124.4
385.6	CARBONDALE	ANNA	BLACK SHALE	3.6	128.4
382.0	CARBONDALE	HERRIN	COAL	5.4	132.0

MAPID: 11900070000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 7 QUARTERS/FOOTAGES: SE SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.920361 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.891644 DATE COLLECTED: 0 / 0 / 1921  
 SURFACE ELEVATION (FT.): 493.2 LOGGED (FT.): 119.0 LOG TYPE:  
 SOURCE: SOU COAL X0012 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
385.2	CARBONDALE	HERRIN	COAL	6.3	108.0

MAPID: 11900070000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 7 QUARTERS/FOOTAGES: SE SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.920361 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.891644 DATE COLLECTED: 0 / 0 / 1921  
 SURFACE ELEVATION (FT.): 493.0 LOGGED (FT.): 120.3 LOG TYPE: Drillers Log  
 SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
398.9	CARBONDALE		UNCLASSIFIED	5.8	94.1
393.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.2	99.9
386.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.1	106.1
385.8	CARBONDALE	BRERETON	LIMESTONE	4.0	107.2
381.8	CARBONDALE	ANNA	BLACK SHALE	2.8	111.2
379.0	CARBONDALE	HERRIN	COAL	6.3	114.0

MAPID: 11902673000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 7 QUARTERS/FOOTAGES: 1320' N line, 1320' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.912778

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.900484

DATE COLLECTED:

SURFACE ELEVATION (FT.): 475.0 LOGGED (FT.): 104.9

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 10089-C

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
393.0	MODESTO	PIASA	LIMESTONE	2.5	82.0	
390.5	MODESTO		GRAY SHALE	5.0	84.5	
385.5	CARBONDALE	BANKSTON FORK	LIMESTONE	8.6	89.5	LOWER BENCH
376.0	CARBONDALE	HERRIN	COAL	5.9	99.0	

MAPID: 11923604000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 7 QUARTERS/FOOTAGES: 1900' S line, 2200' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.919855

GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.895105

DATE COLLECTED: 6 / 14 / 1978

SURFACE ELEVATION (FT.): 470.0 LOGGED (FT.): 106.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-22

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
470.0			UNCONSOLIDATED	52.0	0.0	
418.0	MODESTO	PIASA	LIMESTONE	1.5	52.0	
416.5	MODESTO	PIASA	GRAY SHALE	6.5	53.5	
410.0	MODESTO	PIASA	LIMESTONE	1.5	60.0	
408.5	MODESTO		GRAY SHALE	3.5	61.5	
405.0	CARBONDALE	DANVILLE	COAL	1.0	65.0	
404.0	CARBONDALE		GRAY SHALE	5.0	66.0	
399.0	CARBONDALE	BRERETON	LIMESTONE	10.0	71.0	
389.0	CARBONDALE	ANNA	BLACK SHALE	3.4	81.0	
385.6	CARBONDALE	HERRIN	COAL	5.6	84.4	
380.1	CARBONDALE		UNDERCLAY	2.1	89.9	
378.0	CARBONDALE		CORE LOSS	0.5	92.0	
377.5	CARBONDALE		UNDERCLAY	2.0	92.5	
375.5	CARBONDALE		SHALE	10.5	94.5	
365.0	CARBONDALE		LIMESTONE	1.0	105.0	

MAPID: 11900071000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 8 QUARTERS/FOOTAGES: 0' S line, 660' W line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.896659 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.889508 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 537.5 LOGGED (FT.): 183.0 LOG TYPE: Drillers Log

SOURCE: SOU COAL X 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
365.5	CARBONDALE	HERRIN	COAL	6.1	172.0

MAPID: 11900071000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 8 QUARTERS/FOOTAGES: 0' S line, 660' W line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.896659 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.889508 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 179.1 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
399.0	MODESTO	PIASA	LIMESTONE	4.6	139.0
394.4	MODESTO		UNCLASSIFIED	3.5	143.6
390.9	CARBONDALE		UNCLASSIFIED	10.5	147.1
380.4	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	157.6
373.4	CARBONDALE	BRERETON	LIMESTONE	7.3	164.6
366.1	CARBONDALE	ANNA	BLACK SHALE	1.1	171.9
365.0	CARBONDALE	HERRIN	COAL	6.1	173.0

MAPID: 11900071000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 8 QUARTERS/FOOTAGES: 0' S line, 660' W line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.896659

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.889508

DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 179.1

LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 1

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
399.0	MODESTO	PIASA	LIMESTONE	4.5	139.0
394.5	MODESTO		GRAY SHALE	9.4	143.5
385.1	CARBONDALE	DANVILLE	COAL	1.2	152.9
383.9	CARBONDALE		GRAY SHALE	3.4	154.1
380.5	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	157.5
367.5	CARBONDALE	BRERETON	LIMESTONE	1.3	170.5
366.2	CARBONDALE	ANNA	SHALE	1.1	171.8
365.1	CARBONDALE	HERRIN	COAL	6.2	172.9

MAPID: 11900520000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 9 QUARTERS/FOOTAGES: 1320' N line, 2640' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.880559

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.900201

DATE COLLECTED:

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 206.3

LOG TYPE: Survey Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 22

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
385.0	MODESTO	PIASA	LIMESTONE	6.0	160.0
379.0	MODESTO		SHALE	18.0	166.0
361.0	CARBONDALE	DANVILLE	BONE COAL	2.2	184.0
358.8	CARBONDALE		CLAYSTONE	1.7	186.2
357.2	CARBONDALE		CLAYSTONE & SHALE	0.7	187.8
356.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.6	188.5 LOWER BENCH
346.9	CARBONDALE	LAWSON	MOTTLED SHALE	3.4	198.1
343.5	CARBONDALE	HERRIN	COAL	4.7	201.5

MAPID: 11900520000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 9 QUARTERS/FOOTAGES: 1320' N line, 2640' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.880559 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.900201 DATE COLLECTED:

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 199.8 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 22 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
384.7	MODESTO	PIASA	LIMESTONE	6.0	160.3
378.7	MODESTO		UNCLASSIFIED	3.7	166.3
375.0	CARBONDALE		UNCLASSIFIED	11.0	170.0
364.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	181.0
358.7	CARBONDALE	BRERETON	LIMESTONE	6.2	186.3
352.5	CARBONDALE	ANNA	BLACK SHALE	2.5	192.5
350.0	CARBONDALE	HERRIN	COAL	4.8	195.0

MAPID: 11901018000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 990' W line of NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.886363 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.897546 DATE COLLECTED: 12 / 0 / 1961

SURFACE ELEVATION (FT.): 743.0 LOGGED (FT.): 392.0 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	OVERBURDEN COMMENT
390.0	MODESTO	PIASA	LIMESTONE	6.0	353.0
384.0	MODESTO		UNCLASSIFIED	4.0	359.0
380.0	CARBONDALE		UNCLASSIFIED	12.0	363.0
368.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	375.0
363.0	CARBONDALE	BRERETON	LIMESTONE	6.0	380.0
357.0	CARBONDALE	ANNA	BLACK SHALE	4.0	386.0
353.0	CARBONDALE	HERRIN	COAL	2.0	390.0

**MAPID:** 11923998000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 1820' N line, 20' W line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.889798    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.898912    **DATE COLLECTED:** 5 / 11 / 1979  
**SURFACE ELEVATION (FT.):** 530.0    **LOGGED (FT.):** 190.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL ND-79-9-6C    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
530.0			UNCONSOLIDATED	96.0	0.0
434.0	MODESTO		SHALE	7.0	96.0
427.0	MODESTO		GRAY SHALE	11.0	103.0
416.0	MODESTO		SANDY SHALE	7.0	114.0
409.0	MODESTO		SHALE	5.0	121.0
404.0	MODESTO		GRAY SHALE	6.5	126.0
397.5	MODESTO	PIASA	LIMESTONE	3.5	132.5
394.0	MODESTO		GRAY SHALE	10.0	136.0
384.0	CARBONDALE	DANVILLE	COAL	1.0	146.0
383.0	CARBONDALE		GRAY SHALE	7.5	147.0
375.5	CARBONDALE	BRERETON	LIMESTONE	7.2	154.5
368.3	CARBONDALE	ANNA	SHALE	2.3	161.7
366.0	CARBONDALE	ANNA	BLACK SHALE	0.6	164.0
365.4	CARBONDALE	HERRIN	COAL	5.7	164.6
359.7	CARBONDALE		GRAY SHALE	0.9	170.3
358.7	CARBONDALE		CORE LOSS	0.3	171.3
358.5	CARBONDALE		GRAY SHALE	2.5	171.5
356.0	CARBONDALE		LIMESTONE	3.0	174.0
353.0	CARBONDALE		GRAY SHALE	6.5	177.0
346.5	CARBONDALE		LIMESTONE	0.5	183.5
346.0	CARBONDALE		GRAY SHALE	4.0	184.0
342.0	CARBONDALE		SHALE	2.0	188.0

**MAPID:** 11900072000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 10    **QUARTERS/FOOTAGES:** 2430' S line, 4380' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.86803    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.895954    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 558.0    **LOGGED (FT.):** 705.0    **LOG TYPE:** Drillers Log  
**SOURCE:** SOU COAL X0016    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
338.0	CARBONDALE	HERRIN	COAL	5.3	220.0



MAPID: 11900072000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 10 QUARTERS/FOOTAGES: 2430' S line, 4380' E line

QUADRANGLE: WORDEN LONGITUDE: -89.86803 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.895954 DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 225.3 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
370.3	MODESTO	PIASA	LIMESTONE	3.0	187.7
367.3	MODESTO		UNCLASSIFIED	1.0	190.7
366.3	CARBONDALE	DANVILLE	COAL	1.0	191.7
365.3	CARBONDALE		UNCLASSIFIED	13.1	192.7
352.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.4	205.8
346.8	CARBONDALE	BRERETON	LIMESTONE	5.0	211.2
341.8	CARBONDALE	ANNA	BLACK SHALE	3.8	216.2
338.0	CARBONDALE	HERRIN	COAL	5.3	220.0

MAPID: 11900072000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 10 QUARTERS/FOOTAGES: 2430' S line, 4380' E line

QUADRANGLE: WORDEN LONGITUDE: -89.86803 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.895954 DATE COLLECTED:

SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 225.3 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 16 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
370.0	MODESTO	PIASA	LIMESTONE	3.0	188.0
367.0	MODESTO		SHALE	12.8	191.0
354.2	CARBONDALE	DANVILLE	COAL	0.6	203.8
353.6	CARBONDALE	LAWSON	SHALE	1.7	204.4
351.9	CARBONDALE	BRERETON	LIMESTONE	10.4	206.1
341.5	CARBONDALE	ANNA	SHALE	3.8	216.5
338.0	CARBONDALE	HERRIN	COAL	5.3	220.0

MAPID: 11900521000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 10 QUARTERS/FOOTAGES: NW NW NW  
 QUADRANGLE: WORDEN LONGITUDE: -89.870048 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.902836 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 551.0 LOGGED (FT.): 228.8 LOG TYPE: Drillers Log  
 SOURCE: MT. OLIVE & STAUNTON COAL CO. 23 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
364.0	MODESTO	PIASA	LIMESTONE	6.0	187.0
358.0	MODESTO		UNCLASSIFIED	4.0	193.0
354.0	CARBONDALE		UNCLASSIFIED	10.5	197.0
343.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.6	207.5
337.9	CARBONDALE	BRERETON	LIMESTONE	6.9	213.1
331.0	CARBONDALE	ANNA	BLACK SHALE	3.0	220.0
328.0	CARBONDALE	HERRIN	COAL	5.8	223.0

MAPID: 11923605000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 10 QUARTERS/FOOTAGES: 1329' N line, 1284' E line  
 QUADRANGLE: WORDEN LONGITUDE: -89.857042 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.899939 DATE COLLECTED: 6 / 12 / 1978  
 SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 260.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL MOS-77-56 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
552.0			UNCONSOLIDATED	138.0	0.0
414.0	MODESTO		SHALE	20.0	138.0
394.0	MODESTO		GRAY SHALE	31.0	158.0
363.0	MODESTO		SHALE	3.0	189.0
360.0	MODESTO		GRAY SHALE	11.0	192.0
349.0	MODESTO	PIASA	LIMESTONE	6.0	203.0
343.0	MODESTO		GRAY SHALE	12.0	209.0
331.0	CARBONDALE	DANVILLE	COAL	1.0	221.0
330.0	CARBONDALE		GRAY SHALE	6.0	222.0
324.0	CARBONDALE	BRERETON	LIMESTONE	6.0	228.0
318.0	CARBONDALE	ANNA	SHALE	2.4	234.0
315.6	CARBONDALE	HERRIN	COAL	5.7	236.4
310.0	CARBONDALE		UNDERCLAY	1.0	242.0
309.0	CARBONDALE		GRAY SHALE	3.5	243.0
305.5	CARBONDALE		LIMESTONE	3.0	246.5
302.5	CARBONDALE		SHALE	9.2	249.5
293.3	CARBONDALE		LIMESTONE	1.3	258.7

**MAPID:** 11900073000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 11    **QUARTERS/FOOTAGES:** NE SE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.835811    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.894417    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 553.1    **LOGGED (FT.):** 281.0    **LOG TYPE:**  
**SOURCE:** SOU COAL X 7    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
286.1	CARBONDALE	HERRIN	COAL	5.8	267.0

**MAPID:** 11900073000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 11    **QUARTERS/FOOTAGES:** NE SE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.835811    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.894417    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 553.0    **LOGGED (FT.):** 273.8    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
321.9	MODESTO	PIASA	LIMESTONE	4.8	231.1
317.1	MODESTO		UNCLASSIFIED	3.2	235.9
313.9	CARBONDALE		UNCLASSIFIED	9.2	239.1
304.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	248.3
297.7	CARBONDALE	BRERETON	LIMESTONE	12.0	255.3
285.7	CARBONDALE	ANNA	BLACK SHALE	0.7	267.3
285.0	CARBONDALE	HERRIN	COAL	5.8	268.0

MAPID: 11900522000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 11 QUARTERS/FOOTAGES: 1320' N line, 2640' E line

QUADRANGLE: WORDEN LONGITUDE: -89.84261 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.899919 DATE COLLECTED:

SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 268.9 LOG TYPE: Survey Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 20 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
332.0	MODESTO	PIASA	LIMESTONE	3.0	226.0	
329.0	MODESTO		SHALE	16.0	229.0	
313.0	CARBONDALE	DANVILLE	BONE COAL	0.2	245.0	
312.8	CARBONDALE		CLAYSTONE	1.7	245.2	
311.2	CARBONDALE		CLAYSTONE & SHALE	1.5	246.8	
309.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.1	248.3	LOWER BENCH
308.6	CARBONDALE	LAWSON	GRAY SHALE	1.5	249.4	
307.1	CARBONDALE	BRERETON	LIMESTONE	7.8	250.9	
299.3	CARBONDALE	ANNA	BLACK SHALE	3.8	258.7	
295.5	CARBONDALE	HERRIN	COAL	6.4	262.5	

MAPID: 11900522000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 11 QUARTERS/FOOTAGES: 1320' N line, 2640' E line

QUADRANGLE: WORDEN LONGITUDE: -89.84261 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.899919 DATE COLLECTED:

SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 267.5 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 20 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
334.5	MODESTO	PIASA	LIMESTONE	3.0	223.5	
331.5	MODESTO		UNCLASSIFIED	5.0	226.5	
326.5	CARBONDALE		UNCLASSIFIED	11.9	231.5	
314.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	243.4	
309.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	248.9	
307.8	CARBONDALE	BRERETON	LIMESTONE	7.3	250.2	
300.5	CARBONDALE	ANNA	BLACK SHALE	3.5	257.5	
297.0	CARBONDALE	HERRIN	COAL	6.5	261.0	

MAPID: 11900839000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 11 QUARTERS/FOOTAGES: 453' S line, 338' E line of NE  
 QUADRANGLE: WORDEN LONGITUDE: -89.834536 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.897494 DATE COLLECTED: 12 / 0 / 1958  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 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	5.0	
-	MODESTO		UNCLASSIFIED	3.0	
-	CARBONDALE		UNCLASSIFIED	9.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	
-	CARBONDALE	BRERETON	LIMESTONE	12.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11900931000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 11 QUARTERS/FOOTAGES: NW NE NE  
 QUADRANGLE: WORDEN LONGITUDE: -89.836829 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.902652 DATE COLLECTED: 8 / 0 / 1949  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: PIERCE JACK M WELL TYPE: Oil and Gas Test  
 COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0	
-	MODESTO		UNCLASSIFIED	3.0	
-	CARBONDALE		UNCLASSIFIED	10.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	
-	CARBONDALE	BRERETON	LIMESTONE	8.0	
-	CARBONDALE	HERRIN	COAL	6.0	

MAPID: 11900931000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 5N 7W

SECTION: 11

QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: WORDEN

LONGITUDE: -89.836829

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.902652

DATE COLLECTED: 8 / 0 / 1949

SURFACE ELEVATION (FT.):

LOGGED (FT.): 800.0

LOG TYPE: Drillers Log

SOURCE: JACK M. PIERCE 1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	20.0	0.0	TOP SOIL AND CLY
-			SAND	3.0	20.0	
-			CLAY	43.0	23.0	
-			GRAVEL	7.0	66.0	
-			CALCAREOUS SHALE	28.0	73.0	
-			LIMESTONE	8.0	101.0	
-			GRAY SHALE	9.0	109.0	
-			LIMESTONE	4.0	118.0	
-			GRAY SHALE	13.0	122.0	
-			LIMESTONE	8.0	135.0	
-			GRAY SHALE	85.0	143.0	
-			SHALE	6.0	228.0	
-	MODESTO	PIASA	LIMESTONE	3.0	234.0	
-	MODESTO	PIASA	LIMESTONE	4.0	237.0	
-			DARK SHALE	9.0	241.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	250.0	LS W/ SH STREAKS
-	CARBONDALE	BRERETON	LIMESTONE	14.0	255.0	
-	CARBONDALE	HERRIN	COAL	6.0	269.0	
-			GRAY SHALE	17.0	275.0	
-			LIMESTONE	1.0	292.0	
-			GRAY SHALE	7.0	293.0	
-			LIMESTONE	2.0	300.0	
-			CALCAREOUS SHALE	6.0	302.0	
-			GRAY SHALE	56.0	308.0	
-			COAL	1.0	364.0	
-			SANDSTONE	5.0	365.0	
-			DARK SHALE	15.0	370.0	
-			DARK GRAY SHALE	18.0	385.0	
-			COAL	2.0	403.0	
-			GRAY SHALE	10.0	405.0	
-			LIMESTONE	4.0	415.0	
-			SANDY SHALE	11.0	419.0	
-			GRAY SHALE	19.0	430.0	
-			SHALE	6.0	449.0	
-			CALCAREOUS SHALE	18.0	455.0	
-			LIMESTONE	4.0	473.0	
-			DARK SHALE	5.0	477.0	
-			LIMESTONE	19.0	482.0	LS W/ SH STREAKS
-			LIMESTONE	69.0	501.0	

-	DARK SHALE	36.0	570.0
-	CALCAREOUS SHALE	6.0	606.0
-	LIMESTONE	8.0	612.0
-	ROCK	8.0	620.0
-	SANDSTONE	19.0	628.0
-	SHALE	9.0	647.0
-	SHALE	10.0	656.0
-	GRAY SHALE	26.0	666.0
-	SANDY SHALE	12.0	692.0
-	SANDSTONE	6.0	704.0
-	SANDSTONE	15.0	710.0
-	SANDY SHALE	9.0	725.0
-	SANDSTONE	13.0	734.0
-	SANDSTONE	29.0	747.0
-	SANDSTONE	8.0	776.0
-	LIMESTONE	3.0	784.0
-	LIMESTONE	13.0	787.0

**MAPID:** 11900083000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 12    **QUARTERS/FOOTAGES:** 660' N line, 0' E line of NE NE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.814428    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.901586    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 580.0    **LOGGED (FT.):** 337.0    **LOG TYPE:**  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 0021    **WELL TYPE:** Coal Test  
**COMMENT:** EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
265.0	CARBONDALE	HERRIN	COAL	6.9	315.0

**MAPID:** 11901572000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 12    **QUARTERS/FOOTAGES:** 358' S line, 656' E line of SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.82645    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.889867    **DATE COLLECTED:** 11 / 0 / 1951  
**SURFACE ELEVATION (FT.):** 530.0    **LOGGED (FT.):** 300.0    **LOG TYPE:** Electric Log  
**SOURCE:** JAHN, E. HOMER    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
269.0	MODESTO	PIASA	LIMESTONE	5.0	261.0
264.0	MODESTO		UNCLASSIFIED	4.0	266.0
260.0	CARBONDALE		UNCLASSIFIED	11.0	270.0
249.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	281.0
244.0	CARBONDALE	BRERETON	LIMESTONE	9.0	286.0
235.0	CARBONDALE	HERRIN	COAL	5.0	295.0

MAPID: 11927408000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 12 QUARTERS/FOOTAGES: 1' N, 600' E, C/c

QUADRANGLE: WORDEN LONGITUDE: -89.821864 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.896168 DATE COLLECTED: 2 / 12 / 1971

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 311.9 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 58A-MT WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
553.0			CLAY	23.0	0.0	BROWN
530.0			GLACIAL DRIFT	27.0	23.0	
503.0			SANDY SHALE	6.0	50.0	
497.0			GRAY SHALE	14.0	56.0	
483.0			BLACK SHALE	7.0	70.0	
476.0			GRAY SHALE	53.0	77.0	
423.0			LIMESTONE	1.0	130.0	
422.0			GRAY SHALE	18.0	131.0	
404.0			SANDY SHALE	4.0	149.0	
400.0			GRAY SHALE	8.0	153.0	
392.0			SANDY SHALE	6.0	161.0	
386.0			GRAY SHALE	77.0	167.0	
309.0			BLACK SHALE	2.0	244.0	
307.0			GRAY SHALE	10.0	246.0	
297.0			SANDY SHALE	4.0	256.0	
293.0			GRAY SHALE	8.0	260.0	
285.0			LIMESTONE	5.0	268.0	
280.0			GRAY SHALE	16.0	273.0	
264.0			LIMESTONE	12.0	289.0	
252.0			GRAY SHALE	3.5	301.0	
248.5	CARBONDALE	HERRIN	COAL	6.3	304.5	
242.2	CARBONDALE		SHALE	1.1	310.8	

MAPID: 11900084000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 13 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: WORDEN LONGITUDE: -89.81596 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.887927 DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 541.9 LOGGED (FT.): 315.0 LOG TYPE:

SOURCE: MT. OLIVE & STAUNTON COAL CO. 0022 WELL TYPE: Coal Test

COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
239.9	CARBONDALE	HERRIN	COAL	6.8	302.0	



MAPID: 11900523000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 13 QUARTERS/FOOTAGES: 1320' N line, 1320' E line

QUADRANGLE: WORDEN LONGITUDE: -89.819502 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.885204 DATE COLLECTED:

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 292.0 LOG TYPE: Survey Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 18 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
286.0	MODESTO	PIASA	LIMESTONE	10.0	248.0	
276.0	MODESTO		BLACK SHALE	2.0	258.0	
274.0	CARBONDALE		CLAYSTONE	5.0	260.0	
269.0	CARBONDALE		GRAY SHALE	2.2	265.0	
266.8	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	17.9	267.2	LOWER BENCH
248.9	CARBONDALE	BRERETON	LIMESTONE	15.8	285.1	
233.1	CARBONDALE	ANNA	DARK GRAY SHALE	0.8	300.9	
248.0	CARBONDALE	HERRIN	COAL	6.0	286.0	

MAPID: 11900523000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 13 QUARTERS/FOOTAGES: 1320' N line, 1320' E line

QUADRANGLE: WORDEN LONGITUDE: -89.819502 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.885204 DATE COLLECTED:

SURFACE ELEVATION (FT.): 534.0 LOGGED (FT.): 291.0 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 18 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
286.9	MODESTO	PIASA	LIMESTONE	7.0	247.1	
279.9	MODESTO		UNCLASSIFIED	3.0	254.1	
276.9	CARBONDALE		UNCLASSIFIED	10.0	257.1	
266.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	267.1	
260.9	CARBONDALE	BRERETON	LIMESTONE	10.5	273.1	
250.4	CARBONDALE	ANNA	BLACK SHALE	1.4	283.6	
249.0	CARBONDALE	HERRIN	COAL	6.0	285.0	

MAPID: 11900639000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 13 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW

QUADRANGLE: MARINE LONGITUDE: -89.825623 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.875256 DATE COLLECTED: 10 / 0 / 1956

SURFACE ELEVATION (FT.): 529.0 LOGGED (FT.): 263.0 LOG TYPE: Electric Log

SOURCE: FOUCEK, JOSEPH WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
309.0	MODESTO	PIASA	LIMESTONE	5.0	220.0
304.0	MODESTO		UNCLASSIFIED	3.0	225.0
301.0	CARBONDALE		UNCLASSIFIED	8.5	228.0
292.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	236.5
287.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	242.0
283.0	CARBONDALE	BRERETON	LIMESTONE	9.0	246.0
274.0	CARBONDALE	ANNA	BLACK SHALE	2.0	255.0
272.0	CARBONDALE	HERRIN	COAL	6.0	257.0

MAPID: 11901070000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 13 QUARTERS/FOOTAGES: 950' S line, 330' E line of SW NE

QUADRANGLE: WORDEN LONGITUDE: -89.820726 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.884226 DATE COLLECTED: 2 / 0 / 1962

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 290.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
296.0	MODESTO	PIASA	LIMESTONE	5.0	249.0
291.0	MODESTO		UNCLASSIFIED	3.0	254.0
288.0	CARBONDALE		UNCLASSIFIED	9.0	257.0
279.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	266.0
273.0	CARBONDALE	BRERETON	LIMESTONE	12.0	272.0
261.0	CARBONDALE	HERRIN	COAL	6.0	284.0

MAPID: 11927409000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 13 QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.820807 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.880699 DATE COLLECTED: 8 / 30 / 1970

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 264.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 47-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.0			CLAY	6.0	0.0	BROWN
509.0			SAND/CLAY	6.0	6.0	
503.0			SAND & GRAVEL	3.0	12.0	
500.0			CLAY & GRAVEL	17.0	15.0	
483.0			GRAVEL	6.0	32.0	
477.0			SAND/CLAY	27.5	38.0	
449.5			SANDY SHALE	7.5	65.5	
442.0			GRAY SHALE	5.3	73.0	
436.7			CALCAREOUS SHALE	3.7	78.3	
433.0			GRAY SHALE	8.5	82.0	
424.5			BLACK SHALE	1.2	90.5	
423.3			LIMESTONE	1.2	91.7	
422.1			SHALE	130.0	92.9	
292.1	SHELBURN	PIASA	LIMESTONE	3.5	222.9	
288.6	SHELBURN		GRAY SHALE	5.2	226.4	
283.4	SHELBURN		CALCAREOUS SHALE	2.3	231.6	
281.2	SHELBURN		GRAY SHALE	7.2	233.8	
274.0	SHELBURN		LIMESTONE	0.8	241.0	
273.2	SHELBURN		GRAY SHALE	0.7	241.8	
272.5	SHELBURN		LIMESTONE	8.4	242.5	
264.1	SHELBURN		DARK SHALE	3.8	250.9	
260.2	CARBONDALE	HERRIN	COAL	7.2	254.8	
253.1	CARBONDALE		UNDERCLAY	2.1	261.9	

MAPID: 11900074000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.839669 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.878938 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 538.5 LOGGED (FT.): 263.0 LOG TYPE:

SOURCE: SOU COAL X 6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
306.5	CARBONDALE	HERRIN	COAL	6.5	232.0	

MAPID: 11900074000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.839669 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.878938 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 239.5 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
335.8	MODESTO	PIASA	LIMESTONE	2.5	203.2
333.3	MODESTO		UNCLASSIFIED	3.3	205.7
330.0	CARBONDALE		UNCLASSIFIED	8.7	209.0
321.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	217.7
314.3	CARBONDALE	BRERETON	LIMESTONE	4.0	224.7
310.3	CARBONDALE	ANNA	BLACK SHALE	4.3	228.7
306.0	CARBONDALE	HERRIN	COAL	6.5	233.0

MAPID: 11900524000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: 20' N line, 20' W line of NW NW NW

QUADRANGLE: WORDEN LONGITUDE: -89.852572 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.889009 DATE COLLECTED:

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 242.0 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
347.3	MODESTO	PIASA	LIMESTONE	6.0	197.7
341.3	MODESTO		UNCLASSIFIED	6.0	203.7
335.3	CARBONDALE		UNCLASSIFIED	14.0	209.7
321.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	223.7
317.3	CARBONDALE	BRERETON	LIMESTONE	6.6	227.7
310.7	CARBONDALE	ANNA	BLACK SHALE	3.7	234.3
307.0	CARBONDALE	HERRIN	COAL	4.0	238.0

MAPID: 11900525000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: WORDEN LONGITUDE: -89.851448 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.888146 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 241.9 LOG TYPE: Survey Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 19-A WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
341.0	MODESTO	PIASA	LIMESTONE	3.0	202.0	
338.0	MODESTO		SHALE	13.8	205.0	
324.2	CARBONDALE	DANVILLE	COAL	2.1	218.8	
322.2	CARBONDALE		CLAYSTONE	5.2	220.8	
317.0	CARBONDALE		CLAYSTONE & SHALE	1.7	226.0	
315.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.7	227.7	LOWER BENCH
309.7	CARBONDALE	LAWSON	SHALE & SILTSTONE	1.8	233.3	
307.9	CARBONDALE	ANNA	DARK GRAY SHALE	1.4	235.1	
306.0	CARBONDALE	HERRIN	COAL	4.9	237.0	

MAPID: 11900525000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: WORDEN LONGITUDE: -89.851448 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.888146 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 242.9 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 19-A WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
340.0	MODESTO	PIASA	LIMESTONE	3.0	203.0	
337.0	MODESTO		UNCLASSIFIED	5.0	206.0	
332.0	CARBONDALE		UNCLASSIFIED	14.0	211.0	
318.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	225.0	
312.0	CARBONDALE	BRERETON	LIMESTONE	6.5	231.0	
305.5	CARBONDALE	ANNA	BLACK SHALE	0.5	237.5	
305.0	CARBONDALE	HERRIN	COAL	4.9	238.0	

MAPID: 11900736000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.839504 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.888049 DATE COLLECTED: 10 / 0 / 1944

SURFACE ELEVATION (FT.): 547.0 LOGGED (FT.): 256.5 LOG TYPE: Electric Log

SOURCE: FOX, FRANK G & FOX, W J WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
331.0	MODESTO	PIASA	LIMESTONE	4.0	216.0
327.0	MODESTO		UNCLASSIFIED	3.0	220.0
324.0	CARBONDALE		UNCLASSIFIED	8.0	223.0
316.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	231.0
311.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	5.0	236.0
306.0	CARBONDALE	BRERETON	LIMESTONE	8.0	241.0
298.0	CARBONDALE	ANNA	BLACK SHALE	3.0	249.0
295.0	CARBONDALE	HERRIN	COAL	4.5	252.0

MAPID: 11900763000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: 430' N line, 330' W line of NE NE SE

QUADRANGLE: WORDEN LONGITUDE: -89.83495 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.880439 DATE COLLECTED: 1 / 0 / 1957

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 256.0 LOG TYPE: Electric Log

SOURCE: BYRON OIL INDUST. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
324.0	MODESTO	PIASA	LIMESTONE	5.0	215.0
319.0	MODESTO		UNCLASSIFIED	4.0	220.0
315.0	CARBONDALE		UNCLASSIFIED	15.0	224.0
300.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	239.0
294.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	245.0
292.0	CARBONDALE	BRERETON	LIMESTONE	7.0	247.0
285.0	CARBONDALE	HERRIN	COAL	2.0	254.0

MAPID: 11901573000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 14 QUARTERS/FOOTAGES: 400' N line, 330' E line of NW NE SE

QUADRANGLE: WORDEN LONGITUDE: -89.837278 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.880546 DATE COLLECTED: 10 / 0 / 1953

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 248.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
334.0	MODESTO	PIASA	LIMESTONE	4.0	208.0
330.0	MODESTO		UNCLASSIFIED	5.0	212.0
325.0	CARBONDALE		UNCLASSIFIED	13.0	217.0
312.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	230.0
306.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	236.0
304.0	CARBONDALE	BRERETON	LIMESTONE	8.0	238.0
296.0	CARBONDALE	HERRIN	COAL	2.0	246.0

MAPID: 11923606000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 15 QUARTERS/FOOTAGES: 90' N line, 15' W line

QUADRANGLE: WORDEN LONGITUDE: -89.87123 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.889034 DATE COLLECTED: 6 / 9 / 1978

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 245.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-52 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0			UNCONSOLIDATED	124.0	0.0
431.0	MODESTO		GRAY SHALE	40.5	124.0
390.5	MODESTO		BLACK SHALE	2.0	164.5
388.5	MODESTO		GRAY SHALE	11.5	166.5
377.0	MODESTO		SHALE	4.5	178.0
372.5	MODESTO	PIASA	LIMESTONE	6.5	182.5
366.0	MODESTO		GRAY SHALE	12.0	189.0
354.0	CARBONDALE	DANVILLE	COAL	1.0	201.0
353.0	CARBONDALE		GRAY SHALE	6.0	202.0
347.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	208.0
344.5	CARBONDALE		SHALE	2.0	210.5
342.5	CARBONDALE	BRERETON	LIMESTONE	1.5	212.5
341.0	CARBONDALE	ANNA	BLACK SHALE	4.5	214.0
336.5	CARBONDALE	HERRIN	COAL	4.0	218.5
332.5	CARBONDALE		GRAY SHALE	3.5	222.5
329.0	CARBONDALE		LIMESTONE	0.5	226.0
328.5	CARBONDALE		GRAY SHALE	12.0	226.5
316.5	CARBONDALE		LIMESTONE	0.5	238.5
316.0	CARBONDALE		GRAY SHALE	6.0	239.0

MAPID: 11924212000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 15    QUARTERS/FOOTAGES: 1170' S line, 1286' E line

QUADRANGLE: WORDEN    LONGITUDE: -89.857122    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.87782    DATE COLLECTED: 6 / 8 / 1978

SURFACE ELEVATION (FT.): 535.0    LOGGED (FT.): 235.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-51    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
535.0			UNCONSOLIDATED	145.0	0.0
390.0	MODESTO		SHALE	4.0	145.0
386.0	MODESTO		GRAY SHALE	6.0	149.0
380.0	MODESTO		BLACK SHALE	2.0	155.0
378.0	MODESTO		COAL	1.5	157.0
376.5	MODESTO		GRAY SHALE	4.5	158.5
372.0	MODESTO		LIMESTONE	1.0	163.0
371.0	MODESTO		BLACK SHALE	2.0	164.0
369.0	MODESTO		GRAY SHALE	10.0	166.0
359.0	MODESTO		SHALE	3.0	176.0
356.0	MODESTO		GRAY SHALE	4.5	179.0
351.5	MODESTO	PIASA	LIMESTONE	6.0	183.5
345.5	MODESTO		GRAY SHALE	8.5	189.5
337.0	MODESTO		BLACK SHALE	3.0	198.0
334.0	CARBONDALE	DANVILLE	COAL	0.0	201.0
334.0	CARBONDALE		GRAY SHALE	4.0	201.0
330.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	205.0
326.5	CARBONDALE		GRAY SHALE	1.5	208.5
325.0	CARBONDALE	BRERETON	LIMESTONE	1.0	210.0
324.0	CARBONDALE	ANNA	BLACK SHALE	3.0	211.0
321.0	CARBONDALE	HERRIN	COAL	5.0	214.0
316.0	CARBONDALE		GRAY SHALE	0.2	219.0
315.8	CARBONDALE		CORE LOSS	0.9	219.2
315.0	CARBONDALE		GRAY SHALE	3.0	220.0
312.0	CARBONDALE		LIMESTONE	3.5	223.0
308.5	CARBONDALE		SHALE	8.5	226.5



MAPID: 11900779000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.888944 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.87597 DATE COLLECTED: 0 / 0 / 1949

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: STOCKER F R 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	5.5	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	
-	CARBONDALE	BRERETON	LIMESTONE	7.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.0	
-	CARBONDALE	HERRIN	COAL	4.0	

MAPID: 11923607000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 16 QUARTERS/FOOTAGES: 2616' N line, 2565' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.880285 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.882111 DATE COLLECTED: 6 / 12 / 1978

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 215.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-57 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0			UNCONSOLIDATED	147.0	0.0
393.0	MODESTO		GRAY SHALE	12.0	147.0
381.0	MODESTO		SHALE	6.0	159.0
375.0	MODESTO	PIASA	LIMESTONE	5.5	165.0
369.5	MODESTO		GRAY SHALE	10.0	170.5
359.5	CARBONDALE	DANVILLE	COAL	1.5	180.5
358.0	CARBONDALE		SHALE	3.5	182.0
354.5	CARBONDALE	BRERETON	LIMESTONE	6.5	185.5
348.0	CARBONDALE	ANNA	BLACK SHALE	3.0	192.0
345.0	CARBONDALE	HERRIN	COAL	5.2	195.0
339.8	CARBONDALE		UNDERCLAY	0.8	200.2
339.0	CARBONDALE		GRAY SHALE	12.0	201.0
327.0	CARBONDALE		LIMESTONE	0.5	213.0
326.5	CARBONDALE		GRAY SHALE	1.5	213.5

MAPID: 11924025000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 16 QUARTERS/FOOTAGES: 190' N line, 1000' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.886291 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.888839 DATE COLLECTED: 11 / 6 / 1979

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 190.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-16-55C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.0			UNCONSOLIDATED	89.0	0.0	
431.0	MODESTO		GRAY SHALE	26.0	89.0	
405.0	MODESTO		LIMESTONE	1.0	115.0	
404.0	MODESTO		COAL	0.5	116.0	
403.5	MODESTO		GRAY SHALE	4.5	116.5	
399.0	MODESTO		BLACK SHALE	1.0	121.0	
398.0	MODESTO		GRAY SHALE	18.0	122.0	
380.0	MODESTO		SHALE	4.0	140.0	
376.0	MODESTO	PIASA	LIMESTONE	5.5	144.0	
370.5	MODESTO		SHALE	5.5	149.5	
365.0	MODESTO		GRAY SHALE	3.0	155.0	
362.0	CARBONDALE	DANVILLE	SHALE	3.0	158.0	
359.0	CARBONDALE		GRAY SHALE	4.0	161.0	
355.0	CARBONDALE		GRAY SHALE	4.2	165.0	
350.7	CARBONDALE	BRERETON	LIMESTONE	7.6	169.3	
343.2	CARBONDALE	ANNA	BLACK SHALE	2.3	176.8	
340.9	CARBONDALE	HERRIN	COAL	4.2	179.1	
336.7	CARBONDALE		UNDERCLAY	1.2	183.3	
335.5	CARBONDALE		CORE LOSS	0.5	184.5	
335.0	CARBONDALE		GRAY SHALE	5.0	185.0	

MAPID: 11900075000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 17 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.892324 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.88047 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 524.2 LOGGED (FT.): 168.0 LOG TYPE: Drillers Log

SOURCE: SOU COAL X0013 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
369.2	CARBONDALE	HERRIN	COAL	4.2	155.0	

MAPID: 11900075000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 17 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.892324 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.88047 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 152.2 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
406.9	MODESTO	PIASA	LIMESTONE	3.5	117.1
403.4	MODESTO		UNCLASSIFIED	3.7	120.6
399.7	CARBONDALE		UNCLASSIFIED	9.8	124.3
389.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.2	134.1
383.7	CARBONDALE	BRERETON	LIMESTONE	6.0	140.3
377.7	CARBONDALE	ANNA	BLACK SHALE	1.7	146.3
376.0	CARBONDALE	HERRIN	COAL	4.2	148.0

MAPID: 11900075000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 17 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.892324 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.88047 DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 159.2 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 13 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
400.0	MODESTO	PIASA	LIMESTONE	3.5	124.0
396.5	MODESTO		CLAYSTONE & SHALE	10.7	127.5
385.8	CARBONDALE	DANVILLE	COAL	0.3	138.2
385.5	CARBONDALE		CLAYSTONE & SHALE	2.5	138.5
383.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.5	141.0 LOWER BENCH
372.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.7	151.5
369.8	CARBONDALE	ANNA	BLACK SHALE	0.7	154.2
369.0	CARBONDALE	HERRIN	COAL	4.2	155.0

MAPID: 11900076000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 17 QUARTERS/FOOTAGES: 50' S line, 1450' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.895245 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.875262 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 538.4 LOGGED (FT.): 192.0 LOG TYPE:

SOURCE: SOU COAL X0014 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
356.4	CARBONDALE	HERRIN	COAL	5.4	182.0

MAPID: 11900076000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 17 QUARTERS/FOOTAGES: 50' S line, 1450' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.895245 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.875262 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 189.4 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
382.4	MODESTO	PIASA	LIMESTONE	3.5	155.6
378.9	MODESTO		UNCLASSIFIED	3.0	159.1
375.9	CARBONDALE		UNCLASSIFIED	8.5	162.1
367.4	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.6	170.6
360.8	CARBONDALE	BRERETON	LIMESTONE	5.0	177.2
355.8	CARBONDALE	ANNA	BLACK SHALE	1.8	182.2
354.0	CARBONDALE	HERRIN	COAL	5.4	184.0

MAPID: 11923608000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 17 QUARTERS/FOOTAGES: 2055' N line, 1140' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.89396 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.883786 DATE COLLECTED: 6 / 14 / 1978

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 200.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-58 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
528.0			UNCONSOLIDATED	140.0	0.0
388.0	MODESTO		SHALE	5.5	140.0
382.5	MODESTO	PIASA	LIMESTONE	3.0	145.5
379.5	MODESTO		GRAY SHALE	10.5	148.5
369.0	CARBONDALE	DANVILLE	COAL	1.0	159.0
368.0	CARBONDALE		GRAY SHALE	4.0	160.0
364.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	164.0
362.0	CARBONDALE		GRAY SHALE	4.0	166.0
358.0	CARBONDALE	BRERETON	LIMESTONE	8.0	170.0
350.0	CARBONDALE	ANNA	BLACK SHALE	1.0	178.0
349.0	CARBONDALE	HERRIN	COAL	4.6	179.0
344.4	CARBONDALE		UNDERCLAY	1.0	183.6
343.4	CARBONDALE		CORE LOSS	0.4	184.6
343.0	CARBONDALE		GRAY SHALE	2.0	185.0
341.0	CARBONDALE		SHALY LIMESTONE	3.0	187.0
338.0	CARBONDALE		GRAY SHALE	10.0	190.0

MAPID: 11923609000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 18 QUARTERS/FOOTAGES: 1750' N line, 2715' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.917944 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.885005 DATE COLLECTED: 6 / 14 / 1978

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 230.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-21 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
510.0			UNCONSOLIDATED	148.0	0.0
362.0	CARBONDALE		CALCAREOUS SHALE	9.0	148.0
353.0	CARBONDALE		GRAY SHALE	4.0	157.0
349.0	CARBONDALE		SANDY SHALE	8.0	161.0
341.0	CARBONDALE		SHALY SANDSTONE	2.0	169.0
339.0	CARBONDALE		GRAY SHALE	8.5	171.0
330.5	CARBONDALE		LIMESTONE	1.5	179.5
329.0	CARBONDALE		GRAY SHALE	32.0	181.0
297.0	CARBONDALE	COLCHESTER	COAL	2.0	213.0
295.0	SPOON		SANDY SHALE	15.0	215.0

**MAPID:** 11900077000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 19    **QUARTERS/FOOTAGES:** NE SW NW  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.924247    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.871085    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 463.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

**MAPID:** 11900078000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 19    **QUARTERS/FOOTAGES:** 660' N line, 0' E line of NE NE  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.908764    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.873429    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 531.3    **LOGGED (FT.):** 436.0    **LOG TYPE:**  
**SOURCE:** SOU COAL X0003    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
379.3	CARBONDALE	HERRIN	COAL	5.8	152.0

**MAPID:** 11900078000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 19    **QUARTERS/FOOTAGES:** 660' N line, 0' E line of NE NE  
**QUADRANGLE:** EDWARDSVILLE    **LONGITUDE:** -89.908764    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.873429    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 531.0    **LOGGED (FT.):** 157.8    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.7	CARBONDALE	ANNA	BLACK SHALE	1.7	150.3
379.0	CARBONDALE	HERRIN	COAL	5.8	152.0

MAPID: 11921464000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 19    QUARTERS/FOOTAGES: 1389' S line, 1158' W line

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.923587    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.864657    DATE COLLECTED: 10 / 4 / 1977

SURFACE ELEVATION (FT.): 456.0    LOGGED (FT.): 120.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-16    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
456.0			UNCONSOLIDATED	55.0	0.0
401.0	CARBONDALE		GRAY SHALE	2.0	55.0
399.0	CARBONDALE	BRERETON	SHALY LIMESTONE	4.0	57.0
395.0	CARBONDALE	ANNA	BLACK SHALE	2.0	61.0
393.0	CARBONDALE	HERRIN	COAL	2.0	63.0
391.0	CARBONDALE	HERRIN	COAL	3.0	65.0
388.0	CARBONDALE		GRAY SHALE	4.5	68.0
383.5	CARBONDALE		SANDY LIMESTONE	2.0	72.5
381.5	CARBONDALE		GRAY SHALE	9.5	74.5
372.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	84.0
370.0	CARBONDALE		SHALE	8.0	86.0
362.0	CARBONDALE		SANDY LIMESTONE	1.0	94.0
361.0	CARBONDALE		GRAY SHALE	3.0	95.0
358.0	CARBONDALE		GRAY SHALE	5.0	98.0
353.0	CARBONDALE		SANDY SHALE	17.0	103.0

MAPID: 11924165000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 20 QUARTERS/FOOTAGES: 2000' S line, 2400' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.898662 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.86615 DATE COLLECTED: 10 / 5 / 1977

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 185.5 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-15A WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0			UNCONSOLIDATED	112.0	0.0	
388.0	MODESTO		SANDY SHALE	9.0	112.0	
379.0	MODESTO		LIMESTONE	1.0	121.0	
378.0	MODESTO		GRAY SHALE	10.0	122.0	
368.0	MODESTO		LIMESTONE	1.0	132.0	
367.0	MODESTO		SHALE	2.5	133.0	
364.5	MODESTO	PIASA	LIMESTONE	4.5	135.5	
360.0	MODESTO		BLACK SHALE	3.5	140.0	
356.5	MODESTO		GRAY SHALE	4.5	143.5	
352.0	CARBONDALE	DANVILLE	COAL	1.0	148.0	
351.0	CARBONDALE		GRAY SHALE	2.0	149.0	
349.0	CARBONDALE		LIMESTONE	10.5	151.0	
338.5	CARBONDALE	ANNA	BLACK SHALE	3.1	161.5	
335.4	CARBONDALE	HERRIN	COAL	5.6	164.6	
329.8	CARBONDALE		UNDERCLAY	4.0	170.2	
325.8	CARBONDALE		LIMESTONE	2.3	174.2	
323.5	CARBONDALE		GRAY SHALE	9.0	176.5	

MAPID: 11900079000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 21 QUARTERS/FOOTAGES: 2400' S line, 3480' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.883645 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.867101 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 540.9 LOGGED (FT.): 280.0 LOG TYPE: Drillers Log

SOURCE: SOU COAL X WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
350.9	CARBONDALE	HERRIN	COAL	5.1	190.0	



MAPID: 11900079000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 21 QUARTERS/FOOTAGES: 2400' S line, 3480' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.883645 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.867101 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 541.0 LOGGED (FT.): 191.1 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
384.1	MODESTO	PIASA	LIMESTONE	2.5	156.9
381.6	MODESTO		UNCLASSIFIED	2.5	159.4
379.1	CARBONDALE		UNCLASSIFIED	9.3	161.9
369.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.3	171.2
365.5	CARBONDALE	BRERETON	LIMESTONE	8.0	175.5
357.5	CARBONDALE	ANNA	BLACK SHALE	2.5	183.5
355.0	CARBONDALE	HERRIN	COAL	5.1	186.0

MAPID: 11900079000C VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 21 QUARTERS/FOOTAGES: 2400' S line, 3480' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.883645 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.867101 DATE COLLECTED:

SURFACE ELEVATION (FT.): 541.0 LOGGED (FT.): 195.1 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 4 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.0	MODESTO	PIASA	LIMESTONE	2.5	161.0
377.5	MODESTO		SHALE	11.0	163.5
366.5	CARBONDALE	DANVILLE	COAL	1.0	174.5
365.5	CARBONDALE		DARK GRAY SHALE	3.3	175.5
362.2	CARBONDALE		LIMESTONE W/ SHALE	0.8	178.8
361.5	CARBONDALE	BRERETON	LIMESTONE	8.0	179.5
353.5	CARBONDALE	ANNA	CLAYSTONE & SHALE	2.5	187.5
351.0	CARBONDALE	HERRIN	COAL	5.1	190.0

MAPID: 11901578000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NE

QUADRANGLE: MARINE LONGITUDE: -89.874866 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.868518 DATE COLLECTED: 9 / 0 / 1949

SURFACE ELEVATION (FT.): 549.0 LOGGED (FT.): 218.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
370.0	MODESTO	PIASA	LIMESTONE	6.0	179.0
364.0	MODESTO		UNCLASSIFIED	4.0	185.0
360.0	CARBONDALE		UNCLASSIFIED	13.0	189.0
347.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	202.0
343.0	CARBONDALE	BRERETON	LIMESTONE	6.0	206.0
337.0	CARBONDALE	ANNA	BLACK SHALE	2.0	212.0
335.0	CARBONDALE	HERRIN	COAL	4.0	214.0

MAPID: 11900080000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 22 QUARTERS/FOOTAGES: 4450' S line, 3480' E line

QUADRANGLE: MARINE LONGITUDE: -89.864903 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.872487 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 538.2 LOGGED (FT.): 231.0 LOG TYPE: Drillers Log

SOURCE: SOU COAL X0015 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
322.2	CARBONDALE	HERRIN	COAL	5.0	216.0

MAPID: 11900080000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 22 QUARTERS/FOOTAGES: 4450' S line, 3480' E line

QUADRANGLE: MARINE LONGITUDE: -89.864903 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.872487 DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 205.0 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
370.5	MODESTO	PIASA	LIMESTONE	7.0	167.5
363.5	MODESTO		UNCLASSIFIED	4.0	174.5
359.5	CARBONDALE		UNCLASSIFIED	9.0	178.5
350.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	187.5
346.0	CARBONDALE	BRERETON	LIMESTONE	5.5	192.0
340.5	CARBONDALE	ANNA	BLACK SHALE	2.5	197.5
338.0	CARBONDALE	HERRIN	COAL	5.0	200.0

MAPID: 11900080000C    VERSION: 3

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 22    QUARTERS/FOOTAGES: 4450' S line, 3480' E line

QUADRANGLE: MARINE    LONGITUDE: -89.864903    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.872487    DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0    LOGGED (FT.): 222.0    LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 15    WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
354.0	MODESTO	PIASA	LIMESTONE	7.0	184.0
347.0	MODESTO		SHALE	8.8	191.0
338.2	CARBONDALE	DANVILLE	COAL	3.3	199.8
335.0	CARBONDALE		DARK GRAY SHALE	1.0	203.0
334.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.5	204.0
330.5	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	5.5	207.5
325.0	CARBONDALE	ANNA	SHALE	3.5	213.0
321.0	CARBONDALE	HERRIN	COAL	5.0	217.0

MAPID: 11924166000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 22    QUARTERS/FOOTAGES: 1700' N line, 1700' W line

QUADRANGLE: MARINE    LONGITUDE: -89.865279    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.870026    DATE COLLECTED: 10 / 6 / 1977

SURFACE ELEVATION (FT.): 535.0    LOGGED (FT.): 240.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-24    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
535.0			UNCONSOLIDATED	161.0	0.0
374.0	MODESTO		GRAY SHALE	5.0	161.0
369.0	MODESTO		SHALE	4.5	166.0
364.5	MODESTO	PIASA	LIMESTONE	3.5	170.5
361.0	MODESTO		GRAY SHALE	14.5	174.0
346.5	CARBONDALE	DANVILLE	COAL	2.5	188.5
344.0	CARBONDALE		GRAY SHALE	5.5	191.0
338.5	CARBONDALE	BRERETON	LIMESTONE	8.5	196.5
330.0	CARBONDALE	ANNA	BLACK SHALE	2.6	205.0
327.4	CARBONDALE	HERRIN	COAL	4.4	207.6
323.0	CARBONDALE		UNDERCLAY	2.5	212.0
320.5	CARBONDALE		LIMESTONE	3.0	214.5
317.5	CARBONDALE		GRAY SHALE	11.0	217.5
306.5	CARBONDALE		LIMESTONE	2.5	228.5
304.0	CARBONDALE		SANDY SHALE	9.0	231.0

**MAPID:** 11900081000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 23    **QUARTERS/FOOTAGES:** 2500' S line, 2050' E line  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.841376    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.866788    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 529.4    **LOGGED (FT.):** 359.0    **LOG TYPE:** Drillers Log  
**SOURCE:** SOU COAL X0005    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
317.4	CARBONDALE	HERRIN	COAL	5.5	212.0	

**MAPID:** 11900081000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 23    **QUARTERS/FOOTAGES:** 2500' S line, 2050' E line  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.841376    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.866788    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 529.0    **LOGGED (FT.):** 208.5    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
370.0	MODESTO	PIASA	LIMESTONE	5.0	159.0	
365.0	MODESTO		UNCLASSIFIED	3.5	164.0	
361.5	CARBONDALE		UNCLASSIFIED	9.0	167.5	
352.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.7	176.5	
349.8	CARBONDALE	ENERGY	UNCLASSIFIED	23.8	179.2	
326.0	CARBONDALE	HERRIN	COAL	5.5	203.0	

**MAPID:** 11900081000C    **VERSION:** 3    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 5N 7W    **SECTION:** 23    **QUARTERS/FOOTAGES:** 2500' S line, 2050' E line  
**QUADRANGLE:** MARINE    **LONGITUDE:** -89.841376    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.866788    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 529.0    **LOGGED (FT.):** 217.5    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 5    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
361.0	MODESTO	PIASA	LIMESTONE	5.0	168.0	
356.0	MODESTO		SHALE	12.5	173.0	
343.5	CARBONDALE		CLAYSTONE & SHALE	0.5	185.5	
343.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	13.5	186.0	
329.5	CARBONDALE	LAWSON	GRAY SHALE	12.2	199.5	
317.3	CARBONDALE	BRERETON	LIMESTONE	0.3	211.7	
317.0	CARBONDALE	HERRIN	COAL	5.5	212.0	

MAPID: 11900932000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 544' W line of NE

QUADRANGLE: MARINE LONGITUDE: -89.841492 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.868055 DATE COLLECTED: 5 / 0 / 1950

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 218.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
350.0	MODESTO	PIASA	LIMESTONE	4.0	178.0
346.0	MODESTO		UNCLASSIFIED	3.0	182.0
343.0	CARBONDALE		UNCLASSIFIED	12.0	185.0
331.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	197.0
325.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	203.0
323.0	CARBONDALE	BRERETON	LIMESTONE	7.0	205.0
316.0	CARBONDALE	HERRIN	COAL	6.0	212.0

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MAPID: 11927410000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON

TWP/RNG: 5N 7W

SECTION: 24

QUARTERS/FOOTAGES: 1' N, 1' E, C/c

QUADRANGLE: MARINE

LONGITUDE: -89.824676

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 38.866966

DATE COLLECTED: 6 / 24 / 1970

SURFACE ELEVATION (FT.): 522.0

LOGGED (FT.): 257.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 39-MT

WELL TYPE: Coal Test

COMMENT: "CENTER" OF SECTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
522.0			CLAY	14.0	0.0	BROWN
508.0			SANDY CLAY	4.5	14.0	SANDY
503.5			SAND	9.5	18.5	
494.0			SAND & GRAVEL	12.0	28.0	
482.0			SAND/CLAY	22.0	40.0	
460.0			GRAVEL	1.5	62.0	
458.5			CLAY	2.5	63.5	
456.0			CALCAREOUS SHALE	2.3	66.0	
453.7			GRAY SHALE	17.2	68.3	
436.5			CALCAREOUS SHALE	3.2	85.5	
433.3			GRAY SHALE	109.9	88.7	
323.5	SHELBURN	PIASA	LIMESTONE	4.7	198.5	
318.8	SHELBURN		GRAY SHALE	11.8	203.2	
307.0	SHELBURN		CALCAREOUS SHALE	5.7	215.0	
301.3	SHELBURN		GRAY SHALE	3.8	220.7	
297.5	SHELBURN		LIMESTONE	0.9	224.5	
296.6			GRAY SHALE	22.2	225.4	
274.4			DARK SHALE	0.8	247.6	
273.7	CARBONDALE	HERRIN	COAL	4.0	248.3	
269.7	CARBONDALE		CLAYSTONE	2.0	252.3	
267.7	CARBONDALE		GRAY SHALE	2.7	254.3	

MAPID: 11901142000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 380' W line of SE NW

QUADRANGLE: MARINE LONGITUDE: -89.847096 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.853603 DATE COLLECTED: 4 / 0 / 1964

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 210.0 LOG TYPE: Electric Log

SOURCE: LUTTRELL HOMER WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
377.0	MODESTO	PIASA	LIMESTONE	3.5	155.0
373.5	MODESTO		UNCLASSIFIED	3.5	158.5
370.0	CARBONDALE		UNCLASSIFIED	7.5	162.0
362.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	169.5
359.0	CARBONDALE	ENERGY	UNCLASSIFIED	32.0	173.0
327.0	CARBONDALE	HERRIN	COAL	5.0	205.0

MAPID: 11901239000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 26 QUARTERS/FOOTAGES: 990' N line, 330' W line of NE

QUADRANGLE: MARINE LONGITUDE: -89.842541 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.857166 DATE COLLECTED: 2 / 0 / 1967

SURFACE ELEVATION (FT.): 523.0 LOGGED (FT.): 223.0 LOG TYPE: Electric Log

SOURCE: DEPOISTER DRILLING CO. WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
352.5	MODESTO	PIASA	LIMESTONE	3.5	170.5
349.0	MODESTO		UNCLASSIFIED	3.5	174.0
345.5	CARBONDALE		UNCLASSIFIED	7.5	177.5
338.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	185.0
335.0	CARBONDALE	ENERGY	UNCLASSIFIED	31.0	188.0
304.0	CARBONDALE	HERRIN	COAL	4.0	219.0

MAPID: 11901242000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 26 QUARTERS/FOOTAGES: 990' S line, 330' E line of NE

QUADRANGLE: MARINE LONGITUDE: -89.835623 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.855282 DATE COLLECTED: 3 / 0 / 1967

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 245.0 LOG TYPE: Electric Log

SOURCE: DEPOISTER 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
334.0	MODESTO	PIASA	LIMESTONE	3.5	190.0
330.5	MODESTO		UNCLASSIFIED	3.5	193.5
327.0	CARBONDALE		UNCLASSIFIED	7.5	197.0
319.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	204.5
316.0	CARBONDALE	ENERGY	UNCLASSIFIED	33.0	208.0
283.0	CARBONDALE	HERRIN	COAL	4.0	241.0

MAPID: 11902182000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NW

QUADRANGLE: MARINE LONGITUDE: -89.849478 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.859067 DATE COLLECTED: 10 / 0 / 1968

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 215.0 LOG TYPE: Electric Log

SOURCE: OLDS OIL CORP WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
364.0	MODESTO	PIASA	LIMESTONE	3.0	164.0
361.0	MODESTO		UNCLASSIFIED	3.5	167.0
357.5	CARBONDALE		UNCLASSIFIED	7.5	170.5
350.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	178.0
346.5	CARBONDALE	ENERGY	UNCLASSIFIED	28.5	181.5
318.0	CARBONDALE	HERRIN	COAL	5.0	210.0



MAPID: 11927411000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 27 QUARTERS/FOOTAGES: SE SW SW NE

QUADRANGLE: MARINE LONGITUDE: -89.860653 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.853344 DATE COLLECTED: 12 / 8 / 1969

SURFACE ELEVATION (FT.): 522.0 LOGGED (FT.): 193.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 32-MT WELL TYPE: Coal Test

COMMENT: ONLY QUARTERS GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
522.0			CLAY	7.0	0.0	BROWN
515.0			SANDY CLAY	8.2	7.0	
506.8			SANDY CLAY	8.2	15.2	BROWN-GRAY
498.6			CLAY & GRAVEL	2.6	23.4	
496.0			SANDY CLAY	91.0	26.0	
405.0			GREEN SHALE	20.8	117.0	
384.2			GRAY SHALE	6.6	137.8	
377.7	SHELBURN	PIASA	LIMESTONE	3.1	144.3	HARD
374.6	SHELBURN		GRAY SHALE	28.7	147.4	
345.9			BLACK SHALE	0.3	176.1	
345.6			GRAY SHALE	8.1	176.4	
337.5	CARBONDALE	HERRIN	COAL	5.5	184.5	
332.0	CARBONDALE		GRAY SHALE	1.3	190.0	
330.7	CARBONDALE		CALCAREOUS SHALE	1.7	191.3	

MAPID: 11901459000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 330' E line of NE

QUADRANGLE: MARINE LONGITUDE: -89.872717 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.859409 DATE COLLECTED: 8 / 0 / 1967

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 201.5 LOG TYPE: Electric Log

SOURCE: PINNEY, EARL T. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
340.0	CARBONDALE	HERRIN	COAL	2.5	199.0	

MAPID: 11924167000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 28 QUARTERS/FOOTAGES: 1150' S line, 100' W line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.890086

GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.849143

DATE COLLECTED: 10 / 6 / 1977

SURFACE ELEVATION (FT.): 540.0

LOGGED (FT.): 210.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-21

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0			UNCONSOLIDATED	154.0	0.0
386.0	MODESTO	PIASA	LIMESTONE	7.0	154.0
379.0	MODESTO		GRAY SHALE	7.5	161.0
371.5	CARBONDALE	DANVILLE	COAL	3.5	168.5
368.0	CARBONDALE		GRAY SHALE	5.6	172.0
362.4	CARBONDALE	BRERETON	SHALY LIMESTONE	8.4	177.6
354.0	CARBONDALE	ANNA	BLACK SHALE	4.0	186.0
350.0	CARBONDALE	HERRIN	COAL	4.0	190.0
346.0	CARBONDALE		UNDERCLAY	2.5	194.0
343.5	CARBONDALE		SHALY LIMESTONE	3.5	196.5
340.0	CARBONDALE		GRAY SHALE	10.0	200.0

MAPID: 11924168000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 28 QUARTERS/FOOTAGES: 2163' N line, 20' E line  
 QUADRANGLE: MARINE LONGITUDE: -89.871758 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.854335 DATE COLLECTED: 10 / 6 / 1977  
 SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 260.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-77-23 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0			UNCONSOLIDATED	168.0	0.0
372.0	MODESTO	PIASA	LIMESTONE	1.0	168.0
371.0	MODESTO		GRAY SHALE	1.5	169.0
369.5	CARBONDALE	DANVILLE	COAL	1.0	170.5
368.5	CARBONDALE		GRAY SHALE	12.5	171.5
356.0	CARBONDALE	BRERETON	LIMESTONE	3.5	184.0
352.5	CARBONDALE	ANNA	BLACK SHALE	6.5	187.5
346.0	CARBONDALE	HERRIN	COAL	4.2	194.0
341.8	CARBONDALE		UNDERCLAY	3.8	198.2
338.0	CARBONDALE		LIMESTONE	2.5	202.0
335.5	CARBONDALE		GRAY SHALE	7.5	204.5
328.0	CARBONDALE	ST. DAVID	LIMESTONE	4.0	212.0
324.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.5	216.0
322.5	CARBONDALE		GRAY SHALE	27.0	217.5
295.5	CARBONDALE		LIMESTONE	1.5	244.5
294.0	CARBONDALE		CALCAREOUS SHALE	10.0	246.0
284.0	CARBONDALE		SANDY SHALE	4.0	256.0

MAPID: 11900933000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 29 QUARTERS/FOOTAGES: 850' N line, 400' E line  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.891679 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.858234 DATE COLLECTED: 0 / 0 / 1949  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: 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	3.5	
-	CARBONDALE		UNCLASSIFIED	9.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	BRERETON	LIMESTONE	5.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11924169000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 29 QUARTERS/FOOTAGES: 150' S line, 1050' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.894194 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.846415 DATE COLLECTED: 10 / 6 / 1977

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 203.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-20 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
538.0			UNCONSOLIDATED	151.5	0.0
386.5	MODESTO	PIASA	LIMESTONE	4.0	151.5
382.5	MODESTO		SHALE	6.5	155.5
376.0	CARBONDALE	DANVILLE	COAL	1.5	162.0
374.5	CARBONDALE		SHALE	6.0	163.5
368.5	CARBONDALE	BRERETON	LIMESTONE	10.5	169.5
358.0	CARBONDALE	ANNA	BLACK SHALE	2.5	180.0
355.5	CARBONDALE	HERRIN	COAL	2.5	182.5
353.0	CARBONDALE		UNDERCLAY	2.5	185.0
350.5	CARBONDALE		LIMESTONE	5.0	187.5
345.5	CARBONDALE		GRAY SHALE	10.5	192.5

MAPID: 11924170000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 30 QUARTERS/FOOTAGES: 1220' N line, 75' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.909194 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.857332 DATE COLLECTED: 4 / 30 / 1975

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 182.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-4 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
520.0			UNCONSOLIDATED	150.0	0.0
370.0	CARBONDALE		GRAY SHALE	9.0	150.0
361.0	CARBONDALE	BRERETON	LIMESTONE	2.0	159.0
359.0	CARBONDALE	ANNA	BLACK SHALE	5.5	161.0
353.5	CARBONDALE	HERRIN	COAL	6.5	166.5
347.0	CARBONDALE		UNDERCLAY/SHALE	9.0	173.0

MAPID: 11900934000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 31 QUARTERS/FOOTAGES: 660' S line, 330' E line of SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.915002 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.840901 DATE COLLECTED: 10 / 0 / 1952

SURFACE ELEVATION (FT.): 533.0 LOGGED (FT.): 186.0 LOG TYPE: Electric Log

SOURCE: SOIL TESTING SERVICE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
351.0	CARBONDALE	HERRIN	COAL	4.0	182.0

MAPID: 11924171000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 31 QUARTERS/FOOTAGES: 1850' S line, 600' W line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.925707 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.837205 DATE COLLECTED: 10 / 5 / 1977

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 180.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-19 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
525.0			UNCONSOLIDATED	126.0	0.0
399.0	MODESTO	PIASA	LIMESTONE	4.0	126.0
395.0	MODESTO		GRAY SHALE	4.0	130.0
391.0	MODESTO		BLACK SHALE	1.0	134.0
390.0	CARBONDALE	DANVILLE	COAL	1.0	135.0
389.0	CARBONDALE		GRAY SHALE	5.0	136.0
384.0	CARBONDALE		SHALY LIMESTONE	15.0	141.0
369.0	CARBONDALE	HERRIN	COAL	6.0	156.0
363.0	CARBONDALE		CORE LOSS	2.0	162.0
361.0	CARBONDALE		UNDERCLAY	1.0	164.0
360.0	CARBONDALE		SHALY LIMESTONE	4.0	165.0
356.0	CARBONDALE		GRAY SHALE	9.0	169.0
347.0	CARBONDALE		CALCAREOUS SHALE	2.0	178.0

MAPID: 11924172000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 33 QUARTERS/FOOTAGES: 1400' S line, 1225' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.876342 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.835219 DATE COLLECTED: 10 / 6 / 1977

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 220.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-22 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
538.0			UNCONSOLIDATED	146.0	0.0
392.0	CARBONDALE		SHALE	3.5	146.0
388.5	CARBONDALE		LIMESTONE	0.5	149.5
388.0	CARBONDALE	ENERGY	GRAY SHALE	37.5	150.0
350.5	CARBONDALE	HERRIN	COAL	6.5	187.5
344.0	CARBONDALE		UNDERCLAY	3.0	194.0
341.0	CARBONDALE		LIMESTONE	3.0	197.0
338.0	CARBONDALE		GRAY SHALE	6.0	200.0
332.0	CARBONDALE		CALCAREOUS SHALE	2.0	206.0
330.0	CARBONDALE		SANDY LIMESTONE	2.2	208.0
327.8	CARBONDALE		SHALE	5.8	210.2
322.0	CARBONDALE		GRAY SHALE	4.0	216.0

MAPID: 11901187000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 35 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE

QUADRANGLE: MARINE LONGITUDE: -89.836013 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.837101 DATE COLLECTED: 12 / 0 / 1964

SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 253.0 LOG TYPE: Electric Log

SOURCE: HALL, BROOKS 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
325.5	MODESTO	PIASA	LIMESTONE	3.5	191.5
322.0	MODESTO		UNCLASSIFIED	4.0	195.0
318.0	CARBONDALE		UNCLASSIFIED	10.0	199.0
308.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	209.0
303.0	CARBONDALE	ENERGY	UNCLASSIFIED	35.0	214.0
268.0	CARBONDALE	HERRIN	COAL	4.0	249.0

MAPID: 11901272000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 35 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW

QUADRANGLE: MARINE LONGITUDE: -89.84516 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.844492 DATE COLLECTED: 6 / 0 / 1967

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 213.5 LOG TYPE: Electric Log

SOURCE: POTSCH, JOHN P. SR. 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
369.0	MODESTO	PIASA	LIMESTONE	4.0	156.0
365.0	MODESTO		UNCLASSIFIED	3.5	160.0
361.5	CARBONDALE		UNCLASSIFIED	8.5	163.5
353.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	172.0
349.5	CARBONDALE	ENERGY	UNCLASSIFIED	34.5	175.5
315.0	CARBONDALE	HERRIN	COAL	3.5	210.0

MAPID: 11901456000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 35 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NW

QUADRANGLE: MARINE LONGITUDE: -89.849799 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.844556 DATE COLLECTED: 7 / 0 / 1967

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 209.0 LOG TYPE: Electric Log

SOURCE: POTSCH, JOHN P. SR. 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
373.0	MODESTO	PIASA	LIMESTONE	4.0	152.0
369.0	MODESTO		UNCLASSIFIED	4.0	156.0
365.0	CARBONDALE		UNCLASSIFIED	8.5	160.0
356.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	168.5
353.0	CARBONDALE	ENERGY	UNCLASSIFIED	33.0	172.0
320.0	CARBONDALE	HERRIN	COAL	4.0	205.0

MAPID: 11924334000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 35 QUARTERS/FOOTAGES: 45' N line, 2556' E line

QUADRANGLE: MARINE LONGITUDE: -89.843727 GEOLOGIST: UITEMP

CONFIDENTIAL: N LATITUDE: 38.845258 DATE COLLECTED: 11 / 18 / 1981

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 223.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 691 WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
320.0	CARBONDALE	ENERGY	SHALE	9.9	200.0	
310.1	CARBONDALE	ENERGY	BLACK SHALE	0.5	209.9	
309.7	CARBONDALE	ENERGY	GRAY SHALE	0.5	210.3	
309.2	CARBONDALE	HERRIN	BONE COAL	0.6	210.8	
308.6	CARBONDALE		UNKNOWN	3.7	211.4	
304.9	CARBONDALE		UNDERCLAY	0.6	215.1	GRAY
304.3	CARBONDALE		NO RECORD	1.4	215.7	LOSS
303.0	CARBONDALE		CLAYSTONE & SILTSTONE	2.7	217.0	GRAY
300.3	CARBONDALE		NODULAR LIMESTONE	1.1	219.7	GRAY

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MAPID: 11927412000C VERSION: 1

PROJECT: NCRDS

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 35 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: MARINE LONGITUDE: -89.851102 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.832804 DATE COLLECTED: 8 / 31 / 1976

SURFACE ELEVATION (FT.): 522.9 LOGGED (FT.): 498.3 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. DH-675 WELL TYPE: Coal Test

COMMENT: CENTER OF SWSW QUARTER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
522.9			UNCONSOLIDATED	2.0	0.0	
520.9			CLAY	15.0	2.0	BROWN
505.9			UNCONSOLIDATED	66.0	17.0	
439.9			GREEN SHALE	3.0	83.0	
436.9			SILTY SHALE	44.0	86.0	
392.9			LIMESTONE	0.5	130.0	
392.4			GRAY SHALE	6.5	130.5	
385.9			SHALE	4.0	137.0	
381.9			GREEN SHALE	9.5	141.0	
372.4			GRAY SHALE	6.0	150.5	
366.4	SHELBURN	PIASA	LIMESTONE	5.0	156.5	
361.4	SHELBURN		GRAY SHALE	12.0	161.5	
349.4	SHELBURN		LIMESTONE	2.5	173.5	
346.9	CARBONDALE	ENERGY	SILTY SHALE	19.0	176.0	
327.9	CARBONDALE	ENERGY	GRAY SHALE	5.0	195.0	
322.9	CARBONDALE	ENERGY	GRAY SHALE	10.9	200.0	W/ SIDERITE
312.0	CARBONDALE	HERRIN	COAL	5.0	210.9	
307.1	CARBONDALE		CLAYSTONE & SILTSTONE	1.2	215.8	
305.9	CARBONDALE		CLAYSTONE & LIMESTONE	2.0	217.0	
303.9	CARBONDALE		SHALE W/ LIME NODULES	2.7	219.0	
301.2	CARBONDALE		LIMESTONE	1.3	221.7	
299.9	CARBONDALE		LIMESTONE	0.5	223.0	DARK
299.4	CARBONDALE		SHALE W/ LIME NODULES	2.9	223.5	
296.5	CARBONDALE		GREEN SHALE	3.6	226.4	
292.9	CARBONDALE		CALCAREOUS SILTSTONE	1.0	230.0	
291.9	CARBONDALE		GRAY SHALE	0.7	231.0	
291.2	CARBONDALE		SHALE & SILTSTONE	31.3	231.7	
259.9	CARBONDALE		SANDY SHALE	22.0	263.0	
237.9	CARBONDALE		GRAY SHALE	21.9	285.0	W/ SIDERITE
216.0	CARBONDALE	SURVANT	COAL	1.6	306.9	DATASHEET LISTS "2A"
214.4	CARBONDALE		SHALE & SANDSTONE	41.7	308.5	
172.7	CARBONDALE		LIMESTONE	0.4	350.2	
172.3	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.6	350.6	
169.7	CARBONDALE	COLCHESTER	COAL	2.5	353.2	
167.2	CARBONDALE		CLAYSTONE & SILTSTONE	1.4	355.7	
165.9	CARBONDALE		CALCAREOUS SHALE	1.3	357.0	
164.6	CARBONDALE		LIMESTONE	1.7	358.3	
162.9	CARBONDALE		GRAY SHALE	1.1	360.0	

161.8	CARBONDALE	DEKOVEN	COAL	1.6	361.1	
160.2	CARBONDALE		CARBONACEOUS SHALE	0.3	362.7	
159.9	CARBONDALE		CLAYSTONE & SILTSTONE	2.0	363.0	
157.9	CARBONDALE		GRAY SHALE	4.5	365.0	
152.4	CARBONDALE		SANDY SHALE	0.5	370.5	
151.9	CARBONDALE		SILTSTONE	7.1	371.0	
144.8	CARBONDALE		LIMESTONE	0.2	378.1	
144.6	CARBONDALE	DAVIS	COAL	3.5	378.3	
141.1	TRADEWATER		CLAYSTONE & SILTSTONE	4.7	381.8	
136.4	TRADEWATER		SANDY SHALE	8.1	386.5	W/NOD
128.3	TRADEWATER		CONGLOMERATE	4.2	394.6	
124.1	TRADEWATER		LIMESTONE	4.5	398.8	
119.6			CALCAREOUS SHALE	1.1	403.3	
118.5			DARK SHALE	0.8	404.4	
117.7			CONGLOMERATE	1.0	405.2	
116.7			LIMESTONE	0.8	406.2	
115.9			GRAY SHALE	0.3	407.0	
115.6			LIMESTONE	2.4	407.3	
113.2			CALCAREOUS SHALE	12.8	409.7	
100.4			LIMESTONE	0.5	422.5	
99.9			CALCAREOUS SHALE	6.7	423.0	
93.2			LIMESTONE	9.3	429.7	
83.9			CONGLOMERATE	2.5	439.0	
81.4			UNKNOWN	0.4	441.5	
81.0			CONGLOMERATE	1.1	441.9	
79.9			LIMESTONE W/ SHALE	55.3	443.0	

MAPID: 11901190000C    VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 5N 7W    SECTION: 36    QUARTERS/FOOTAGES: 330' S line, 330' W line of NW SW

QUADRANGLE: MARINE    LONGITUDE: -89.833714    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.835255    DATE COLLECTED: 3 / 0 / 1965

SURFACE ELEVATION (FT.): 489.0    LOGGED (FT.): 224.0    LOG TYPE: Electric Log

SOURCE: HALL, BROOKS    WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
326.0	MODESTO	PIASA	LIMESTONE	4.0	163.0	
322.0	MODESTO		UNCLASSIFIED	3.5	167.0	
318.5	CARBONDALE		UNCLASSIFIED	9.5	170.5	
309.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	180.0	
304.0	CARBONDALE	ENERGY	UNCLASSIFIED	35.0	185.0	
269.0	CARBONDALE	HERRIN	COAL	4.0	220.0	

MAPID: 11901212000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 5N 7W SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SE

QUADRANGLE: MARINE LONGITUDE: -89.824368 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.833286 DATE COLLECTED: 5 / 0 / 1966

SURFACE ELEVATION (FT.): 519.0 LOGGED (FT.): 264.0 LOG TYPE: Electric Log

SOURCE: CLARKE SIDNEY 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	4.0	205.0
310.0	MODESTO		UNCLASSIFIED	3.5	209.0
306.5	CARBONDALE		UNCLASSIFIED	8.5	212.5
298.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	221.0
294.0	CARBONDALE	ENERGY	UNCLASSIFIED	36.0	225.0
258.0	CARBONDALE	HERRIN	COAL	3.0	261.0

MAPID: 11924192000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 2 QUARTERS/FOOTAGES: 1360' N line, 225' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.947005 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.916576 DATE COLLECTED: 10 / 3 / 1977

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 200.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-11 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
525.0			UNCONSOLIDATED	153.0	0.0
-	CARBONDALE	HERRIN	COAL	0.0	
372.0	CARBONDALE		SANDY SHALE	7.0	153.0
365.0	CARBONDALE		GRAY SHALE	40.0	160.0

MAPID: 11990388000C VERSION: 1

PROJECT:

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 2 QUARTERS/FOOTAGES: 1' N line, 100' W line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.955112 GEOLOGIST: STRAAYE

CONFIDENTIAL: N LATITUDE: 38.909497 DATE COLLECTED: 6 / 25 / 1962

SURFACE ELEVATION (FT.): 496.6 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O463 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
496.6	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0
480.6	PLEISTOCENE		CLAY	78.0	16.0
402.6			SHALE	4.0	94.0 WHITE

MAPID: 11924193000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 3 QUARTERS/FOOTAGES: 175' S line, 1550' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.970235 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.90619 DATE COLLECTED: 5 / 2 / 1975

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 170.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-11 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
555.0			UNCONSOLIDATED	139.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
416.0	CARBONDALE		LIMESTONE	4.0	139.0	
412.0	CARBONDALE		GRAY SHALE	27.0	143.0	

MAPID: 11924194000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1950' S line, 2200' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.990784 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.911179 DATE COLLECTED: 5 / 2 / 1975

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 102.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-10 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.0			UNCONSOLIDATED	66.0	0.0	
444.0	MODESTO		GRAY SHALE	2.0	66.0	
442.0	CARBONDALE	DANVILLE	COAL	2.0	68.0	
440.0	CARBONDALE		GRAY SHALE	5.0	70.0	
435.0	CARBONDALE	BRERETON	LIMESTONE	10.0	75.0	
425.0	CARBONDALE	ANNA	BLACK SHALE	1.5	85.0	
423.5	CARBONDALE	HERRIN	COAL	4.5	86.5	
419.0	CARBONDALE		UNDERCLAY	4.0	91.0	
415.0	CARBONDALE		LIMESTONE	3.0	95.0	
412.0	CARBONDALE		SHALE	4.0	98.0	

MAPID: 11990186000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.002021 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.918251 DATE COLLECTED: 6 / 20 / 1962  
 SURFACE ELEVATION (FT.): 527.9 LOGGED (FT.): 94.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J567 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
527.9	PLEISTOCENE		UNCONSOLIDATED	89.0	0.0	
438.9			ROCK	2.0	89.0	
436.9	CARBONDALE	HERRIN	COAL	2.0	91.0	
434.9	CARBONDALE		ROCK	1.0	93.0	

MAPID: 11990187000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997284 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.918106 DATE COLLECTED: 6 / 20 / 1962  
 SURFACE ELEVATION (FT.): 492.1 LOGGED (FT.): 55.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J569 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
492.1	PLEISTOCENE		UNCONSOLIDATED	41.0	0.0	
451.1			ROCK	10.0	41.0	
441.1	CARBONDALE	HERRIN	COAL	2.5	51.0	
438.6	CARBONDALE		ROCK	1.5	53.5	

MAPID: 11990330000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.002025 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.922401 DATE COLLECTED: 6 / 19 / 1962  
 SURFACE ELEVATION (FT.): 528.8 LOGGED (FT.): 92.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J617 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
528.8	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
521.8	PLEISTOCENE		CLAY	12.0	7.0	
509.8	PLEISTOCENE		CLAY	62.0	19.0	
447.8	SHELBURN	BRERETON	LIMESTONE	6.0	81.0	
441.8	SHELBURN		SHALE	1.0	87.0	SOFT
440.8	CARBONDALE	HERRIN	COAL	2.9	88.0	GOOD
437.9	CARBONDALE		UNDERCLAY	1.1	90.9	

MAPID: 11990331000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997295 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.922209 DATE COLLECTED: 6 / 20 / 1962

SURFACE ELEVATION (FT.): 502.2 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J619 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
502.2	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
490.2	PLEISTOCENE		CLAY	6.0	12.0	
484.2	PLEISTOCENE		CLAY	52.0	18.0	
432.2			LIMESTONE	1.0	70.0	
431.2			SANDY SHALE	18.0	71.0	
413.2			LIMESTONE	2.0	89.0	
411.2			SHALE	7.0	91.0	WHITE, HARD

MAPID: 11990332000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992548 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.922013 DATE COLLECTED: 6 / 19 / 1962

SURFACE ELEVATION (FT.): 495.1 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J621 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
495.1	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
481.1	PLEISTOCENE		CLAY	18.0	14.0	
463.1	PLEISTOCENE		CLAY	30.0	32.0	
433.1	CARBONDALE	HERRIN	COAL	1.8	62.0	FAIR; TOP ERODED
431.3	CARBONDALE		UNDERCLAY	1.2	63.8	
430.1	CARBONDALE		SANDY SHALE	7.0	65.0	
423.1	CARBONDALE		LIMESTONE	1.0	72.0	
422.1	CARBONDALE		SANDY SHALE	54.0	73.0	

MAPID: 11990333000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.002008 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.909953 DATE COLLECTED: 6 / 19 / 1962  
 SURFACE ELEVATION (FT.): 483.8 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J467 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
483.8	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0
479.8	PLEISTOCENE		CLAY	9.0	4.0
470.8	PLEISTOCENE		SAND & GRAVEL	78.0	13.0
392.8			SANDY SHALE	17.0	91.0

MAPID: 11990334000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997262 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.909901 DATE COLLECTED: 6 / 19 / 1962  
 SURFACE ELEVATION (FT.): 510.9 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J469 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
510.9	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0
504.9	PLEISTOCENE		CLAY	11.0	6.0
493.9	PLEISTOCENE		SAND & GRAVEL	101.0	17.0

MAPID: 11990335000C VERSION: 1

PROJECT: NCRDS023

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 4 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW SE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992502 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.90985 DATE COLLECTED: 6 / 19 / 1962  
 SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 117.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J471 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
513.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0
504.0	PLEISTOCENE		CLAY	13.0	9.0
491.0	PLEISTOCENE		CLAY	62.0	22.0
429.0	SHELBURN	BRERETON	LIMESTONE	2.0	84.0 BROKEN
427.0	CARBONDALE		SHALE	1.0	86.0 SOFT
426.0	CARBONDALE	HERRIN	COAL	3.3	87.0 SOFT, NO LOAD
422.7	CARBONDALE		UNDERCLAY	0.7	90.3
422.0	CARBONDALE		SANDY SHALE	26.0	91.0

MAPID: 11990180000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 5 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.006695 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.922568 DATE COLLECTED: 6 / 20 / 1962  
 SURFACE ELEVATION (FT.): 529.3 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J615 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
529.3	PLEISTOCENE		UNCONSOLIDATED	88.0	0.0	
441.3			ROCK	4.0	88.0	
437.3	CARBONDALE	HERRIN	COAL	1.2	92.0	
436.1	CARBONDALE		ROCK	24.8	93.2	

MAPID: 11990328000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 5 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW NE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.006685 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.91427 DATE COLLECTED: 8 / 20 / 1962  
 SURFACE ELEVATION (FT.): 494.5 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J515 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
494.5	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
486.5	PLEISTOCENE		CLAY	13.0	8.0	
473.5	PLEISTOCENE		SAND & GRAVEL	47.0	21.0	
426.5			SANDY SHALE	22.0	68.0	
404.5			LIMESTONE	6.0	90.0	
398.5			SANDY SHALE	2.0	96.0	HARD



MAPID: 11990329000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 5 QUARTERS/FOOTAGES: 1' S line, 1' W line of NE NE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.006683 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.918422 DATE COLLECTED: 6 / 20 / 1962  
 SURFACE ELEVATION (FT.): 515.1 LOGGED (FT.): 73.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J565 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.1	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
506.1	PLEISTOCENE		CLAY	14.0	9.0	
492.1	PLEISTOCENE		SAND & GRAVEL	39.0	23.0	
453.1	SHELBURN	BRERETON	LIMESTONE	6.0	62.0	
447.1	CARBONDALE		SHALE	1.0	68.0	SOFT
446.1	CARBONDALE	HERRIN	COAL	3.1	69.0	GOOD
443.0	CARBONDALE		UNDERCLAY	0.9	72.1	

MAPID: 11900061000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 6 QUARTERS/FOOTAGES: NW SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.038122 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.913022 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 526.3 LOGGED (FT.): 295.0 LOG TYPE:  
 SOURCE: KAUFFMAN WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.3	CARBONDALE	HERRIN	COAL	3.0	68.0	

MAPID: 11900061000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 6 QUARTERS/FOOTAGES: NW SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.038122 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.913022 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 71.0 LOG TYPE: Drillers Log  
 SOURCE: WELL TYPE: Coal Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.0	CARBONDALE	HERRIN	COAL	3.0	68.0	

**MAPID:** 11900138000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 6    **QUARTERS/FOOTAGES:** 2100' S line, 640' W line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.038344    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.912394    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 526.3    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** CARLIN CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.3	CARBONDALE	HERRIN	COAL	6.0	68.0	

**MAPID:** 11900176000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 6    **QUARTERS/FOOTAGES:** 120' N line, 2650' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.030035    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.923091    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 530.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** ZOELZERS    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
465.0	CARBONDALE	HERRIN	COAL	-	65.0	

**MAPID:** 11900177000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 6    **QUARTERS/FOOTAGES:** 4460' S line, 5010' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.038379    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.918909    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 507.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** JETS AL    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
442.0	CARBONDALE	HERRIN	COAL	-	65.0	

**MAPID:** 11900178000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 6    **QUARTERS/FOOTAGES:** 1925' S line, 3160' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.031848    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.911849    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 526.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LOCAL MINE    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
461.0	CARBONDALE	HERRIN	COAL	5.0	65.0	

**MAPID:** 11900246000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 6    **QUARTERS/FOOTAGES:** 1500' N line, 3700' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.03375    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.919422    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 517.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** COALFAX CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
438.0	CARBONDALE	HERRIN	COAL	4.5	79.0	

**MAPID:** 11900247000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 6    **QUARTERS/FOOTAGES:** 775' N line, 4925' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.038078    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.921586    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 489.4    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HILLSIDECC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
424.4	CARBONDALE	HERRIN	COAL	5.0	65.0	

**MAPID:** 11900143000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 2500' S line, 1900' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.008598    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.898177    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 507.7    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** VICTORY CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
456.7	CARBONDALE	HERRIN	COAL	4.0	51.0	

**MAPID:** 11900205000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 250' S line, 1075' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.005586    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.891904    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 502.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** RUSSELL CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
484.0	CARBONDALE	HERRIN	COAL	5.5	18.0	

**MAPID:** 11900206000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 425' S line, 575' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.003826    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.892348    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 502.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** JIDD KING    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
484.0	CARBONDALE	HERRIN	COAL	5.0	18.0

**MAPID:** 11990176000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.002    **GEOLOGIST:** LAWSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.905801    **DATE COLLECTED:** 6 / 18 / 1962  
**SURFACE ELEVATION (FT.):** 480.1    **LOGGED (FT.):** 118.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    J417    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
480.1	PLEISTOCENE		UNCONSOLIDATED	54.0	0.0
426.1	CARBONDALE		ROCK	61.0	54.0
365.1	CARBONDALE	COLCHESTER	COAL	1.5	115.0
363.6	CARBONDALE		ROCK	1.5	116.5

**MAPID:** 11990322000C    **VERSION:** 1    **PROJECT:** NCRDS02  
**COUNTY:** MADISON    **TWP/RNG:** 5N 8W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 1' S line, 1' E line of NW NW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.997218    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.902138    **DATE COLLECTED:** 6 / 19 / 1962  
**SURFACE ELEVATION (FT.):** 478.8    **LOGGED (FT.):** 127.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    J369    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
478.8	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0
460.8	PLEISTOCENE		CLAY	16.0	18.0
444.8	PLEISTOCENE		CLAY	22.0	34.0
422.8			SANDY SHALE	71.0	56.0

MAPID: 11990323000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 9 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW SW

QUADRANGLE: BETHALTO LONGITUDE: -90.00183 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.894797 DATE COLLECTED: 7 / 23 / 1962

SURFACE ELEVATION (FT.): 508.1 LOGGED (FT.): 52.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J267 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
508.1	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
502.1	PLEISTOCENE		CLAY	19.0	6.0	
483.1	PLEISTOCENE		SAND & GRAVEL	15.0	25.0	
468.1	SHELBURN	BRERETON	LIMESTONE	5.0	40.0	
463.1	SHELBURN		SHALE	2.0	45.0	SOFT
461.1	CARBONDALE	HERRIN	COAL	3.8	47.0	GOOD
457.3	CARBONDALE		UNDERCLAY	1.2	50.8	

MAPID: 11990324000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 9 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997153 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.894803 DATE COLLECTED: 7 / 20 / 1962

SURFACE ELEVATION (FT.): 469.5 LOGGED (FT.): 27.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J269 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
469.5	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
465.5	PLEISTOCENE		CLAY	8.0	4.0	
457.5	CARBONDALE		ROCK	2.0	12.0	
455.5	CARBONDALE	HERRIN	COAL	3.5	14.0	GOOD
452.0	CARBONDALE		UNDERCLAY	2.5	17.5	
449.5	CARBONDALE		SHALE	7.0	20.0	SOFT

MAPID: 11990325000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 9 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997251 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.905799 DATE COLLECTED: 6 / 18 / 1962  
 SURFACE ELEVATION (FT.): 497.3 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J419 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
497.3	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
487.3	PLEISTOCENE		CLAY	14.0	10.0	
473.3	PLEISTOCENE		CLAY	65.0	24.0	
408.3			MICACEOUS SHALE	59.0	89.0	SOFT

MAPID: 11990326000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 9 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992495 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.905794 DATE COLLECTED: 6 / 18 / 1962  
 SURFACE ELEVATION (FT.): 491.6 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J421 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
491.6	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
486.6	PLEISTOCENE		CLAY	10.0	5.0	
476.6	PLEISTOCENE		SAND & GRAVEL	94.0	15.0	
382.6			MICACEOUS SHALE	29.0	109.0	SOFT

MAPID: 11990327000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 9 QUARTERS/FOOTAGES: 1' N line, 1' W line of NE NE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.987732 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.905789 DATE COLLECTED: 6 / 19 / 1962  
 SURFACE ELEVATION (FT.): 507.6 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J423 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
507.6	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
489.6	PLEISTOCENE		CLAY	19.0	18.0	
470.6	PLEISTOCENE		CLAY	80.0	37.0	
390.6			SHALE	10.0	117.0	SOFT

MAPID: 11924195000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 10 QUARTERS/FOOTAGES: 1650' S line, 450' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.981491 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.895706 DATE COLLECTED: 5 / 2 / 1975

SURFACE ELEVATION (FT.): 508.0 LOGGED (FT.): 162.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-9 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
508.0			UNCONSOLIDATED	130.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
378.0	CARBONDALE		LIMESTONE	4.0	130.0	
374.0	CARBONDALE		GRAY SHALE	28.0	134.0	

MAPID: 11924196000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 2000' S line, 1620' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.951853 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.896625 DATE COLLECTED: 5 / 1 / 1975

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 130.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-7 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.0			UNCONSOLIDATED	105.0	0.0	
400.0	CARBONDALE	BRERETON	LIMESTONE	4.0	105.0	
396.0	CARBONDALE	ANNA	BLACK SHALE	4.5	109.0	
391.5	CARBONDALE	HERRIN	COAL	4.5	113.5	
387.0	CARBONDALE		UNDERCLAY	2.0	118.0	
385.0	CARBONDALE		LIMESTONE	5.5	120.0	
379.5	CARBONDALE		GRAY SHALE	4.5	125.5	

MAPID: 11990321000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.955476 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.89843 DATE COLLECTED: 7 / 30 / 1962

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 119.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O313 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
508.0	PLEISTOCENE		CLAY	14.0	12.0	
494.0	PLEISTOCENE		CLAY	77.0	26.0	
417.0	SHELBURN	BRERETON	LIMESTONE	7.0	103.0	
410.0	SHELBURN		SHALE	3.0	110.0	SOFT
407.0	CARBONDALE	HERRIN	COAL	4.2	113.0	GOOD
402.8	CARBONDALE		SANDY SHALE	1.8	117.2	

MAPID: 11990370000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.964816 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.898333 DATE COLLECTED: 6 / 22 / 1962

SURFACE ELEVATION (FT.): 534.1 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O309 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
534.1	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
526.1	PLEISTOCENE		CLAY	15.0	8.0	
511.1	PLEISTOCENE		SAND & GRAVEL	115.0	23.0	
396.1			MICACEOUS SHALE	10.0	138.0	SOFT



MAPID: 11990371000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.960149 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.898382 DATE COLLECTED: 6 / 22 / 1962

SURFACE ELEVATION (FT.): 526.1 LOGGED (FT.): 110.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O311 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
526.1	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
508.1	PLEISTOCENE		CLAY	16.0	18.0	
492.1	PLEISTOCENE		CLAY	56.0	34.0	
436.1	SHELBURN		SHALE	7.0	90.0	HARD
429.1	SHELBURN		LIMESTONE	4.0	97.0	
425.1	SHELBURN		SHALE	4.0	101.0	
421.1	CARBONDALE	HERRIN	COAL	3.2	105.0	GOOD
417.9	CARBONDALE	HERRIN	COAL	1.0	108.2	SOFT
416.9	CARBONDALE		UNDERCLAY	0.8	109.2	

MAPID: 11990372000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' W line of NE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.950795 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.898482 DATE COLLECTED: 8 / 13 / 1962

SURFACE ELEVATION (FT.): 503.4 LOGGED (FT.): 119.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O315 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
503.4	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
491.4	PLEISTOCENE		CLAY	10.0	12.0	
481.4	PLEISTOCENE		CLAY	80.0	22.0	
401.4	SHELBURN		LIMESTONE	6.0	102.0	HARD
395.4	SHELBURN		SHALE	7.0	108.0	
388.4	CARBONDALE	HERRIN	COAL	3.6	115.0	GOOD
384.8	CARBONDALE		UNDERCLAY	0.4	118.6	

MAPID: 11990376000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' S line, 1' W line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.96478 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.902007 DATE COLLECTED: 6 / 22 / 1962

SURFACE ELEVATION (FT.): 545.7 LOGGED (FT.): 134.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O359 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
545.7	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
534.7	PLEISTOCENE		CLAY	13.0	11.0	
521.7	PLEISTOCENE		CLAY	73.0	24.0	
448.7	SHELBURN		SHALE	22.0	97.0	SOFT
426.7	SHELBURN		LIMESTONE	3.0	119.0	
423.7	SHELBURN		SHALE	7.0	122.0	SOFT
416.7	CARBONDALE	HERRIN	COAL	4.3	129.0	GOOD
412.4	CARBONDALE		UNDERCLAY	0.7	133.3	

MAPID: 11990377000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.96012 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.902062 DATE COLLECTED: 6 / 25 / 1962

SURFACE ELEVATION (FT.): 517.7 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O361 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
517.7	PLEISTOCENE		UNCONSOLIDATED	19.0	0.0	
498.7	PLEISTOCENE		CLAY	14.0	19.0	
484.7	PLEISTOCENE		CLAY	77.0	33.0	
407.7			LIMESTONE	1.0	110.0	HARD
406.7			SHALE	5.0	111.0	WHITE, SOFT
401.7			SHALE	22.0	116.0	WHITE, HARD

MAPID: 11990378000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' S line, 1' E line of NE NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.95453 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.902116 DATE COLLECTED: 6 / 25 / 1962

SURFACE ELEVATION (FT.): 523.7 LOGGED (FT.): 110.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O363 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.7	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
505.7	PLEISTOCENE		CLAY	12.0	18.0	
493.7	PLEISTOCENE		CLAY	63.0	30.0	
430.7	SHELBURN		LIMESTONE	4.0	93.0	HARD
426.7	SHELBURN		SHALE	6.0	97.0	SOFT
420.7	CARBONDALE	HERRIN	COAL	6.5	103.0	GOOD
414.2	CARBONDALE		UNDERCLAY	0.5	109.5	

MAPID: 11990379000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' S line, 100' W line of NE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.95043 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.902177 DATE COLLECTED: 8 / 16 / 1962

SURFACE ELEVATION (FT.): 516.8 LOGGED (FT.): 120.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O365 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.8	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
507.8	PLEISTOCENE		CLAY	14.0	9.0	
493.8	PLEISTOCENE		CLAY	83.0	23.0	
410.8	SHELBURN		LIMESTONE	3.0	106.0	
407.8	SHELBURN		SHALE	5.0	109.0	SOFT
402.8	CARBONDALE	HERRIN	COAL	4.4	114.0	FAIR
398.4	CARBONDALE		UNDERCLAY	1.6	118.4	

MAPID: 11990380000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.94612 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.902221 DATE COLLECTED: 8 / 15 / 1962

SURFACE ELEVATION (FT.): 518.9 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O367 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
518.9	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
508.9	PLEISTOCENE		CLAY	17.0	10.0
491.9	PLEISTOCENE		UNCONSOLIDATED	121.0	27.0

MAPID: 11990384000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.964751 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.905671 DATE COLLECTED: 6 / 26 / 1962

SURFACE ELEVATION (FT.): 539.5 LOGGED (FT.): 131.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O409 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
539.5	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0
532.5	PLEISTOCENE		CLAY	12.0	7.0
520.5	PLEISTOCENE		SAND & GRAVEL	97.0	19.0
423.5	SHELBURN		LIMESTONE	5.0	116.0
418.5	SHELBURN		SHALE	4.0	121.0 SOFT
414.5	CARBONDALE	HERRIN	COAL	4.9	125.0 GOOD
409.6	CARBONDALE		UNDERCLAY	1.1	129.9

MAPID: 11990385000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.960095 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.905731 DATE COLLECTED: 6 / 24 / 1962

SURFACE ELEVATION (FT.): 505.2 LOGGED (FT.): 109.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O411 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.2	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
500.2	PLEISTOCENE		CLAY	18.0	5.0	
482.2	PLEISTOCENE		SAND & GRAVEL	71.0	23.0	
411.2	SHELBURN		LIMESTONE	5.0	94.0	
406.2	SHELBURN		LIMESTONE	4.0	99.0	
402.2	CARBONDALE	HERRIN	COAL	1.0	103.0	GOOD
401.2	CARBONDALE	HERRIN	COAL	3.7	104.0	FAIR
397.5	CARBONDALE		UNDERCLAY	1.3	107.7	

MAPID: 11990386000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.955435 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.905791 DATE COLLECTED: 6 / 25 / 1962

SURFACE ELEVATION (FT.): 515.6 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O413 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.6	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
502.6	PLEISTOCENE		CLAY	9.0	13.0	
493.6	PLEISTOCENE		CLAY	101.0	22.0	
392.6			LIMESTONE	2.0	123.0	
390.6			SHALE	15.0	125.0	WHITE, SOFT
375.6			SHALE	8.0	140.0	WHITE, HARD

MAPID: 11924197000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1386' N line, 1347' W line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941358 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.901853 DATE COLLECTED: 10 / 3 / 1979  
 SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 200.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-77-13 WELL TYPE: Coal Test  
 COMMENT: GAMMA, DENSITY, RESIST, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.0			UNCONSOLIDATED	155.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
360.0	CARBONDALE		GRAY SHALE	24.0	155.0	
336.0	CARBONDALE		CALCAREOUS SANDSTONE	2.0	179.0	
334.0	CARBONDALE		GRAY SHALE	19.0	181.0	

MAPID: 11924198000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1700' S line, 1780' E line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.933907 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.89544 DATE COLLECTED: 10 / 4 / 1977  
 SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 160.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-77-14 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.0			UNCONSOLIDATED	125.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
365.0	CARBONDALE		GRAY SHALE	11.0	125.0	
354.0	CARBONDALE		SANDY SHALE	24.0	136.0	

MAPID: 11990043000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1320' W line of SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941485 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.891 DATE COLLECTED: 8 / 13 / 1962  
 SURFACE ELEVATION (FT.): 514.9 LOGGED (FT.): 131.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES 0219 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.9	PLEISTOCENE		UNCONSOLIDATED	94.0	0.0	
420.9			ROCK	31.0	94.0	
389.9	CARBONDALE	HERRIN	COAL	4.5	125.0	
385.4	CARBONDALE		ROCK	1.5	129.5	

MAPID: 11990044000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 150' S line, 2640' W line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.93682 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.891258 DATE COLLECTED: 8 / 15 / 1962  
 SURFACE ELEVATION (FT.): 481.2 LOGGED (FT.): 106.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES 0221 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
481.2	PLEISTOCENE		UNCONSOLIDATED	85.0	0.0	
396.2			ROCK	14.0	85.0	
382.2	CARBONDALE	HERRIN	COAL	2.0	99.0	
380.2	CARBONDALE		ROCK	5.0	101.0	

MAPID: 11990054000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 2640' N line, 1320' W line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941464 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.898399 DATE COLLECTED: 8 / 14 / 1962  
 SURFACE ELEVATION (FT.): 493.5 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES 0319 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
493.5	PLEISTOCENE		UNCONSOLIDATED	119.0	0.0	
374.5			ROCK	2.0	119.0	
372.5	CARBONDALE	HERRIN	COAL	1.0	121.0	TOP MAY BE ERODED
371.5	CARBONDALE		ROCK	16.0	122.0	

MAPID: 11990364000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.946142 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.891151 DATE COLLECTED: 8 / 9 / 1962

SURFACE ELEVATION (FT.): 521.7 LOGGED (FT.): 130.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O217 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
521.7	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
514.7	PLEISTOCENE		CLAY	16.0	7.0	
498.7	PLEISTOCENE		CLAY	72.0	23.0	
426.7	SHELBURN		SHALE	2.0	95.0	SOFT
424.7	SHELBURN		LIMESTONE	4.5	97.0	
420.2	SHELBURN		SHALE	2.5	101.5	SOFT
417.7	SHELBURN		SANDY SHALE	5.0	104.0	
412.7	SHELBURN	DANVILLE	COAL	1.0	109.0	SOFT, WILL NOT LOAD
411.7	SHELBURN		SANDY SHALE	4.0	110.0	
407.7	SHELBURN		LIMESTONE	6.0	114.0	
401.7	SHELBURN		SHALE	4.0	120.0	SOFT
397.7	CARBONDALE	HERRIN	COAL	5.0	124.0	GOOD
392.7	CARBONDALE		UNDERCLAY	1.0	129.0	

MAPID: 11990365000C VERSION: 1

PROJECT: R\

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' W line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.932306 GEOLOGIST: STRAAYE

CONFIDENTIAL: N LATITUDE: 38.890698 DATE COLLECTED: 8 / 13 / 1962

SURFACE ELEVATION (FT.): 464.4 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O223 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.4	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
452.4	PLEISTOCENE		CLAY	21.0	12.0	
431.4	PLEISTOCENE		SAND & GRAVEL	64.0	33.0	



MAPID: 11990366000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' W line of NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.946133 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.894844 DATE COLLECTED: 8 / 9 / 1962

SURFACE ELEVATION (FT.): 514.6 LOGGED (FT.): 131.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O267 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.6	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
502.6	PLEISTOCENE		CLAY	14.0	12.0	
488.6	PLEISTOCENE		CLAY	70.0	26.0	
418.6	SHELBURN		SHALE	6.0	96.0	SOFT
412.6	SHELBURN		LIMESTONE	4.5	102.0	
408.1	SHELBURN		SHALE	4.5	106.5	HARD
403.6	SHELBURN	DANVILLE	COAL	1.2	111.0	FAIR
402.4	SHELBURN		SHALE	11.8	112.2	
390.6	CARBONDALE	HERRIN	COAL	5.3	124.0	GOOD
385.3	CARBONDALE		UNDERCLAY	1.8	129.3	

MAPID: 11990367000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 200' S line, 1' W line of NE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941504 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.895221 DATE COLLECTED: 8 / 10 / 1962

SURFACE ELEVATION (FT.): 516.2 LOGGED (FT.): 139.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O269 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.2	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
510.2	PLEISTOCENE		CLAY	15.0	6.0	
495.2	PLEISTOCENE		SAND & GRAVEL	81.0	21.0	
414.2	SHELBURN		LIMESTONE	5.0	102.0	
409.2	SHELBURN		SHALE	8.0	107.0	SOFT
401.2	SHELBURN	DANVILLE	COAL	1.0	115.0	GOOD
400.2	SHELBURN		SHALE	2.0	116.0	
398.2	SHELBURN		LIMESTONE	6.5	118.0	
391.7	SHELBURN		SANDY SHALE	7.5	124.5	
384.2	CARBONDALE	HERRIN	COAL	4.8	132.0	GOOD
379.4	CARBONDALE	HERRIN	CLAYSTONE	0.3	136.8	
379.2	CARBONDALE	HERRIN	COAL	1.0	137.0	GOOD
378.2	CARBONDALE		UNDERCLAY	1.0	138.0	

MAPID: 11990368000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.936886 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.894496 DATE COLLECTED: 8 / 14 / 1962

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 126.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O271 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
486.0	PLEISTOCENE		CLAY	17.0	14.0	
469.0	PLEISTOCENE		CLAY	83.0	31.0	
386.0	SHELBURN	BRERETON	LIMESTONE	5.0	114.0	HARD
381.0	SHELBURN		SHALE	2.0	119.0	
379.0	CARBONDALE	HERRIN	COAL	4.4	121.0	
374.6	CARBONDALE		UNDERCLAY	0.6	125.4	

MAPID: 11990369000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' W line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.932261 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.894323 DATE COLLECTED: 8 / 14 / 1962

SURFACE ELEVATION (FT.): 466.3 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O273 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
466.3	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
458.3	PLEISTOCENE		CLAY	14.0	8.0	
444.3	PLEISTOCENE		SAND & GRAVEL	76.0	22.0	

MAPID: 11990373000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.946125 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.89853 DATE COLLECTED: 8 / 13 / 1962

SURFACE ELEVATION (FT.): 516.2 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O317 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.2	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
507.2	PLEISTOCENE		CLAY	15.0	9.0	
492.2	PLEISTOCENE		SAND & GRAVEL	96.0	24.0	
396.2	SHELBURN		LIMESTONE	7.0	120.0	
389.2	SHELBURN		SHALE	5.0	127.0	SOFT
384.2	CARBONDALE	HERRIN	COAL	4.8	132.0	GOOD
379.4	CARBONDALE		UNDERCLAY	1.2	136.8	

MAPID: 11990374000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.936859 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.898146 DATE COLLECTED: 8 / 15 / 1962

SURFACE ELEVATION (FT.): 483.0 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O321 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
483.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
476.0	PLEISTOCENE		CLAY	16.0	7.0	
460.0	PLEISTOCENE		CLAY	83.0	23.0	
377.0			LIMESTONE	5.0	106.0	
372.0			SHALE	16.0	111.0	SOFT
356.0			SANDY SHALE	11.0	127.0	

MAPID: 11990375000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.932223 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.897953 DATE COLLECTED: 8 / 14 / 1962

SURFACE ELEVATION (FT.): 473.6 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O323 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
473.6	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0
462.6	PLEISTOCENE		CLAY	16.0	11.0
446.6	PLEISTOCENE		SAND & GRAVEL	81.0	27.0

MAPID: 11990381000C VERSION: 1

PROJECT:

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941472 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.902015 DATE COLLECTED: 8 / 15 / 1962

SURFACE ELEVATION (FT.): 517.7 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O369 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
517.7	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0
508.7	PLEISTOCENE		CLAY	15.0	9.0
493.7	PLEISTOCENE		SAND & GRAVEL	40.0	24.0
453.7	PLEISTOCENE		CLAY	16.0	64.0
437.7	PLEISTOCENE		CLAY	68.0	80.0

MAPID: 11990382000C VERSION: 1

PROJECT: NCRDS032

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.936825 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.901795 DATE COLLECTED: 8 / 15 / 1962

SURFACE ELEVATION (FT.): 517.2 LOGGED (FT.): 158.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O371 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
517.2	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0
501.2	PLEISTOCENE		CLAY	22.0	16.0
479.2	PLEISTOCENE		CLAY	120.0	38.0

MAPID: 11990383000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.932178 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.901584 DATE COLLECTED: 8 / 15 / 1962

SURFACE ELEVATION (FT.): 505.7 LOGGED (FT.): 144.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O373 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.7	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
494.7	PLEISTOCENE		CLAY	17.0	11.0	
477.7	PLEISTOCENE		CLAY	98.0	28.0	
379.7	SHELBURN		LIMESTONE	6.0	126.0	
373.7	SHELBURN		SHALE	6.0	132.0	SOFT
367.7	CARBONDALE	HERRIN	COAL	4.5	138.0	FAIR
363.2	CARBONDALE		UNDERCLAY	1.5	142.5	

MAPID: 11990387000C VERSION: 1

PROJECT: NCRDS-2

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 12 QUARTERS/FOOTAGES: 200' N line, 1' E line of NE NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.936794 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.904899 DATE COLLECTED: 8 / 16 / 1962

SURFACE ELEVATION (FT.): 502.1 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O421 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
502.1	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
488.1	PLEISTOCENE		CLAY	16.0	14.0	
472.1	PLEISTOCENE		CLAY	85.0	30.0	
387.1	SHELBURN		SHALE	6.0	115.0	SOFT
381.1	CARBONDALE	HERRIN	COAL	5.2	121.0	SOFT
375.9	CARBONDALE		UNDERCLAY	1.8	126.2	

MAPID: 11924199000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 500' S line, 2400' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.937693 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.877583 DATE COLLECTED: 5 / 1 / 1975

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 162.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-8 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0			UNCONSOLIDATED	97.0	0.0	
403.0	CARBONDALE	HERRIN	COAL	1.0	97.0	
402.0	CARBONDALE		UNDERCLAY/SHALE	5.0	98.0	
397.0	CARBONDALE		LIMESTONE	3.0	103.0	
394.0	CARBONDALE		GRAY SHALE	10.5	106.0	
383.5	CARBONDALE		BLACK SHALE	3.5	116.5	
380.0	CARBONDALE		GRAY SHALE	42.0	120.0	

MAPID: 11990337000C VERSION: 1

PROJECT:

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941609 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.876343 DATE COLLECTED: 8 / 6 / 1962

SURFACE ELEVATION (FT.): 512.4 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O19 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
512.4	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
504.4	PLEISTOCENE		CLAY	21.0	8.0	
483.4	PLEISTOCENE		SAND & GRAVEL	94.0	29.0	
389.4			SHALE	2.0	123.0	SOFT
387.4			ROCK	2.0	125.0	BROKEN
385.4			LIMESTONE	1.0	127.0	
384.4			SHALE	9.0	128.0	SOFT
375.4			LIMESTONE	1.0	137.0	
374.4			SANDY SHALE	8.0	138.0	
366.4			LIMESTONE	1.0	146.0	
365.4			SHALE	1.0	147.0	SOFT

MAPID: 11990338000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.937038 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.876183 DATE COLLECTED: 8 / 6 / 1962

SURFACE ELEVATION (FT.): 467.7 LOGGED (FT.): 87.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O21 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
467.7	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
459.7	PLEISTOCENE		CLAY	16.0	8.0	
443.7	PLEISTOCENE		CLAY	40.0	24.0	
403.7	CARBONDALE	HERRIN	COAL	2.5	64.0	SOFT, NO GOOD; TOP ERODED
401.2	CARBONDALE		UNDERCLAY	1.5	66.5	
399.7	CARBONDALE		ROCK	1.0	68.0	
398.7	CARBONDALE		SHALE	3.0	69.0	
395.7	CARBONDALE		LIMESTONE	2.0	72.0	
393.7	CARBONDALE		SHALE	3.0	74.0	
390.7	CARBONDALE		ROCK	1.0	77.0	
389.7	CARBONDALE		SHALE	9.0	78.0	

MAPID: 11990339000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.946161 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.880157 DATE COLLECTED: 8 / 3 / 1962

SURFACE ELEVATION (FT.): 522.9 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O67 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
522.9	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
511.9	PLEISTOCENE		CLAY	18.0	11.0	
493.9	PLEISTOCENE		SAND & GRAVEL	119.0	29.0	

MAPID: 11990340000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 25' N line, 100' E line of SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941943 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.879947 DATE COLLECTED: 8 / 3 / 1962

SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O69 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
506.0	PLEISTOCENE		CLAY	15.0	8.0	
491.0	PLEISTOCENE		SAND & GRAVEL	125.0	23.0	

MAPID: 11990341000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of NW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.937008 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.87985 DATE COLLECTED: 8 / 6 / 1962

SURFACE ELEVATION (FT.): 510.5 LOGGED (FT.): 113.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O71 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.5	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
496.5	PLEISTOCENE		CLAY	12.0	14.0	
484.5	PLEISTOCENE		CLAY	68.0	26.0	
416.5	SHELBURN		SHALE	6.0	94.0	WHITIE
410.5	SHELBURN	BRERETON	LIMESTONE	6.5	100.0	HARD
404.0	SHELBURN		SHALE	0.5	106.5	SOFT
403.5	CARBONDALE	HERRIN	COAL	4.2	107.0	GOOD
399.3	CARBONDALE		UNDERCLAY	1.8	111.2	



MAPID: 11990342000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' W line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.932433 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.879687 DATE COLLECTED: 8 / 7 / 1962

SURFACE ELEVATION (FT.): 459.5 LOGGED (FT.): 67.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O73 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
459.5	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
451.5	PLEISTOCENE		CLAY	6.0	8.0	
445.5	PLEISTOCENE		CLAY	26.0	14.0	
419.5	PLEISTOCENE		SAND & GRAVEL	3.0	40.0	1
416.5	PLEISTOCENE		CLAY	1.0	43.0	
415.5	CARBONDALE	HERRIN	COAL	1.8	44.0	SOFT; TOP ERODED
413.7	CARBONDALE		UNDERCLAY	0.2	45.8	
413.5	CARBONDALE		SHALE	5.0	46.0	SOFT
408.5	CARBONDALE		LIMESTONE	5.0	51.0	HARD
403.5	CARBONDALE		SHALE	11.0	56.0	SOFT

MAPID: 11990343000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.927865 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.87953 DATE COLLECTED: 8 / 7 / 1962

SURFACE ELEVATION (FT.): 456.4 LOGGED (FT.): 49.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O75 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
456.4	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
451.4	PLEISTOCENE		CLAY	17.0	5.0	
434.4	PLEISTOCENE		CLAY	14.0	22.0	
420.4	SHELBURN	BRERETON	LIMESTONE	6.0	36.0	
414.4	SHELBURN		SHALE	1.0	42.0	SOFT
413.4	CARBONDALE	HERRIN	COAL	4.6	43.0	GOOD
408.8	CARBONDALE		UNDERCLAY	1.4	47.6	

MAPID: 11990346000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.946156 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.883826 DATE COLLECTED: 8 / 2 / 1962

SURFACE ELEVATION (FT.): 529.3 LOGGED (FT.): 139.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O117 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
529.3	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
516.3	PLEISTOCENE		CLAY	21.0	13.0	
495.3	PLEISTOCENE		SAND & GRAVEL	76.0	34.0	
419.3	SHELBURN		SHALE	13.0	110.0	SOFT
406.3	SHELBURN		LIMESTONE	5.0	123.0	
401.3	SHELBURN		SANDY SHALE	5.0	128.0	
396.3	CARBONDALE	HERRIN	COAL	4.7	133.0	GOOD
391.6	CARBONDALE		UNDERCLAY	1.3	137.7	

MAPID: 11990347000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941574 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.883673 DATE COLLECTED: 8 / 8 / 1962

SURFACE ELEVATION (FT.): 504.0 LOGGED (FT.): 130.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O119 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
504.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
497.0	PLEISTOCENE		CLAY	18.0	7.0	
479.0	PLEISTOCENE		SAND & GRAVEL	83.0	25.0	
396.0	SHELBURN		SANDY SHALE	8.0	108.0	
388.0	SHELBURN	BRERETON	LIMESTONE	6.5	116.0	
381.5	SHELBURN		SHALE	1.5	122.5	SOFT
380.0	CARBONDALE	HERRIN	COAL	4.2	124.0	FAIR
375.8	CARBONDALE		UNDERCLAY	1.8	128.2	

MAPID: 11990348000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.936977 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.883516 DATE COLLECTED: 8 / 8 / 1962

SURFACE ELEVATION (FT.): 481.9 LOGGED (FT.): 94.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O121 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
481.9	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
468.9	PLEISTOCENE		CLAY	59.0	13.0	
409.9	SHELBURN		LIMESTONE	6.0	72.0	HARD
403.9	SHELBURN		SANDY SHALE	2.0	78.0	
401.9	SHELBURN	BRERETON	LIMESTONE	6.0	80.0	HARD
395.9	SHELBURN		SHALE	2.0	86.0	SOFT
393.9	CARBONDALE	HERRIN	COAL	4.8	88.0	GOOD
389.1	CARBONDALE		UNDERCLAY	1.3	92.8	

MAPID: 11990349000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.932399 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.883362 DATE COLLECTED: 8 / 8 / 1962

SURFACE ELEVATION (FT.): 455.1 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O123 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.1	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
446.1	PLEISTOCENE		CLAY	10.0	9.0	
436.1	PLEISTOCENE		CLAY	70.0	19.0	
366.1			SANDY SHALE	19.0	89.0	

MAPID: 11990358000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941558 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887336 DATE COLLECTED: 8 / 8 / 1962

SURFACE ELEVATION (FT.): 507.5 LOGGED (FT.): 125.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O169 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
507.5	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
495.5	PLEISTOCENE		CLAY	9.0	12.0	
486.5	PLEISTOCENE		CLAY	60.0	21.0	
426.5	SHELBURN		SHALE	14.0	81.0	SOFT
412.5	SHELBURN		BLACK SHALE	0.5	95.0	
412.0	SHELBURN	DANVILLE	COAL	1.5	95.5	SOFT
410.5	SHELBURN		SHALE	9.0	97.0	SOFT
401.5	SHELBURN		LIMESTONE	10.0	106.0	HARD
391.5	SHELBURN		SHALE	2.0	116.0	WHITE
389.5	CARBONDALE	ANNA	BLACK SHALE	1.0	118.0	
388.5	CARBONDALE	HERRIN	COAL	4.2	119.0	GOOD
384.3	CARBONDALE		UNDERCLAY	1.8	123.2	

MAPID: 11990359000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 220' E line of NE NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.937728 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.88721 DATE COLLECTED: 8 / 9 / 1962

SURFACE ELEVATION (FT.): 503.2 LOGGED (FT.): 123.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O171 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
503.2	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
491.2	PLEISTOCENE		CLAY	14.0	12.0	
477.2	PLEISTOCENE		CLAY	63.0	26.0	
414.2	SHELBURN		SHALE	3.0	89.0	SOFT
411.2	SHELBURN		LIMESTONE	6.0	92.0	HARD
405.2	SHELBURN		SHALE	12.0	98.0	HARD, WHITE
393.2	SHELBURN		LIMESTONE	3.0	110.0	WHITE
390.2	SHELBURN		SHALE	4.0	113.0	
386.2	CARBONDALE	HERRIN	COAL	4.8	117.0	FAIR
381.4	CARBONDALE		UNDERCLAY	1.2	121.8	

MAPID: 11990360000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of NE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.932347 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887031 DATE COLLECTED: 8 / 14 / 1962

SURFACE ELEVATION (FT.): 461.3 LOGGED (FT.): 83.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O173 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
461.3	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
455.3	PLEISTOCENE		CLAY	21.0	6.0	
434.3	PLEISTOCENE		SAND & GRAVEL	56.0	27.0	

MAPID: 11990344000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.950827 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.88745 DATE COLLECTED: 8 / 9 / 1962

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 112.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O113 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
513.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
502.0	PLEISTOCENE		CLAY	15.0	11.0	
487.0	PLEISTOCENE		SAND & GRAVEL	67.0	26.0	
420.0	SHELBURN		SHALE	2.0	93.0	SOFT
418.0	SHELBURN		LIMESTONE	1.0	95.0	HARD
417.0	SHELBURN		SHALE	8.0	96.0	
409.0	CARBONDALE	HERRIN	COAL	6.3	104.0	
402.7	CARBONDALE		UNDERCLAY	1.8	110.3	

MAPID: 11990345000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.950818 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.883794 DATE COLLECTED: 8 / 9 / 1962

SURFACE ELEVATION (FT.): 518.7 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O115 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
518.7	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
507.7	PLEISTOCENE		CLAY	12.0	11.0	
495.7	PLEISTOCENE		CLAY	62.0	23.0	
433.7	SHELBURN		SHALE	7.0	85.0	SOFT
426.7	SHELBURN		LIMESTONE	2.0	92.0	SOFT
424.7	SHELBURN		SHALE	17.0	94.0	SOFT
407.7	CARBONDALE	HERRIN	COAL	6.3	111.0	GOOD
401.4	CARBONDALE		UNDERCLAY	0.7	117.3	

MAPID: 11990353000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' S line, 1' W line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.964829 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887348 DATE COLLECTED: 6 / 26 / 1962

SURFACE ELEVATION (FT.): 538.1 LOGGED (FT.): 139.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O159 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
538.1	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	
522.1	PLEISTOCENE		CLAY	14.0	16.0	
508.1	PLEISTOCENE		CLAY	84.0	30.0	
424.1	SHELBURN		LIMESTONE	4.0	114.0	HARD
420.1	SHELBURN	DANVILLE	COAL	1.5	118.0	GOOD
418.6	SHELBURN		UNDERCLAY	0.5	119.5	
418.1	SHELBURN		SANDY SHALE	4.0	120.0	HARD
414.1	SHELBURN	BRERETON	LIMESTONE	6.0	124.0	HARD
408.1	SHELBURN		SHALE	3.0	130.0	HARD
405.1	CARBONDALE	HERRIN	COAL	5.0	133.0	GOOD
400.1	CARBONDALE		UNDERCLAY	1.0	138.0	

MAPID: 11990354000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.960166 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887383 DATE COLLECTED: 8 / 1 / 1962

SURFACE ELEVATION (FT.): 513.7 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O161 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
513.7	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
502.7	PLEISTOCENE		CLAY	17.0	11.0	
485.7	PLEISTOCENE		CLAY	59.0	28.0	
426.7	SHELBURN		SHALE	7.0	87.0	SOFT
419.7	SHELBURN		LIMESTONE	4.0	94.0	HARD
415.7	SHELBURN		SHALE	1.0	98.0	SOFT
414.7	SHELBURN	DANVILLE	COAL	2.0	99.0	GOOD
412.7	SHELBURN		SHALE	11.0	101.0	SOFT
401.7	CARBONDALE	HERRIN	COAL	4.6	112.0	GOOD
397.1	CARBONDALE		UNDERCLAY	1.4	116.6	

MAPID: 11990355000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.95549 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887412 DATE COLLECTED: 8 / 2 / 1962

SURFACE ELEVATION (FT.): 512.3 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O163 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
512.3	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
501.3	PLEISTOCENE		CLAY	14.0	11.0	
487.3	PLEISTOCENE		CLAY	61.0	25.0	
426.3	SHELBURN		SHALE	4.0	86.0	SOFT
422.3	SHELBURN		LIMESTONE	6.0	90.0	HARD
416.3	SHELBURN		SHALE	5.0	96.0	
411.3	SHELBURN	DANVILLE	COAL W/ BLACK SHALE	1.5	101.0	
409.8	SHELBURN		SHALE	14.5	102.5	WHITE
395.3	SHELBURN		LIMESTONE	3.0	117.0	HARD
392.3	SHELBURN		SHALE	4.0	120.0	WHITE
388.3	CARBONDALE	HERRIN	COAL	3.0	124.0	SOFT, NO GOOD
385.3	CARBONDALE		UNDERCLAY	1.0	127.0	

MAPID: 11990356000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' S line, 1' W line of NE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.95082 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887455 DATE COLLECTED: 8 / 9 / 1962

SURFACE ELEVATION (FT.): 522.2 LOGGED (FT.): 132.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O165 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
522.2	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
513.2	PLEISTOCENE		CLAY	12.0	9.0	
501.2	PLEISTOCENE		CLAY	74.0	21.0	AND SAND
427.2	SHELBURN		SHALE	1.0	95.0	SPFT
426.2	SHELBURN		LIMESTONE	4.0	96.0	
422.2	SHELBURN		SHALE	8.0	100.0	
414.2	SHELBURN	DANVILLE	COAL	1.5	108.0	GOOD
412.7	SHELBURN		SHALE	6.5	109.5	SOFT
406.2	SHELBURN		LIMESTONE	7.0	116.0	
399.2	SHELBURN		SHALE	2.0	123.0	SOFT
397.2	CARBONDALE	HERRIN	COAL	5.0	125.0	GOOD
392.2	CARBONDALE		UNDERCLAY	2.0	130.0	

MAPID: 11990357000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' S line, 1' E line of NE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.946158 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.88749 DATE COLLECTED: 6 / 27 / 1962

SURFACE ELEVATION (FT.): 535.5 LOGGED (FT.): 142.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O167 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
535.5	PLEISTOCENE		UNCONSOLIDATED	17.0	0.0	
518.5	PLEISTOCENE		CLAY	12.0	17.0	
506.5	PLEISTOCENE		CLAY	14.0	29.0	
492.5	PLEISTOCENE		SAND & GRAVEL	5.0	43.0	
487.5	PLEISTOCENE		CLAY	69.0	48.0	
418.5	SHELBURN		ROCK	1.0	117.0	
417.5	SHELBURN	DANVILLE	COAL	1.0	118.0	SOFT, NO GOOD
416.5	SHELBURN		SHALE	6.0	119.0	SOFT
410.5	SHELBURN		SHALE	1.0	125.0	
409.5	SHELBURN		LIMESTONE	5.0	126.0	HARD
404.5	SHELBURN		SHALE	5.0	131.0	HARD
399.5	CARBONDALE	HERRIN	COAL	5.3	136.0	GOOD
394.2	CARBONDALE		UNDERCLAY	0.7	141.3	



MAPID: 11990361000C VERSION: 1

PROJECT: NCRDS0S

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.964878 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.890997 DATE COLLECTED: 6 / 26 / 1962

SURFACE ELEVATION (FT.): 529.8 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O209 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
529.8	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
515.8	PLEISTOCENE		CLAY	11.0	14.0	
504.8	PLEISTOCENE		SAND & GRAVEL	123.0	25.0	

MAPID: 11990362000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.960201 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.891032 DATE COLLECTED: 6 / 27 / 1962

SURFACE ELEVATION (FT.): 516.4 LOGGED (FT.): 123.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O211 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.4	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
505.4	PLEISTOCENE		CLAY	12.0	11.0	
493.4	PLEISTOCENE		SAND & GRAVEL	69.0	23.0	
424.4	SHELBURN		LIMESTONE	4.0	92.0	HARD
420.4	SHELBURN		SHALE	6.0	96.0	SOFT
414.4	SHELBURN	DANVILLE	COAL	1.5	102.0	GOOD
412.9	SHELBURN		SHALE	1.5	103.5	SOFT
411.4	SHELBURN		LIMESTONE	2.0	105.0	BROKEN
409.4	SHELBURN		MICACEOUS SHALE	2.0	107.0	SOFT
407.4	SHELBURN		SANDY SHALE	6.0	109.0	
401.4	CARBONDALE	HERRIN	COAL	6.7	115.0	GOOD
394.7	CARBONDALE		UNDERCLAY	0.3	121.7	
394.4	CARBONDALE		SANDY SHALE	1.0	122.0	

MAPID: 11990363000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.955517 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.89107 DATE COLLECTED: 6 / 27 / 1962

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O213 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
509.0	PLEISTOCENE		CLAY	14.0	7.0	
495.0	PLEISTOCENE		SAND & GRAVEL	67.0	21.0	
428.0	SHELBURN		SHALE	6.0	88.0	
422.0	SHELBURN		LIMESTONE	5.0	94.0	
417.0	SHELBURN		SHALE	9.0	99.0	
408.0	SHELBURN	DANVILLE	COAL	1.2	108.0	GOOD
406.8	SHELBURN		SHALE	6.7	109.2	
400.2	SHELBURN		LIMESTONE	1.2	115.8	
399.0	SHELBURN		SHALE	1.0	117.0	SOFT
398.0	SHELBURN	BRERETON	LIMESTONE	3.0	118.0	
395.0	CARBONDALE		SHALE	1.0	121.0	SOFT
394.0	CARBONDALE	HERRIN	COAL	4.6	122.0	GOOD
389.4	CARBONDALE		UNDERCLAY	0.4	126.6	
389.0	CARBONDALE		ROCK	1.0	127.0	

MAPID: 11990536000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 14 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.946173 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.876502 DATE COLLECTED: 6 / 27 / 1962

SURFACE ELEVATION (FT.): 518.3 LOGGED (FT.): 133.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE O17 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
518.3	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
506.3	PLEISTOCENE		CLAY	15.0	12.0	
491.3	PLEISTOCENE		CLAY	91.0	27.0	
400.3	SHELBURN	BRERETON	LIMESTONE	6.0	118.0	
394.3	SHELBURN		SHALE	2.0	124.0	SOFT
392.3	CARBONDALE	HERRIN	COAL	0.6	126.0	SOFT
391.7	CARBONDALE		COAL	4.8	126.6	
386.9	CARBONDALE		UNDERCLAY	0.5	131.4	
386.4	CARBONDALE		SANDY SHALE	1.1	131.9	

MAPID: 1192420000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 15 QUARTERS/FOOTAGES: 1150' N line, 75' E line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.965104 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.887827 DATE COLLECTED: 5 / 14 / 1975  
 SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 142.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
535.0			UNCONSOLIDATED	100.0	0.0
435.0	MODESTO	PIASA	LIMESTONE	2.5	100.0
432.5	MODESTO		GRAY SHALE	8.5	102.5
424.0	CARBONDALE	DANVILLE	COAL	2.0	111.0
422.0	CARBONDALE		UNDERCLAY/SHALE	4.0	113.0
418.0	CARBONDALE	BRERETON	SHALY LIMESTONE	7.5	117.0
410.5	CARBONDALE	ANNA	BLACK SHALE	3.5	124.5
407.0	CARBONDALE	HERRIN	COAL	5.0	128.0
402.0	CARBONDALE		UNDERCLAY	1.0	133.0
401.0	CARBONDALE		LIMESTONE	5.0	134.0
396.0	CARBONDALE		SHALE	3.0	139.0

MAPID: 11924201000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 15 QUARTERS/FOOTAGES: 50' S line, 1300' E line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.969268 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.876563 DATE COLLECTED: 5 / 1 / 1975  
 SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 122.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-6 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
515.0			UNCONSOLIDATED	91.0	0.0
424.0	MODESTO	PIASA	LIMESTONE	1.0	91.0
423.0	MODESTO		GRAY SHALE	1.5	92.0
421.5	MODESTO		BLACK SHALE	1.5	93.5
420.0	MODESTO		SHALE	3.5	95.0
416.5	CARBONDALE	DANVILLE	COAL	1.5	98.5
415.0	CARBONDALE		CALCAREOUS SHALE	10.5	100.0
404.5	CARBONDALE	ANNA	BLACK SHALE	3.0	110.5
401.5	CARBONDALE	HERRIN	COAL	5.5	113.5
396.0	CARBONDALE		UNDERCLAY	3.0	119.0

MAPID: 11990350000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 15 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.978571 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.887474 DATE COLLECTED: 6 / 27 / 1962  
 SURFACE ELEVATION (FT.): 509.2 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE O153 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
509.2	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
491.2	PLEISTOCENE		CLAY	14.0	18.0	
477.2	PLEISTOCENE		CLAY	108.0	32.0	
369.2			SHALE	8.0	140.0	WHITE

MAPID: 11990351000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 15 QUARTERS/FOOTAGES: 1' S line, 1' E line of NE NW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.973992 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.887432 DATE COLLECTED: 7 / 31 / 1962  
 SURFACE ELEVATION (FT.): 509.6 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE O155 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
509.6	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
501.6	PLEISTOCENE		CLAY	15.0	8.0	
486.6	PLEISTOCENE		CLAY	70.0	23.0	
416.6			SANDY SHALE	55.0	93.0	

MAPID: 11990352000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 1' W line of NE NE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.969413 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.888298 DATE COLLECTED: 7 / 3 / 1962  
 SURFACE ELEVATION (FT.): 519.1 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE O157C WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
519.1	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
507.1	PLEISTOCENE		CLAY	14.0	12.0	
493.1	PLEISTOCENE		CLAY	90.0	26.0	
403.1	PLEISTOCENE		SAND & GRAVEL	4.0	116.0	
399.1			SHALE	28.0	120.0	HARD

MAPID: 11990166000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992454 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.891149 DATE COLLECTED: 6 / 28 / 1962  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J221 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	74.0	0.0
-	CARBONDALE		ROCK	62.0	74.0
-	CARBONDALE	COLCHESTER	COAL	0.5	136.0
-	CARBONDALE		ROCK	11.5	136.5

MAPID: 11990167000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.001718 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.883934 DATE COLLECTED: 7 / 23 / 1962  
 SURFACE ELEVATION (FT.): 457.3 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J117 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
457.3	PLEISTOCENE		UNCONSOLIDATED	22.0	0.0
435.3	CARBONDALE		ROCK	63.0	22.0
372.3	CARBONDALE	COLCHESTER	COAL	1.0	85.0
371.3	CARBONDALE		ROCK	11.0	86.0

MAPID: 11990168000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997087 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.883915 DATE COLLECTED: 7 / 19 / 1962  
 SURFACE ELEVATION (FT.): 475.8 LOGGED (FT.): 107.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J119 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
475.8	PLEISTOCENE		UNCONSOLIDATED	34.0	0.0
441.8			ROCK	63.0	34.0
378.8	CARBONDALE	COLCHESTER	COAL	0.6	97.0
378.2	CARBONDALE		ROCK	9.4	97.6

MAPID: 11990169000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992449 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.883896 DATE COLLECTED: 6 / 28 / 1962  
 SURFACE ELEVATION (FT.): 492.8 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J121 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
492.8	PLEISTOCENE		UNCONSOLIDATED	88.0	0.0
404.8	CARBONDALE		ROCK	32.0	88.0
372.8	CARBONDALE	COLCHESTER	COAL	1.5	120.0
371.3	CARBONDALE		ROCK	6.5	121.5

MAPID: 11990170000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997073 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.880304 DATE COLLECTED: 7 / 19 / 1962  
 SURFACE ELEVATION (FT.): 491.2 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J69 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
491.2	PLEISTOCENE		UNCONSOLIDATED	63.0	0.0
428.2	CARBONDALE		ROCK	54.0	63.0
374.2	CARBONDALE	COLCHESTER	COAL	1.5	117.0
372.7	CARBONDALE		ROCK	8.5	118.5

MAPID: 11990171000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997058 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.876699 DATE COLLECTED: 7 / 19 / 1962  
 SURFACE ELEVATION (FT.): 487.2 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J19 WELL TYPE: Coal Test  
 COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
487.2	PLEISTOCENE		UNCONSOLIDATED	76.0	0.0
411.2	CARBONDALE		ROCK	43.0	76.0
368.2	CARBONDALE	COLCHESTER	COAL	1.8	119.0
366.4	CARBONDALE		ROCK	6.2	120.8

MAPID: 11990320000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.001772 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.891131 DATE COLLECTED: 7 / 20 / 1962  
 SURFACE ELEVATION (FT.): 580.5 LOGGED (FT.): 77.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J217 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
580.5	PLEISTOCENE		UNCONSOLIDATED	3.0	0.0
577.5	PLEISTOCENE		CLAY	8.0	3.0
569.5	PLEISTOCENE		CLAY	14.0	11.0
555.5			SHALE	52.0	25.0 SOFT

MAPID: 11990393000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 16 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992434 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.876649 DATE COLLECTED: 6 / 28 / 1962  
 SURFACE ELEVATION (FT.): 491.9 LOGGED (FT.): 117.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE Q621 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
491.9	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0
480.9	PLEISTOCENE		CLAY	16.0	11.0
464.9	PLEISTOCENE		CLAY	43.0	27.0
421.9			SHALE	47.0	70.0

MAPID: 11990303000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' W line of NW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.020708 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.887898 DATE COLLECTED: 7 / 25 / 1962  
 SURFACE ELEVATION (FT.): 496.8 LOGGED (FT.): 87.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J159 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
496.8	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0
489.8	PLEISTOCENE		CLAY	9.0	7.0
480.8	PLEISTOCENE		CLAY	18.0	16.0
462.8	PLEISTOCENE		BOULDER	1.0	34.0
461.8	PLEISTOCENE		CLAY	23.0	35.0
438.8			SHALE	29.0	58.0

MAPID: 11990304000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 100' S line, 100' E line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.016333 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.888088 DATE COLLECTED: 7 / 25 / 1962

SURFACE ELEVATION (FT.): 514.8 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J161 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.8	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
503.8	PLEISTOCENE		CLAY	12.0	11.0	
491.8	PLEISTOCENE		CLAY	15.0	23.0	
476.8			LIMESTONE	4.0	38.0	HARD
472.8			SANDY SHALE	55.0	42.0	

MAPID: 11990305000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' W line of NE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.006488 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887626 DATE COLLECTED: 7 / 24 / 1962

SURFACE ELEVATION (FT.): 497.9 LOGGED (FT.): 107.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J165 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
497.9	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
486.9	PLEISTOCENE		CLAY	12.0	11.0	
474.9	PLEISTOCENE		CLAY	30.0	23.0	
444.9			LIMESTONE	2.0	53.0	
442.9			SANDY SHALE	52.0	55.0	



MAPID: 11990306000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' E line of NE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.001754 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.887537 DATE COLLECTED: 7 / 24 / 1962

SURFACE ELEVATION (FT.): 470.0 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J167 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
470.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0
463.0	PLEISTOCENE		CLAY	12.0	7.0
451.0	PLEISTOCENE		CLAY	20.0	19.0
431.0			SHALE	11.0	39.0
420.0			LIMESTONE	1.0	50.0
419.0			SANDY SHALE	46.0	51.0

MAPID: 11990307000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 660' S line, 1' W line of NW NE

QUADRANGLE: BETHALTO LONGITUDE: -90.011263 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.889538 DATE COLLECTED: 6 / 27 / 1962

SURFACE ELEVATION (FT.): 501.2 LOGGED (FT.): 87.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J188 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
501.2	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0
493.2	PLEISTOCENE		CLAY	14.0	8.0
479.2	PLEISTOCENE		CLAY	4.0	22.0
475.2	SHELBURN		SHALE	6.0	26.0 SOFT
469.2	CARBONDALE		COAL	3.9	32.0
465.3	CARBONDALE		UNDERCLAY	1.1	35.9
464.2	CARBONDALE		LIMESTONE	6.0	37.0
458.2	CARBONDALE		SHALE	25.0	43.0 SOFT, WHITE
433.2	CARBONDALE		LIMESTONE	1.0	68.0 HARD
432.2	CARBONDALE		SHALE	18.0	69.0

MAPID: 11990308000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.02083 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.89153 DATE COLLECTED: 7 / 24 / 1962

SURFACE ELEVATION (FT.): 516.4 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J209 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
516.4	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0
507.4	PLEISTOCENE		CLAY	12.0	9.0
495.4	PLEISTOCENE		CLAY	17.0	21.0
478.4			ROCK	1.0	38.0
477.4			SHALE	58.0	39.0

MAPID: 11990309000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.016074 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.891433 DATE COLLECTED: 7 / 25 / 1962

SURFACE ELEVATION (FT.): 514.2 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J211 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
514.2	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0
506.2	PLEISTOCENE		CLAY	13.0	8.0
493.2	PLEISTOCENE		CLAY	19.0	21.0
474.2			LIMESTONE	1.0	40.0
473.2			SHALE	23.0	41.0 SOFT
450.2			LIMESTONE	5.0	64.0
445.2			SANDY SHALE	28.0	69.0

MAPID: 1199031000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.00178 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.891131 DATE COLLECTED: 7 / 20 / 1962  
 SURFACE ELEVATION (FT.): 507.1 LOGGED (FT.): 48.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J215 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
507.1	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
495.1	PLEISTOCENE		CLAY	6.0	12.0	
489.1	PLEISTOCENE		SAND	5.0	18.0	OR SANDSTONE
484.1	PLEISTOCENE		CLAY	13.0	23.0	
471.1	SHELBURN		SHALE	6.0	36.0	SOFT
465.1	CARBONDALE	HERRIN	COAL	4.7	42.0	GOOD
460.4	CARBONDALE		UNDERCLAY	1.3	46.7	

MAPID: 11990311000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.020582 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.88426 DATE COLLECTED: 7 / 25 / 1962  
 SURFACE ELEVATION (FT.): 501.0 LOGGED (FT.): 77.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J109 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
501.0	PLEISTOCENE		UNCONSOLIDATED	3.0	0.0	
498.0	PLEISTOCENE		CLAY	10.0	3.0	
488.0	PLEISTOCENE		CLAY	12.0	13.0	
476.0			LIMESTONE	1.0	25.0	
475.0			SHALE	51.0	26.0	SOFT

MAPID: 11990312000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' N line, 235' W line of NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.01504 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.88416 DATE COLLECTED: 7 / 25 / 1962

SURFACE ELEVATION (FT.): 511.5 LOGGED (FT.): 58.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J111 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
511.5	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
502.5	PLEISTOCENE		CLAY	15.0	9.0	
487.5	PLEISTOCENE		CLAY	25.0	24.0	
462.5	SHELBURN		LIMESTONE	1.0	49.0	
461.5	SHELBURN		SHALE	4.0	50.0	SOFT
457.5	CARBONDALE	HERRIN	COAL	2.8	54.0	FAIR
454.7	CARBONDALE		UNDERCLAY	1.3	56.8	

MAPID: 11990313000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NE

QUADRANGLE: BETHALTO LONGITUDE: -90.01115 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.8841 DATE COLLECTED: 7 / 24 / 1962

SURFACE ELEVATION (FT.): 481.9 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE J113 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
481.9	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
475.9	PLEISTOCENE		CLAY	17.0	6.0	
458.9	PLEISTOCENE		CLAY	9.0	23.0	
449.9			SANDY SHALE	65.0	32.0	

MAPID: 11990314000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.011075 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.880475 DATE COLLECTED: 7 / 26 / 1962  
 SURFACE ELEVATION (FT.): 502.8 LOGGED (FT.): 141.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J63 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
502.8	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
490.8	PLEISTOCENE		CLAY	11.0	12.0	
479.8	PLEISTOCENE		CLAY	25.0	23.0	
454.8			SHALE	41.0	48.0	SOFT
413.8			SANDY SHALE	35.0	89.0	HARD
378.8			BLACK SHALE	1.0	124.0	
377.8			SHALE	16.0	125.0	

MAPID: 11990315000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' N line, 1' W line of SE SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.006384 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.880405 DATE COLLECTED: 7 / 30 / 1962  
 SURFACE ELEVATION (FT.): 495.7 LOGGED (FT.): 77.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J65 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
495.7	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
488.7	PLEISTOCENE		CLAY	22.0	7.0	
466.7	PLEISTOCENE		SAND & GRAVEL	14.0	29.0	
452.7			SHALE	34.0	43.0	SOFT

MAPID: 11990316000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 240' W line of SE SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.014821 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.876911 DATE COLLECTED: 7 / 26 / 1962  
 SURFACE ELEVATION (FT.): 501.2 LOGGED (FT.): 52.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J11 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
501.2	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
492.2	PLEISTOCENE		CLAY	16.0	9.0	
476.2	PLEISTOCENE		CLAY	21.0	25.0	
455.2	CARBONDALE		SHALE	1.0	46.0	
454.2	CARBONDALE	HERRIN	COAL	1.0	47.0	FAIR
453.2	CARBONDALE	HERRIN	COAL	2.7	48.0	GOOD
450.5	CARBONDALE		UNDERCLAY	1.3	50.7	

MAPID: 11990317000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.010999 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.876862 DATE COLLECTED: 7 / 27 / 1962  
 SURFACE ELEVATION (FT.): 499.5 LOGGED (FT.): 58.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J13 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
499.5	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
488.5	PLEISTOCENE		CLAY	12.0	11.0	
476.5	PLEISTOCENE		CLAY	30.0	23.0	
446.5	CARBONDALE	HERRIN	COAL	3.5	53.0	SOFT; TOP ERODED
443.0	CARBONDALE		UNDERCLAY	1.5	56.5	

MAPID: 11990318000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' W line of SE SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.006333 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.876802 DATE COLLECTED: 7 / 26 / 1962  
 SURFACE ELEVATION (FT.): 492.3 LOGGED (FT.): 77.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J15 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
492.3	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
479.3	PLEISTOCENE		CLAY	18.0	13.0	
461.3	PLEISTOCENE		CLAY	4.0	31.0	
457.3			SHALE	2.0	35.0	SOFT
455.3			LIMESTONE	1.0	37.0	
454.3			SHALE	39.0	38.0	

MAPID: 11990319000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 240' W line of NE SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.014921 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.880539 DATE COLLECTED: 7 / 27 / 1962  
 SURFACE ELEVATION (FT.): 508.2 LOGGED (FT.): 57.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE J61 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
508.2	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
497.2	PLEISTOCENE		CLAY	8.0	11.0	
489.2	PLEISTOCENE		CLAY	31.0	19.0	
458.2			LIMESTONE	2.0	50.0	
456.2			ROCK	5.0	52.0	

MAPID: 11990070000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: SW  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.997186 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.86579 DATE COLLECTED: 7 / 18 / 1962  
 SURFACE ELEVATION (FT.): 485.2 LOGGED (FT.): 137.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q469 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
485.2	PLEISTOCENE		UNCONSOLIDATED	107.0	0.0	
378.2	CARBONDALE		ROCK	22.0	107.0	
356.2	CARBONDALE	COLCHESTER	COAL	1.0	129.0	
355.2	CARBONDALE		ROCK	7.0	130.0	

MAPID: 11990071000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1320' S line, 2640' W line  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.992546 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.865763 DATE COLLECTED: 7 / 17 / 1962  
 SURFACE ELEVATION (FT.): 462.0 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q471 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
462.0	PLEISTOCENE		UNCONSOLIDATED	94.0	0.0
368.0	CARBONDALE		ROCK	16.0	94.0
352.0	CARBONDALE	COLCHESTER	COAL	2.0	110.0
350.0	CARBONDALE		ROCK	35.0	112.0

MAPID: 11990073000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1' S line, 100' W line of SE NE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.987471 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.869343 DATE COLLECTED: 7 / 17 / 1962  
 SURFACE ELEVATION (FT.): 474.3 LOGGED (FT.): 124.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q523 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
474.3	PLEISTOCENE		UNCONSOLIDATED	106.0	0.0
368.3	CARBONDALE		ROCK	11.0	106.0
357.3	CARBONDALE	COLCHESTER	COAL	1.5	117.0
355.8	CARBONDALE		ROCK	5.5	118.5

MAPID: 11990076000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1280' N line, 2640' W line  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.992413 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.873113 DATE COLLECTED: 7 / 16 / 1962  
 SURFACE ELEVATION (FT.): 491.2 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q571 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
491.2	PLEISTOCENE		UNCONSOLIDATED	105.0	0.0
386.2	CARBONDALE		ROCK	15.0	105.0
371.2	CARBONDALE	COLCHESTER	COAL	1.8	120.0
369.4	CARBONDALE		ROCK	25.2	121.8



MAPID: 11990078000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1320' N line, 1060' E line of NE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.986928 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.872948 DATE COLLECTED: 7 / 16 / 1962  
 SURFACE ELEVATION (FT.): 486.9 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q573 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
486.9	PLEISTOCENE		UNCONSOLIDATED	105.0	0.0
381.9	CARBONDALE		ROCK	11.0	105.0
370.9	CARBONDALE	COLCHESTER	COAL	1.6	116.0
369.3	CARBONDALE		ROCK	29.4	117.6

MAPID: 11990079000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.001667 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.876737 DATE COLLECTED: 7 / 18 / 1962  
 SURFACE ELEVATION (FT.): 462.6 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q617 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
462.6	PLEISTOCENE		UNCONSOLIDATED	95.0	0.0
367.6	CARBONDALE		ROCK	9.0	95.0
358.6	CARBONDALE	COLCHESTER	COAL	0.6	104.0
358.0	CARBONDALE		ROCK	42.4	104.6

MAPID: 11990081000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1' N line, 1320' E line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.987867 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.8766 DATE COLLECTED: 7 / 16 / 1962  
 SURFACE ELEVATION (FT.): 485.5 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q623 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
485.5	PLEISTOCENE		UNCONSOLIDATED	124.0	0.0
361.5	CARBONDALE		ROCK	15.0	124.0
346.5	CARBONDALE	COLCHESTER	COAL	2.0	139.0
344.5	CARBONDALE		ROCK	7.0	141.0

MAPID: 11990082000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.983209 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.876553 DATE COLLECTED: 7 / 16 / 1962  
 SURFACE ELEVATION (FT.): 491.4 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE COLLIERIES Q625 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX #28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
491.4	PLEISTOCENE		UNCONSOLIDATED	124.0	0.0
367.4	CARBONDALE		ROCK	10.0	124.0
357.4	CARBONDALE	COLCHESTER	COAL	1.8	134.0
355.6	CARBONDALE		ROCK	11.2	135.8

MAPID: 11990389000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SW  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.997145 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.869424 DATE COLLECTED: 7 / 28 / 1962  
 SURFACE ELEVATION (FT.): 487.2 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE Q519 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
487.2	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0
478.2	PLEISTOCENE		CLAY	19.0	9.0
459.2	PLEISTOCENE		SAND & GRAVEL	99.0	28.0
360.2			SHALE	20.0	127.0

MAPID: 11990390000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.983166 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.869298 DATE COLLECTED: 7 / 17 / 1962  
 SURFACE ELEVATION (FT.): 489.8 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE Q525 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
489.8	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0
476.8	PLEISTOCENE		CLAY	11.0	13.0
465.8	PLEISTOCENE		CLAY	93.0	24.0
372.8			SANDY SHALE	30.0	117.0

MAPID: 11990391000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.9971 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.873063 DATE COLLECTED: 7 / 17 / 1962  
 SURFACE ELEVATION (FT.): 489.0 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE Q569 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
489.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
479.0	PLEISTOCENE		CLAY	16.0	10.0
463.0	PLEISTOCENE		SAND & GRAVEL	97.0	26.0
366.0			SANDY SHALE	24.0	123.0

MAPID: 11990392000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 21 QUARTERS/FOOTAGES: 100' S line, 30' E line of NE NE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.983292 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.873204 DATE COLLECTED: 7 / 17 / 1962  
 SURFACE ELEVATION (FT.): 471.4 LOGGED (FT.): 131.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE Q575 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
471.4	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0
466.4	PLEISTOCENE		CLAY	9.0	5.0
457.4	PLEISTOCENE		SAND & GRAVEL	91.0	14.0
366.4			SHALE	26.0	105.0

MAPID: 11900062000C VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 23 QUARTERS/FOOTAGES: SW SW NE  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.954417 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.869999 DATE COLLECTED: 0 / 0 / 1987  
 SURFACE ELEVATION (FT.): 506.6 LOGGED (FT.): 2195.0 LOG TYPE:  
 SOURCE: GARTNER WELL TYPE: Unsuccessful or Unknown Results  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
366.6	CARBONDALE	HERRIN	COAL	2.0	140.0

MAPID: 11900062000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 23 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.954417 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.869999 DATE COLLECTED:

SURFACE ELEVATION (FT.): 506.6 LOGGED (FT.): 2195.0 LOG TYPE: Drillers Log

SOURCE: H.M. DUBOIS 8 WELL TYPE: Coal Test

COMMENT: NO COAL AFTER 225'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
506.6			UNCONSOLIDATED	99.0	0.0	SAND AND GRAVEL
407.6			LIMESTONE	3.0	99.0	
404.6			UNCLASSIFIED	6.0	102.0	CHERT
398.6			LIMESTONE	2.0	108.0	
396.6			SANDSTONE	5.0	110.0	
391.6			GRAY SHALE	3.0	115.0	
388.6			LIMESTONE	7.0	118.0	
381.6			LIMESTONE	5.0	125.0	
376.6			GRAY SHALE	10.0	130.0	
366.6	CARBONDALE	HERRIN	COAL	2.0	140.0	
364.6			GRAY SHALE	28.0	142.0	
336.6			CALCAREOUS SHALE	20.0	170.0	
316.6			COAL	2.0	190.0	
314.6			GRAY SHALE	33.0	192.0	

MAPID: 11924202000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 23 QUARTERS/FOOTAGES: 1250' S line, 25' E line

QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.946556 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.864963 DATE COLLECTED: 5 / 6 / 1975

SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 162.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-15 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.0			UNCONSOLIDATED	93.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
362.0	CARBONDALE		GRAY SHALE	51.0	93.0	
310.5	CARBONDALE		BLACK SHALE	2.0	144.5	
308.5	CARBONDALE		SANDSTONE	15.5	146.5	

MAPID: 11900145000C    VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 5N 8W    SECTION: 24    QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.9359    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.869678    DATE COLLECTED: 0 / 0 / 1933

SURFACE ELEVATION (FT.): 479.8    LOGGED (FT.): 1987.0    LOG TYPE:

SOURCE: HAVELKA 0001    WELL TYPE: Unsuccessful or Unknown Results

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
367.8	CARBONDALE	HERRIN	COAL	1.0	112.0	

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MAPID: 11900145000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 5N 8W    SECTION: 24    QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: EDWARDSVILLE    LONGITUDE: -89.9359    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.869678    DATE COLLECTED:

SURFACE ELEVATION (FT.): 479.8    LOGGED (FT.): 1987.0    LOG TYPE: Drillers Log

SOURCE: T.C. HAVELKA    WELL TYPE: Coal Test

COMMENT: NO COAL AFTER 411.00'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
479.8			UNCONSOLIDATED	40.0	0.0	DRIFT
439.8			LIGHT SHALE	20.0	40.0	
419.8			SHALE	20.0	60.0	
399.8			SHALE	15.0	80.0	
384.8			SANDSTONE	3.0	95.0	
381.8			LIMESTONE	3.0	98.0	
378.8			DARK SHALE	4.0	101.0	
374.8			SHALE	7.0	105.0	
367.8	CARBONDALE	HERRIN	COAL	1.0	112.0	
366.8			SANDY SHALE	7.0	113.0	
359.8			GRAY SHALE	71.0	120.0	
288.8			GRAY SHALE	3.0	191.0	
285.8			GRAY SHALE	6.0	194.0	
279.8			SHALE	30.0	200.0	
249.8			SHALE	2.0	230.0	
247.8			LIMESTONE	1.0	232.0	
246.8			COAL	5.0	233.0	
241.8			SHALE	2.0	238.0	
239.8			LIMESTONE	8.0	240.0	
231.8			SANDY SHALE	22.0	248.0	
209.8			LIMESTONE	10.0	270.0	
199.8			LIMESTONE	12.0	280.0	
187.8			LIMESTONE	8.0	292.0	
179.8			GRAY SHALE	8.0	300.0	
171.8			SHALE	10.0	308.0	
161.8			SHALE	20.0	318.0	
141.8			SHALE	7.0	338.0	
134.8			GRAY SHALE	5.0	345.0	
129.8			SANDY SHALE	5.0	350.0	
124.8			SHALE	18.0	355.0	
106.8			CALCAREOUS SHALE	6.0	373.0	
100.8			SANDY SHALE	5.0	379.0	
95.8			CALCAREOUS SHALE	6.0	384.0	
89.8			SANDY SHALE	5.0	390.0	
84.8			LIMESTONE	5.0	395.0	
79.8			SANDSTONE	7.0	400.0	
72.8			SHALE	4.0	407.0	

MAPID: 11924203000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 25 QUARTERS/FOOTAGES: 625' S line, 700' E line  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.930048 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.84874 DATE COLLECTED: 10 / 4 / 1977  
 SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 220.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-77-17 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.0			UNCONSOLIDATED	200.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
320.0	CARBONDALE		GRAY SHALE	20.0	200.0	

MAPID: 11924204000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 26 QUARTERS/FOOTAGES: 1180' S line, 2350' E line  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.954906 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.850387 DATE COLLECTED: 4 / 30 / 1975  
 SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 212.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-5 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.0			UNCONSOLIDATED	204.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
316.0	CARBONDALE		GRAY SHALE	8.0	204.0	

MAPID: 11924205000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 5N 8W SECTION: 36 QUARTERS/FOOTAGES: 38' N line, 35' W line  
 QUADRANGLE: EDWARDSVILLE LONGITUDE: -89.946503 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.846988 DATE COLLECTED: 10 / 6 / 1977  
 SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 100.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-77-18 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.0			UNCONSOLIDATED	55.5	0.0	
399.5	CARBONDALE	DANVILLE	COAL	1.5	55.5	
398.0	CARBONDALE		GRAY SHALE	4.5	57.0	
393.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	61.5	
390.0	CARBONDALE		SHALE	2.0	65.0	
388.0	CARBONDALE	BRERETON	SHALY LIMESTONE	3.0	67.0	
385.0	CARBONDALE	ANNA	BLACK SHALE	4.0	70.0	
381.0	CARBONDALE	HERRIN	COAL	5.0	74.0	
376.0	CARBONDALE		UNDERCLAY	4.0	79.0	
372.0	CARBONDALE		SHALY LIMESTONE	3.5	83.0	
368.5	CARBONDALE		SHALE	7.0	86.5	
361.5	CARBONDALE		GRAY SHALE	2.5	93.5	
359.0	CARBONDALE		GRAY SHALE	4.0	96.0	

MAPID: 11900150000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 1 QUARTERS/FOOTAGES: SE NW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.056636 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.920897 DATE COLLECTED: 0 / 0 / 1929  
 SURFACE ELEVATION (FT.): 465.4 LOGGED (FT.): 55.0 LOG TYPE:  
 SOURCE: TRUAX-TRAER 0005 WELL TYPE: Coal Test  
 COMMENT:

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

MAPID: 11900151000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 1 QUARTERS/FOOTAGES: NW SW SW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.059542 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.91739 DATE COLLECTED: 0 / 0 / 1929  
 SURFACE ELEVATION (FT.): 505.5 LOGGED (FT.): 65.0 LOG TYPE:  
 SOURCE: TRUAX-TRAER 0007 WELL TYPE: Coal Test  
 COMMENT:

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



**MAPID:** 11900152000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** NE SE SE NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.051026    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.917516    **DATE COLLECTED:** 0 / 0 / 1929  
**SURFACE ELEVATION (FT.):** 521.2    **LOGGED (FT.):** 70.0    **LOG TYPE:**  
**SOURCE:** TRUAX-TRAER    0009    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
476.2	CARBONDALE	HERRIN	COAL	1.0	45.0	

**MAPID:** 11900153000C    **VERSION:** 2    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.054051    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.91698    **DATE COLLECTED:** 0 / 0 / 1929  
**SURFACE ELEVATION (FT.):** 518.0    **LOGGED (FT.):** 70.0    **LOG TYPE:**  
**SOURCE:** TRUAX-TRAER    8    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
471.0	CARBONDALE	HERRIN	COAL	0.6	47.0	

**MAPID:** 11900153000C    **VERSION:** 3    **PROJECT:** NCRDS94  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.054051    **GEOLOGIST:** HOKE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.91698    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 518.0    **LOGGED (FT.):** 70.2    **LOG TYPE:** Drillers Log  
**SOURCE:** TRUAX-TRAER COAL CO.    8    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
518.0			SANDY CLAY	26.0	0.0	
492.0			UNCONSOLIDATED	5.0	26.0	SAND AND GRAVEL
487.0			CLAY	7.0	31.0	
480.0			CLAY	8.0	38.0	
472.0			LIMESTONE	0.6	46.0	
471.4	CARBONDALE	HERRIN	COAL	0.6	46.6	
470.8			UNDERCLAY	23.0	47.2	

**MAPID:** 11900171000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 1820' S line, 2410' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.049128    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.913346    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 521.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** TRUAX-TRAER    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
471.0	CARBONDALE	HERRIN	COAL	-	50.0	

**MAPID:** 11900172000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 1435' S line, 1815' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.047008    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.912367    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 495.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LOCAL MINE    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
465.0	CARBONDALE	HERRIN	COAL	-	30.0	

**MAPID:** 11900173000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 860' S line, 2010' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.04767    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.910755    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** NEUNABER    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
467.0	CARBONDALE	HERRIN	COAL	-	33.0	

**MAPID:** 11900199000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 1980' S line, 120' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.041049    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.91411    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 525.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** COOPER WLF    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
454.0	CARBONDALE	HERRIN	COAL	4.0	71.0	

**MAPID:** 1190020000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** SE/c NE SW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.052735    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.91406    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 522.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** WILSON KEN    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
467.0	CARBONDALE	HERRIN	COAL	5.5	55.0	

**MAPID:** 11900201000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** NE/c SE SW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.052598    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.910143    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** WEST MINE    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
460.0	CARBONDALE	HERRIN	COAL	4.5	60.0	

**MAPID:** 11900202000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** NE/c SW SE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.047783    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.91031    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BRUNTON D    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
456.0	CARBONDALE	HERRIN	COAL	4.8	64.0	

**MAPID:** 11900203000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** SW SE SE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.044152    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.909476    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 525.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** MEYER H    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.0	CARBONDALE	HERRIN	COAL	5.5	61.0	

**MAPID:** 11900224000C    **VERSION:** 2    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** NE NW NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.046908    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.922878    **DATE COLLECTED:** 0 / 0 / 1933  
**SURFACE ELEVATION (FT.):** 488.4    **LOGGED (FT.):** 50.0    **LOG TYPE:**  
**SOURCE:** MINDEN CC 0001    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
441.4	CARBONDALE	HERRIN	COAL	2.3	47.0

**MAPID:** 11900224000C    **VERSION:** 3    **PROJECT:** NCRDS94  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** NE NW NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.046908    **GEOLOGIST:** HOKE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.922878    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 488.4    **LOGGED (FT.):** 49.8    **LOG TYPE:** Drillers Log  
**SOURCE:** MINDEN COAL CO.    1    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
488.4			SANDY CLAY	23.0	0.0
465.4			SAND	10.0	23.0
455.4			CLAY	3.5	33.0
451.9			SANDSTONE	0.5	36.5
451.4			UNDERCLAY	9.5	37.0
441.9	CARBONDALE	HERRIN	COAL	2.3	46.5
439.6			UNDERCLAY	1.0	48.8

**MAPID:** 11900225000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** NE SE NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.051684    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.918971    **DATE COLLECTED:** 0 / 0 / 1933  
**SURFACE ELEVATION (FT.):** 505.0    **LOGGED (FT.):** 73.0    **LOG TYPE:**  
**SOURCE:** MINDEN CC 0001    **WELL TYPE:** Coal Test  
**COMMENT:**

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

**MAPID:** 11900245000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 1400' S line, 600' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.042715    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.912443    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 525.7    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SUNRISE CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
453.7	CARBONDALE	HERRIN	COAL	4.0	72.0	

**MAPID:** 11900154000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 2    **QUARTERS/FOOTAGES:** NW SE NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.063727    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.918883    **DATE COLLECTED:** 0 / 0 / 1929  
**SURFACE ELEVATION (FT.):** 501.8    **LOGGED (FT.):** 40.0    **LOG TYPE:**  
**SOURCE:** TRUAX-TRAER    0004    **WELL TYPE:** Coal Test  
**COMMENT:**

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

**MAPID:** 11900155000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 2    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.060959    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.908933    **DATE COLLECTED:** 0 / 0 / 1929  
**SURFACE ELEVATION (FT.):** 524.8    **LOGGED (FT.):** 66.0    **LOG TYPE:**  
**SOURCE:** TRUAX-TRAER    0010    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
484.8	CARBONDALE	HERRIN	COAL	1.0	40.0	

MAPID: 11900155000C VERSION: 2

PROJECT: NCRDS87

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 2 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: BETHALTO LONGITUDE: -90.060959 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 38.908933 DATE COLLECTED: 4 / 29 / 1929

SURFACE ELEVATION (FT.): 524.8 LOGGED (FT.): 66.5 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
524.8			UNCONSOLIDATED	29.0	0.0	
495.8	CARBONDALE		CLAYSTONE	10.0	29.0	
485.8	CARBONDALE	BRERETON	LIMESTONE	0.5	39.0	
485.3	CARBONDALE	HERRIN	COAL	1.0	39.5	
484.3	CARBONDALE		CLAYSTONE	26.0	40.5	

MAPID: 11900155000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 2 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: BETHALTO LONGITUDE: -90.060959 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.908933 DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.8 LOGGED (FT.): 66.5 LOG TYPE: Geologic Tops

SOURCE: TRUAX-TRAER COAL CO. 10 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
524.8			SANDY CLAY	22.0	0.0	
502.8			UNCONSOLIDATED	4.0	22.0	SAND AND GRAVEL
498.8			UNCONSOLIDATED	3.0	26.0	SAND AND GRAVEL
495.8			SANDY CLAY	10.0	29.0	
485.8	CARBONDALE		LIMESTONE	0.5	39.0	
485.3	CARBONDALE	HERRIN	COAL	1.0	39.5	
484.3			GRAY SHALE	26.0	40.5	

MAPID: 11900366000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 8 QUARTERS/FOOTAGES: 1830' N line, 2320' W line

QUADRANGLE: ALTON LONGITUDE: -90.127993 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.902978 DATE COLLECTED: 0 / 0 / 1929

SURFACE ELEVATION (FT.): 446.0 LOGGED (FT.): 1200.0 LOG TYPE:

SOURCE: MAGGOSKOST WELL TYPE: Coal Test

COMMENT:

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

**MAPID:** 11900174000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 12    **QUARTERS/FOOTAGES:** 4425' S line, 3230' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.051905    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.905525    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** JOBE MINE    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
474.0	CARBONDALE	HERRIN	COAL	6.0	46.0	

**MAPID:** 11900204000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 12    **QUARTERS/FOOTAGES:** NE NW NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.046514    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.907494    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** JAMES JOHN    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.0	CARBONDALE	HERRIN	COAL	5.5	56.0	

**MAPID:** 11900175000C    **VERSION:** 2    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 14    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.060309    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.886497    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BALSTERS E    **WELL TYPE:** Underground mine  
**COMMENT:**

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

MAPID: 11900175000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 14 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.060309 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.886497 DATE COLLECTED: 8 / 13 / 1931

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 170.4 LOG TYPE: Drillers Log

SOURCE: BALSTERS MINE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0			UNCONSOLIDATED	4.0	0.0	SOIL
526.0			CLAY	25.0	4.0	
501.0			SAND	4.0	29.0	
497.0			UNCONSOLIDATED	10.0	33.0	GRAVEL AND BOULDERS
487.0			LIMESTONE	1.5	43.0	
485.5			SHALE	35.0	44.5	
450.5			LIMESTONE	1.0	79.5	
449.5	CARBONDALE	HOUCHIN CREEK	COAL	1.2	80.5	
448.3	CARBONDALE		SANDSTONE	40.0	81.7	
408.3	CARBONDALE		SHALE	2.0	121.7	
406.3	CARBONDALE		ROCK	0.4	123.7	SULFUR
405.9	CARBONDALE		SANDSTONE	38.3	124.1	
367.6	CARBONDALE	MECCA QUARRY	BLACK SHALE	1.0	162.4	
366.6	CARBONDALE	COLCHESTER	COAL	2.5	163.4	
364.1			UNDERCLAY	4.5	165.9	



MAPID: 11925495000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 15 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: BETHALTO LONGITUDE: -90.086252 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.879917 DATE COLLECTED: 7 / 6 / 1990

SURFACE ELEVATION (FT.): LOGGED (FT.): 261.0 LOG TYPE: Drillers Log

SOURCE: CLARENCE KOHNEN 018512 WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			CLAY	2.0	0.0
-			SANDY CLAY	15.0	2.0
-			SANDY CLAY	8.0	17.0
-			GRAY SHALE	2.0	25.0
-			GRAY SHALE	11.0	27.0
-	CARBONDALE	COLCHESTER	COAL	2.0	38.0
-			GRAY SHALE	6.0	40.0
-			LIMESTONE	2.0	46.0
-			GRAY SHALE	10.0	48.0
-			GRAY SHALE	4.0	58.0
-			GRAY SHALE	17.0	62.0
-			SANDSTONE	4.0	79.0
-			SANDY SHALE	30.0	83.0
-			SANDY SHALE	6.0	113.0
-			GRAY SHALE	9.0	119.0
-			SANDY SHALE	6.0	128.0
-			SANDSTONE	12.0	134.0
-			LIMESTONE	48.0	146.0
-			LIMESTONE	3.0	194.0
-			LIMESTONE	64.0	197.0

MAPID: 11900409000C VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 16 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: BETHALTO LONGITUDE: -90.107876 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.892412 DATE COLLECTED: 0 / 0 / 1923

SURFACE ELEVATION (FT.): 434.4 LOGGED (FT.): 305.0 LOG TYPE:

SOURCE: BUTLER WELL TYPE: Water Well

COMMENT:

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

MAPID: 11900409000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 5N 9W SECTION: 16 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: BETHALTO LONGITUDE: -90.107876 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.892412 DATE COLLECTED: 7 / 20 / 1923

SURFACE ELEVATION (FT.): 434.4 LOGGED (FT.): 305.0 LOG TYPE: Drillers Log

SOURCE: MILLARD M. BUTLER WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
434.4			CLAY	30.0	0.0	
404.4			SANDY CLAY	2.5	30.0	
401.9			CLAY	1.0	32.5	CALCAREOUS CLAY
400.9			SANDY CLAY	2.0	33.5	
398.9			CLAY	9.0	35.5	
389.9			CLAY	2.5	44.5	CALCAREOUS CLY
387.4			CLAY	8.5	47.0	
378.9			CLAY	3.0	55.5	
375.9			SHALE	33.0	58.5	
342.9			CALCAREOUS SHALE	42.5	91.5	
300.4			BLACK SHALE	1.0	134.0	
299.4			COAL	1.0	135.0	
298.4			UNDERCLAY	1.0	136.0	
297.4			LIMESTONE	1.0	137.0	
296.4			UNDERCLAY	1.0	138.0	
295.4			LIMESTONE	5.0	139.0	
290.4			UNDERCLAY	10.0	144.0	
280.4			CALCAREOUS SHALE	2.0	154.0	
278.4			SHALE	4.5	156.0	
273.9			SANDY SHALE	32.5	160.5	
241.4			SANDSTONE	15.0	193.0	
226.4			CALCAREOUS SHALE	2.5	208.0	
223.9			LIMESTONE	2.5	210.5	
221.4			CALCAREOUS SHALE	10.0	213.0	
211.4			SANDSTONE	2.5	223.0	
208.9			GRAY SHALE	72.5	225.5	
136.4			LIMESTONE	7.0	298.0	

**MAPID:** 11926168000C    **VERSION:** 1    **PROJECT:** NCRDS95  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 23    **QUARTERS/FOOTAGES:** NE NE NE SE  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.059106    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.870575    **DATE COLLECTED:** 4 / 20 / 1994  
**SURFACE ELEVATION (FT.):** 467.0    **LOGGED (FT.):** 34.8    **LOG TYPE:** Other Core Study  
**SOURCE:** IL DEPT OF TRANSPORTATION 6,S.ABU    **WELL TYPE:** Engineering Test Holes  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
467.0	PLEISTOCENE		SILTY CLAY	6.5	0.0	BROWN
460.5	PLEISTOCENE		CLAY	15.0	6.5	BROWN
445.5	CARBONDALE		LIMESTONE, SHALEY	2.5	21.5	
443.0	CARBONDALE	HERRIN	COAL	5.0	24.0	
438.0	CARBONDALE		GRAY SHALE	1.5	29.0	
436.5	CARBONDALE		CALCAREOUS SHALE	4.3	30.5	

**MAPID:** 11901638000C    **VERSION:** 1    **PROJECT:** NCRDS94  
**COUNTY:** MADISON    **TWP/RNG:** 5N 9W    **SECTION:** 26    **QUARTERS/FOOTAGES:** NW  
**QUADRANGLE:** WOOD RIVER    **LONGITUDE:** -90.072211    **GEOLOGIST:** HOKE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.860035    **DATE COLLECTED:** 0 / 11 / 1934  
**SURFACE ELEVATION (FT.):** 445.7    **LOGGED (FT.):** 103.5    **LOG TYPE:** Drillers Log  
**SOURCE:** F. THORPE 2    **WELL TYPE:** Water Well  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
445.7			UNCONSOLIDATED	5.0	0.0	
440.7			UNCLASSIFIED	2.0	5.0	NO SAMPLE
438.7			SANDSTONE	21.0	7.0	
417.7			SANDSTONE	17.0	28.0	
400.7			SANDSTONE	3.0	45.0	
397.7			SILTSTONE	2.5	48.0	
395.2			SANDSTONE	13.0	50.5	
382.2			SANDSTONE	6.0	63.5	
376.2	CARBONDALE	COLCHESTER	COAL	1.0	69.5	
375.2			SANDSTONE	4.5	70.5	
370.7			COAL	5.0	75.0	
365.7			SANDSTONE	13.5	80.0	
352.2			SANDSTONE	10.0	93.5	

**MAPID:** 11900001000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 3    **QUARTERS/FOOTAGES:** 220' S line, 800' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.64185    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.993585    **DATE COLLECTED:** 5 / 0 / 1927  
**SURFACE ELEVATION (FT.):** 594.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Drillers Log  
**SOURCE:** SUTHERLAND DRLG CO    **WELL TYPE:** Dry Hole  
**COMMENT:**

MAPID: 11900001000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 3 QUARTERS/FOOTAGES: 220' S line, 800' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.64185 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.993585 DATE COLLECTED:

SURFACE ELEVATION (FT.): 594.0 LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: COMMENT: POOR DESCRIPTION WELL TYPE: Coal Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	ENERGY	GRAY SHALE	60.0	
-	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	99.0	

MAPID: 11900001000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 3 QUARTERS/FOOTAGES: 220' S line, 800' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.64185 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.993585 DATE COLLECTED: 0 / 0 / 1927

SURFACE ELEVATION (FT.): 594.0 LOGGED (FT.): 800.0 LOG TYPE:

SOURCE: SUTHERLAND WELL TYPE: Oil and Gas Test

COMMENT:

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

MAPID: 11900628000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 5 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693302 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.996719 DATE COLLECTED: 10 / 0 / 1956

SURFACE ELEVATION (FT.): 617.0 LOGGED (FT.): 351.0 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	OVERBURDEN COMMENT
313.0	MODESTO	PIASA	LIMESTONE	5.0	304.0
308.0	MODESTO		UNCLASSIFIED	3.0	309.0
305.0	CARBONDALE		UNCLASSIFIED	11.0	312.0
294.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	323.0
289.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	328.0
285.0	CARBONDALE		UNCLASSIFIED	2.0	332.0
283.0	CARBONDALE	BRERETON	LIMESTONE	12.0	334.0
271.0	CARBONDALE	ANNA	BLACK SHALE	2.0	346.0
269.0	CARBONDALE	HERRIN	COAL	3.0	348.0

MAPID: 11900628000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 5 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693302 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.996719 DATE COLLECTED:

SURFACE ELEVATION (FT.): 617.0 LOGGED (FT.): 401.0 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
268.0	MODESTO	PIASA	LIMESTONE	5.0	349.0
263.0	MODESTO		SHALE	2.5	354.0
260.5	CARBONDALE	DANVILLE	COAL	2.0	356.5
258.5	CARBONDALE		SHALE	1.5	358.5
257.0	CARBONDALE	GALUM	LIMESTONE	4.0	360.0
253.0	CARBONDALE		SHALE	2.0	364.0
251.0	CARBONDALE		SHALE	7.0	366.0
244.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	373.0
239.0	CARBONDALE	LAWSON	DARK GRAY SHALE	6.0	378.0
233.0	CARBONDALE	ENERGY	GRAY SHALE	12.0	384.0
221.0	CARBONDALE	HERRIN	COAL	5.0	396.0

MAPID: 11900801000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 6 QUARTERS/FOOTAGES: 530' N line, 138' E line of NW SW SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.70199 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.994004 DATE COLLECTED: 10 / 0 / 1954

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 352.0 LOG TYPE: Electric Log

SOURCE: JANSEN & SPUDICH WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
312.0	MODESTO	PIASA	LIMESTONE	5.0	308.0
307.0	MODESTO		UNCLASSIFIED	4.0	313.0
303.0	CARBONDALE		UNCLASSIFIED	10.0	317.0
293.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	327.0
288.0	CARBONDALE	BRERETON	LIMESTONE	11.0	332.0
277.0	CARBONDALE	ANNA	BLACK SHALE	3.0	343.0
274.0	CARBONDALE	HERRIN	COAL	6.0	346.0

MAPID: 11900592000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 7 QUARTERS/FOOTAGES: 134' N line, 330' E line of SW NW NE  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.70265 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.989501 DATE COLLECTED: 12 / 0 / 1955  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: WILSON, CARLINE 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	5.0	
-	CARBONDALE		UNCLASSIFIED	13.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	BRERETON	LIMESTONE	14.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11924049000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 7 QUARTERS/FOOTAGES: 2375' S line, 1050' E line  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.698054 GEOLOGIST: JACOBSON  
 CONFIDENTIAL: N LATITUDE: 38.983035 DATE COLLECTED: 11 / 28 / 1979  
 SURFACE ELEVATION (FT.): 612.0 LOGGED (FT.): 394.5 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL ND-79-7-38C WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
395.5	MODESTO	CHAPEL	COAL	1.0	216.5
269.0	CARBONDALE	DANVILLE	COAL	1.0	343.0
239.1	CARBONDALE	HERRIN	COAL	6.1	372.9

MAPID: 11924049000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 7    QUARTERS/FOOTAGES: 2375' S line, 1050' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.698054    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.983035    DATE COLLECTED: 11 / 28 / 1979

SURFACE ELEVATION (FT.): 612.0    LOGGED (FT.): 394.5    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-7-38C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
612.0			UNCONSOLIDATED	136.0	0.0
476.0	BOND		GRAY SHALE	36.5	136.0
439.5	BOND	CARTHAGE	LIMESTONE	7.5	172.5
432.0	MODESTO		SHALE	36.0	180.0
396.0	MODESTO	CHAPEL	COAL	0.5	216.0
395.5	MODESTO		SANDY SHALE	6.5	216.5
389.0	MODESTO		GRAY SHALE	106.0	223.0
283.0	MODESTO		SANDY SHALE	5.0	329.0
278.0	MODESTO	PIASA	LIMESTONE	4.5	334.0
273.5	MODESTO		GRAY SHALE	1.5	338.5
272.0	MODESTO		BLACK SHALE	3.0	340.0
269.0	CARBONDALE	DANVILLE	COAL	1.0	343.0
268.0	CARBONDALE		GRAY SHALE	2.0	344.0
266.0	CARBONDALE		SHALE	2.7	346.0
263.3	CARBONDALE		CALCAREOUS SHALE	1.0	348.7
262.3	CARBONDALE		BLACK SHALE	0.6	349.7
261.8	CARBONDALE		SHALE	1.4	350.2
260.4	CARBONDALE		SHALE	1.0	351.6
259.4	CARBONDALE		CORE LOSS	1.9	352.6
257.5	CARBONDALE		CALCAREOUS SHALE	1.2	354.5
256.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	355.7
253.9	CARBONDALE		SHALE	2.4	358.1
251.5	CARBONDALE	BRERETON	LIMESTONE	3.7	360.5
247.8	CARBONDALE	BRERETON	CORE LOSS	0.4	364.2
247.5	CARBONDALE	BRERETON	LIMESTONE	4.7	364.5
242.8	CARBONDALE	BRERETON	LIMESTONE	3.5	369.2
239.3	CARBONDALE		SHALE	0.2	372.7
239.1	CARBONDALE	HERRIN	SHALY COAL	0.2	372.9
238.9	CARBONDALE	HERRIN	COAL	0.5	373.1
238.4	CARBONDALE		CORE LOSS	0.9	373.6
237.5	CARBONDALE	HERRIN	COAL	3.3	374.5
234.2	CARBONDALE	HERRIN	CLAYSTONE	0.1	377.8
234.1	CARBONDALE	HERRIN	COAL	1.1	377.9
233.0	CARBONDALE		SHALE	0.3	379.0
232.7	CARBONDALE		LIMESTONE	4.6	379.3
228.1	CARBONDALE		CORE LOSS	0.6	383.9
227.5	CARBONDALE		LIMESTONE	4.4	384.5
223.1	CARBONDALE		GRAY SHALE	3.4	388.9
219.8	CARBONDALE		LIMESTONE	0.6	392.2

**MAPID:** 11924049000C    **VERSION:** 3    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 7    **QUARTERS/FOOTAGES:** 2375' S line, 1050' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.698054    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.983035    **DATE COLLECTED:** 11 / 28 / 1979  
**SURFACE ELEVATION (FT.):** 612.0    **LOGGED (FT.):** 394.5    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL ND-79-7-38C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
395.5	MODESTO	CHAPEL	COAL	1.0	216.5
269.0	CARBONDALE	DANVILLE	COAL	1.0	343.0
239.1	CARBONDALE	HERRIN	COAL	6.1	372.9

**MAPID:** 11900002000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 8    **QUARTERS/FOOTAGES:** SW SW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.691905    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.978567    **DATE COLLECTED:** 0 / 0 / 1909  
**SURFACE ELEVATION (FT.):** 592.0    **LOGGED (FT.):** 361.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
278.0	MODESTO	PIASA	LIMESTONE	4.5	314.0
273.5	MODESTO		UNCLASSIFIED	5.8	318.5
267.7	CARBONDALE	DANVILLE	COAL	1.0	324.3
266.7	CARBONDALE		UNCLASSIFIED	12.7	325.3
254.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	338.0
250.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.5	341.5
247.0	CARBONDALE	BRERETON	LIMESTONE	11.6	345.0
235.4	CARBONDALE	ANNA	BLACK SHALE	0.4	356.6
235.0	CARBONDALE	HERRIN	COAL	4.0	357.0



MAPID: 11900002000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 8 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.691905

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.978567

DATE COLLECTED:

SURFACE ELEVATION (FT.): 592.0

LOGGED (FT.): 361.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
278.3	MODESTO	PIASA	LIMESTONE	4.5	313.7
273.8	MODESTO		BLACK SHALE	5.9	318.2
267.9	CARBONDALE	DANVILLE	COAL	1.0	324.1
266.9	CARBONDALE		GRAY SHALE	5.9	325.1
261.0	CARBONDALE		SHALE	2.0	331.0
259.0	CARBONDALE	ALLENBY	COAL	0.8	333.0
258.2	CARBONDALE		DARK GRAY SHALE	4.2	333.8
254.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	338.0
251.5	CARBONDALE	LAWSON	GRAY SHALE	4.5	340.5
247.0	CARBONDALE	BRERETON	LIMESTONE	12.0	345.0
235.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	4.0	357.0

MAPID: 11900002000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 8 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.691905

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.978567

DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 592.2

LOGGED (FT.): 433.0

LOG TYPE:

SOURCE: AMELING 0006

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
235.2	CARBONDALE	HERRIN	COAL	2.5	357.0

MAPID: 11900002000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 8    QUARTERS/FOOTAGES: SW SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.691905    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.978567    DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 592.2    LOGGED (FT.): 433.0    LOG TYPE: Drillers Log

SOURCE: H.R. AMELING    6    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
592.2			CLAY	15.0	0.0
577.2			UNCONSOLIDATED	99.6	15.0
477.6			DARK SHALE	10.4	114.6
467.2			DARK SHALE	9.0	125.0
458.2			COAL	3.4	134.0
454.8			CALCAREOUS SHALE	25.6	137.4
429.2			LIMESTONE	1.0	163.0
428.2			SANDY SHALE	23.0	164.0
405.2			LIMESTONE	1.0	187.0
404.2			CALCAREOUS SHALE	6.0	188.0
398.2			LIMESTONE	2.0	194.0
396.2			CALCAREOUS SHALE	20.7	196.0
375.5			LIMESTONE	0.2	216.7
375.4			DARK SHALE	57.5	216.8
317.9			DARK SHALE	7.7	274.3
310.2			LIMESTONE	0.3	282.0
309.9			LIGHT SHALE	2.2	282.3
307.7			DARK SHALE	3.5	284.5
304.2			SHALE	1.0	288.0
303.2			CALCAREOUS SHALE	5.5	289.0
297.7			LIMESTONE	0.3	294.5
297.4			DARK SHALE	12.2	294.8
285.2			SHALE	1.5	307.0
283.7			SHALE	0.5	308.5
283.2			CALCAREOUS SHALE	5.0	309.0
278.2	MODESTO	PIASA	LIMESTONE	4.5	314.0
273.7			BLACK SHALE	5.8	318.5
267.9	CARBONDALE	DANVILLE	COAL	1.0	324.3
266.9	CARBONDALE		CALCAREOUS SHALE	5.8	325.3
261.2	CARBONDALE		DARK SHALE	2.0	331.0
259.2	CARBONDALE	ALLENBY	COAL	0.8	333.0
258.4	CARBONDALE		DARK SHALE	4.2	333.8
254.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	338.0
251.7	CARBONDALE		CALCAREOUS SHALE	4.5	340.5
247.2	CARBONDALE	BRERETON	LIMESTONE	8.5	345.0
238.7	CARBONDALE	BRERETON	LIMESTONE	3.1	353.5
235.6	CARBONDALE	BRERETON	LIMESTONE	0.4	356.6
235.2	CARBONDALE	HERRIN	COAL	2.5	357.0
232.7	CARBONDALE	HERRIN	SHALE	0.7	359.5

232.0	CARBONDALE	HERRIN	COAL	0.8	360.2
231.2			DARK SHALE	2.0	361.0
229.2			LIMESTONE	6.8	363.0
222.4			DARK SHALE	6.0	369.8
216.4			LIMESTONE	1.0	375.8
215.4			CALCAREOUS SHALE	5.5	376.8
209.9			LIMESTONE	2.2	382.3
207.8			LIMESTONE	7.6	384.4
200.2			BLACK SHALE	1.0	392.0
199.2			CALCAREOUS SHALE	5.0	393.0
194.2			SANDY SHALE	28.0	398.0
166.2			DARK SHALE	7.0	426.0

MAPID: 11900003000C    VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 9    QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.672149    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.980227    DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 613.0    LOGGED (FT.): 387.8    LOG TYPE: Drillers Log

SOURCE: AMELING BROS. & CO.    WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
287.0	MODESTO	PIASA	LIMESTONE	5.0	326.0
282.0	MODESTO		UNCLASSIFIED	6.0	331.0
276.0	CARBONDALE	DANVILLE	COAL	2.0	337.0
274.0	CARBONDALE		UNCLASSIFIED	9.0	339.0
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	348.0
259.0	CARBONDALE	ENERGY	UNCLASSIFIED	31.0	354.0
228.0	CARBONDALE	HERRIN	COAL	2.8	385.0

MAPID: 11900003000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 9 QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.672149 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.980227 DATE COLLECTED:

SURFACE ELEVATION (FT.): 613.0 LOGGED (FT.): 387.8 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
295.0	MODESTO	PIASA	LIMESTONE	3.0	318.0	
292.0	MODESTO		SHALE	8.0	321.0	
284.0	CARBONDALE	DANVILLE	COAL	2.0	329.0	
282.0	CARBONDALE		CLAYSTONE	2.0	331.0	
280.0	CARBONDALE		SHALE	7.0	333.0	
273.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	340.0	
267.0	CARBONDALE	ENERGY	SHALE	31.0	346.0	
236.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	10.8	377.0	

MAPID: 11900003000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 9 QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.672149 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.980227 DATE COLLECTED:

SURFACE ELEVATION (FT.): 612.5 LOGGED (FT.): 405.0 LOG TYPE:

SOURCE: AMELING 15 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
227.5	CARBONDALE	HERRIN	COAL	2.8	385.0	

MAPID: 11900003000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 9    QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.672149    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.980227    DATE COLLECTED:

SURFACE ELEVATION (FT.): 612.6    LOGGED (FT.): 405.0    LOG TYPE: Drillers Log

SOURCE: H.R. AMELING PROSPECTING 15    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
612.6			UNCLASSIFIED	45.0	0.0	NO RECORD
567.6			SHALE	11.0	45.0	
556.6			LIMESTONE	3.0	56.0	
553.6			COAL	0.3	59.0	
553.3			SHALE	9.7	59.3	
543.6			LIMESTONE	1.0	69.0	
542.6			SHALE	17.0	70.0	
525.6			LIMESTONE	3.0	87.0	
522.6			SHALE	28.0	90.0	
494.6			LIMESTONE	2.0	118.0	
492.6			SHALE	35.0	120.0	
457.6			SANDSTONE	12.0	155.0	
445.6			LIMESTONE	6.0	167.0	
439.6			SHALE	145.0	173.0	
294.6	MODESTO	PIASA	LIMESTONE	3.0	318.0	
291.6	MODESTO		SHALE	8.0	321.0	
283.6	CARBONDALE	DANVILLE	COAL	2.0	329.0	
281.6	CARBONDALE		UNDERCLAY	2.0	331.0	
279.6	CARBONDALE		SHALE	7.0	333.0	
272.6	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	340.0	
266.6	CARBONDALE		SHALE	31.0	346.0	
235.6	CARBONDALE		COAL	0.2	377.0	
235.4	CARBONDALE		SHALE	7.8	377.2	
227.6	CARBONDALE	HERRIN	COAL	2.8	385.0	
224.8			UNDERCLAY	1.2	387.8	
223.6			SHALE	16.0	389.0	

**MAPID:** 11900260000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 9    **QUARTERS/FOOTAGES:** NE SE NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.667707    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.987773    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 591.3    **LOGGED (FT.):** 379.0    **LOG TYPE:**  
**SOURCE:** AMELING 0009    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
225.3	CARBONDALE	HERRIN	COAL	7.5	366.0	

**MAPID:** 11900260000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 9    **QUARTERS/FOOTAGES:** NE SE NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.667707    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.987773    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 591.0    **LOGGED (FT.):** 343.5    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
255.0	CARBONDALE	HERRIN	COAL	7.5	336.0	

**MAPID:** 11900004000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 10    **QUARTERS/FOOTAGES:** NW NE NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.642441    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.992011    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 580.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Water Well  
**COMMENT:**

MAPID: 11900004000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 10 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.642441

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.992011

DATE COLLECTED:

SURFACE ELEVATION (FT.): 580.0

LOGGED (FT.): 473.3

LOG TYPE: Survey Core Study

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
299.0	MODESTO	PIASA	LIMESTONE	4.3	281.0
294.7	MODESTO		CLAYSTONE & SHALE	5.5	285.3
289.2	CARBONDALE	ENERGY	SILTY SHALE	27.5	290.8
261.7	CARBONDALE	ENERGY	DARK GRAY SHALE	23.0	318.3
238.7	CARBONDALE	ENERGY	SILTY SHALE	61.0	341.3
177.7	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	71.0	402.3

MAPID: 11900004000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 10 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.642441

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.992011

DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 580.2

LOGGED (FT.): 485.0

LOG TYPE:

SOURCE: AMELING 0004

WELL TYPE: Coal Test

COMMENT:

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

MAPID: 11900004000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 10    QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.642441    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.992011    DATE COLLECTED:

SURFACE ELEVATION (FT.): 580.0    LOGGED (FT.): 476.0    LOG TYPE: Drillers Log

SOURCE: H.R. AMELING    4    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.0			UNCONSOLIDATED	2.0	0.0	TOP SOIL
578.0			SAND	23.0	2.0	
555.0			SANDY SHALE	16.0	25.0	
539.0			LIGHT SHALE	7.0	41.0	
532.0			GRAY SHALE	12.0	48.0	
520.0			GRAY SHALE	8.0	60.0	
512.0			CALCAREOUS SHALE	2.0	68.0	
510.0			DARK SHALE	1.5	70.0	
508.5			BLACK SHALE	0.5	71.5	
508.0			UNDERCLAY	8.0	72.0	
500.0			SANDSTONE	10.0	80.0	
490.0			SHALE	2.0	90.0	
488.0			SANDSTONE	12.0	92.0	
476.0			SHALE	9.0	104.0	
467.0			SANDY SHALE	1.0	113.0	
466.0			LIMESTONE	5.0	114.0	
461.0			SANDY SHALE	9.0	119.0	
452.0			GRAY SHALE	9.1	128.0	
442.9			GRAY SHALE	3.0	137.1	
440.0			GRAY SHALE	12.0	140.0	
428.0			SANDSTONE	6.0	152.0	
422.0			DARK SHALE	3.0	158.0	
419.0			DARK SHALE	3.0	161.0	
416.0			SANDSTONE	15.0	164.0	
401.0			SANDY SHALE	23.0	179.0	
378.0			SHALE	15.5	202.0	
362.5			GRAY SHALE	9.5	217.5	
353.0			GRAY SHALE	7.0	227.0	
346.0			BLACK SHALE	2.0	234.0	
344.0			UNDERCLAY	2.0	236.0	
342.0			SANDY SHALE	19.0	238.0	
323.0			DARK SHALE	3.5	257.0	
319.5			UNDERCLAY	0.5	260.5	
319.0			CALCAREOUS SHALE	2.0	261.0	
317.0			LIMESTONE	1.0	263.0	
316.0			LIMESTONE	3.0	264.0	
313.0			LIMESTONE	1.0	267.0	
312.0			COAL	0.2	268.0	
311.8			LIMESTONE	5.8	268.2	



306.0	LIMESTONE	3.3	274.0
302.7	COAL	0.2	277.3
302.5	DARK SHALE	3.5	277.5
299.0	LIMESTONE	4.3	281.0
294.7	CALCAREOUS SHALE	1.7	285.3
293.0	CALCAREOUS SHALE	3.5	287.0
289.5	SHALE	27.5	290.5
262.0	DARK GRAY SHALE	23.0	318.0
239.0	SANDY SHALE	9.0	341.0
230.0	DARK GRAY SHALE	10.0	350.0
220.0	SANDY SHALE	5.0	360.0
215.0	SANDY SHALE	35.0	365.0
180.0	SANDY SHALE	2.0	400.0
178.0	SANDY SHALE	22.0	402.0
156.0	SANDSTONE	23.0	424.0
133.0	SANDSTONE	17.0	447.0
116.0	SANDSTONE	3.0	464.0
113.0	SANDSTONE	6.0	467.0
107.0	SANDSTONE	1.3	473.0
105.7	SANDSTONE	0.7	474.3
105.0	LIMESTONE	1.0	475.0

**MAPID:** 11900005000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 10    **QUARTERS/FOOTAGES:** 500' S line, 700' E line of NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.650594    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.986661    **DATE COLLECTED:** 0 / 0 / 1927  
**SURFACE ELEVATION (FT.):** 606.0    **LOGGED (FT.):** 841.0    **LOG TYPE:**  
**SOURCE:** SUTHERLAND    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900005000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 10    **QUARTERS/FOOTAGES:** 500' S line, 700' E line of NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.650594    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.986661    **DATE COLLECTED:** 0 / 0 / 1927  
**SURFACE ELEVATION (FT.):** 606.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Drillers Log  
**SOURCE:** SUTHERLAND DRLG CO    **WELL TYPE:** Dry Hole  
**COMMENT:**

**MAPID:** 11901215000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 10    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.646915    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.984394    **DATE COLLECTED:** 8 / 0 / 1966  
**SURFACE ELEVATION (FT.):** 605.0    **LOGGED (FT.):** 358.0    **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	OVERBURDEN COMMENT
267.0	MODESTO	PIASA	LIMESTONE	4.0	338.0
263.0	MODESTO		UNCLASSIFIED	3.5	342.0
259.5	CARBONDALE		UNCLASSIFIED	8.5	345.5
251.0	CARBONDALE	HERRIN	COAL	4.0	354.0

**MAPID:** 11901241000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 15    **QUARTERS/FOOTAGES:** 990' S line, 330' E line of SW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.649227    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.965654    **DATE COLLECTED:** 4 / 0 / 1967  
**SURFACE ELEVATION (FT.):** 596.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** MILLAY, DEWEY F.    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

**MAPID:** 11901506000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 15    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SE SE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.642219    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.965787    **DATE COLLECTED:** 8 / 0 / 1967  
**SURFACE ELEVATION (FT.):** 588.0    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** INSALACO FRANK    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

**MAPID:** 11900006000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 16    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.658448    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.971246    **DATE COLLECTED:** 0 / 0 / 1986  
**SURFACE ELEVATION (FT.):** 625.0    **LOGGED (FT.):** 443.0    **LOG TYPE:**  
**SOURCE:** SULLIVN MA0002    **WELL TYPE:** Water Well  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
195.0	CARBONDALE	HERRIN	COAL	8.1	430.0

MAPID: 11900006000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 16 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.658448 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.971246 DATE COLLECTED: 0 / 0 / 1886

SURFACE ELEVATION (FT.): 625.0 LOGGED (FT.): 438.1 LOG TYPE: Drillers Log

SOURCE: SULLIVAN MACHINE CO WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
235.9	MODESTO	PIASA	LIMESTONE	6.0	389.1
229.9	MODESTO		UNCLASSIFIED	2.0	395.1
227.9	CARBONDALE		UNCLASSIFIED	8.0	397.1
219.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	405.1
214.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	5.0	410.1
209.9	CARBONDALE		UNCLASSIFIED	2.0	415.1
207.9	CARBONDALE	BRERETON	LIMESTONE	12.6	417.1
195.3	CARBONDALE	ANNA	BLACK SHALE	0.3	429.7
195.0	CARBONDALE	HERRIN	COAL	8.1	430.0

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MAPID: 11900006000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 16    QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.658448    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.971246    DATE COLLECTED: 0 / 0 / 1886

SURFACE ELEVATION (FT.): 625.0    LOGGED (FT.): 443.0    LOG TYPE: Drillers Log

SOURCE: SULLIVAN MACHINERY CO.    2    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0			UNCONSOLIDATED	1.0	0.0	SOIL
624.0			CLAY	15.0	1.0	
609.0			SAND	14.0	16.0	
595.0			SAND	3.0	30.0	SD AND GRAVEL
592.0			SAND	14.0	33.0	
578.0			CLAY	3.5	47.0	
574.5			LIMESTONE	12.0	50.5	
562.5			SANDY SHALE	5.5	62.5	
557.0			GRAY SHALE	8.0	68.0	
549.0			CALCAREOUS SHALE	14.0	76.0	
535.0			SANDSTONE	8.0	90.0	
527.0			CALCAREOUS SHALE	2.0	98.0	
525.0			GRAY SHALE	30.0	100.0	
495.0			SHALE	11.0	130.0	
484.0			CALCAREOUS SHALE	14.0	141.0	
470.0			LIMESTONE	2.0	155.0	
468.0			LIMESTONE	7.0	157.0	
461.0			BLACK SHALE	2.0	164.0	
459.0			CALCAREOUS SHALE	22.0	166.0	
437.0			CALCAREOUS SHALE	5.7	188.0	
431.3			COAL	0.3	193.7	
431.1			SHALE	0.5	193.9	
430.6			COAL	3.6	194.4	
427.0			DARK SHALE	5.0	198.0	
422.0			CALCAREOUS SHALE	16.0	203.0	
406.0			CALCAREOUS SHALE	8.0	219.0	
398.0			LIMESTONE	7.0	227.0	
391.0			CALCAREOUS SHALE	5.0	234.0	
386.0			GRAY SHALE	10.0	239.0	
376.0			DARK SHALE	22.0	249.0	
354.0			LIGHT SHALE	4.0	271.0	
350.0			SANDSTONE	18.0	275.0	
332.0			SANDY SHALE	55.0	293.0	
277.0			DARK SHALE	25.0	348.0	
252.0			SHALE	6.0	373.0	
246.0			SANDY SHALE	3.0	379.0	
243.0			SHALE	2.0	382.0	
241.0			LIMESTONE	3.0	384.0	
238.0			DARK SHALE	2.0	387.0	

236.0	MODESTO	PIASA	LIMESTONE	6.0	389.0
230.0	MODESTO		CALCAREOUS SHALE	2.0	395.0
228.0	MODESTO		DARK SHALE	8.0	397.0
220.0	MODESTO		LIMESTONE	2.4	405.0
217.6	CARBONDALE	DANVILLE	COAL	0.8	407.4
216.7	CARBONDALE		DARK SHALE	0.3	408.3
216.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.4	408.6
215.0	CARBONDALE		DARK SHALE	7.0	410.0
208.0	CARBONDALE	BRERETON	LIMESTONE	12.0	417.0
196.0	CARBONDALE	BRERETON	LIMESTONE	0.6	429.0
195.4	CARBONDALE		SHALE	0.3	429.6
195.2	CARBONDALE	HERRIN	COAL	1.2	429.8
194.0	CARBONDALE	HERRIN	SHALE	0.4	431.0
193.6	CARBONDALE	HERRIN	COAL	0.8	431.4
192.8	CARBONDALE	HERRIN	SHALE	0.3	432.2
192.6	CARBONDALE	HERRIN	COAL	0.8	432.4
191.7	CARBONDALE	HERRIN	SHALE	0.1	433.3
191.7	CARBONDALE	HERRIN	COAL	0.3	433.3
191.4	CARBONDALE	HERRIN	SHALE	0.6	433.6
190.8	CARBONDALE	HERRIN	COAL	1.6	434.2
189.2	CARBONDALE	HERRIN	SHALE	0.4	435.8
188.8	CARBONDALE	HERRIN	COAL	0.3	436.2
188.6	CARBONDALE	HERRIN	SHALE	0.3	436.4
188.3	CARBONDALE	HERRIN	COAL	1.3	436.7
187.1			UNDERCLAY	1.1	437.9
186.0			SHALE	4.0	439.0

MAPID: 11900230000C    VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 16    QUARTERS/FOOTAGES: NW SE SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.660854    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.965534    DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 605.0    LOGGED (FT.): 440.0    LOG TYPE: Drillers Log

SOURCE:    WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
210.5	MODESTO	PIASA	LIMESTONE	5.0	394.5
205.5	MODESTO		UNCLASSIFIED	2.0	399.5
203.5	CARBONDALE	DANVILLE	COAL	0.5	401.5
203.0	CARBONDALE		UNCLASSIFIED	10.0	402.0
193.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	412.0
187.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	418.0
184.0	CARBONDALE	BRERETON	LIMESTONE	10.0	421.0
174.0	CARBONDALE	ANNA	BLACK SHALE	3.0	431.0
171.0	CARBONDALE	HERRIN	COAL	6.0	434.0

MAPID: 11900230000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 16 QUARTERS/FOOTAGES: NW SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.660854

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.965534

DATE COLLECTED:

SURFACE ELEVATION (FT.): 605.0

LOGGED (FT.): 440.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
210.5	MODESTO	PIASA	LIMESTONE	5.0	394.5
205.5	CARBONDALE	DANVILLE	BONE COAL	2.5	399.5
203.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	7.0	402.0
196.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	12.0	409.0
184.0	CARBONDALE	BRERETON	LIMESTONE	10.0	421.0
174.0	CARBONDALE	ANNA	BLACK SHALE	2.0	431.0
172.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	7.0	433.0

MAPID: 11900230000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 16 QUARTERS/FOOTAGES: NW SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.660854

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.965534

DATE COLLECTED: 0 / 0 / 1904

SURFACE ELEVATION (FT.): 605.2

LOGGED (FT.): 753.0

LOG TYPE:

SOURCE: NEWDOUGLAS0001

WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
171.2	CARBONDALE	HERRIN	COAL	6.0	434.0

MAPID: 11900230000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 16    QUARTERS/FOOTAGES: NW SE SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.660854    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.965534    DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 605.3    LOGGED (FT.): 752.7    LOG TYPE: Drillers Log

SOURCE: BIG MOUND COAL CO.    116    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
605.3			UNCONSOLIDATED	1.0	0.0	SOIL
604.3			CLAY	4.0	1.0	
600.3			UNCONSOLIDATED	2.0	5.0	
598.3			HARD PAN	10.0	7.0	
588.3			UNCONSOLIDATED	29.0	17.0	SD AND GRAVEL
559.3			LIMESTONE	6.0	46.0	
553.3			SANDSTONE	6.0	52.0	
547.3			LIMESTONE	2.0	58.0	
545.3			GRAY SHALE	16.0	60.0	
529.3			CALCAREOUS SHALE	7.0	76.0	
522.3			LIMESTONE	3.0	83.0	
519.3			SANDY SHALE	13.0	86.0	
506.3			SANDY SHALE	5.0	99.0	
501.3			SHALE	15.0	104.0	
486.3			LIMESTONE	2.0	119.0	
484.3			COAL	0.3	121.0	
484.0			UNDERCLAY	3.0	121.3	
481.0			LIMESTONE	0.7	124.3	
480.3			SHALE	9.0	125.0	
471.3			LIMESTONE	1.0	134.0	
470.3			SHALE	10.0	135.0	
460.3	BOND	CARTHAGE	LIMESTONE	9.0	145.0	
451.3	MODESTO		UNDERCLAY	1.0	154.0	
450.3	MODESTO		BLACK SHALE	2.0	155.0	
448.3	MODESTO		SANDY SHALE	12.0	157.0	
436.3	MODESTO		SHALE	9.0	169.0	
427.3	MODESTO		COAL	3.0	178.0	
424.3	MODESTO		COAL	1.5	181.0	
422.8	MODESTO		UNDERCLAY	2.5	182.5	
420.3	MODESTO		SANDY SHALE	7.0	185.0	
413.3	MODESTO		SHALE	8.0	192.0	
405.3	MODESTO		SHALE	12.0	200.0	
393.3	MODESTO		LIMESTONE	0.7	212.0	
392.6	MODESTO		SANDSTONE	3.0	212.7	
389.6	MODESTO		SANDY SHALE	11.0	215.7	
378.6	MODESTO		LIMESTONE	7.3	226.7	
371.3	MODESTO		SANDSTONE	8.0	234.0	
363.3	MODESTO		SANDY SHALE	3.0	242.0	
360.3	MODESTO		SHALE	20.0	245.0	

340.3	MODESTO		LIMESTONE	3.0	265.0
337.3	MODESTO		CALCAREOUS SHALE	2.0	268.0
335.3	MODESTO		COAL	0.7	270.0
334.6	MODESTO		UNDERCLAY	2.3	270.7
332.3	MODESTO		SANDSTONE	19.0	273.0
313.3	MODESTO		SANDY SHALE	38.0	292.0
275.3	MODESTO		SHALE	32.0	330.0
243.3	MODESTO		UNDERCLAY	9.0	362.0
234.3	MODESTO		SANDY SHALE	15.0	371.0
219.3	MODESTO		UNDERCLAY	4.0	386.0
215.3	MODESTO		UNDERCLAY	3.0	390.0
212.3	MODESTO		UNDERCLAY	2.0	393.0
210.3	MODESTO	PIASA	LIMESTONE	5.0	395.0
205.3	CARBONDALE	DANVILLE	COAL	2.5	400.0
202.8	CARBONDALE		UNDERCLAY	7.0	402.5
195.8	CARBONDALE		SHALE	12.0	409.5
183.8	CARBONDALE	BRERETON	LIMESTONE	10.0	421.5
173.8	CARBONDALE	ANNA	SHALE	2.0	431.5
171.8	CARBONDALE	HERRIN	COAL	7.0	433.5
164.8	CARBONDALE		UNDERCLAY	2.0	440.5
162.8	CARBONDALE		SHALE	6.0	442.5
156.8			UNDERCLAY	4.0	448.5
152.8			LIMESTONE	0.5	452.5
152.3			UNDERCLAY	1.5	453.0
150.8			SANDY SHALE	6.0	454.5
144.8			LIMESTONE	2.0	460.5
142.8			DARK SHALE	8.0	462.5
134.8			GRAY SHALE	26.0	470.5
108.8			SANDY SHALE	16.0	496.5
92.8			CALCAREOUS SHALE	15.4	512.5
77.4			BLACK SHALE	0.3	527.9
77.1			COAL	2.4	528.2
74.7			SHALE	0.2	530.6
74.5			COAL	0.2	530.8
74.4			GRAY SHALE	1.8	530.9
72.6			SANDSTONE	17.0	532.7
55.6			DARK SHALE	3.0	549.7
52.6			SANDY SHALE	15.0	552.7
37.6			CALCAREOUS SHALE	9.0	567.7
28.6			DARK SHALE	2.3	576.7
26.4			COAL	1.1	578.9
25.3			SHALE	0.9	580.0
24.4			COAL	2.8	580.9
21.6			DARK SHALE	4.0	583.7
17.6			BLACK SHALE	5.0	587.7
12.6			COAL	1.0	592.7
11.6			DARK SHALE	2.0	593.7
9.6			GRAY SHALE	3.0	595.7



6.6	DARK SHALE	2.0	598.7
4.6	SHALE	1.0	600.7
3.6	GRAY SHALE	1.0	601.7
2.6	DARK SHALE	2.0	602.7
0.6	LIGHT SHALE	6.0	604.7
-5.4	DARK SHALE	6.0	610.7
-11.4	BLACK SHALE	8.0	616.7
-19.4	GRAY SHALE	2.0	624.7
-21.4	SANDSTONE	6.0	626.7
-27.4	SANDY SHALE	8.0	632.7
-35.4	SANDSTONE	11.0	640.7
-46.4	BLACK SHALE	4.0	651.7
-50.4	SANDSTONE	14.0	655.7
-64.4	SANDY SHALE	3.0	669.7
-67.4	BLACK SHALE	20.0	672.7
-87.4	DARK SHALE	10.0	692.7
-97.4	BLACK SHALE	4.0	702.7
-101.4	SANDSTONE	26.0	706.7
-127.4	LIMESTONE	5.0	732.7
-132.4	BLACK SHALE	2.0	737.7
-134.4	SANDSTONE	6.0	739.7
-140.4	DARK SHALE	7.0	745.7

**MAPID:** 11924026000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 16    **QUARTERS/FOOTAGES:** 2598' N line, 1293' W line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.67112    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.970292    **DATE COLLECTED:** 11 / 21 / 1979  
**SURFACE ELEVATION (FT.):** 619.0    **LOGGED (FT.):** 450.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL ND-79-16-40C    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
435.0	MODESTO	CHAPEL	COAL	3.0	184.0	
227.5	CARBONDALE	DANVILLE	COAL	3.0	391.5	
196.3	CARBONDALE	HERRIN	COAL	8.3	422.7	LOGBOOK SAYS "8.3'" & "SOME CORE LOSS"

MAPID: 11924026000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 16    QUARTERS/FOOTAGES: 2598' N line, 1293' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.67112    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.970292    DATE COLLECTED: 11 / 21 / 1979

SURFACE ELEVATION (FT.): 619.0    LOGGED (FT.): 450.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-16-40C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
619.0			UNCONSOLIDATED	62.0	0.0
557.0	BOND		GRAY SHALE	18.0	62.0
539.0	BOND		SANDY SHALE	34.5	80.0
504.5	BOND		GRAY SHALE	25.0	114.5
479.5	BOND	CARTHAGE	LIMESTONE	8.0	139.5
471.5	MODESTO		BLACK SHALE	3.0	147.5
468.5	MODESTO		GRAY SHALE	34.5	150.5
434.0	MODESTO	CHAPEL	COAL	2.0	185.0
432.0	MODESTO		GRAY SHALE	31.0	187.0
401.0	MODESTO		LIMESTONE	6.5	218.0
394.5	MODESTO		GRAY SHALE	36.5	224.5
358.0	MODESTO		COAL	2.0	261.0
356.0	MODESTO		SANDY SHALE	107.5	263.0
248.5	MODESTO		GRAY SHALE	12.0	370.5
236.5	MODESTO	PIASA	LIMESTONE	3.5	382.5
233.0	MODESTO		SHALE	6.5	386.0
226.5	CARBONDALE	DANVILLE	COAL	2.0	392.5
224.5	CARBONDALE		GRAY SHALE	4.0	394.5
220.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	398.5
217.0	CARBONDALE		GRAY SHALE	5.0	402.0
212.0	CARBONDALE	BRERETON	LIMESTONE	14.5	407.0
197.5	CARBONDALE	ANNA	BLACK SHALE	1.2	421.5
196.3	CARBONDALE	HERRIN	COAL	11.3	422.7
185.0	CARBONDALE		GRAY SHALE	9.0	434.0
176.0	CARBONDALE		LIMESTONE	1.7	443.0
174.3	CARBONDALE		BLACK SHALE	1.3	444.7
173.0	CARBONDALE		GRAY SHALE	4.0	446.0

MAPID: 11900008000C    VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 17    QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.686287    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.968536    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 608.8    LOGGED (FT.): 467.0    LOG TYPE:

SOURCE: NEW STAUNTON COAL CO.    0010    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
201.8	CARBONDALE	HERRIN	COAL	0.5	407.0	

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MAPID: 11900008000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 17    QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.686287    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.968536    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 609.7    LOGGED (FT.): 467.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    10    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
609.7			UNCONSOLIDATED	20.0	0.0	SOIL AND CLAY
589.7			SAND	5.0	20.0	SD AND GRAVEL
584.7			SANDY CLAY	43.0	25.0	
541.7			SANDSTONE	2.0	68.0	
539.7			SHALE	8.0	70.0	
531.7			CONGLOMERATE	1.0	78.0	
530.7			SHALE	5.0	79.0	
525.7			CALCAREOUS SHALE	17.0	84.0	
508.7			CALCAREOUS SHALE	15.5	101.0	
493.2			LIMESTONE	8.3	116.5	
484.9			BLACK SHALE	3.3	124.8	
481.7			CALCAREOUS SHALE	17.0	128.0	
464.7			CALCAREOUS SHALE	25.0	145.0	
439.7			GRAY SHALE	14.0	170.0	
425.7			LIMESTONE	5.0	184.0	
420.7			CALCAREOUS SHALE	30.0	189.0	
390.7			CALCAREOUS SHALE	10.0	219.0	
380.7			COAL	0.4	229.0	
380.3			CALCAREOUS SHALE	30.6	229.4	
349.7			CALCAREOUS SHALE	23.0	260.0	
326.7			CALCAREOUS SHALE	24.0	283.0	
302.7			DARK SHALE	2.0	307.0	
300.7			CALCAREOUS SHALE	3.0	309.0	
297.7			CALCAREOUS SHALE	25.0	312.0	
272.7			DARK SHALE	2.0	337.0	
270.7			LIMESTONE	8.5	339.0	
262.2			COAL	0.5	347.5	
261.7			GRAY SHALE	11.0	348.0	
250.7			LIMESTONE	1.5	359.0	
249.2			CALCAREOUS SHALE	1.5	360.5	
247.7			LIMESTONE	8.0	362.0	
239.7			LIMESTONE	5.0	370.0	
234.7			LIMESTONE	11.0	375.0	
223.7			CALCAREOUS SHALE	19.0	386.0	
204.7			LIMESTONE	2.0	405.0	
202.7			COAL	0.5	407.0	
202.2			UNDERCLAY	4.5	407.5	
197.7			CALCAREOUS SHALE	11.0	412.0	
186.7			SANDY SHALE	6.0	423.0	

180.7	GRAY SHALE	10.0	429.0
170.7	CALCAREOUS SHALE	28.0	439.0

**MAPID:** 11900377000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 17    **QUARTERS/FOOTAGES:** SE SE NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.686228    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.970391    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 605.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** AMELING 0016    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN COMMENT
233.0	CARBONDALE	HERRIN	COAL	8.9	372.0

**MAPID:** 11900377000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 17    **QUARTERS/FOOTAGES:** SE SE NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.686228    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.970391    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 609.0    **LOGGED (FT.):** 384.8    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Water Well  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN COMMENT
246.0	CARBONDALE	BRERETON	LIMESTONE	10.0	363.0
236.0	CARBONDALE	ANNA	BLACK SHALE	3.0	373.0
233.0	CARBONDALE	HERRIN	COAL	8.8	376.0

MAPID: 11900600000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 17 QUARTERS/FOOTAGES: 360' S line, 330' W line of NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693127 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.973886 DATE COLLECTED: 4 / 0 / 1956

SURFACE ELEVATION (FT.): 602.0 LOGGED (FT.): 367.0 LOG TYPE: Electric Log

SOURCE: ALLEN, NELSON WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
272.5	MODESTO	PIASA	LIMESTONE	5.0	329.5
267.5	MODESTO		UNCLASSIFIED	3.0	334.5
264.5	CARBONDALE	DANVILLE	COAL	2.0	337.5
262.5	CARBONDALE		UNCLASSIFIED	9.0	339.5
253.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	348.5
250.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	351.5
248.5	CARBONDALE	BRERETON	LIMESTONE	8.5	353.5
240.0	CARBONDALE	HERRIN	COAL	5.0	362.0

MAPID: 11900600000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 17    QUARTERS/FOOTAGES: 360' S line, 330' W line of NW NW

QUADRANGLE: NEW DOUGLAS

LONGITUDE: -89.693127

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.973886

DATE COLLECTED: 4 / 0 / 1956

SURFACE ELEVATION (FT.): 602.0

LOGGED (FT.): 600.0

LOG TYPE: Drillers Log

SOURCE: NELSON ALLEN    3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
602.0			SHALE	45.0	0.0
557.0			SHALE	5.0	45.0
552.0			CALCAREOUS SHALE	10.0	50.0
542.0			SHALE	32.5	60.0
509.5			LIMESTONE	5.0	92.5
504.5			SHALE	5.0	97.5
499.5			LIMESTONE	12.5	102.5
487.0			CALCAREOUS SHALE	2.5	115.0
484.5			SHALE	57.5	117.5
427.0			CALCAREOUS SHALE	7.5	175.0
419.5			SHALE	2.5	182.5
417.0			LIMESTONE	2.5	185.0
414.5			CALCAREOUS SHALE	5.0	187.5
409.5			SHALE	7.5	192.5
402.0			SHALE	5.0	200.0
397.0			CALCAREOUS SHALE	5.0	205.0
392.0			SHALE	15.0	210.0
377.0			CALCAREOUS SHALE	5.0	225.0
372.0			LIMESTONE	2.5	230.0
369.5			CALCAREOUS SHALE	2.5	232.5
367.0			LIMESTONE	2.5	235.0
364.5			CALCAREOUS SHALE	5.0	237.5
359.5			SHALE	7.5	242.5
352.0			CALCAREOUS SHALE	10.0	250.0
342.0			LIMESTONE	2.5	260.0
339.5			CALCAREOUS SHALE	22.5	262.5
317.0			LIMESTONE	5.0	285.0
312.0			SHALE	10.0	290.0
302.0			CALCAREOUS SHALE	7.5	300.0
294.5			SANDY SHALE	2.5	307.5
292.0			SANDY SHALE	5.0	310.0
287.0			SHALE	2.5	315.0
284.5			SHALE	7.5	317.5
277.0	MODESTO	PIASA	LIMESTONE	2.5	325.0
274.5	MODESTO	PIASA	LIMESTONE	2.5	327.5
272.0	CARBONDALE	DANVILLE	COAL	5.0	330.0
267.0	CARBONDALE		SANDY SHALE	2.5	335.0
264.5	CARBONDALE		SANDY SHALE	2.5	337.5
262.0	CARBONDALE		SHALE	2.5	340.0

259.5	CARBONDALE		SANDY SHALE	2.5	342.5
257.0	CARBONDALE		SANDSTONE	2.5	345.0
254.5	CARBONDALE		SANDY SHALE	2.5	347.5
252.0	CARBONDALE		SANDSTONE	7.5	350.0
244.5	CARBONDALE		CALCAREOUS SHALE	2.5	357.5
242.0	CARBONDALE	BRERETON	LIMESTONE	2.5	360.0
239.5	CARBONDALE	HERRIN	COAL	5.0	362.5
234.5			LIMESTONE	2.5	367.5
232.0			LIMESTONE	2.5	370.0
229.5			LIMESTONE	2.5	372.5
227.0			LIMESTONE	2.5	375.0
224.5			SANDY SHALE	5.0	377.5
219.5			CALCAREOUS SHALE	2.5	382.5
217.0			SANDY SHALE	2.5	385.0
214.5			SANDSTONE	5.0	387.5
209.5			SANDY SHALE	5.0	392.5
204.5			CALCAREOUS SHALE	2.5	397.5
202.0			CALCAREOUS SHALE	10.0	400.0
192.0			SHALE	2.5	410.0
189.5			CALCAREOUS SHALE	2.5	412.5
187.0			SHALE	40.0	415.0
147.0			CALCAREOUS SHALE	25.0	455.0
122.0			CALCAREOUS SHALE	2.5	480.0
119.5			CALCAREOUS SHALE	10.0	482.5
109.5			CALCAREOUS SHALE	5.0	492.5
104.5			CALCAREOUS SHALE	5.0	497.5
99.5			BLACK SHALE	7.5	502.5
92.0			SHALE	2.5	510.0
89.5			CALCAREOUS SHALE	2.5	512.5
87.0			LIMESTONE	2.5	515.0
84.5			SHALE	2.5	517.5
82.0			CALCAREOUS SHALE	5.0	520.0
77.0			SHALE	2.5	525.0
74.5			CALCAREOUS SHALE	2.5	527.5
72.0			SHALE	15.0	530.0
57.0			CALCAREOUS SHALE	10.0	545.0
47.0			SHALE	5.0	555.0
42.0			BLACK SHALE	7.5	560.0
34.5			SHALE	2.5	567.5
32.0			CALCAREOUS SHALE	2.5	570.0
29.5			CALCAREOUS SHALE	7.5	572.5
22.0			CALCAREOUS SHALE	2.5	580.0
19.5			CALCAREOUS SHALE	5.0	582.5
14.5			SANDY SHALE	5.0	587.5
9.5			SANDY SHALE	5.0	592.5
4.5			SANDY SHALE	2.5	597.5

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MAPID: 11900714000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.681388 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.976168 DATE COLLECTED: 1 / 0 / 1953

SURFACE ELEVATION (FT.): 606.0 LOGGED (FT.): 392.0 LOG TYPE: Electric Log

SOURCE: DOUGLAS C P WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
259.0	MODESTO	PIASA	LIMESTONE	5.0	347.0
254.0	MODESTO		UNCLASSIFIED	2.5	352.0
251.5	CARBONDALE	DANVILLE	COAL	1.0	354.5
250.5	CARBONDALE		UNCLASSIFIED	11.5	355.5
239.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	367.0
236.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	370.0
234.0	CARBONDALE		UNCLASSIFIED	1.0	372.0
233.0	CARBONDALE	BRERETON	LIMESTONE	12.0	373.0
221.0	CARBONDALE	ANNA	BLACK SHALE	2.0	385.0
219.0	CARBONDALE	HERRIN	COAL	5.0	387.0

MAPID: 11901691000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' E line of SE SE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.686225 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.970374 DATE COLLECTED: 8 / 0 / 1952

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: DOUGLAS C P WELL TYPE: Oil and Gas Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0	
-	MODESTO		UNCLASSIFIED	2.0	
-	CARBONDALE	DANVILLE	COAL	2.0	
-	CARBONDALE		UNCLASSIFIED	9.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE		UNCLASSIFIED	1.0	
-	CARBONDALE	BRERETON	LIMESTONE	12.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.0	
-	CARBONDALE	HERRIN	COAL	6.0	

MAPID: 11901691000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' E line of SE SE NW

QUADRANGLE: NEW DOUGLAS

LONGITUDE: -89.686225

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.970374

DATE COLLECTED: 8 / 0 / 1952

SURFACE ELEVATION (FT.): 610.0

LOGGED (FT.): 700.0

LOG TYPE: Drillers Log

SOURCE: C.P. DOUGLAS 1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
610.0			UNCONSOLIDATED	1.0	0.0	SURFACE
609.0			CLAY	15.0	1.0	
594.0			HARD PAN	12.0	16.0	
582.0			CLAY	4.0	28.0	
578.0			SAND	4.0	32.0	SD AND GRAVEL
574.0			CLAY	18.0	36.0	BLU CLY; BLU
556.0			CLAY	18.0	54.0	
538.0			GRAY SHALE	10.0	72.0	
528.0			GRAY SHALE	26.0	82.0	
502.0			LIMESTONE	10.0	108.0	
492.0			BLACK SHALE	2.0	118.0	
490.0			GRAY SHALE	2.0	120.0	
488.0			GRAY SHALE	24.0	122.0	
464.0			COAL	1.0	146.0	
463.0			GRAY SHALE	35.0	147.0	
428.0			LIMESTONE	5.0	182.0	
423.0			GRAY SHALE	38.0	187.0	
385.0			CALCAREOUS SHALE	10.0	225.0	
375.0			GRAY SHALE	80.0	235.0	
295.0			BROWN SHALE	4.0	315.0	
291.0			LIMESTONE	5.0	319.0	
286.0			GRAY SHALE	14.0	324.0	
272.0	MODESTO	PIASA	LIMESTONE	6.0	338.0	
266.0	MODESTO		GRAY SHALE	2.0	344.0	
264.0	CARBONDALE	DANVILLE	COAL	2.0	346.0	
262.0	CARBONDALE		UNDERCLAY	2.0	348.0	
260.0	CARBONDALE		GRAY SHALE	10.0	350.0	
250.0	CARBONDALE	BRERETON	LIMESTONE	15.0	360.0	
235.0	CARBONDALE	HERRIN	COAL	8.0	375.0	CO AND SH
227.0			UNDERCLAY	9.0	383.0	
218.0			GRAY SHALE	8.0	392.0	
210.0			LIMESTONE	5.0	400.0	
205.0			CALCAREOUS SHALE	7.0	405.0	
198.0			GRAY SHALE	12.0	412.0	
186.0			GRAY SHALE	2.0	424.0	
184.0			LIMESTONE	2.0	426.0	
182.0			GRAY SHALE	40.0	428.0	
142.0			COAL	2.0	468.0	
140.0			SANDY SHALE	10.0	470.0	

130.0	SANDY SHALE	10.0	480.0
120.0	SANDY SHALE	22.0	490.0
98.0	LIMESTONE	4.0	512.0
94.0	BLACK SHALE	4.0	516.0
90.0	LIMESTONE	1.0	520.0
89.0	CALCAREOUS SHALE	2.0	521.0
87.0	LIMESTONE	2.0	523.0
85.0	CALCAREOUS SHALE	5.0	525.0
80.0	GRAY SHALE	7.0	530.0
73.0	SHALE	27.0	537.0
46.0	CALCAREOUS SHALE	4.0	564.0
42.0	COAL	2.0	568.0
40.0	DARK SHALE	1.0	570.0
39.0	SANDSTONE	2.0	571.0
37.0	SANDY SHALE	10.0	573.0
27.0	SANDSTONE	4.0	583.0
23.0	SANDY SHALE	8.0	587.0
15.0	DARK SHALE	11.0	595.0
4.0	SANDY SHALE	4.0	606.0
0.0	SANDSTONE	75.0	610.0
-75.0	LIMESTONE	6.0	685.0
-81.0	LIMESTONE	7.0	691.0
-88.0	SHALE	2.0	698.0

**MAPID:** 11923661000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 17    **QUARTERS/FOOTAGES:** 2540' N line, 1000' W line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.690912    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.969652    **DATE COLLECTED:** 12 / 6 / 1978  
**SURFACE ELEVATION (FT.):** 608.0    **LOGGED (FT.):** 400.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL MOS-77-35    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
263.0	CARBONDALE	DANVILLE	COAL	1.5	345.0
230.5	CARBONDALE	HERRIN	COAL	7.5	377.5

MAPID: 11923661000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 17    QUARTERS/FOOTAGES: 2540' N line, 1000' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.690912    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.969652    DATE COLLECTED: 12 / 6 / 1978

SURFACE ELEVATION (FT.): 608.0    LOGGED (FT.): 400.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-35    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
608.0			UNCONSOLIDATED	66.0	0.0
542.0	BOND		GRAY SHALE	42.0	66.0
500.0	BOND	CARTHAGE	LIMESTONE	9.0	108.0
491.0	MODESTO		BLACK SHALE	3.0	117.0
488.0	MODESTO		GRAY SHALE	55.5	120.0
432.5	MODESTO	CHAPEL	COAL	1.0	175.5
431.5	MODESTO		GRAY SHALE	6.5	176.5
425.0	MODESTO		LIMESTONE	4.0	183.0
421.0	MODESTO		SANDY SHALE	118.0	187.0
303.0	MODESTO		GRAY SHALE	32.0	305.0
271.0	MODESTO	PIASA	LIMESTONE	5.0	337.0
266.0	MODESTO		SHALE	2.0	342.0
264.0	MODESTO		BLACK SHALE	4.0	344.0
260.0	CARBONDALE	DANVILLE	COAL	1.5	348.0
258.5	CARBONDALE		GRAY SHALE	10.5	349.5
248.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	360.0
245.0	CARBONDALE		GRAY SHALE	1.8	363.0
243.2	CARBONDALE	BRERETON	LIMESTONE	12.2	364.8
231.0	CARBONDALE	ANNA	BLACK SHALE	0.5	377.0
230.5	CARBONDALE	HERRIN	COAL	7.5	377.5
223.0	CARBONDALE		GRAY SHALE	0.9	385.0
222.1	CARBONDALE		SHALY LIMESTONE	0.6	385.9
221.5	CARBONDALE		GRAY SHALE	3.5	386.5
218.0	CARBONDALE		LIMESTONE	2.0	390.0
216.0	CARBONDALE		GRAY SHALE	8.0	392.0

MAPID: 11923662000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 17    QUARTERS/FOOTAGES: 600' S line, 20' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.675911    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.96401    DATE COLLECTED: 12 / 4 / 1978

SURFACE ELEVATION (FT.): 612.0    LOGGED (FT.): 430.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-36    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
232.1	CARBONDALE	DANVILLE	COAL	1.0	379.9
205.8	CARBONDALE	HERRIN	COAL	8.5	406.2

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MAPID: 11923662000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 17    QUARTERS/FOOTAGES: 600' S line, 20' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.675911

GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.96401

DATE COLLECTED: 12 / 4 / 1978

SURFACE ELEVATION (FT.): 612.0

LOGGED (FT.): 430.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-36

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
612.0			UNCONSOLIDATED	47.0	0.0
565.0	BOND		GRAY SHALE	28.0	47.0
537.0	BOND		SANDY SHALE	35.5	75.0
501.5	BOND		LIMESTONE	0.5	110.5
501.0	BOND		BLACK SHALE	0.2	111.0
500.8	BOND		GRAY SHALE	25.3	111.2
475.5	BOND	CARTHAGE	LIMESTONE	6.5	136.5
469.0	MODESTO		BLACK SHALE	3.0	143.0
466.0	MODESTO		GRAY SHALE	27.5	146.0
438.5	MODESTO	CHAPEL	COAL	2.5	173.5
436.0	MODESTO		GRAY SHALE	34.5	176.0
401.5	MODESTO		LIMESTONE	6.5	210.5
395.0	MODESTO		GRAY SHALE	34.5	217.0
360.5	MODESTO		COAL	1.0	251.5
359.5	MODESTO		GRAY SHALE	2.5	252.5
357.0	MODESTO		SHALY SANDSTONE	21.0	255.0
336.0	MODESTO		SANDY SHALE	70.0	276.0
266.0	MODESTO		COAL	0.2	346.0
265.8	MODESTO		GRAY SHALE	26.3	346.2
239.5	MODESTO	PIASA	LIMESTONE	3.0	372.5
236.5	MODESTO		SHALE	1.5	375.5
235.0	MODESTO		BLACK SHALE	3.2	377.0
231.8	CARBONDALE	DANVILLE	COAL	1.0	380.2
230.8	CARBONDALE		GRAY SHALE	5.8	381.2
225.0	CARBONDALE		BLACK SHALE	3.0	387.0
222.0	CARBONDALE		GRAY SHALE	2.0	390.0
220.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	392.0
218.0	CARBONDALE		SHALE	2.0	394.0
216.0	CARBONDALE	BRERETON	LIMESTONE	9.0	396.0
207.0	CARBONDALE	ANNA	BLACK SHALE	1.2	405.0
205.8	CARBONDALE	HERRIN	COAL	8.5	406.2
197.3	CARBONDALE		CORE LOSS	0.3	414.7
197.0	CARBONDALE		GRAY SHALE	6.0	415.0
191.0	CARBONDALE		BLACK SHALE	1.5	421.0
189.5	CARBONDALE		GRAY SHALE	5.0	422.5
184.5	CARBONDALE		LIMESTONE	1.0	427.5
183.5	CARBONDALE		GRAY SHALE	1.5	428.5

MAPID: 11923999000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 17    QUARTERS/FOOTAGES: 2546' N line, 624' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.677903

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.9702

DATE COLLECTED: 5 / 15 / 1979

SURFACE ELEVATION (FT.): 611.0    LOGGED (FT.): 420.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-17-4

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
432.0	MODESTO	CHAPEL	COAL	2.0	179.0
245.5	CARBONDALE	DANVILLE	COAL	1.5	365.5
218.3	CARBONDALE	HERRIN	COAL	6.3	392.7

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MAPID: 11923999000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 17 QUARTERS/FOOTAGES: 2546' N line, 624' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.677903 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.9702 DATE COLLECTED: 5 / 15 / 1979

SURFACE ELEVATION (FT.): 611.0 LOGGED (FT.): 420.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-17-4 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
611.0			UNCONSOLIDATED	98.0	0.0
513.0	BOND		GRAY SHALE	9.0	98.0
504.0	BOND		LIMESTONE	1.5	107.0
502.5	BOND		GRAY SHALE	17.5	108.5
485.0	BOND	CARTHAGE	LIMESTONE	7.0	126.0
478.0	MODESTO		BLACK SHALE	3.0	133.0
475.0	MODESTO		GRAY SHALE	31.0	136.0
444.0	MODESTO	CHAPEL	COAL	3.0	167.0
441.0	MODESTO		GRAY SHALE	27.0	170.0
414.0	MODESTO		LIMESTONE	6.0	197.0
408.0	MODESTO		SHALE	36.0	203.0
372.0	MODESTO		COAL	1.0	239.0
371.0	MODESTO		GRAY SHALE	18.0	240.0
353.0	MODESTO		SANDY SHALE	26.0	258.0
327.0	MODESTO		SILTY SHALE	71.5	284.0
255.5	MODESTO	PIASA	LIMESTONE	3.0	355.5
252.5	MODESTO		SHALE	5.5	358.5
247.0	CARBONDALE	DANVILLE	COAL	2.0	364.0
245.0	CARBONDALE		GRAY SHALE	12.0	366.0
233.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	378.0
232.0	CARBONDALE	BANKSTON FORK	SHALE	1.0	379.0
231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	380.0
226.5	CARBONDALE		SHALE	2.5	384.5
224.0	CARBONDALE	BRERETON	LIMESTONE	4.5	387.0
219.5	CARBONDALE	ANNA	BLACK SHALE	1.2	391.5
218.3	CARBONDALE	HERRIN	COAL	8.3	392.7
210.0	CARBONDALE		UNDERCLAY	1.5	401.0
208.5	CARBONDALE		LIMESTONE	3.0	402.5
205.5	CARBONDALE		SHALE	14.5	405.5



MAPID: 11924050000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 17 QUARTERS/FOOTAGES: 255' N line, 2340' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.685932 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.976178 DATE COLLECTED: 12 / 18 / 1979

SURFACE ELEVATION (FT.): 605.0 LOGGED (FT.): 390.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-17-39C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
437.0	MODESTO	CHAPEL	COAL	4.0	168.0
257.0	CARBONDALE	DANVILLE	COAL	1.2	348.0
228.0	CARBONDALE	HERRIN	COAL	7.9	377.0

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MAPID: 11924050000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 17 QUARTERS/FOOTAGES: 255' N line, 2340' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.685932 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.976178 DATE COLLECTED: 12 / 18 / 1979

SURFACE ELEVATION (FT.): 605.0 LOGGED (FT.): 390.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-17-39C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
605.0			UNCONSOLIDATED	115.0	0.0
490.0	BOND	CARTHAGE	LIMESTONE	7.0	115.0
483.0	MODESTO		BLACK SHALE	3.0	122.0
480.0	MODESTO		GRAY SHALE	42.0	125.0
438.0	MODESTO	CHAPEL	COAL	4.3	167.0
433.7	MODESTO		GRAY SHALE	28.7	171.3
405.0	MODESTO		SANDY SHALE	21.0	200.0
384.0	MODESTO		COAL	0.5	221.0
383.5	MODESTO		SANDY SHALE	45.5	221.5
338.0	MODESTO		GRAY SHALE	49.0	267.0
289.0	MODESTO		SHALE	6.0	316.0
283.0	MODESTO		GRAY SHALE	15.0	322.0
268.0	MODESTO	PIASA	SHALY LIMESTONE	5.0	337.0
263.0	MODESTO		GRAY SHALE	5.0	342.0
258.0	MODESTO		SHALE	1.0	347.0
257.0	CARBONDALE	DANVILLE	COAL	2.0	348.0
255.0	CARBONDALE		SHALE	5.0	350.0
250.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	355.0
248.0	CARBONDALE		GRAY SHALE	6.5	357.0
241.5	CARBONDALE	BRERETON	LIMESTONE	13.2	363.5
228.3	CARBONDALE	ANNA	BLACK SHALE	0.4	376.7
227.9	CARBONDALE	HERRIN	COAL	7.8	377.1
220.1	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	384.9
219.3	CARBONDALE		SHALY LIMESTONE	0.6	385.7
218.8	CARBONDALE		CORE LOSS	0.3	386.2
218.5	CARBONDALE		GRAY SHALE	3.5	386.5

MAPID: 11900009000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 18 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.697936 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.970035 DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 353.3 LOG TYPE: Drillers Log

SOURCE: AMELING BROS. & CO. WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
264.3	MODESTO	PIASA	LIMESTONE	6.0	307.7
258.3	MODESTO		UNCLASSIFIED	2.0	313.7
256.3	CARBONDALE	DANVILLE	COAL	0.5	315.7
255.8	CARBONDALE		UNCLASSIFIED	10.2	316.2
245.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.3	326.4
240.3	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.2	331.7
238.1	CARBONDALE	BRERETON	LIMESTONE	13.1	333.9
225.0	CARBONDALE	HERRIN	COAL	6.3	347.0

MAPID: 11900009000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 18 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.697936 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.970035 DATE COLLECTED:

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 353.3 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
263.7	MODESTO	PIASA	LIMESTONE	6.0	308.3
257.7	MODESTO		SHALE	2.0	314.3
255.7	CARBONDALE	DANVILLE	COAL	0.5	316.3
255.2	CARBONDALE		CLAYSTONE & SHALE	3.0	316.8
252.2	CARBONDALE		GRAY SHALE	5.0	319.8
247.2	CARBONDALE	ALLENBY	BONE COAL	1.0	324.8
246.2	CARBONDALE		SILTY SHALE	0.7	325.8
245.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	326.5
240.2	CARBONDALE	LAWSON	GRAY SHALE	2.2	331.8
238.1	CARBONDALE	BRERETON	LIMESTONE	13.1	333.9
225.0	CARBONDALE	HERRIN	COAL	6.3	347.0

MAPID: 11900009000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 18    QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.697936    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.970035    DATE COLLECTED: 0 / 0 / 1919

SURFACE ELEVATION (FT.): 571.5    LOGGED (FT.): 361.0    LOG TYPE:

SOURCE: AMELING 7    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
224.5	CARBONDALE	HERRIN	COAL	6.3	347.0

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MAPID: 11900009000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 18    QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.697936    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.970035    DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 571.0    LOGGED (FT.): 361.0    LOG TYPE: Drillers Log

SOURCE: H.R. AMELING PROSPECTING CO. 7    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
571.0			UNCLASSIFIED	71.2	0.0	NO RECORD
499.8			LIMESTONE	4.7	71.2	
495.2			LIMESTONE	2.4	75.8	
492.7			UNDERCLAY	0.8	78.3	
492.0			BLACK SHALE	2.8	79.0	
489.2			GRAY SHALE	13.2	81.8	
476.0			GRAY SHALE	13.0	95.0	
463.0			GRAY SHALE	9.0	108.0	
454.0			GRAY SHALE	4.0	117.0	
450.0			GRAY SHALE	8.0	121.0	
442.0			BLACK SHALE	2.0	129.0	
440.0			SANDY SHALE	4.0	131.0	
436.0			GRAY SHALE	13.8	135.0	
422.2			GRAY SHALE	13.6	148.8	
408.6			SANDY SHALE	13.6	162.4	
395.0			SANDY SHALE	2.8	176.0	
392.2			SANDSTONE	0.3	178.8	
392.0			SANDY SHALE	9.0	179.0	
383.0			GRAY SHALE	4.4	188.0	
378.6			CONGLOMERATE	1.2	192.4	
377.4			SANDY SHALE	10.1	193.6	
367.3			SANDY SHALE	8.3	203.7	
359.0			SANDY SHALE	13.0	212.0	
346.0			SANDY SHALE	13.0	225.0	
333.0			SANDY SHALE	10.0	238.0	
323.0			GRAY SHALE	11.0	248.0	
312.0			GRAY SHALE	13.5	259.0	
298.5			SHALE	0.2	272.5	
298.3			GRAY SHALE	2.3	272.7	
296.0			GRAY SHALE	2.4	275.0	
293.6			GRAY SHALE	9.1	277.4	
284.5			GRAY SHALE	7.5	286.5	
277.0			GRAY SHALE	8.7	294.0	
268.3			COAL	1.3	302.7	
267.1			UNDERCLAY	2.1	303.9	
265.0			GRAY SHALE	2.0	306.0	
263.0	MODESTO	PIASA	LIMESTONE	6.0	308.0	
257.0	MODESTO		UNCLASSIFIED	2.0	314.0	NO RECORD
255.0	CARBONDALE	DANVILLE	COAL	0.5	316.0	

254.5	CARBONDALE		UNDERCLAY	3.5	316.5
251.0	CARBONDALE		GRAY SHALE	5.0	320.0
246.0	CARBONDALE		UNDERCLAY	1.0	325.0
245.0	CARBONDALE		UNDERCLAY	0.7	326.0
244.3	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	326.7
239.1	CARBONDALE		GRAY SHALE	2.2	331.9
236.9	CARBONDALE	BRERETON	LIMESTONE	5.3	334.1
231.7	CARBONDALE	BRERETON	LIMESTONE	7.8	339.3
223.8	CARBONDALE	HERRIN	COAL	0.3	347.2
223.5	CARBONDALE	HERRIN	COAL	5.9	347.5
217.6			UNDERCLAY	2.8	353.4
214.7			LIMESTONE	4.8	356.3

**MAPID:** 11900010000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 18    **QUARTERS/FOOTAGES:** SW NE SW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.703637    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.966262    **DATE COLLECTED:** 0 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 565.5    **LOGGED (FT.):** 346.0    **LOG TYPE:**  
**SOURCE:** NEW STAUNTON COAL CO.    13    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
233.5	CARBONDALE	HERRIN	COAL	7.8	332.0

**MAPID:** 11900010000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 18    **QUARTERS/FOOTAGES:** SW NE SW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.703637    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.966262    **DATE COLLECTED:** 11 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 566.0    **LOGGED (FT.):** 340.8    **LOG TYPE:** Drillers Log  
**SOURCE:** NEW STAUNTON COAL CO.    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
273.6	MODESTO	PIASA	LIMESTONE	5.0	292.4
268.6	MODESTO		UNCLASSIFIED	5.5	297.4
263.1	CARBONDALE	DANVILLE	COAL	1.0	302.9
262.1	CARBONDALE		UNCLASSIFIED	11.5	303.9
250.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	315.4
245.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	320.4
242.6	CARBONDALE	BRERETON	LIMESTONE	6.0	323.4
236.6	CARBONDALE	ANNA	BLACK SHALE	3.6	329.4
233.0	CARBONDALE	HERRIN	COAL	7.8	333.0

MAPID: 11900010000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 18    QUARTERS/FOOTAGES: SW NE SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.703637    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.966262    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 565.5    LOGGED (FT.): 346.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    13    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
565.5			CLAY	15.0	0.0	CLY AND HDPAN
550.5			SANDY CLAY	45.0	15.0	
505.5			SANDSTONE	4.0	60.0	
501.5			CALCAREOUS SHALE	34.0	64.0	
467.5			COAL	3.3	98.0	
464.2			UNDERCLAY	0.7	101.3	
463.5			CALCAREOUS SHALE	5.0	102.0	
458.5			CALCAREOUS SHALE	10.5	107.0	
448.0			LIMESTONE	11.5	117.5	
436.5			LIMESTONE	10.0	129.0	
426.5			CALCAREOUS SHALE	29.0	139.0	
397.5			CALCAREOUS SHALE	3.5	168.0	
394.0			COAL	0.5	171.5	
393.5			SHALE	3.0	172.0	
390.5			CALCAREOUS SHALE	15.0	175.0	
375.5			CALCAREOUS SHALE	7.0	190.0	
368.5			SANDY SHALE	20.0	197.0	
348.5			CALCAREOUS SHALE	20.0	217.0	
328.5			DARK SHALE	29.0	237.0	DK SH W/LS BANDS
299.5			CALCAREOUS SHALE	19.0	266.0	
280.5			SHALE	7.0	285.0	
273.5	MODESTO	PIASA	LIMESTONE	2.0	292.0	
271.5	MODESTO		CALCAREOUS SHALE	3.0	294.0	
268.5	MODESTO		SHALE	5.5	297.0	
263.0	CARBONDALE	DANVILLE	COAL	1.0	302.5	
262.0	CARBONDALE		UNDERCLAY	1.5	303.5	
260.5	CARBONDALE		CALCAREOUS SHALE	10.0	305.0	
250.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	315.0	
245.5	CARBONDALE		CALCAREOUS SHALE	3.0	320.0	
242.5	CARBONDALE	BRERETON	LIMESTONE	6.0	323.0	
236.5	CARBONDALE	ANNA	DARK SHALE	3.6	329.0	
232.9	CARBONDALE	HERRIN	COAL	6.0	332.6	
226.9	CARBONDALE	HERRIN	ROCK	0.2	338.6	BLU BAND
226.7	CARBONDALE	HERRIN	COAL	1.7	338.8	
225.1			UNDERCLAY	0.6	340.4	
224.5			CALCAREOUS SHALE	5.0	341.0	

MAPID: 11900595000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 18 QUARTERS/FOOTAGES: 480' N line, 303' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.695316 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.975182 DATE COLLECTED: 1 / 0 / 1956

SURFACE ELEVATION (FT.): 601.0 LOGGED (FT.): 363.0 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	OVERBURDEN COMMENT
284.0	MODESTO	PIASA	LIMESTONE	4.0	317.0
280.0	MODESTO		UNCLASSIFIED	5.0	321.0
275.0	CARBONDALE		UNCLASSIFIED	13.0	326.0
262.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	339.0
257.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	343.5
255.5	CARBONDALE		UNCLASSIFIED	0.5	345.5
255.0	CARBONDALE	BRERETON	LIMESTONE	12.0	346.0
243.0	CARBONDALE	ANNA	BLACK SHALE	2.0	358.0
241.0	CARBONDALE	HERRIN	COAL	3.0	360.0

MAPID: 11900596000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 18 QUARTERS/FOOTAGES: 330' S line, 400' W line of SE NE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.695217 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.973744 DATE COLLECTED: 2 / 0 / 1956

SURFACE ELEVATION (FT.): 581.0 LOGGED (FT.): 352.5 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	OVERBURDEN COMMENT
278.0	MODESTO	PIASA	LIMESTONE	3.5	303.0
274.5	MODESTO		UNCLASSIFIED	4.0	306.5
270.5	CARBONDALE		UNCLASSIFIED	14.5	310.5
256.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	325.0
250.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	331.0
248.0	CARBONDALE	BRERETON	LIMESTONE	14.0	333.0
234.0	CARBONDALE	ANNA	BLACK SHALE	2.0	347.0
232.0	CARBONDALE	HERRIN	COAL	3.5	349.0



MAPID: 11923611000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 18    QUARTERS/FOOTAGES: 6' S line, 2016' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.701874    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.961696    DATE COLLECTED: 5 / 15 / 1978

SURFACE ELEVATION (FT.): 603.0    LOGGED (FT.): 420.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-49    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
227.4	CARBONDALE	HERRIN	COAL	6.8	375.6

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MAPID: 11923611000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 18    QUARTERS/FOOTAGES: 6' S line, 2016' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.701874    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.961696    DATE COLLECTED: 5 / 15 / 1978

SURFACE ELEVATION (FT.): 603.0    LOGGED (FT.): 420.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-49    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
603.0			UNCONSOLIDATED	95.0	0.0
508.0	BOND		SHALE	9.5	95.0
498.5	BOND	CARTHAGE	LIMESTONE	8.0	104.5
490.5	MODESTO		BLACK SHALE	3.0	112.5
487.5	MODESTO		GRAY SHALE	52.5	115.5
435.0	MODESTO	CHAPEL	COAL	1.5	168.0
433.5	MODESTO	CHAPEL	GRAY SHALE	0.5	169.5
433.0	MODESTO	CHAPEL	COAL	2.0	170.0
431.0	MODESTO		SHALE	4.0	172.0
427.0	MODESTO		LIMESTONE	6.0	176.0
421.0	MODESTO		GRAY SHALE	33.5	182.0
387.5	MODESTO		COAL	1.5	215.5
386.0	MODESTO		CALCAREOUS SHALE	13.0	217.0
373.0	MODESTO		SANDSTONE	4.0	230.0
369.0	MODESTO		GRAY SHALE	10.0	234.0
359.0	MODESTO		SANDY SHALE	70.0	244.0
289.0	MODESTO		COAL	0.3	314.0
288.7	MODESTO		SHALE	19.7	314.3
269.0	MODESTO	PIASA	LIMESTONE	3.0	334.0
266.0	MODESTO		GRAY SHALE	8.0	337.0
258.0	CARBONDALE	DANVILLE	COAL	1.5	345.0
256.5	CARBONDALE		SILTY SHALE	6.0	346.5
250.5	CARBONDALE		SILTY SHALE	1.9	352.5
248.6	CARBONDALE		CLAYSTONE	5.6	354.4
243.0	CARBONDALE		SILTY SHALE	1.5	360.0
241.5	CARBONDALE	BANKSTON FORK	FOSSILIFEROUS LIMESTONE	4.2	361.5
237.3	CARBONDALE		CALCAREOUS SHALE	2.2	365.7
235.1	CARBONDALE	BRERETON	LIMESTONE	7.7	367.9
227.4	CARBONDALE	HERRIN	COAL	6.8	375.6
220.6	CARBONDALE		CLAYSTONE	3.1	382.4
217.5	CARBONDALE		MUDSTONE	1.9	385.5
215.6	CARBONDALE		CLAYSTONE	0.4	387.4
215.2	CARBONDALE		MUDSTONE	1.3	387.8
213.9	CARBONDALE		GRAY SHALE	2.0	389.1
211.9	CARBONDALE		CLAYSTONE	0.4	391.1
211.5	CARBONDALE		CORE LOSS	0.5	391.5
211.0	CARBONDALE		MUDSTONE	6.0	392.0
205.0	CARBONDALE		GRAY SHALE	5.0	398.0

200.0	CARBONDALE	LIMESTONE	4.0	403.0
196.0	CARBONDALE	GRAY SHALE	13.0	407.0

**MAPID:** 11923663000C    **VERSION:** 1    **PROJECT:** NCRDS95  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 18    **QUARTERS/FOOTAGES:** 2240' N line, 1420' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.699447    **GEOLOGIST:** C.TREWORGY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.970275    **DATE COLLECTED:** 12 / 11 / 1978  
**SURFACE ELEVATION (FT.):** 600.0    **LOGGED (FT.):** 400.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL    MOS-77-31    **WELL TYPE:** Coal Test  
**COMMENT:** HERRIN COAL THICKNESS FROM CORE MEASRMNT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
600.0			CLAY	19.0	0.0	
581.0			SAND & GRAVEL	1.0	19.0	
580.0			CLAY	1.0	20.0	
579.0			SAND & GRAVEL	3.0	21.0	
576.0			CLAY	63.0	24.0	
513.0	MODESTO		SHALE	18.0	87.0	
495.0	MODESTO	CARLINVILLE	LIMESTONE	8.0	105.0	
487.0	MODESTO		SHALE	1.0	113.0	
486.0	MODESTO		BLACK SHALE	3.0	114.0	
483.0	MODESTO		SHALE	54.5	117.0	
428.5	MODESTO	CHAPEL	COAL	2.5	171.5	
426.0	MODESTO		GRAY SHALE	2.5	174.0	
423.5	MODESTO		LIMESTONE	1.0	176.5	
422.5	MODESTO		SHALE	160.0	177.5	
262.5	MODESTO	PIASA	LIMESTONE	9.5	337.5	
253.0	MODESTO		BLACK SHALE	2.0	347.0	
251.0	CARBONDALE	DANVILLE	COAL	1.0	349.0	
250.0	CARBONDALE		SHALE	8.0	350.0	
242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	358.0	
240.5	CARBONDALE		GRAY SHALE	3.0	359.5	
237.5	CARBONDALE	BRERETON	LIMESTONE	14.1	362.5	
223.4	CARBONDALE	HERRIN	COAL	6.8	376.6	
216.6	CARBONDALE		UNKNOWN	2.1	383.4	
214.5	CARBONDALE		GRAY SHALE	3.5	385.5	
211.0	CARBONDALE		LIMESTONE	1.0	389.0	
210.0	CARBONDALE		GRAY SHALE	10.0	390.0	

MAPID: 11900011000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 19 QUARTERS/FOOTAGES: NE SW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.700379 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.957133 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 403.0 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
251.0	MODESTO	PIASA	LIMESTONE	5.0	349.0
246.0	MODESTO		UNCLASSIFIED	3.3	354.0
242.7	CARBONDALE		UNCLASSIFIED	10.7	357.3
232.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	368.0
225.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	375.0
221.0	CARBONDALE	BRERETON	LIMESTONE	18.0	379.0
203.0	CARBONDALE	HERRIN	COAL	6.0	397.0

MAPID: 11900011000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 19 QUARTERS/FOOTAGES: NE SW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.700379 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.957133 DATE COLLECTED:

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 403.0 LOG TYPE: Drillers Log

SOURCE: POOR DESCRIPTION WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
251.0	MODESTO	PIASA	LIMESTONE	5.0	349.0
246.0	MODESTO		GRAY SHALE	9.3	354.0
236.7	CARBONDALE	DANVILLE	COAL	1.7	363.3
235.0	CARBONDALE		GRAY SHALE	3.0	365.0
232.0	CARBONDALE		GRAY SHALE	7.0	368.0
225.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	375.0
216.5	CARBONDALE	BRERETON	LIMESTONE	12.5	383.5
203.0	CARBONDALE	HERRIN	COAL	6.0	397.0

MAPID: 11900011000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 19    QUARTERS/FOOTAGES: NE SW NE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.700379    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.957133    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 600.2    LOGGED (FT.): 407.0    LOG TYPE:

SOURCE: NEW STAUNTON COAL CO.    0011    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
203.2	CARBONDALE	HERRIN	COAL	6.0	397.0	

MAPID: 11900011000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 19    QUARTERS/FOOTAGES: NE SW NE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.700379    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.957133    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 600.2    LOGGED (FT.): 407.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    11    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.2			CLAY	35.0	0.0
565.2			SANDY CLAY	15.0	35.0
550.2			HARD PAN	20.0	50.0
530.2			CALCAREOUS SHALE	20.0	70.0
510.2			LIMESTONE	1.0	90.0
509.2			COAL	0.5	91.0
508.7			SHALE	9.5	91.5
499.2			LIMESTONE	2.0	101.0
497.2			GRAY SHALE	13.0	103.0
484.2			LIMESTONE	7.0	116.0
477.2			BLACK SHALE	2.0	123.0
475.2			GRAY SHALE	17.0	125.0
458.2			GRAY SHALE	32.0	142.0
426.2			GRAY SHALE	10.0	174.0
416.2			CALCAREOUS SHALE	12.0	184.0
404.2			LIMESTONE	6.0	196.0
398.2			CALCAREOUS SHALE	33.0	202.0
365.2			COAL	0.4	235.0
364.8			GRAY SHALE	4.6	235.4
360.2			SANDY SHALE	10.0	240.0
350.2			CALCAREOUS SHALE	20.0	250.0
330.2			SANDY SHALE	33.0	270.0
297.2			GRAY SHALE	25.0	303.0
272.2			CALCAREOUS SHALE	21.0	328.0
251.2	MODESTO	PIASA	LIMESTONE	5.0	349.0
246.2	MODESTO		CALCAREOUS SHALE	9.3	354.0
236.9	CARBONDALE	DANVILLE	COAL	1.7	363.3
235.2	CARBONDALE		GRAY SHALE	3.0	365.0
232.2	CARBONDALE		CALCAREOUS SHALE	7.0	368.0
225.2	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	375.0
212.2	CARBONDALE	BRERETON	LIMESTONE	9.0	388.0
203.2	CARBONDALE	HERRIN	COAL	6.0	397.0
197.2			CALCAREOUS SHALE	4.0	403.0

**MAPID:** 11900258000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 19    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.700303    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.955302    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 595.9    **LOGGED (FT.):** 409.0    **LOG TYPE:**  
**SOURCE:** AMELING 0020    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
195.9	CARBONDALE	HERRIN	COAL	7.3	400.0

**MAPID:** 11900258000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 19    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.700303    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.955302    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 596.0    **LOGGED (FT.):** 407.3    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
211.3	CARBONDALE	BRERETON	LIMESTONE	15.3	384.7
196.0	CARBONDALE	HERRIN	COAL	7.3	400.0

**MAPID:** 11900528000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 19    **QUARTERS/FOOTAGES:** 300' S line, 10' E line of NE SE SE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.69427    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.949717    **DATE COLLECTED:** 0 / 0 / 1945  
**SURFACE ELEVATION (FT.):** 608.0    **LOGGED (FT.):** 425.0    **LOG TYPE:** Drillers Log  
**SOURCE:** NO COMPANY    DD101    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
231.1	MODESTO	PIASA	LIMESTONE	4.2	376.9
226.9	MODESTO		UNCLASSIFIED	3.6	381.1
223.3	CARBONDALE	DANVILLE	COAL	0.5	384.7
222.8	CARBONDALE		UNCLASSIFIED	8.7	385.2
214.1	CARBONDALE	BANKSTON FORK	LIMESTONE	10.9	393.9
203.2	CARBONDALE	ANVIL ROCK	SANDSTONE	0.8	404.8
202.4	CARBONDALE		SHALE	1.6	405.6
200.8	CARBONDALE	BRERETON	LIMESTONE	11.1	407.2
189.7	CARBONDALE	ANNA	BLACK SHALE	0.7	418.3
189.0	CARBONDALE	HERRIN	COAL	6.0	419.0

MAPID: 11923612000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 19    QUARTERS/FOOTAGES: 2560' S line, 2705' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.703984    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.954164    DATE COLLECTED: 6 / 2 / 1978

SURFACE ELEVATION (FT.): 596.0    LOGGED (FT.): 520.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-48    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
431.5	MODESTO	CHAPEL	COAL	1.0	164.5
223.5	CARBONDALE	DANVILLE	COAL	0.5	372.5
193.2	CARBONDALE	HERRIN	COAL	7.1	402.8
91.0			COAL	2.5	505.0

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MAPID: 11923612000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 19    QUARTERS/FOOTAGES: 2560' S line, 2705' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.703984    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.954164    DATE COLLECTED: 6 / 2 / 1978

SURFACE ELEVATION (FT.): 596.0    LOGGED (FT.): 520.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-48    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
596.0			UNCONSOLIDATED	65.0	0.0	
531.0	BOND		GRAY SHALE	28.0	65.0	
503.0	BOND		LIMESTONE	1.0	93.0	
502.0	BOND		COAL	0.2	94.0	
501.8	BOND		SHALE	10.8	94.2	
491.0	BOND		LIMESTONE	1.0	105.0	
490.0	BOND		GRAY SHALE	16.0	106.0	
474.0	BOND	CARTHAGE	LIMESTONE	8.0	122.0	
466.0	MODESTO		BLACK SHALE	3.5	130.0	
462.5	MODESTO		GRAY SHALE	30.0	133.5	
432.5	MODESTO		BLACK SHALE	0.5	163.5	
432.0	MODESTO	CHAPEL	COAL	1.5	164.0	
430.5	MODESTO		GRAY SHALE	34.5	165.5	
396.0	MODESTO		LIMESTONE	5.0	200.0	
391.0	MODESTO		GRAY SHALE	33.0	205.0	
358.0	MODESTO		COAL	1.5	238.0	
356.5	MODESTO		SANDY SHALE	95.5	239.5	
261.0	MODESTO		GRAY SHALE	24.0	335.0	
237.0	MODESTO		SHALE	1.0	359.0	
236.0	MODESTO		GRAY SHALE	3.0	360.0	
233.0	MODESTO	PIASA	LIMESTONE	4.5	363.0	
228.5	MODESTO		BLACK SHALE	4.0	367.5	
224.5	CARBONDALE	DANVILLE	COAL	1.5	371.5	
223.0	CARBONDALE		GRAY SHALE	9.0	373.0	
214.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	382.0	
210.0	CARBONDALE		GRAY SHALE	2.0	386.0	
208.0	CARBONDALE	BRERETON	LIMESTONE	14.7	388.0	
193.3	CARBONDALE		CALCAREOUS SHALE	0.1	402.7	
193.1	CARBONDALE	HERRIN	COAL	7.1	402.9	
186.1	CARBONDALE		SHALE	0.2	409.9	
185.8	CARBONDALE		CORE LOSS	0.4	410.2	
185.5	CARBONDALE		GRAY SHALE	2.5	410.5	
183.0	CARBONDALE		LIMESTONE	6.0	413.0	
177.0	CARBONDALE		GRAY SHALE	8.0	419.0	
169.0	CARBONDALE		LIMESTONE	2.0	427.0	
167.0	CARBONDALE		GRAY SHALE	5.0	429.0	
162.0	CARBONDALE	HANOVER	LIMESTONE	2.0	434.0	UNCERTAIN CORRELATION
160.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	436.0	
158.0	CARBONDALE		GRAY SHALE	67.5	438.0	

90.5	CARBONDALE	LOWELL	COAL	2.5	505.5	UNCERTAIN CORRELATION
88.0	CARBONDALE		GRAY SHALE	12.0	508.0	

**MAPID:** 11900012000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.687588    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.960163    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 591.4    **LOGGED (FT.):** 409.0    **LOG TYPE:**  
**SOURCE:** AMELING 0008    **WELL TYPE:** Water Well  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
194.4	CARBONDALE	HERRIN	COAL	6.2	397.0	

**MAPID:** 11900012000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.687588    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.960163    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 591.0    **LOGGED (FT.):** 403.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
236.5	MODESTO	PIASA	LIMESTONE	4.0	354.5	
232.5	MODESTO		UNCLASSIFIED	6.7	358.5	
225.8	CARBONDALE	DANVILLE	COAL	1.0	365.2	
224.8	CARBONDALE		UNCLASSIFIED	12.5	366.2	
212.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.3	378.7	
208.0	CARBONDALE	BRERETON	LIMESTONE	14.0	383.0	
194.0	CARBONDALE	HERRIN	COAL	6.0	397.0	

MAPID: 11900012000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 20    QUARTERS/FOOTAGES: NE NW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.687588    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.960163    DATE COLLECTED:

SURFACE ELEVATION (FT.): 591.4    LOGGED (FT.): 409.3    LOG TYPE: Drillers Log

SOURCE: H.R. AMELING    8    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
591.4			UNCLASSIFIED	51.8	0.0	NO RECORD
539.6			GRAY SHALE	10.7	51.8	
528.9			SANDY SHALE	12.5	62.5	
516.4			GRAY SHALE	19.0	75.0	
497.4			LIMESTONE	0.8	94.0	
496.6			GRAY SHALE	2.3	94.8	
494.4			COAL	0.5	97.0	
493.9			UNDERCLAY	6.5	97.5	
487.4			CALCAREOUS SHALE	6.0	104.0	
481.4			LIMESTONE	1.0	110.0	
480.4			GRAY SHALE	6.0	111.0	
474.4			GRAY SHALE	7.3	117.0	
467.1			LIMESTONE	7.0	124.3	
460.1			BLACK SHALE	0.8	131.3	
459.2			BLACK SHALE	1.6	132.2	
457.6			GRAY SHALE	22.3	133.8	
435.4			GRAY SHALE	14.8	156.0	
420.6			GRAY SHALE	2.1	170.8	
418.6			COAL	1.3	172.8	
417.2			GRAY SHALE	12.6	174.2	
404.6			COAL	1.8	186.8	
402.9			GRAY SHALE	11.5	188.5	
391.4			COAL	1.5	200.0	
389.9			GRAY SHALE	1.2	201.5	
388.7			CALCAREOUS SHALE	6.3	202.7	
382.4			LIMESTONE	0.3	209.0	
382.1			GRAY SHALE	6.2	209.3	
375.9			GRAY SHALE	14.5	215.5	
361.4			SANDSTONE	16.0	230.0	
345.4			GRAY SHALE	4.0	246.0	
341.4			SANDY SHALE	8.0	250.0	
333.4			SANDY SHALE	2.7	258.0	
330.7			GRAY SHALE	13.8	260.7	
317.0			GRAY SHALE	13.6	274.4	
303.4			GRAY SHALE	14.0	288.0	
289.4			GRAY SHALE	13.5	302.0	
275.9			GRAY SHALE	2.5	315.5	
273.4			GRAY SHALE	5.0	318.0	
268.4			CALCAREOUS SHALE	7.0	323.0	

261.4			GRAY SHALE	6.5	330.0
254.9			GRAY SHALE	13.0	336.5
241.9			GRAY SHALE	3.3	349.5
238.6			GRAY SHALE	3.1	352.8
235.6	MODESTO	PIASA	LIMESTONE	3.0	355.8
232.6	MODESTO	PIASA	LIMESTONE	1.0	358.8
231.6	MODESTO		GRAY SHALE	6.2	359.8
225.4	MODESTO		BLACK SHALE	0.5	366.0
224.9	CARBONDALE	DANVILLE	COAL	1.0	366.5
223.9	CARBONDALE		UNDERCLAY	3.9	367.5
220.0	CARBONDALE		CALCAREOUS SHALE	5.7	371.4
214.3	CARBONDALE		COAL	0.4	377.1
213.9	CARBONDALE		UNDERCLAY	1.5	377.5
212.4	CARBONDALE		LIMESTONE	18.3	379.0
194.1	CARBONDALE	HERRIN	COAL	6.2	397.3
187.9			UNDERCLAY	3.5	403.5
184.4			LIMESTONE	2.3	407.0

**MAPID:** 11900529000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 20    **QUARTERS/FOOTAGES:** SE SE NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.686214    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.955571    **DATE COLLECTED:** 0 / 0 / 1945  
**SURFACE ELEVATION (FT.):** 620.0    **LOGGED (FT.):** 434.2    **LOG TYPE:** Survey Core Study  
**SOURCE:** NO COMPANY    DD105    **WELL TYPE:** Coal Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
231.3	MODESTO	PIASA	LIMESTONE	2.7	388.7	
228.7	MODESTO		GRAY SHALE	7.4	391.3	
221.2	CARBONDALE	DANVILLE	COAL	1.3	398.8	
220.0	CARBONDALE		CLAYSTONE	1.5	400.0	
218.5	CARBONDALE		GRAY SHALE	5.5	401.5	
213.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	407.0	LOWER BENCH
210.7	CARBONDALE	LAWSON	MOTTLED SHALE	1.7	409.3	
209.0	CARBONDALE	BRERETON	LIMESTONE	16.0	411.0	
193.0	CARBONDALE	HERRIN	COAL	7.2	427.0	

MAPID: 11900529000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 20 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.686214 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.955571 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 435.2 LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD105 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
230.1	MODESTO	PIASA	LIMESTONE	2.7	389.9
227.4	MODESTO		UNCLASSIFIED	2.5	392.6
224.9	CARBONDALE		UNCLASSIFIED	8.4	395.1
216.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	403.5
208.7	CARBONDALE	ANVIL ROCK	SANDSTONE	0.7	411.3
208.0	CARBONDALE		SHALE	1.0	412.0
207.0	CARBONDALE	BRERETON	LIMESTONE	9.9	413.0
197.1	CARBONDALE	ANNA	BLACK SHALE	5.1	422.9
192.0	CARBONDALE	HERRIN	COAL	7.2	428.0

MAPID: 11923653000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 20 QUARTERS/FOOTAGES: 292' N line, 1436' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.689634 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.961151 DATE COLLECTED: 11 / 20 / 1978

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 420.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-41 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
431.5			COAL	1.5	168.5
250.0			COAL	2.0	350.0
203.2	CARBONDALE	HERRIN	COAL	7.0	396.8

MAPID: 11923653000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 20    QUARTERS/FOOTAGES: 292' N line, 1436' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.689634    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.961151    DATE COLLECTED: 11 / 20 / 1978

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 420.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-41    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.0			UNCONSOLIDATED	39.0	0.0	
561.0	BOND		LIMESTONE	1.5	39.0	UNCERTAIN CORRELATION
559.5	BOND		SANDY SHALE	54.5	40.5	
505.0	BOND		CALCAREOUS SHALE	25.4	95.0	
479.6	BOND	CARTHAGE	LIMESTONE	7.0	120.4	
472.6	MODESTO		BLACK SHALE	3.6	127.4	
469.0	MODESTO		GRAY SHALE	36.5	131.0	
432.5	MODESTO	CHAPEL	COAL	1.5	167.5	
431.0	MODESTO		CALCAREOUS SHALE	10.0	169.0	
421.0	MODESTO		COAL	1.0	179.0	
420.0	MODESTO		CALCAREOUS SHALE	59.0	180.0	
361.0	MODESTO		SANDY SHALE	4.5	239.0	
356.5	MODESTO		SANDY SHALE	76.5	243.5	
280.0	MODESTO		GRAY SHALE	3.0	320.0	
277.0	MODESTO		CALCAREOUS SHALE	2.0	323.0	
275.0	MODESTO		SANDY SHALE	24.5	325.0	
250.5	MODESTO		COAL	1.5	349.5	
249.0	MODESTO		GRAY SHALE	2.0	351.0	
247.0	MODESTO	PIASA	LIMESTONE	5.0	353.0	
242.0	MODESTO		GRAY SHALE	2.0	358.0	
240.0	MODESTO		BLACK SHALE	3.0	360.0	
237.0	CARBONDALE	DANVILLE	COAL	1.0	363.0	
236.0	CARBONDALE		GRAY SHALE	5.0	364.0	
231.0	CARBONDALE		SHALY LIMESTONE	2.0	369.0	
229.0	CARBONDALE		GRAY SHALE	6.0	371.0	
223.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	8.0	377.0	
215.0	CARBONDALE		SHALE	2.0	385.0	
213.0	CARBONDALE	BRERETON	LIMESTONE	8.0	387.0	
205.0	CARBONDALE	HERRIN	COAL	7.0	395.0	
198.0	CARBONDALE		GRAY SHALE	2.5	402.0	
195.5	CARBONDALE		SHALY LIMESTONE	4.5	404.5	
191.0	CARBONDALE		GRAY SHALE	9.8	409.0	
181.2	CARBONDALE		LIMESTONE	1.2	418.8	

MAPID: 11900007000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 21 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.672386 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.961506 DATE COLLECTED: 0 / 0 / 1908

SURFACE ELEVATION (FT.): 613.7 LOGGED (FT.): 452.0 LOG TYPE:

SOURCE: SCHALLNBRG WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
167.7	CARBONDALE	HERRIN	COAL	6.8	446.0	

MAPID: 11900007000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 21 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.672386 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.961506 DATE COLLECTED: 0 / 0 / 1908

SURFACE ELEVATION (FT.): 614.0 LOGGED (FT.): 452.8 LOG TYPE: Drillers Log

SOURCE: SCHALLENBERG LOUIS WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
212.6	MODESTO	PIASA	LIMESTONE	4.0	401.4	
208.6	MODESTO		UNCLASSIFIED	6.0	405.4	
202.6	CARBONDALE	DANVILLE	COAL	3.0	411.4	
199.6	CARBONDALE		UNCLASSIFIED	11.0	414.4	
188.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	425.4	
182.6	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.6	431.4	
181.0	CARBONDALE	BRERETON	LIMESTONE	11.5	433.0	
169.5	CARBONDALE	ANNA	BLACK SHALE	1.5	444.5	
168.0	CARBONDALE	HERRIN	COAL	6.8	446.0	

MAPID: 11900007000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.672386    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.961506    DATE COLLECTED: 0 / 0 / 1908

SURFACE ELEVATION (FT.): 613.8    LOGGED (FT.): 452.8    LOG TYPE: Drillers Log

SOURCE: LOUIS SCHALLENBERG    1    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
613.8			UNCONSOLIDATED	1.0	0.0	
612.8			SAND	29.0	1.0	SD AND GRAVEL
583.8			SAND	6.0	30.0	
577.8			SANDY CLAY	11.0	36.0	
566.8			SAND	24.0	47.0	
542.8			LIMESTONE	3.7	71.0	
539.1			CALCAREOUS SHALE	1.0	74.7	
538.1			SHALE	16.4	75.7	
521.7			GRAY SHALE	36.0	92.1	
485.7			GRAY SHALE	2.3	128.1	
483.5			COAL	1.1	130.3	
482.4			UNDERCLAY	3.0	131.4	
479.4			SANDY SHALE	5.1	134.4	
474.3			UNDERCLAY	3.5	139.5	
470.8			GRAY SHALE	5.0	143.0	
465.8			DARK SHALE	6.0	148.0	
459.8			LIMESTONE	7.0	154.0	
452.8			BLACK SHALE	2.1	161.0	
450.7			SHALE	2.4	163.1	
448.3			DARK SHALE	16.0	165.5	
432.3			SANDY SHALE	18.0	181.5	
414.3			COAL	2.0	199.5	
412.3			UNDERCLAY	2.0	201.5	
410.3			SANDY SHALE	15.0	203.5	
395.3			LIMESTONE	0.2	218.5	
395.1			SANDY SHALE	12.0	218.7	
383.1			GRAY SHALE	3.6	230.7	
379.5			LIMESTONE	6.0	234.3	
373.5			DARK SHALE	12.3	240.3	
361.2			LIMESTONE	0.2	252.6	
361.0			DARK SHALE	6.0	252.8	
355.0			DARK SHALE	22.0	258.8	
333.0			LIMESTONE	2.0	280.8	
331.0			SHALE	10.0	282.8	
321.0			DARK SHALE	4.0	292.8	
317.0			GRAY SHALE	11.0	296.8	
306.0			SANDY SHALE	2.0	307.8	
304.0			DARK SHALE	23.0	309.8	
281.0			SHALE	34.0	332.8	



247.0			LIMESTONE	2.0	366.8	
245.0			COAL	0.3	368.8	
244.7			UNDERCLAY	5.4	369.1	
239.3			SANDY SHALE	7.0	374.5	
232.3			GRAY SHALE	19.0	381.5	
213.3	MODESTO	PIASA	LIMESTONE	2.7	400.5	
210.6	MODESTO	PIASA	SHALE	2.0	403.2	
208.6	MODESTO	PIASA	LIMESTONE	0.3	405.2	
208.3	MODESTO		GRAY SHALE	6.0	405.5	
202.3	CARBONDALE	DANVILLE	COAL	0.5	411.5	
201.8	CARBONDALE	DANVILLE	COAL	2.5	412.0	
199.3	CARBONDALE		UNDERCLAY	2.0	414.5	
197.3	CARBONDALE		GRAY SHALE	5.0	416.5	
192.3	CARBONDALE		DARK SHALE	8.0	421.5	
184.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	429.5	
182.3	CARBONDALE		GRAY SHALE	1.6	431.5	
180.7	CARBONDALE	BRERETON	LIMESTONE	11.5	433.1	
169.2	CARBONDALE	HERRIN	COAL	1.5	444.6	CO W/ SOME SH
167.7	CARBONDALE	HERRIN	COAL	6.8	446.1	

MAPID: 11900530000C    VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: NW SW SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.665137

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.950499

DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 606.0    LOGGED (FT.): 458.8

LOG TYPE: Survey Core Study

SOURCE: NO COMPANY    DD104

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
214.5	MODESTO	PIASA	LIMESTONE	5.0	391.5	
209.5	MODESTO		VARRIGATED SHALE	15.0	396.5	
194.5	CARBONDALE		CLAYSTONE	2.0	411.5	
192.5	CARBONDALE		SILTY SHALE	2.0	413.5	
190.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.0	415.5	LOWER BENCH
186.5	CARBONDALE	LAWSON	SILTY SHALE	6.0	419.5	
180.5	CARBONDALE	LAWSON	COAL	1.0	425.5	
179.5	CARBONDALE	LAWSON	CLAYSTONE	3.0	426.5	
176.5	CARBONDALE	LAWSON	DARK GRAY SHALE	2.0	429.5	
174.5	CARBONDALE	CONANT	LIMESTONE	2.0	431.5	
172.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	433.5	
171.5	CARBONDALE		CLAYSTONE	3.5	434.5	
168.0	CARBONDALE	BRERETON	LIMESTONE	12.4	438.0	
155.6	CARBONDALE	ANNA	BLACK SHALE	0.6	450.4	
155.0	CARBONDALE	HERRIN	COAL	7.8	451.0	

MAPID: 11900530000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 21 QUARTERS/FOOTAGES: NW SW SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.665137 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.950499 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 606.0 LOGGED (FT.): 458.8 LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD104 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
190.5	MODESTO	PIASA	LIMESTONE	4.0	415.5
186.5	MODESTO		UNCLASSIFIED	2.0	419.5
184.5	CARBONDALE		UNCLASSIFIED	8.0	421.5
176.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	429.5
172.5	CARBONDALE	ANVIL ROCK	SANDSTONE	0.5	433.5
172.0	CARBONDALE	JAMESTOWN	COAL	0.5	434.0
171.5	CARBONDALE		SHALE	3.5	434.5
168.0	CARBONDALE	BRERETON	LIMESTONE	12.4	438.0
155.6	CARBONDALE	ANNA	BLACK SHALE	0.6	450.4
155.0	CARBONDALE	HERRIN	COAL	7.8	451.0

MAPID: 11900530000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: NW SW SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.665137    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.950499    DATE COLLECTED: 3 / 0 / 1945

SURFACE ELEVATION (FT.): 605.5    LOGGED (FT.): 461.0    LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 104    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
605.5			CLAY	20.0	0.0
585.5			SANDY CLAY	10.0	20.0
575.5			SANDY CLAY	32.0	30.0
543.5			SANDSTONE	11.0	62.0
532.5			LIMESTONE	1.0	73.0
531.5			GRAY SHALE	6.0	74.0
525.5			BLACK SHALE	4.0	80.0
521.5			GRAY SILTSTONE	18.0	84.0
503.5			GRAY SHALE	5.0	102.0
498.5			SANDY SHALE	19.0	107.0
479.5			DARK GRAY SHALE	12.0	126.0
467.5			LIMESTONE	1.0	138.0
466.5			UNDERCLAY	7.0	139.0
459.5			LIMESTONE	4.0	146.0
455.5			GRAY SHALE	11.0	150.0
444.5			LIMESTONE	1.0	161.0
443.5			LIMESTONE	6.0	162.0
437.5			BLACK SHALE	5.0	168.0
432.5			SANDSTONE	6.0	173.0
426.5			SHALE	3.0	179.0
423.5			GRAY SHALE	14.0	182.0
409.5			SANDSTONE	2.0	196.0
407.5			SANDSTONE	3.0	198.0
404.5			SANDSTONE	13.0	201.0
391.5			BLACK SHALE	1.0	214.0
390.5			COAL	1.0	215.0
389.5			UNDERCLAY	1.0	216.0
388.5			GRAY SHALE	35.0	217.0
353.5			COAL	1.0	252.0
352.5			GRAY SHALE	1.0	253.0
351.5			COAL	0.5	254.0
351.0			GRAY SHALE	6.5	254.5
344.5			SANDSTONE	29.0	261.0
315.5			SANDSTONE	62.0	290.0
253.5			GRAY SHALE	2.0	352.0
251.5			SANDSTONE	2.0	354.0
249.5			LIMESTONE	1.0	356.0
248.5			GRAY SHALE	3.0	357.0
245.5			SANDSTONE	1.0	360.0

244.5			GRAY SHALE	3.0	361.0
241.5			SANDSTONE	2.0	364.0
239.5			GRAY SHALE	17.0	366.0
222.5			GRAY SHALE	3.0	383.0
219.5			SHALE	4.0	386.0
215.5			GRAY SHALE	1.0	390.0
214.5	MODESTO	PIASA	LIMESTONE	2.0	391.0
212.5	MODESTO	PIASA	LIMESTONE	3.0	393.0
209.5			CALCAREOUS SHALE	9.0	396.0
200.5			SHALE	2.0	405.0
198.5			CALCAREOUS SHALE	4.0	407.0
194.5			UNDERCLAY	2.0	411.0
192.5			SANDY SHALE	2.0	413.0
190.5			LIMESTONE	4.0	415.0
186.5			SANDY SHALE	6.0	419.0
180.5	CARBONDALE	DANVILLE	COAL	1.0	425.0
179.5	CARBONDALE		GRAY SHALE	3.0	426.0
176.5	CARBONDALE		DARK GRAY SHALE	2.0	429.0
174.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	431.0
172.5	CARBONDALE		SHALE	0.5	433.0
172.0	CARBONDALE	JAMESTOWN	COAL	0.5	433.5
171.5	CARBONDALE		UNDERCLAY	3.5	434.0
168.0	CARBONDALE	BRERETON	LIMESTONE	0.5	437.5
167.5	CARBONDALE	BRERETON	LIMESTONE	11.9	438.0
155.6	CARBONDALE		SHALE	0.6	449.9
155.0	CARBONDALE	HERRIN	COAL	7.8	450.5
147.2			BLACK SHALE	1.0	458.3
146.2			UNDERCLAY	1.7	459.3

MAPID: 11923613000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: 1340' N line, 2205' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.667932

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.958843

DATE COLLECTED: 6 / 1 / 1978

SURFACE ELEVATION (FT.): 615.0    LOGGED (FT.): 460.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-43

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
416.5	MODESTO	CHAPEL	COAL	2.8	198.5
203.0	CARBONDALE	DANVILLE	COAL	2.0	412.0
178.0	CARBONDALE	HERRIN	COAL	7.2	437.0

MAPID: 11923613000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: 1340' N line, 2205' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.667932    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.958843    DATE COLLECTED: 6 / 1 / 1978

SURFACE ELEVATION (FT.): 615.0    LOGGED (FT.): 460.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-43    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0			UNCONSOLIDATED	41.0	0.0	
574.0	BOND		SHALE	20.0	41.0	
554.0	BOND		SANDSTONE	2.5	61.0	
551.5	BOND		LIMESTONE	6.5	63.5	
545.0	BOND		SHALY SANDSTONE	6.0	70.0	
539.0	BOND		SANDSTONE	4.0	76.0	
535.0	BOND		SANDY SHALE	5.0	80.0	
530.0	BOND		GRAY SHALE	18.0	85.0	
512.0	BOND		SANDY SHALE	10.0	103.0	
502.0	BOND		SANDSTONE/SHALE	7.0	113.0	
495.0	BOND		GRAY SHALE	17.5	120.0	
477.5	BOND		LIMESTONE	1.5	137.5	UNCERTAIN CORRELATION
476.0	BOND		BLACK SHALE	2.5	139.0	
473.5	BOND		GRAY SHALE	7.0	141.5	
466.5	BOND		GRAY SHALE	13.5	148.5	
453.0	BOND	CARTHAGE	LIMESTONE	7.0	162.0	
446.0	MODESTO		BLACK SHALE	2.0	169.0	
444.0	MODESTO		GRAY SHALE	28.0	171.0	
416.0	MODESTO	CHAPEL	COAL	2.5	199.0	
413.5	MODESTO		SANDY SHALE	10.5	201.5	
403.0	MODESTO		SANDSTONE	3.0	212.0	
400.0	MODESTO		SANDY SHALE	26.0	215.0	
374.0	MODESTO		LIMESTONE	5.0	241.0	
369.0	MODESTO		SANDY SHALE	9.0	246.0	
360.0	MODESTO		GRAY SHALE	32.0	255.0	
328.0	MODESTO		SANDY SHALE	62.0	287.0	
266.0	MODESTO		SHALE	28.0	349.0	
238.0	MODESTO		SANDY SHALE	13.0	377.0	
225.0	MODESTO		SHALE	8.0	390.0	
217.0	MODESTO	PIASA	LIMESTONE	3.0	398.0	
214.0	MODESTO		GRAY SHALE	2.0	401.0	
212.0	MODESTO		BLACK SHALE	4.0	403.0	
208.0	CARBONDALE	DANVILLE	COAL	1.5	407.0	
206.5	CARBONDALE		GRAY SHALE	19.0	408.5	
187.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	427.5	
185.5	CARBONDALE		GRAY SHALE	2.0	429.5	
183.5	CARBONDALE	BRERETON	LIMESTONE	4.0	431.5	
179.5	CARBONDALE	ANNA	BLACK SHALE	1.5	435.5	
178.0	CARBONDALE	HERRIN	COAL	7.2	437.0	

170.8	CARBONDALE	UNDERCLAY	1.8	444.2
169.0	CARBONDALE	CORE LOSS	0.1	446.0
169.0	CARBONDALE	UNDERCLAY	5.0	446.0
164.0	CARBONDALE	LIMESTONE	1.0	451.0
163.0	CARBONDALE	GRAY SHALE	8.0	452.0

**MAPID:** 11923664000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 21    **QUARTERS/FOOTAGES:** 1356' N line, 50' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.657547    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.959042    **DATE COLLECTED:** 12 / 19 / 1978  
**SURFACE ELEVATION (FT.):** 602.0    **LOGGED (FT.):** 452.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL MOS-77-61    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
404.0	MODESTO	CHAPEL	COAL	2.5	198.0
200.0	CARBONDALE	DANVILLE	COAL	2.0	402.0
175.8	CARBONDALE	HERRIN	COAL	10.1	426.2

MAPID: 11923664000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: 1356' N line, 50' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.657547    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.959042    DATE COLLECTED: 12 / 19 / 1978

SURFACE ELEVATION (FT.): 602.0    LOGGED (FT.): 452.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-61    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
602.0			UNCONSOLIDATED	54.0	0.0
548.0	BOND		LIMESTONE	5.0	54.0
543.0	BOND		GRAY SHALE	7.0	59.0
536.0	BOND		CALCAREOUS SANDSTONE	4.0	66.0
532.0	BOND		GRAY SHALE	59.0	70.0
473.0	BOND		LIMESTONE	1.5	129.0
471.5	BOND		GRAY SHALE	25.0	130.5
446.5	BOND	CARTHAGE	LIMESTONE	6.5	155.5
440.0	MODESTO		BLACK SHALE	3.5	162.0
436.5	MODESTO		GRAY SHALE	32.0	165.5
404.5	MODESTO	CHAPEL	COAL	3.0	197.5
401.5	MODESTO		SANDY SHALE	46.5	200.5
355.0	MODESTO		LIMESTONE	1.0	247.0
354.0	MODESTO		GRAY SHALE	1.5	248.0
352.5	MODESTO		LIMESTONE	1.0	249.5
351.5	MODESTO		GRAY SHALE	113.5	250.5
238.0	MODESTO		SHALE	7.0	364.0
231.0	MODESTO		GRAY SHALE	18.3	371.0
212.7	MODESTO	PIASA	LIMESTONE	1.3	389.3
211.4	MODESTO		GRAY SHALE	0.0	390.6
197.1	CARBONDALE	DANVILLE	COAL	0.7	404.9
196.4	CARBONDALE		CALCAREOUS SHALE	10.4	405.6
186.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	416.0
185.2	CARBONDALE		SHALE	1.9	416.8
183.3	CARBONDALE	BRERETON	LIMESTONE	5.8	418.7
177.5	CARBONDALE	ANNA	BLACK SHALE	1.5	424.5
176.0	CARBONDALE	HERRIN	COAL	10.0	426.0
166.0	CARBONDALE		GRAY SHALE	3.0	436.0
163.0	CARBONDALE		CALCAREOUS SHALE	13.0	439.0

MAPID: 11924051000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: 70' S line, 20' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.675185

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.947704

DATE COLLECTED: 12 / 3 / 1979

SURFACE ELEVATION (FT.): 615.0    LOGGED (FT.): 480.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-21-41C

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
399.0	MODESTO	CHAPEL	COAL	1.3	216.0
190.0	CARBONDALE	DANVILLE	COAL	1.5	425.0
158.7	CARBONDALE	HERRIN	COAL	5.9	456.3

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MAPID: 11924051000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: 70' S line, 20' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.675185

GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.947704

DATE COLLECTED: 12 / 3 / 1979

SURFACE ELEVATION (FT.): 615.0

LOGGED (FT.): 480.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-21-41C

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0			UNCONSOLIDATED	67.0	0.0	
548.0	BOND		SHALE	3.0	67.0	
545.0	BOND		LIMESTONE	8.0	70.0	
537.0	BOND		SHALE	3.0	78.0	
534.0	BOND		SANDY SHALE	65.0	81.0	
469.0	BOND		LIMESTONE	1.0	146.0	
468.0	BOND		COAL	0.5	147.0	UNCERTAIN CORRELATION
467.5	BOND		GRAY SHALE	24.0	147.5	
443.5	BOND	CARTHAGE	LIMESTONE	7.0	171.5	
436.5	MODESTO		BLACK SHALE	3.0	178.5	
433.5	MODESTO		GRAY SHALE	33.5	181.5	
400.0	MODESTO	CHAPEL	COAL	2.0	215.0	
398.0	MODESTO		SANDY SHALE	43.0	217.0	
355.0	MODESTO		SANDY SHALE	46.0	260.0	
309.0	MODESTO		SANDY SHALE	83.0	306.0	
226.0	MODESTO		SHALE	11.5	389.0	
214.5	MODESTO		SANDY SHALE	15.0	400.5	
199.5	MODESTO	PIASA	LIMESTONE	5.5	415.5	
194.0	MODESTO		GRAY SHALE	5.0	421.0	
189.0	CARBONDALE	DANVILLE	COAL	1.0	426.0	
188.0	CARBONDALE		GRAY SHALE	12.5	427.0	
175.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	439.5	
173.0	CARBONDALE		GRAY SHALE	1.0	442.0	
172.0	CARBONDALE	BRERETON	LIMESTONE	13.0	443.0	
159.0	CARBONDALE	ANNA	BLACK SHALE	0.3	456.0	
158.7	CARBONDALE	HERRIN	COAL	5.9	456.3	
152.8	CARBONDALE		SHALE	0.8	462.2	
152.0	CARBONDALE		CORE LOSS	1.0	463.0	
151.0	CARBONDALE		GRAY SHALE	16.0	464.0	

MAPID: 11924052000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 21 QUARTERS/FOOTAGES: 60' N line, 25' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.657541 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.96262 DATE COLLECTED: 12 / 19 / 1979

SURFACE ELEVATION (FT.): 602.0 LOGGED (FT.): 454.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-21-65C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
418.0	MODESTO	CHAPEL	COAL	2.0	184.0	
199.0	CARBONDALE	DANVILLE	COAL	1.0	403.0	
176.5	CARBONDALE	HERRIN	COAL	4.5	425.5	ESTIMATE DUE TO CORE LOSS
168.0	CARBONDALE	HERRIN	COAL	1.0	434.0	ESTIMATE DUE TO CORE LOSS

MAPID: 11924052000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 21    QUARTERS/FOOTAGES: 60' N line, 25' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.657541

GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.96262

DATE COLLECTED: 12 / 19 / 1979

SURFACE ELEVATION (FT.): 602.0    LOGGED (FT.): 454.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-21-65C

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
602.0			UNCONSOLIDATED	47.0	0.0
555.0	BOND		LIMESTONE	6.5	47.0
548.5	BOND		GRAY SHALE	6.5	53.5
542.0	BOND		GRAY SHALE	62.0	60.0
480.0	BOND		LIMESTONE	1.5	122.0
478.5	BOND		GRAY SHALE	21.5	123.5
457.0	BOND	CARTHAGE	LIMESTONE	7.0	145.0
450.0	BOND		BLACK SHALE	3.0	152.0
447.0	BOND		GRAY SHALE	27.0	155.0
420.0	MODESTO	CHAPEL	COAL	2.0	182.0
418.0	MODESTO		GRAY SHALE	11.5	184.0
406.5	MODESTO		SHALY LIMESTONE	4.5	195.5
402.0	MODESTO		GRAY SHALE	24.0	200.0
378.0	MODESTO		LIMESTONE	6.0	224.0
372.0	MODESTO		GRAY SHALE	90.0	230.0
282.0	MODESTO		SANDY SHALE	54.0	320.0
228.0	MODESTO		CALCAREOUS SHALE	11.0	374.0
217.0	MODESTO	PIASA	LIMESTONE	3.0	385.0
214.0	MODESTO		SHALE	14.0	388.0
200.0	CARBONDALE	DANVILLE	COAL	1.0	402.0
199.0	CARBONDALE		GRAY SHALE	9.5	403.0
189.5	CARBONDALE	BANKSTON FORK	LIMESTONE	0.6	412.5
188.9	CARBONDALE		SHALE	1.7	413.1
187.2	CARBONDALE	BRERETON	LIMESTONE	9.2	414.8
178.0	CARBONDALE	ANNA	BLACK SHALE	1.8	424.0
176.2	CARBONDALE	HERRIN	COAL	4.9	425.8
171.3	CARBONDALE	HERRIN	SHALE	2.3	430.7
169.0	CARBONDALE	HERRIN	COAL	1.4	433.0
167.6	CARBONDALE		GRAY SHALE	1.6	434.4
166.0	CARBONDALE		LIMESTONE	1.0	436.0
165.0	CARBONDALE		GRAY SHALE	17.0	437.0

MAPID: 11900531000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 22 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.651292 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.948913 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 476.2 LOG TYPE: Survey Core Study

SOURCE: NO COMPANY DD114 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
173.4	MODESTO	PIASA	LIMESTONE	4.6	421.6	
168.8	MODESTO		SHALE	4.8	426.2	
164.1	CARBONDALE	DANVILLE	BONE COAL	0.8	430.9	
163.2	CARBONDALE		GRAY SHALE	4.6	431.8	
158.7	CARBONDALE	GALUM	NODULAR LIMESTONE	0.8	436.3	
157.8	CARBONDALE		GRAY SHALE	1.4	437.2	
156.4	CARBONDALE	ALLENBY	COAL	1.1	438.6	
155.3	CARBONDALE		CLAYSTONE & SHALE	4.7	439.7	
150.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	444.3	LOWER BENCH
147.7	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.9	447.3	
146.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.7	448.3	
146.1	CARBONDALE	BRERETON	LIMESTONE	13.6	448.9	
132.5	CARBONDALE	ANNA	BLACK SHALE	2.5	462.5	
130.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	11.2	465.0	

MAPID: 11900531000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 22 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.651292 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.948913 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 472.4 LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD114 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
173.1	MODESTO	PIASA	LIMESTONE	4.6	421.9	
168.5	MODESTO		UNCLASSIFIED	4.7	426.5	
163.8	CARBONDALE	DANVILLE	COAL	0.8	431.2	
163.0	CARBONDALE		UNCLASSIFIED	8.6	432.0	
154.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	440.6	
147.4	CARBONDALE	ANVIL ROCK	SANDSTONE	0.9	447.6	
146.5	CARBONDALE		SHALE	0.7	448.5	
145.8	CARBONDALE	BRERETON	LIMESTONE	13.4	449.2	
132.4	CARBONDALE	ANNA	BLACK SHALE	2.4	462.6	
130.0	CARBONDALE	HERRIN	COAL	7.4	465.0	

MAPID: 1190245000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 27 QUARTERS/FOOTAGES: 173' S line, 39' E line of SW  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.647583 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.933583 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 516.5 LOG TYPE: Electric Log  
 SOURCE: SOHIO PETROLEUM CO. 3 WELL TYPE: Oil and Gas Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
170.0	MODESTO	PIASA	LIMESTONE	2.5	422.0
167.5	CARBONDALE	ENERGY	SHALE	92.0	424.5

MAPID: 1190245000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 27 QUARTERS/FOOTAGES: 173' S line, 39' E line of SW  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.647583 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.933583 DATE COLLECTED: 9 / 0 / 1949  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log  
 SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Dry Hole  
 COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	4.5	
-	MODESTO		UNCLASSIFIED	3.0	

MAPID: 1190245000C VERSION: 3

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 27 QUARTERS/FOOTAGES: 173' S line, 39' E line of SW  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.647583 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.933583 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 923.0 LOG TYPE: Drillers Log  
 SOURCE: SOHIO PETROLEUM CO. 3 WELL TYPE: Coal Test  
 COMMENT: NO DATE GIVEN, ELECTRIC LOG ENCLOSED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	0.0	OIL TEST E-LOG ONLY

MAPID: 11900532000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 28 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.658137 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.941335 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 591.0 LOGGED (FT.): 485.0 LOG TYPE: Survey Core Study

SOURCE: NO COMPANY DD113 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
166.4	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.3	424.6	
163.2	MODESTO		CLAYSTONE & SHALE	6.7	427.8	
156.5	CARBONDALE	DANVILLE	COAL	2.3	434.5	
154.2	CARBONDALE		CLAYSTONE & SHALE	6.8	436.8	
147.4	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.5	443.6	
145.9	CARBONDALE		BLACK SHALE	1.1	445.1	
144.8	CARBONDALE	ALLENBY	COAL	1.2	446.2	
143.7	CARBONDALE		CLAYSTONE & SHALE	4.7	447.3	
139.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.8	452.0	UPPER BENCH
136.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	454.8	LOWER BENCH
133.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.3	457.5	
131.2	CARBONDALE	BRERETON	LIMESTONE	12.5	459.8	
118.7	CARBONDALE	ANNA	BLACK SHALE	4.7	472.3	
114.0	CARBONDALE	HERRIN	COAL	8.0	477.0	

MAPID: 11900532000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 28 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.658137 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.941335 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 591.0 LOGGED (FT.): 485.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD113 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
166.7	MODESTO	PIASA	LIMESTONE	3.3	424.3	
163.4	MODESTO		UNCLASSIFIED	6.7	427.6	
156.7	CARBONDALE	DANVILLE	COAL	2.3	434.3	
154.4	CARBONDALE		UNCLASSIFIED	13.1	436.6	
141.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.6	449.7	
133.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	457.3	
132.5	CARBONDALE		SHALE	1.2	458.5	
131.3	CARBONDALE	BRERETON	LIMESTONE	12.6	459.7	
118.7	CARBONDALE	ANNA	BLACK SHALE	4.7	472.3	
114.0	CARBONDALE	HERRIN	COAL	8.0	477.0	

MAPID: 11923614000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 28    QUARTERS/FOOTAGES: 36' N line, 1365' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.661941    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.947668    DATE COLLECTED: 5 / 23 / 1978

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 475.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-42    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
397.0	MODESTO	CHAPEL	COAL	1.5	203.0
182.0	CARBONDALE	DANVILLE	COAL	1.5	418.0
152.0	CARBONDALE	HERRIN	COAL	8.4	448.0

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MAPID: 11923614000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 28    QUARTERS/FOOTAGES: 36' N line, 1365' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.661941    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.947668    DATE COLLECTED: 5 / 23 / 1978

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 475.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-42    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.0			UNCONSOLIDATED	62.0	0.0	
538.0	BOND		LIMESTONE	6.0	62.0	
532.0	BOND		CALCAREOUS SHALE	3.0	68.0	
529.0	BOND		SHALE	9.0	71.0	
520.0	BOND		LIMESTONE	2.0	80.0	
518.0	BOND		GRAY SHALE	51.0	82.0	
467.0	BOND		LIMESTONE	2.0	133.0	
465.0	BOND		COAL	1.0	135.0	UNCERTAIN CORRELATION
464.0	BOND		GRAY SHALE	23.0	136.0	
441.0	BOND	CARTHAGE	LIMESTONE	7.0	159.0	
434.0	MODESTO		BLACK SHALE	4.0	166.0	
430.0	MODESTO		GRAY SHALE	32.5	170.0	
397.5	MODESTO	CHAPEL	COAL	2.0	202.5	
395.5	MODESTO		GRAY SHALE	74.5	204.5	
321.0	MODESTO		SANDSTONE	23.0	279.0	
298.0	MODESTO		COAL	1.0	302.0	
297.0	MODESTO		SANDSTONE	11.0	303.0	
286.0	MODESTO		SHALE	6.0	314.0	
280.0	MODESTO		SANDSTONE	33.0	320.0	
247.0	MODESTO		GRAY SHALE	1.5	353.0	
245.5	MODESTO		COAL	0.5	354.5	
245.0	MODESTO		GRAY SHALE	2.0	355.0	
243.0	MODESTO		LIMESTONE	4.0	357.0	
239.0	MODESTO		GRAY SHALE	20.0	361.0	
219.0	MODESTO		SHALE	4.0	381.0	
215.0	MODESTO		SANDY SHALE	25.0	385.0	
190.0	MODESTO	PIASA	LIMESTONE	6.0	410.0	
184.0	MODESTO		BLACK SHALE	2.8	416.0	
181.2	CARBONDALE	DANVILLE	COAL	1.7	418.8	
179.5	CARBONDALE		GRAY SHALE	8.0	420.5	
171.5	CARBONDALE	ALLENBY	COAL	1.0	428.5	
170.5	CARBONDALE		SHALE	6.5	429.5	
164.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	436.0	
162.0	CARBONDALE		SHALE	1.0	438.0	
161.0	CARBONDALE	BRERETON	LIMESTONE	8.0	439.0	
153.0	CARBONDALE	ANNA	BLACK SHALE	1.0	447.0	
152.0	CARBONDALE	HERRIN	COAL	8.4	448.0	
143.6	CARBONDALE		UNDERCLAY	0.4	456.4	
143.3	CARBONDALE		CORE LOSS	1.1	456.7	



142.2	CARBONDALE	GRAY SHALE	3.2	457.8
139.0	CARBONDALE	LIMESTONE	3.0	461.0
136.0	CARBONDALE	SHALE	11.0	464.0

**MAPID:** 11923665000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 600' S line, 2610' W line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.665951    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.934491    **DATE COLLECTED:** 12 / 14 / 1978  
**SURFACE ELEVATION (FT.):** 605.0    **LOGGED (FT.):** 475.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL MOS-77-66    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN COMMENT
393.0	MODESTO	CHAPEL	COAL	2.5	212.0
191.5	CARBONDALE	DANVILLE	COAL	0.5	413.5
158.5	CARBONDALE	HERRIN	COAL	7.1	446.5

MAPID: 11923665000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 28    QUARTERS/FOOTAGES: 600' S line, 2610' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.665951    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.934491    DATE COLLECTED: 12 / 14 / 1978

SURFACE ELEVATION (FT.): 605.0    LOGGED (FT.): 475.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-66    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
605.0			UNCONSOLIDATED	82.0	0.0	
523.0	BOND		GRAY SHALE	57.0	82.0	
466.0	BOND		LIMESTONE	1.0	139.0	
465.0	BOND		COAL	1.0	140.0	UNCERTAIN CORRELATION
464.0	BOND		GRAY SHALE	27.5	141.0	
436.5	BOND	CARTHAGE	LIMESTONE	6.0	168.5	
430.5	MODESTO		BLACK SHALE	3.5	174.5	
427.0	MODESTO		SILTY SHALE	33.3	178.0	
393.7	MODESTO	CHAPEL	COAL	2.3	211.3	
391.4	MODESTO		GRAY SHALE	57.4	213.6	
334.0	MODESTO		SHALY SANDSTONE	114.5	271.0	
219.5	MODESTO		GRAY SHALE	13.0	385.5	
206.5	MODESTO	PIASA	LIMESTONE	4.0	398.5	
202.5	MODESTO		GRAY SHALE	4.5	402.5	
198.0	CARBONDALE	DANVILLE	COAL	1.5	407.0	
196.5	CARBONDALE		GRAY SHALE	9.5	408.5	
187.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	418.0	
181.5	CARBONDALE		SHALE	1.5	423.5	
180.0	CARBONDALE		GRAY SHALE	5.0	425.0	
175.0	CARBONDALE	BRERETON	LIMESTONE	14.3	430.0	
160.7	CARBONDALE	ANNA	BLACK SHALE	1.3	444.3	
159.4	CARBONDALE	HERRIN	COAL	8.0	445.6	
151.4	CARBONDALE		UNDERCLAY	0.8	453.6	
150.6	CARBONDALE		CORE LOSS	0.2	454.4	
150.5	CARBONDALE		GRAY SHALE	1.5	454.5	
149.0	CARBONDALE		LIMESTONE	2.5	456.0	
146.5	CARBONDALE		GRAY SHALE	3.5	458.5	
143.0	CARBONDALE		CALCAREOUS SHALE	3.0	462.0	
140.0	CARBONDALE		GRAY SHALE	10.0	465.0	

MAPID: 11900015000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.685827 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.933412 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 596.2 LOGGED (FT.): 445.0 LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 0008 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
162.2	CARBONDALE	HERRIN	COAL	7.7	434.0	

MAPID: 11900015000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.685827 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.933412 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 596.0 LOGGED (FT.): 441.7 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
214.0	MODESTO	PIASA	LIMESTONE	6.0	382.0	
208.0	MODESTO		UNCLASSIFIED	2.0	388.0	
206.0	CARBONDALE	DANVILLE	COAL	0.3	390.0	
205.7	CARBONDALE		UNCLASSIFIED	19.7	390.3	
186.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	410.0	
179.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	5.0	417.0	
174.0	CARBONDALE	BRERETON	LIMESTONE	12.0	422.0	
162.0	CARBONDALE	HERRIN	COAL	7.7	434.0	

MAPID: 11900015000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.685827 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.933412 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 596.2 LOGGED (FT.): 445.0 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. 8 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
596.2			UNCONSOLIDATED	5.0	0.0	SOIL
591.2			CLAY	10.0	5.0	
581.2			SAND	19.0	15.0	SD AND GRAVEL
562.2			GRAVEL	1.5	34.0	
560.7			SANDY CLAY	17.5	35.5	
543.2			LIMESTONE	1.0	53.0	
542.2			LIMESTONE	14.0	54.0	
528.2			CALCAREOUS SHALE	25.0	68.0	
503.2			CALCAREOUS SHALE	34.5	93.0	
468.7			LIMESTONE	1.0	127.5	
467.7			COAL	0.5	128.5	
467.2			CALCAREOUS SHALE	6.0	129.0	
461.2			CALCAREOUS SHALE	22.0	135.0	
439.2			LIMESTONE	6.0	157.0	
433.2			BLACK SHALE	2.0	163.0	
431.2			CALCAREOUS SHALE	32.0	165.0	
399.2			BLACK SHALE	0.5	197.0	
398.7			COAL	2.0	197.5	
396.7			CALCAREOUS SHALE	2.5	199.5	
394.2			SANDY SHALE	10.0	202.0	
384.2			CALCAREOUS SHALE	20.0	212.0	
364.2			GRAY SHALE	8.0	232.0	
356.2			CALCAREOUS SHALE	3.0	240.0	
353.2			CALCAREOUS SHALE	44.0	243.0	
309.2			SANDY SHALE	3.0	287.0	
306.2			SANDSTONE	55.0	290.0	
251.2			SANDY SHALE	23.0	345.0	
228.2			CALCAREOUS SHALE	12.0	368.0	
216.2	MODESTO	PIASA	LIMESTONE	8.0	380.0	
208.2	CARBONDALE	DANVILLE	COAL	0.3	388.0	
207.9	CARBONDALE		GRAY SHALE	11.8	388.3	
196.2	CARBONDALE		GRAY SHALE	15.0	400.0	
181.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	415.0	
179.2	CARBONDALE		CALCAREOUS SHALE	5.0	417.0	
174.2	CARBONDALE	BRERETON	LIMESTONE	12.0	422.0	
162.2	CARBONDALE	HERRIN	COAL	6.0	434.0	
156.2	CARBONDALE	HERRIN	ROCK	0.2	440.0	BLU BAND
156.0	CARBONDALE	HERRIN	COAL	1.5	440.2	
154.5			UNDERCLAY	1.3	441.7	

153.2

GRAY SHALE

2.0

443.0

**MAPID:** 11900016000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 29    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.676423    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.946554    **DATE COLLECTED:** 0 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 604.5    **LOGGED (FT.):** 442.0    **LOG TYPE:**  
**SOURCE:** NEW STAUNTON COAL CO.    9    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
170.5	CARBONDALE	HERRIN	COAL	7.3	434.0

**MAPID:** 11900016000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 29    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.676423    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.946554    **DATE COLLECTED:** 11 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 604.0    **LOGGED (FT.):** 441.3    **LOG TYPE:** Drillers Log  
**SOURCE:** NEW STAUNTON COAL CO.    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
211.0	MODESTO	PIASA	LIMESTONE	3.0	393.0
208.0	MODESTO		UNCLASSIFIED	5.0	396.0
203.0	CARBONDALE	DANVILLE	COAL	1.0	401.0
202.0	CARBONDALE		UNCLASSIFIED	13.0	402.0
189.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	415.0
184.0	CARBONDALE	BRERETON	LIMESTONE	14.0	420.0
170.0	CARBONDALE	HERRIN	COAL	7.3	434.0

MAPID: 11900016000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.676423 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.946554 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 604.4 LOGGED (FT.): 442.0 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. 9 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
604.4			CLAY	20.0	0.0
584.4			SANDY CLAY	20.0	20.0
564.4			HARD PAN	16.0	40.0
548.4			LIMESTONE	3.0	56.0
545.4			GRAY SHALE	71.0	59.0
474.4			GRAY SHALE	16.0	130.0
458.4			GRAY SHALE	14.0	146.0
444.4			LIMESTONE	5.0	160.0
439.4			GRAY SHALE	2.0	165.0
437.4			BLACK SHALE	3.0	167.0
434.4			GRAY SHALE	31.0	170.0
403.4			GRAY SHALE	11.0	201.0
392.4			GRAY SHALE	20.0	212.0
372.4			SANDY SHALE	9.0	232.0
363.4			GRAY SHALE	7.0	241.0
356.4			COAL	1.0	248.0
355.4			GRAY SHALE	19.0	249.0
336.4			SANDSTONE	83.0	268.0
253.4			GRAY SHALE	6.0	351.0
247.4			GRAY SHALE	18.0	357.0
229.4			SANDY SHALE	7.0	375.0
222.4			GRAY SHALE	11.0	382.0
211.4	MODESTO	PIASA	LIMESTONE	3.0	393.0
208.4	MODESTO		GRAY SHALE	5.0	396.0
203.4	CARBONDALE	DANVILLE	COAL	1.0	401.0
202.4	CARBONDALE		GRAY SHALE	13.0	402.0
189.4	CARBONDALE	BANKSTON FORK	LIMESTONE	19.0	415.0
170.4	CARBONDALE	HERRIN	COAL	7.3	434.0
163.1			UNDERCLAY	0.8	441.3

**MAPID:** 11900259000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 29    **QUARTERS/FOOTAGES:** SW SW NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.692937    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.940639    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 600.3    **LOGGED (FT.):** 446.0    **LOG TYPE:**  
**SOURCE:** AMELING 0011    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
162.3	CARBONDALE	HERRIN	COAL	7.1	438.0	

**MAPID:** 11900259000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 29    **QUARTERS/FOOTAGES:** SW SW NW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.692937    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.940639    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 600.0    **LOGGED (FT.):** 446.1    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
161.0	CARBONDALE	HERRIN	COAL	7.1	439.0	

**MAPID:** 11900526000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 29    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.676383    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.939141    **DATE COLLECTED:** 0 / 0 / 1945  
**SURFACE ELEVATION (FT.):** 611.0    **LOGGED (FT.):** 472.1    **LOG TYPE:** Survey Core Study  
**SOURCE:** NO COMPANY    DD103    **WELL TYPE:** Coal Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
184.7	MODESTO	PIASA	ROCK	2.5	426.3	
182.2	MODESTO		CALCAREOUS SHALE	1.2	428.8	
181.0	CARBONDALE	DANVILLE	COAL	0.5	430.0	
180.5	CARBONDALE		CLAYSTONE	1.8	430.5	
178.7	CARBONDALE		CLAYSTONE & SHALE	4.0	432.3	
174.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	436.3	LOWER BENCH
172.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.3	438.1	
170.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.3	440.4	
166.3	CARBONDALE	BRERETON	LIMESTONE	18.8	444.7	
147.5	CARBONDALE	ANNA	BLACK SHALE	0.5	463.5	
147.0	CARBONDALE	HERRIN	COAL	8.1	464.0	

MAPID: 11900526000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: NE NE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.676383 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.939141 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 611.0 LOGGED (FT.): 472.1 LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD103 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
195.1	MODESTO	PIASA	LIMESTONE	2.5	415.9
192.6	MODESTO		UNCLASSIFIED	1.2	418.4
191.4	CARBONDALE	DANVILLE	COAL	0.5	419.6
190.9	CARBONDALE		UNCLASSIFIED	11.9	420.1
179.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.1	432.0
172.9	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	438.1
171.6	CARBONDALE		SHALE	1.0	439.4
170.6	CARBONDALE	BRERETON	LIMESTONE	23.1	440.4
147.5	CARBONDALE	ANNA	BLACK SHALE	0.5	463.5
147.0	CARBONDALE	HERRIN	COAL	8.1	464.0

MAPID: 11900659000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: 1391' N line, 690' W line of NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.691682 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.943261 DATE COLLECTED: 2 / 11 / 1957

SURFACE ELEVATION (FT.): 609.0 LOGGED (FT.): 74.0 LOG TYPE: Other Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	0.0	TD 74' - NO COAL PICKS

MAPID: 11900660000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: 840' N line, 177' W line of NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693496 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.944738 DATE COLLECTED: 2 / 13 / 1957

SURFACE ELEVATION (FT.): 608.0 LOGGED (FT.): 76.0 LOG TYPE: Other Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	0.0	TD 76' - NO COAL PICKS



MAPID: 11900735000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: 50' N line, 10' W line of NW NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.694089

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.946904

DATE COLLECTED: 3 / 12 / 1957

SURFACE ELEVATION (FT.): 610.0 LOGGED (FT.): 437.0

LOG TYPE: Other Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
413.2			COAL	2.7	196.8	
217.0	CARBONDALE	DANVILLE	COAL	0.5	393.0	
183.4	CARBONDALE	HERRIN	COAL	5.9	426.6	"BAD CORE"

MAPID: 11900735000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: 50' N line, 10' W line of NW NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.694089

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.946904

DATE COLLECTED:

SURFACE ELEVATION (FT.): 610.0 LOGGED (FT.): 433.2

LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
225.5	MODESTO	PIASA	LIMESTONE	7.1	384.5	
218.4	MODESTO		UNCLASSIFIED	2.4	391.6	
216.0	CARBONDALE	DANVILLE	COAL	0.5	394.0	
215.5	CARBONDALE		UNCLASSIFIED	8.6	394.5	
206.9	CARBONDALE	BANKSTON FORK	LIMESTONE	7.2	403.1	
199.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.4	410.3	
198.3	CARBONDALE		SHALE	1.0	411.7	
197.3	CARBONDALE	BRERETON	LIMESTONE	14.0	412.7	
183.3	CARBONDALE	ANNA	BLACK SHALE	0.3	426.7	
183.0	CARBONDALE	HERRIN	COAL	6.2	427.0	

MAPID: 11900770000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: 25' N line, 25' W line of NE NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.691675

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.947035

DATE COLLECTED: 3 / 28 / 1957

SURFACE ELEVATION (FT.): 611.0 LOGGED (FT.): 461.0

LOG TYPE: Other Core Study

SOURCE: MT. OLIVE & STAUNTON COAL CO. 4

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
214.9	CARBONDALE	DANVILLE	COAL	1.4	396.1	
184.7	CARBONDALE	HERRIN	COAL	7.0	426.3	

MAPID: 11900770000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: 25' N line, 25' W line of NE NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.691675 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.947035 DATE COLLECTED:

SURFACE ELEVATION (FT.): 611.0 LOGGED (FT.): 433.0 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
225.1	MODESTO	PIASA	LIMESTONE	7.4	385.9
217.7	MODESTO		UNCLASSIFIED	1.2	393.3
216.5	CARBONDALE	DANVILLE	COAL	1.4	394.5
215.1	CARBONDALE		UNCLASSIFIED	8.5	395.9
206.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	404.4
199.6	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	411.4
198.6	CARBONDALE		SHALE	0.8	412.4
197.8	CARBONDALE	BRERETON	LIMESTONE	12.4	413.2
185.4	CARBONDALE	ANNA	BLACK SHALE	0.4	425.6
185.0	CARBONDALE	HERRIN	COAL	7.0	426.0

MAPID: 11923615000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 29 QUARTERS/FOOTAGES: 180' N line, 2615' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.684879 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.946775 DATE COLLECTED: 5 / 31 / 1978

SURFACE ELEVATION (FT.): 602.0 LOGGED (FT.): 460.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-44 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
395.0	MODESTO	CHAPEL	COAL	1.5	207.0
201.5	CARBONDALE	DANVILLE	COAL	1.5	400.5
168.8	CARBONDALE	HERRIN	COAL	8.2	433.2

MAPID: 11923615000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 29    QUARTERS/FOOTAGES: 180' N line, 2615' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.684879    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.946775    DATE COLLECTED: 5 / 31 / 1978

SURFACE ELEVATION (FT.): 602.0    LOGGED (FT.): 460.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-44    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
602.0			UNCONSOLIDATED	70.0	0.0	
532.0	BOND		LIMESTONE	2.0	70.0	
530.0	BOND		GRAY SHALE	57.0	72.0	
473.0	BOND		LIMESTONE	1.0	129.0	
472.0	BOND		COAL	0.5	130.0	UNCERTAIN CORRELATION
471.5	BOND		GRAY SHALE	8.0	130.5	
463.5	BOND		LIMESTONE	1.0	138.5	
462.5	BOND		GRAY SHALE	17.5	139.5	
445.0	BOND	CARTHAGE	LIMESTONE	6.0	157.0	
439.0	MODESTO		BLACK SHALE	3.0	163.0	
436.0	MODESTO		SANDY SHALE	42.0	166.0	
394.0	MODESTO	CHAPEL	COAL	2.0	208.0	
392.0	MODESTO		GRAY SHALE	29.5	210.0	
362.5	MODESTO		COAL	1.5	239.5	
361.0	MODESTO		SANDY SHALE	19.0	241.0	
342.0	MODESTO		SANDSTONE	92.0	260.0	
250.0	MODESTO		LIMESTONE	2.0	352.0	
248.0	MODESTO		GRAY SHALE	4.0	354.0	
244.0	MODESTO		SHALE	5.0	358.0	
239.0	MODESTO		GRAY SHALE	28.0	363.0	
211.0	MODESTO	PIASA	LIMESTONE	2.0	391.0	
209.0	MODESTO		GRAY SHALE	8.0	393.0	
201.0	CARBONDALE	DANVILLE	COAL	2.0	401.0	
199.0	CARBONDALE		GRAY SHALE	12.0	403.0	
187.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	415.0	
184.0	CARBONDALE		SHALE	2.0	418.0	
182.0	CARBONDALE	BRERETON	LIMESTONE	13.0	420.0	
169.0	CARBONDALE	ANNA	BLACK SHALE	0.2	433.0	
168.8	CARBONDALE	HERRIN	COAL	8.2	433.2	
160.6	CARBONDALE		SHALE	0.3	441.4	
160.3	CARBONDALE		CORE LOSS	0.4	441.7	
160.0	CARBONDALE		GRAY SHALE	2.0	442.0	
158.0	CARBONDALE		LIMESTONE	1.0	444.0	
157.0	CARBONDALE		CALCAREOUS SHALE	12.5	445.0	
144.5	CARBONDALE		LIMESTONE	0.5	457.5	
144.0	CARBONDALE		SHALE	2.0	458.0	

MAPID: 11923616000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 29    QUARTERS/FOOTAGES: 54' N line, 20' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.694054    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.946895    DATE COLLECTED: 5 / 12 / 1978

SURFACE ELEVATION (FT.): 606.0    LOGGED (FT.): 440.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-45    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
415.0	MODESTO	CHAPEL	COAL	3.2	191.0
220.0	CARBONDALE	DANVILLE	COAL	1.0	386.0
190.1	CARBONDALE	HERRIN	COAL	6.9	415.9

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MAPID: 11923616000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 29    QUARTERS/FOOTAGES: 54' N line, 20' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.694054

GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.946895

DATE COLLECTED: 5 / 12 / 1978

SURFACE ELEVATION (FT.): 606.0

LOGGED (FT.): 440.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-45

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
606.0			UNCONSOLIDATED	43.0	0.0
563.0	BOND		SILTSTONE	1.0	43.0
562.0	BOND		LIMESTONE	4.0	44.0
558.0	BOND		SILTSTONE	7.0	48.0
551.0	BOND		LIMESTONE	3.0	55.0
548.0	BOND		GRAY SHALE	34.0	58.0
514.0	BOND		SANDSTONE	10.0	92.0
504.0	BOND		GRAY SHALE	28.0	102.0
476.0	BOND		LIMESTONE	1.0	130.0
475.0	BOND		GRAY SHALE	17.0	131.0
458.0	BOND	CARTHAGE	LIMESTONE	6.0	148.0
452.0	MODESTO		BLACK SHALE	3.0	154.0
449.0	MODESTO		GRAY SHALE	33.0	157.0
416.0	MODESTO	CHAPEL	COAL	2.0	190.0
414.0	MODESTO		GRAY SHALE	3.5	192.0
410.5	MODESTO		SANDY SHALE	21.0	195.5
389.5	MODESTO		COAL	1.0	216.5
388.5	MODESTO		GRAY SHALE	12.5	217.5
376.0	MODESTO		CALCAREOUS SHALE	8.0	230.0
368.0	MODESTO		GRAY SHALE	23.0	238.0
345.0	MODESTO		SHALY SANDSTONE	21.0	261.0
324.0	MODESTO		SANDY SHALE	19.0	282.0
305.0	MODESTO		GRAY SHALE	56.0	301.0
249.0	MODESTO		SANDY SHALE	11.0	357.0
238.0	MODESTO		SHALE	7.0	368.0
231.0	MODESTO	PIASA	LIMESTONE	3.0	375.0
228.0	MODESTO		SHALE	5.5	378.0
222.5	MODESTO		SHALE	1.5	383.5
221.0	CARBONDALE	DANVILLE	COAL	1.0	385.0
220.0	CARBONDALE		GRAY SHALE	6.0	386.0
214.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.0	392.0
210.0	CARBONDALE		GRAY SHALE	8.0	396.0
202.0	CARBONDALE	BRERETON	LIMESTONE	10.0	404.0
192.0	CARBONDALE	ANNA	BLACK SHALE	1.9	414.0
190.1	CARBONDALE	HERRIN	COAL	6.9	415.9
183.2	CARBONDALE		UNDERCLAY	1.9	422.8
181.3	CARBONDALE		CALCAREOUS SHALE	3.3	424.7
178.0	CARBONDALE		LIMESTONE	6.0	428.0
172.0	CARBONDALE		CALCAREOUS SHALE	6.0	434.0

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MAPID: 11924027000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 29    QUARTERS/FOOTAGES: 2575' N line, 2620' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.684855    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.940163    DATE COLLECTED: 11 / 8 / 1979

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 470.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-29-42C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
392.0	MODESTO	CHAPEL	COAL	2.0	208.0
187.0	CARBONDALE	DANVILLE	COAL	1.0	413.0
154.2	CARBONDALE	HERRIN	COAL	7.6	445.8

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MAPID: 11924027000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 29    QUARTERS/FOOTAGES: 2575' N line, 2620' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.684855    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.940163    DATE COLLECTED: 11 / 8 / 1979

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 470.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-29-42C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.0			UNCONSOLIDATED	94.0	0.0
506.0	BOND		GRAY SHALE	40.0	94.0
466.0	BOND		LIMESTONE	1.2	134.0
464.8	BOND		COAL	0.5	135.2
464.3	BOND		GRAY SHALE	29.3	135.7
435.0	BOND	CARTHAGE	LIMESTONE	4.0	165.0
431.0	MODESTO		BLACK SHALE	5.0	169.0
426.0	MODESTO		SANDY SHALE	30.2	174.0
395.8	MODESTO	CHAPEL	COAL	1.6	204.2
394.2	MODESTO		SANDY SHALE	74.2	205.8
320.0	MODESTO		GRAY SHALE	15.0	280.0
305.0	MODESTO		LIMESTONE	7.0	295.0
298.0	MODESTO		GRAY SHALE	38.0	302.0
260.0	MODESTO		SANDY SHALE	58.5	340.0
201.5	MODESTO		SANDSTONE	2.0	398.5
199.5	MODESTO		SHALE	2.0	400.5
197.5	MODESTO	PIASA	SHALY LIMESTONE	5.5	402.5
192.0	MODESTO		GRAY SHALE	5.2	408.0
186.8	CARBONDALE	DANVILLE	COAL	1.3	413.2
185.5	CARBONDALE		GRAY SHALE	13.5	414.5
172.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	428.0
170.0	CARBONDALE		SHALE	2.2	430.0
167.8	CARBONDALE	BRERETON	SHALY LIMESTONE	13.0	432.2
154.8	CARBONDALE	ANNA	BLACK SHALE	0.8	445.2
154.0	CARBONDALE	HERRIN	COAL	7.5	446.0
146.5	CARBONDALE		SHALE	0.3	453.5
146.3	CARBONDALE		CORE LOSS	1.3	453.7
145.0	CARBONDALE		GRAY SHALE	4.0	455.0
141.0	CARBONDALE		LIMESTONE	1.0	459.0
140.0	CARBONDALE		CALCAREOUS SHALE	8.0	460.0
132.0	CARBONDALE		GRAY SHALE	2.0	468.0

MAPID: 11924028000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 29    QUARTERS/FOOTAGES: 115' S line, 1460' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.688954    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.932755    DATE COLLECTED: 11 / 14 / 1979

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 469.5    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-29-43C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
395.5	MODESTO	CHAPEL	COAL	2.0	204.5
153.3	CARBONDALE	HERRIN	COAL	6.4	446.7

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MAPID: 11924028000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 29    QUARTERS/FOOTAGES: 115' S line, 1460' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.688954    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.932755    DATE COLLECTED: 11 / 14 / 1979

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 469.5    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-29-43C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.0			UNCONSOLIDATED	55.0	0.0
545.0	BOND		SHALE	17.0	55.0
528.0	BOND		GRAY SHALE	89.5	72.0
438.5	BOND	CARTHAGE	LIMESTONE	5.0	161.5
433.5	MODESTO		BLACK SHALE	3.5	166.5
430.0	MODESTO		GRAY SHALE	34.5	170.0
395.5	MODESTO	CHAPEL	COAL	1.5	204.5
394.0	MODESTO		SANDY SHALE	134.0	206.0
260.0	MODESTO		SANDY SHALE	60.0	340.0
200.0	MODESTO		SHALE	1.5	400.0
198.5	MODESTO	PIASA	LIMESTONE	6.5	401.5
192.0	MODESTO		BLACK SHALE	2.5	408.0
189.5	MODESTO		GRAY SHALE	1.5	410.5
188.0	MODESTO		SHALE	2.5	412.0
185.5	CARBONDALE	DANVILLE	COAL	0.5	414.5
185.0	CARBONDALE		GRAY SHALE	5.0	415.0
180.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	2.6	420.0
177.4	CARBONDALE	BANKSTON FORK	SHALE	1.2	422.6
176.2	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	423.8
170.7	CARBONDALE		SHALE	2.4	429.3
168.3	CARBONDALE	BRERETON	SHALY LIMESTONE	15.0	431.7
153.3	CARBONDALE	HERRIN	COAL	6.4	446.7
146.9	CARBONDALE		CLAYSTONE	4.1	453.1
142.8	CARBONDALE		CORE LOSS	2.3	457.2
140.5	CARBONDALE		LIMESTONE	2.4	459.5
138.1	CARBONDALE		CLAYSTONE & SILTSTONE	4.3	461.9
133.8	CARBONDALE		CORE LOSS	3.3	466.2

MAPID: 11900017000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.705216 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.946178 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 596.1 LOGGED (FT.): 426.0 LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 0007 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
178.1	CARBONDALE	HERRIN	COAL	7.0	418.0	

MAPID: 11900017000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.705216 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.946178 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 596.0 LOGGED (FT.): 425.0 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
220.0	MODESTO	PIASA	LIMESTONE	4.0	376.0	
216.0	MODESTO		UNCLASSIFIED	4.0	380.0	
212.0	CARBONDALE		UNCLASSIFIED	12.0	384.0	
200.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	396.0	
194.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	402.0	
191.0	CARBONDALE	BRERETON	LIMESTONE	13.0	405.0	
178.0	CARBONDALE	HERRIN	COAL	7.0	418.0	

MAPID: 11900017000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.705216 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.946178 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 596.1 LOGGED (FT.): 426.0 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. 7 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
596.1			CLAY	20.0	0.0
576.1			SAND	15.0	20.0
561.1			GRAVEL	3.0	35.0
558.1			LIMESTONE	6.0	38.0
552.1			GRAY SHALE	30.0	44.0
522.1			GRAY SHALE	40.0	74.0
482.1			SHALE	10.0	114.0
472.1			GRAY SHALE	19.0	124.0
453.1			LIMESTONE	7.0	143.0
446.1			DARK SHALE	5.0	150.0
441.1			CALCAREOUS SHALE	27.5	155.0
413.6			COAL	2.5	182.5
411.1			CALCAREOUS SHALE	19.0	185.0
392.1			COAL	1.0	204.0
391.1			CALCAREOUS SHALE	97.0	205.0
294.1			CALCAREOUS SHALE	39.0	302.0
255.1			SHALE	5.0	341.0
250.1			SHALE	21.0	346.0
229.1			SHALE	2.0	367.0
227.1			SHALE	7.0	369.0
220.1	MODESTO	PIASA	LIMESTONE	4.0	376.0
216.1			GRAY SHALE	10.0	380.0
206.1			SHALE	9.0	390.0
197.1	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	399.0
196.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	400.0
194.1	CARBONDALE		GRAY SHALE	3.0	402.0
191.1	CARBONDALE	BRERETON	LIMESTONE	13.0	405.0
178.1	CARBONDALE	HERRIN	COAL	7.0	418.0
171.1			SHALE	1.0	425.0

MAPID: 11900018000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.702277 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.933246 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 594.8 LOGGED (FT.): 437.0 LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 0006 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
172.8	CARBONDALE	HERRIN	COAL	6.6	422.0

MAPID: 11900018000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.702277 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.933246 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 428.6 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
222.8	MODESTO	PIASA	LIMESTONE	4.5	372.2
218.3	MODESTO		UNCLASSIFIED	7.0	376.7
211.3	CARBONDALE		UNCLASSIFIED	19.0	383.7
192.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.3	402.7
187.0	CARBONDALE	BRERETON	LIMESTONE	14.0	408.0
173.0	CARBONDALE	HERRIN	COAL	6.6	422.0

MAPID: 11900018000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 30    QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.702277    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.933246    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 594.8    LOGGED (FT.): 437.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    6    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
594.8			UNCONSOLIDATED	5.0	0.0	SOIL
589.8			SANDY CLAY	16.0	5.0	
573.8			SAND	29.0	21.0	SD AND GRAVEL
544.8			CLAY	19.0	50.0	
525.8			SANDSTONE	4.0	69.0	
521.8			CALCAREOUS SHALE	19.0	73.0	
502.8			CALCAREOUS SHALE	28.0	92.0	
474.8			COAL	0.2	120.0	
474.6			CALCAREOUS SHALE	29.8	120.2	
444.8			LIMESTONE	12.0	150.0	
432.8			COAL	1.0	162.0	
431.8			CONGLOMERATE	5.0	163.0	
426.8			SANDY SHALE	29.0	168.0	
397.8			COAL	2.0	197.0	
395.8			SANDY SHALE	3.0	199.0	
392.8			SANDY SHALE	10.0	202.0	
382.8			CALCAREOUS SHALE	29.0	212.0	
353.8			BLACK SHALE	2.0	241.0	
351.8			CALCAREOUS SHALE	32.0	243.0	
319.8			SANDY SHALE	95.0	275.0	
224.8			LIMESTONE	2.0	370.0	
222.8	MODESTO	PIASA	LIMESTONE	4.5	372.0	
218.3	MODESTO		CALCAREOUS SHALE	1.0	376.5	
217.3	MODESTO		COAL	0.5	377.5	
216.8	MODESTO		GRAY SHALE	7.0	378.0	
209.8	MODESTO		CALCAREOUS SHALE	7.0	385.0	
202.8	MODESTO		GRAY SHALE	4.5	392.0	
198.3	CARBONDALE	DANVILLE	COAL	1.5	396.5	
196.8	CARBONDALE		CALCAREOUS SHALE	4.5	398.0	
192.3	CARBONDALE	BANKSTON FORK	LIMESTONE	19.3	402.5	
173.0	CARBONDALE	HERRIN	COAL	5.2	421.8	
167.9	CARBONDALE	HERRIN	ROCK	0.1	426.9	BLU BAND
167.8	CARBONDALE	HERRIN	COAL	1.3	427.0	
166.5			UNDERCLAY	0.7	428.3	
165.8			CALCAREOUS SHALE	8.0	429.0	

MAPID: 11900527000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: 2640' N line, 1320' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.703193

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.939801

DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 602.0

LOGGED (FT.): 418.6

LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD102

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
233.6	MODESTO	PIASA	LIMESTONE	5.0	368.4
228.6	MODESTO		DARK GRAY SHALE	13.9	373.4
214.7	CARBONDALE	ALLENBY	COAL	0.5	387.3
214.2	CARBONDALE	LAWSON	GRAY SHALE	4.7	387.8
209.5	CARBONDALE	BRERETON	NODULAR LIMESTONE	19.5	392.5
190.0	CARBONDALE	HERRIN	COAL	6.6	412.0

MAPID: 11900527000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: 2640' N line, 1320' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.703193

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.939801

DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 602.0

LOGGED (FT.): 418.8

LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD102

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
233.8	MODESTO	PIASA	LIMESTONE	5.0	368.2
228.8	MODESTO		UNCLASSIFIED	1.7	373.2
227.1	CARBONDALE	DANVILLE	COAL	0.6	374.9
226.5	CARBONDALE		UNCLASSIFIED	9.2	375.5
217.3	CARBONDALE	BANKSTON FORK	LIMESTONE	6.1	384.7
211.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	390.8
208.7	CARBONDALE		SHALE	0.9	393.3
207.8	CARBONDALE	BRERETON	LIMESTONE	17.8	394.2
190.0	CARBONDALE	HERRIN	COAL	6.8	412.0

MAPID: 11900713000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.699782 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.94616 DATE COLLECTED: 6 / 0 / 1940

SURFACE ELEVATION (FT.): 599.0 LOGGED (FT.): 436.0 LOG TYPE: Electric Log

SOURCE: JONES R E WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
224.0	MODESTO	PIASA	LIMESTONE	7.0	375.0
217.0	MODESTO		UNCLASSIFIED	4.0	382.0
213.0	CARBONDALE		UNCLASSIFIED	10.0	386.0
203.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	396.0
196.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	403.0
194.0	CARBONDALE		UNCLASSIFIED	2.0	405.0
192.0	CARBONDALE	BRERETON	LIMESTONE	18.0	407.0
174.0	CARBONDALE	ANNA	BLACK SHALE	4.0	425.0
170.0	CARBONDALE	HERRIN	COAL	7.0	429.0

MAPID: 11923666000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: 2580' S line, 1300' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.698714 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.939459 DATE COLLECTED: 11 / 30 / 1978

SURFACE ELEVATION (FT.): 605.0 LOGGED (FT.): 450.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-65 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
416.5	MODESTO	CHAPEL	COAL	1.5	188.5
175.3	CARBONDALE	HERRIN	COAL	7.2	429.7

MAPID: 11923666000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 30 QUARTERS/FOOTAGES: 2580' S line, 1300' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.698714 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.939459 DATE COLLECTED: 11 / 30 / 1978

SURFACE ELEVATION (FT.): 605.0 LOGGED (FT.): 450.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-65 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
605.0			UNCONSOLIDATED	45.8	0.0
559.2	BOND		SANDSTONE	6.2	45.8
553.0	BOND		SHALE	4.0	52.0
549.0	BOND		GRAY SHALE	6.5	56.0
542.5	BOND		SANDSTONE	2.5	62.5
540.0	BOND		GRAY SHALE	54.5	65.0
485.5	BOND		LIMESTONE	1.5	119.5
484.0	BOND		GRAY SHALE	8.0	121.0
476.0	BOND		GRAY SHALE	18.0	129.0
458.0	BOND	CARTHAGE	LIMESTONE	6.5	147.0
451.5	MODESTO		BLACK SHALE	4.0	153.5
447.5	MODESTO		SANDY SHALE	30.7	157.5
416.8	MODESTO	CHAPEL	COAL	1.4	188.2
415.4	MODESTO		GRAY SHALE	12.9	189.6
402.5	MODESTO		SANDSTONE	5.0	202.5
397.5	MODESTO		GRAY SHALE	2.5	207.5
395.0	MODESTO		SANDY SHALE	10.5	210.0
384.5	MODESTO		SHALE	3.5	220.5
381.0	MODESTO		COAL	1.0	224.0
380.0	MODESTO		GRAY SHALE	32.0	225.0
348.0	MODESTO		SANDSTONE	99.0	257.0
249.0	MODESTO		SANDY SHALE	32.7	356.0
216.3	MODESTO	PIASA	LIMESTONE	4.3	388.7
212.0	MODESTO		BLACK SHALE	3.0	393.0
209.0	CARBONDALE		SHALE	13.0	396.0
196.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	409.0
192.0	CARBONDALE		SHALE	2.8	413.0
189.2	CARBONDALE	BRERETON	SHALY LIMESTONE	14.0	415.8
175.2	CARBONDALE	HERRIN	COAL	7.2	429.8
168.0	CARBONDALE		CLAYSTONE	0.4	437.0
167.6	CARBONDALE		CORE LOSS	0.6	437.4
167.0	CARBONDALE		GRAY SHALE	12.0	438.0



MAPID: 11923667000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 30    QUARTERS/FOOTAGES: 1848' S line, 545' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.705961    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.937414    DATE COLLECTED: 12 / 6 / 1978

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 430.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-41    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
437.5			COAL	1.5	162.5
193.8	CARBONDALE	HERRIN	COAL	6.5	406.2

MAPID: 11923667000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 30    QUARTERS/FOOTAGES: 1848' S line, 545' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.705961    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.937414    DATE COLLECTED: 12 / 6 / 1978

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 430.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-41    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.0			UNCONSOLIDATED	38.0	0.0	
562.0			LIMESTONE	2.0	38.0	
560.0	BOND		GRAY SHALE	56.0	40.0	
504.0	BOND		LIMESTONE	1.5	96.0	
502.5	BOND		COAL	0.5	97.5	
502.0	BOND		GRAY SHALE	8.5	98.0	
493.5	BOND		GRAY SHALE	19.5	106.5	
474.0	BOND	CARTHAGE	LIMESTONE	5.4	126.0	
468.6	MODESTO		BLACK SHALE	4.6	131.4	
464.0	MODESTO		GRAY SHALE	26.0	136.0	
438.0	MODESTO	CHAPEL	COAL	2.5	162.0	
435.5	MODESTO		CALCAREOUS SHALE	2.5	164.5	
433.0	MODESTO		GRAY SHALE	14.0	167.0	
419.0	MODESTO		LIMESTONE	1.0	181.0	
418.0	MODESTO		SANDY SHALE	16.0	182.0	
402.0	MODESTO		COAL	1.0	198.0	
401.0	MODESTO		SANDY SHALE	27.0	199.0	
374.0	MODESTO		SHALY SANDSTONE	5.0	226.0	
369.0	MODESTO		SANDSTONE	7.0	231.0	
362.0	MODESTO		GRAY SHALE	9.5	238.0	
352.5	MODESTO		SANDY LIMESTONE	6.0	247.5	
346.5	MODESTO		SANDY SHALE	73.5	253.5	
273.0	MODESTO		SANDY SHALE	15.5	327.0	
257.5	MODESTO		GRAY SHALE	4.5	342.5	
253.0	MODESTO		SHALY LIMESTONE	1.0	347.0	
252.0	MODESTO		GRAY SHALE	34.0	348.0	
218.0	CARBONDALE	DANVILLE	COAL	1.0	382.0	UNCERTAIN CORRELATION
217.0	CARBONDALE		GRAY SHALE	2.6	383.0	
214.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	385.6	
210.6	CARBONDALE		SHALE	5.6	389.4	
205.0	CARBONDALE	BRERETON	SHALY LIMESTONE	8.8	395.0	
196.2	CARBONDALE	ANNA	SHALE	1.1	403.8	
195.1	CARBONDALE	HERRIN	COAL	7.8	404.9	
187.3	CARBONDALE		SHALE	1.6	412.7	
185.7	CARBONDALE		CORE LOSS	0.1	414.3	
185.7	CARBONDALE		GRAY SHALE	3.2	414.3	
182.5	CARBONDALE		LIMESTONE	2.5	417.5	
180.0	CARBONDALE		CALCAREOUS SHALE	2.0	420.0	
178.0	CARBONDALE		SHALE	5.0	422.0	

173.0 CARBONDALE LIMESTONE 1.0 427.0  
 172.0 CARBONDALE SHALE 2.0 428.0

MAPID: 11900514000C VERSION: 1 PROJECT: ROOF STUDY  
 COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 31 QUARTERS/FOOTAGES: NE NE NE SE  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693915 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.924476 DATE COLLECTED: 0 / 0 / 1945  
 SURFACE ELEVATION (FT.): 594.0 LOGGED (FT.): 441.9 LOG TYPE: Drillers Log  
 SOURCE: NO COMPANY DD 110 WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
190.8	MODESTO	PIASA	LIMESTONE W/ SHALE	1.3	403.2	
189.5	MODESTO		SANDSTONE/SILTSTONE	6.1	404.5	
183.4	CARBONDALE		GRAY SHALE	6.2	410.6	
177.2	CARBONDALE	ALLENBY	COAL	1.2	416.8	
176.0	CARBONDALE		GRAY SHALE	1.3	418.0	
174.7	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	419.3	LOWER BENCH
173.9	CARBONDALE	LAWSON	SHALE	0.6	420.1	
173.3	CARBONDALE	BRERETON	LIMESTONE	11.0	420.7	
162.3	CARBONDALE	ANNA	BLACK SHALE	1.3	431.7	
161.0	CARBONDALE	HERRIN	COAL	8.9	433.0	

MAPID: 11900514000C VERSION: 2 PROJECT: D JOHNSON  
 COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 31 QUARTERS/FOOTAGES: NE NE NE SE  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.693915 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.924476 DATE COLLECTED: 0 / 0 / 1945  
 SURFACE ELEVATION (FT.): 594.0 LOGGED (FT.): 441.9 LOG TYPE: Drillers Log  
 SOURCE: NO COMPANY DD 110 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
186.1	MODESTO	PIASA	LIMESTONE	1.7	407.9	
184.4	MODESTO		UNCLASSIFIED	3.5	409.6	
180.9	CARBONDALE	DANVILLE	COAL	0.6	413.1	
180.3	CARBONDALE		UNCLASSIFIED	5.0	413.7	
175.3	CARBONDALE	BANKSTON FORK	LIMESTONE	3.9	418.7	
171.4	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	422.6	
170.4	CARBONDALE	BRERETON	LIMESTONE	7.6	423.6	
162.8	CARBONDALE	ANNA	BLACK SHALE	1.8	431.2	
161.0	CARBONDALE	HERRIN	COAL	8.9	433.0	

MAPID: 11923617000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 31    QUARTERS/FOOTAGES: 1210' N line, 1540' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.702554    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.928983    DATE COLLECTED: 5 / 19 / 1978

SURFACE ELEVATION (FT.): 595.0    LOGGED (FT.): 440.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-46    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
417.0	MODESTO	CHAPEL	COAL	1.5	178.0
186.3	CARBONDALE	HERRIN	COAL	6.4	408.7

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MAPID: 11923617000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 31    QUARTERS/FOOTAGES: 1210' N line, 1540' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.702554    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.928983    DATE COLLECTED: 5 / 19 / 1978

SURFACE ELEVATION (FT.): 595.0    LOGGED (FT.): 440.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-46    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
595.0			UNCONSOLIDATED	84.0	0.0	
511.0	BOND		GRAY SHALE	24.0	84.0	
487.0	BOND		LIMESTONE	2.0	108.0	
485.0	BOND		COAL	0.5	110.0	UNCERTAIN CORRELATION
484.5	BOND		GRAY SHALE	28.5	110.5	
456.0	BOND	CARTHAGE	LIMESTONE	5.0	139.0	
451.0	MODESTO		GRAY SHALE	1.0	144.0	
450.0	MODESTO		BLACK SHALE	3.0	145.0	
447.0	MODESTO		GRAY SHALE	29.0	148.0	
418.0	MODESTO		BLACK SHALE	1.0	177.0	
417.0	MODESTO	CHAPEL	COAL	1.5	178.0	
415.5	MODESTO		GRAY SHALE	4.5	179.5	
411.0	MODESTO		SANDY SHALE	33.0	184.0	
378.0	MODESTO		LIMESTONE	1.5	217.0	
376.5	MODESTO		SANDY SHALE	74.5	218.5	
302.0	MODESTO		SANDSTONE	26.0	293.0	
276.0	MODESTO		SANDY SHALE	30.0	319.0	
246.0	MODESTO		SANDSTONE	3.5	349.0	
242.5	MODESTO	PIASA	LIMESTONE	4.0	352.5	
238.5	MODESTO		SANDY SHALE	13.5	356.5	
225.0	MODESTO		SANDSTONE	2.0	370.0	
223.0	MODESTO		SANDY SHALE	9.0	372.0	
214.0	CARBONDALE	DANVILLE	COAL	2.0	381.0	
212.0	CARBONDALE		GRAY SHALE	7.0	383.0	
205.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.7	390.0	
201.3	CARBONDALE		SHALE	2.3	393.7	
199.0	CARBONDALE		GRAY SHALE	1.5	396.0	
197.5	CARBONDALE	CONANT	LIMESTONE	1.2	397.5	
196.3	CARBONDALE		GRAY SHALE	1.9	398.7	
194.4	CARBONDALE	BRERETON	LIMESTONE	8.1	400.6	
186.3	CARBONDALE	ANNA	BLACK SHALE	0.0	408.7	
186.3	CARBONDALE	HERRIN	COAL	6.4	408.7	
179.9	CARBONDALE		UNDERCLAY	0.2	415.1	
179.7	CARBONDALE		CORE LOSS	0.7	415.3	
179.0	CARBONDALE		GRAY SHALE	2.7	416.0	
176.3	CARBONDALE		LIMESTONE	2.9	418.7	
173.4	CARBONDALE		CALCAREOUS SHALE	0.1	421.6	
173.3	CARBONDALE		CORE LOSS	0.3	421.7	
173.0	CARBONDALE		LIMESTONE	1.3	422.0	

171.7	CARBONDALE	SHALE	2.0	423.3
169.7	CARBONDALE	SHALE	4.5	425.3
165.3	CARBONDALE	SHALY LIMESTONE	1.3	429.7
164.0	CARBONDALE	GRAY SHALE	7.0	431.0
157.0	CARBONDALE	LIMESTONE	1.5	438.0
155.5	CARBONDALE	SHALE	0.5	439.5

**MAPID:** 11923618000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 31    **QUARTERS/FOOTAGES:** 40' S line, 2247' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.700585    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.917546    **DATE COLLECTED:** 5 / 25 / 1978  
**SURFACE ELEVATION (FT.):** 590.0    **LOGGED (FT.):** 425.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL MOS-77-47    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
432.0	MODESTO	CHAPEL	COAL	0.5	158.0
181.6	CARBONDALE	HERRIN	COAL	0.7	408.4

MAPID: 11923618000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 31 QUARTERS/FOOTAGES: 40' S line, 2247' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.700585 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.917546 DATE COLLECTED: 5 / 25 / 1978

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 425.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-47 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
590.0			UNCONSOLIDATED	107.0	0.0
483.0	BOND		SHALE	10.0	107.0
473.0	BOND	CARTHAGE	LIMESTONE	5.0	117.0
468.0	MODESTO		GRAY SHALE	1.0	122.0
467.0	MODESTO		BLACK SHALE	4.0	123.0
463.0	MODESTO		GRAY SHALE	28.0	127.0
435.0	MODESTO	CHAPEL	COAL	2.0	155.0
433.0	MODESTO		SANDY SHALE	72.0	157.0
361.0	MODESTO		SANDSTONE	80.0	229.0
281.0	MODESTO		COAL	1.0	309.0
280.0	MODESTO		SANDSTONE	17.0	310.0
263.0	MODESTO		LIMESTONE	3.5	327.0
259.5	MODESTO		SHALE	2.5	330.5
257.0	MODESTO		SHALE	4.0	333.0
253.0	MODESTO		GRAY SHALE	8.0	337.0
245.0	MODESTO	PIASA	LIMESTONE	5.5	345.0
239.5	MODESTO		CALCAREOUS SHALE	18.5	350.5
221.0	CARBONDALE	ENERGY	GRAY SHALE	35.4	369.0
185.6	CARBONDALE	ENERGY	BLACK SHALE	1.1	404.4
184.5	CARBONDALE	ENERGY	SHALE	1.9	405.5
182.6	CARBONDALE	HERRIN	COAL	0.7	407.4
181.9	CARBONDALE		SHALE	3.0	408.1
179.0	CARBONDALE		SHALE	5.6	411.0
173.4	CARBONDALE		CORE LOSS	0.4	416.6
173.0	CARBONDALE		CALCAREOUS SHALE	8.0	417.0

MAPID: 11923654000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 31    QUARTERS/FOOTAGES: 22' S line, 14' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.708094    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.917401    DATE COLLECTED: 11 / 22 / 1978

SURFACE ELEVATION (FT.): 590.0    LOGGED (FT.): 432.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL    MOS-77-53    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
286.0			COAL	1.0	304.0
181.7	CARBONDALE	HERRIN	COAL	0.9	408.3



MAPID: 11923654000C    VERSION: 2

PROJECT: NCRDS92

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 31    QUARTERS/FOOTAGES: 22' S line, 14' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.708094    GEOLOGIST: C TREWORGY

CONFIDENTIAL: N    LATITUDE: 38.917401    DATE COLLECTED: 11 / 22 / 1978

SURFACE ELEVATION (FT.): 590.0    LOGGED (FT.): 432.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL    MOS-77-53    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.0			UNCONSOLIDATED	90.0	0.0	GLACIAL DRIFT
500.0	MODESTO		GRAY SHALE	23.2	90.0	
476.8	MODESTO	CARLINVILLE	LIMESTONE	5.0	113.2	
471.8	MODESTO		GRAY SHALE	0.8	118.2	
471.0	MODESTO		BLACK SHALE	3.0	119.0	
468.0	MODESTO		GRAY SHALE	25.0	122.0	
443.0	MODESTO	CHAPEL	COAL	1.5	147.0	
441.5	MODESTO		BLACK SHALE	0.5	148.5	
441.0	MODESTO		GRAY SHALE	4.5	149.0	
436.5	MODESTO		SANDSTONE	3.5	153.5	
433.0	MODESTO		GRAY SHALE	6.0	157.0	
427.0	MODESTO		GRAY SHALE	46.0	163.0	GY SH W/ SILTSTONE STREAKS
381.0	MODESTO		GRAY SHALE	10.0	209.0	
371.0	MODESTO		SANDY SHALE	36.0	219.0	SDY SH W/ SS
335.0	MODESTO		SANDSTONE	49.0	255.0	
286.0	MODESTO		COAL	1.0	304.0	
285.0	MODESTO		GRAY SHALE	9.0	305.0	
276.0	MODESTO		GRAY SHALE	10.5	314.0	
265.5	MODESTO		LIMESTONE	1.5	324.5	
264.0	MODESTO		GRAY SHALE	7.0	326.0	
257.0	MODESTO		GRAY SHALE	9.0	333.0	
248.0	MODESTO		CALCAREOUS SHALE	10.5	342.0	
237.5	MODESTO	PIASA	LIMESTONE	3.5	352.5	
234.0	MODESTO		CALCAREOUS SHALE	5.5	356.0	
228.5	MODESTO		GRAY SHALE	2.5	361.5	
226.0	CARBONDALE		LIMESTONE	2.2	364.0	
223.8	CARBONDALE	ENERGY	GRAY SHALE	38.8	366.2	
185.0	CARBONDALE	ENERGY	BLACK SHALE	2.5	405.0	
182.5	CARBONDALE	HERRIN	COAL	1.0	407.5	
181.6	CARBONDALE		GRAY SHALE	7.1	408.4	
174.5	CARBONDALE		GRAY SHALE	4.5	415.5	
170.0	CARBONDALE		GRAY SHALE	12.0	420.0	

MAPID: 11923619000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 32    QUARTERS/FOOTAGES: 207' S line, 876' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.689607    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.918147    DATE COLLECTED: 5 / 26 / 1978

SURFACE ELEVATION (FT.): 595.0    LOGGED (FT.): 430.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-39    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
420.5	MODESTO	CHAPEL	COAL	1.5	174.5
226.0	CARBONDALE	DANVILLE	COAL	1.0	369.0
185.0	CARBONDALE	HERRIN	COAL	6.7	410.0

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MAPID: 11923619000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 32    QUARTERS/FOOTAGES: 207' S line, 876' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.689607    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.918147    DATE COLLECTED: 5 / 26 / 1978

SURFACE ELEVATION (FT.): 595.0    LOGGED (FT.): 430.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-39    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
595.0			UNCONSOLIDATED	102.0	0.0	
493.0	BOND		LIMESTONE	1.0	102.0	
492.0	BOND		COAL	1.0	103.0	UNCERTAIN CORRELATION
491.0	BOND		CALCAREOUS SHALE	14.0	104.0	
477.0	BOND		GRAY SHALE	18.5	118.0	
458.5	BOND	CARTHAGE	LIMESTONE	6.0	136.5	
452.5	MODESTO		GRAY SHALE	1.0	142.5	
451.5	MODESTO		BLACK SHALE	2.0	143.5	
449.5	MODESTO		GRAY SHALE	28.0	145.5	
421.5	MODESTO	CHAPEL	COAL	2.0	173.5	
419.5	MODESTO		GRAY SHALE	6.5	175.5	
413.0	MODESTO		SANDY SHALE	29.0	182.0	
384.0	MODESTO		COAL	0.5	211.0	
383.5	MODESTO		GRAY SHALE	6.6	211.5	
377.0	MODESTO		SANDY SHALE	23.0	218.0	
354.0	MODESTO		SANDSTONE	35.0	241.0	
319.0	MODESTO		SANDSTONE	37.0	276.0	
282.0	MODESTO		COAL	0.4	313.0	
281.6	MODESTO		SANDSTONE	11.6	313.4	
270.0	MODESTO		GRAY SHALE	12.5	325.0	
257.5	MODESTO		SANDSTONE	9.5	337.5	
248.0	MODESTO		SANDY SHALE	20.0	347.0	
228.0	MODESTO	PIASA	LIMESTONE	1.5	367.0	
226.5	MODESTO		GRAY SHALE	0.5	368.5	
226.0	CARBONDALE	DANVILLE	COAL	1.0	369.0	
225.0	CARBONDALE		GRAY SHALE	7.0	370.0	
218.0	CARBONDALE	ENERGY	GRAY SHALE	32.0	377.0	
186.0	CARBONDALE	HERRIN	COAL	7.7	409.0	
178.3	CARBONDALE		CLAYSTONE & SILTSTONE	1.1	416.7	
177.2	CARBONDALE		CORE LOSS	0.2	417.8	
177.0	CARBONDALE		CALCAREOUS SHALE	10.0	418.0	
167.0	CARBONDALE		GRAY SHALE	2.0	428.0	

MAPID: 11923620000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 32    QUARTERS/FOOTAGES: 12' N line, 687' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.67759    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.932599    DATE COLLECTED: 5 / 31 / 1978

SURFACE ELEVATION (FT.): 608.0    LOGGED (FT.): 480.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-40    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
397.0	MODESTO	CHAPEL	COAL	3.0	211.0
153.2	CARBONDALE	HERRIN	COAL	8.5	454.8

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MAPID: 11923620000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 32    QUARTERS/FOOTAGES: 12' N line, 687' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.67759    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.932599    DATE COLLECTED: 5 / 31 / 1978

SURFACE ELEVATION (FT.): 608.0    LOGGED (FT.): 480.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-40    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
608.0			UNCONSOLIDATED	80.0	0.0
528.0	BOND		GRAY SHALE	61.0	80.0
467.0	BOND		LIMESTONE	1.5	141.0
465.5	BOND		BLACK SHALE	3.5	142.5
462.0	BOND		GRAY SHALE	25.0	146.0
437.0	BOND	CARTHAGE	LIMESTONE	6.0	171.0
431.0	MODESTO		BLACK SHALE	4.0	177.0
427.0	MODESTO		SHALE	30.0	181.0
397.0	MODESTO	CHAPEL	COAL	3.0	211.0
394.0	MODESTO		GRAY SHALE	8.0	214.0
386.0	MODESTO		SANDY SHALE	13.0	222.0
373.0	MODESTO		GRAY SHALE	10.0	235.0
363.0	MODESTO		SANDY SHALE	15.0	245.0
348.0	MODESTO		SHALY SANDSTONE	45.0	260.0
303.0	MODESTO		GRAY SHALE	50.0	305.0
253.0	MODESTO		SANDY SHALE	20.0	355.0
233.0	MODESTO		SANDSTONE	4.0	375.0
229.0	MODESTO		SANDY LIMESTONE	2.0	379.0
227.0	MODESTO		SHALY SANDSTONE	7.0	381.0
220.0	MODESTO	PIASA	LIMESTONE	6.0	388.0
214.0	MODESTO		GRAY SHALE	21.0	394.0
193.0	MODESTO		BLACK SHALE	2.0	415.0
191.0	CARBONDALE	DANVILLE	COAL	1.0	417.0
190.0	CARBONDALE		GRAY SHALE	10.0	418.0
180.0	CARBONDALE		CALCAREOUS SHALE	2.5	428.0
177.5	CARBONDALE	ALLENBY	COAL	0.5	430.5
177.0	CARBONDALE		CALCAREOUS SHALE	5.0	431.0
172.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	2.5	436.0
169.5	CARBONDALE		SHALE	1.5	438.5
168.0	CARBONDALE	BRERETON	LIMESTONE	11.0	440.0
157.0	CARBONDALE	ANNA	BLACK SHALE	3.8	451.0
153.2	CARBONDALE	HERRIN	COAL	8.5	454.8
144.7	CARBONDALE		UNDERCLAY	0.2	463.3
144.5	CARBONDALE		SHALE	16.5	463.5

MAPID: 1192400000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 32    QUARTERS/FOOTAGES: 2618' S line, 1610' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.680401    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.924923    DATE COLLECTED: 4 / 25 / 1979

SURFACE ELEVATION (FT.): 610.0    LOGGED (FT.): 475.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-32-1C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
391.2	MODESTO	CHAPEL	COAL	0.2	218.8
158.0	CARBONDALE	HERRIN	COAL	7.5	452.0

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MAPID: 1192400000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 32 QUARTERS/FOOTAGES: 2618' S line, 1610' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.680401 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.924923 DATE COLLECTED: 4 / 25 / 1979

SURFACE ELEVATION (FT.): 610.0 LOGGED (FT.): 475.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-32-1C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
610.0			UNCONSOLIDATED	97.0	0.0
513.0	BOND		GRAY SHALE	47.0	97.0
466.0	BOND		LIMESTONE	1.0	144.0
465.0	BOND		SHALE	31.0	145.0
434.0	BOND	CARTHAGE	LIMESTONE	4.5	176.0
429.5	MODESTO		SHALE	1.5	180.5
428.0	MODESTO		BLACK SHALE	2.5	182.0
425.5	MODESTO		GRAY SHALE	32.3	184.5
393.2	MODESTO	CHAPEL	COAL	1.7	216.8
391.5	MODESTO		GRAY SHALE	41.5	218.5
350.0	MODESTO		SANDY SHALE	18.0	260.0
332.0	MODESTO		SANDSTONE	97.0	278.0
235.0	MODESTO		GRAY SHALE	10.0	375.0
225.0	MODESTO		LIMESTONE	2.0	385.0
223.0	MODESTO		GRAY SHALE	9.0	387.0
214.0	MODESTO	PIASA	LIMESTONE	2.0	396.0
212.0			GRAY SHALE	37.0	398.0
175.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	435.0
173.0	CARBONDALE		SHALE	1.0	437.0
172.0	CARBONDALE	BRERETON	SHALY LIMESTONE	12.7	438.0
159.3	CARBONDALE	ANNA	BLACK SHALE	1.4	450.7
158.0	CARBONDALE	HERRIN	COAL	7.5	452.0
150.5	CARBONDALE		SHALE	0.2	459.5
150.4	CARBONDALE		SHALE	1.6	459.6
148.8	CARBONDALE		LIMESTONE	4.7	461.2
144.1	CARBONDALE		GRAY SHALE	7.3	465.9
136.9	CARBONDALE		LIMESTONE	0.4	473.1
136.5	CARBONDALE		GRAY SHALE	1.5	473.5

MAPID: 11925271000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 32    QUARTERS/FOOTAGES: 32' S line, 2379' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.684252    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.917733    DATE COLLECTED: 12 / 12 / 1978

SURFACE ELEVATION (FT.): 599.0    LOGGED (FT.): 460.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-59    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
409.0			COAL	1.5	190.0
162.2	CARBONDALE	HERRIN	COAL	8.9	436.8

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MAPID: 11925271000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 32    QUARTERS/FOOTAGES: 32' S line, 2379' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.684252    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.917733    DATE COLLECTED: 12 / 12 / 1978

SURFACE ELEVATION (FT.): 599.0    LOGGED (FT.): 460.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-59    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
599.0			UNCONSOLIDATED	92.0	0.0	
507.0	BOND		GRAY SHALE	26.0	92.0	
481.0	BOND		LIMESTONE	2.0	118.0	
479.0	BOND		GRAY SHALE	33.5	120.0	
445.5	BOND	CARTHAGE	LIMESTONE	5.0	153.5	
440.5	MODESTO		BLACK SHALE	5.0	158.5	
435.5	MODESTO		GRAY SHALE	25.2	163.5	
410.3	MODESTO	CHAPEL	COAL	1.8	188.7	
408.5	MODESTO		GRAY SHALE	49.5	190.5	
359.0	MODESTO		SANDY SHALE	51.0	240.0	
308.0	MODESTO		SANDSTONE	49.0	291.0	
259.0	MODESTO		SANDY SHALE	13.0	340.0	
246.0	MODESTO		LIMESTONE	2.0	353.0	
244.0	MODESTO		COAL	1.0	355.0	
243.0	MODESTO		SANDY SHALE	17.0	356.0	
226.0	MODESTO		LIMESTONE AND SANDSTONE	3.0	373.0	
223.0	MODESTO		LIMESTONE	3.0	376.0	
220.0	MODESTO		GRAY SHALE	7.0	379.0	
213.0	MODESTO	PIASA	LIMESTONE	4.0	386.0	
209.0	MODESTO		GRAY SHALE	1.0	390.0	
208.0			LIMESTONE	2.0	391.0	
206.0			SHALE	13.7	393.0	
192.3	CARBONDALE	BANKSTON FORK	LIMESTONE	3.3	406.7	
189.0	CARBONDALE		SHALE	1.0	410.0	
188.0	CARBONDALE	BRERETON	LIMESTONE	1.0	411.0	
187.0	CARBONDALE	ENERGY	GRAY SHALE	20.8	412.0	
166.2	CARBONDALE	ENERGY	SHALE	3.2	432.8	
163.0	CARBONDALE	HERRIN	COAL	11.7	436.0	
151.3	CARBONDALE		SHALE	0.2	447.7	
151.1	CARBONDALE		CALCAREOUS SHALE	1.0	447.9	
150.1	CARBONDALE		GRAY SHALE	3.1	448.9	
147.0	CARBONDALE		LIMESTONE	1.0	452.0	
146.0	CARBONDALE		GRAY SHALE	7.0	453.0	

MAPID: 11900533000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 33 QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.673626

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.926175

DATE COLLECTED:

SURFACE ELEVATION (FT.): 603.0

LOGGED (FT.): 473.4

LOG TYPE: Survey Core Study

SOURCE: NO COMPANY

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
179.1	MODESTO	PIASA	LIMESTONE	0.5	423.9	
178.7	MODESTO		SHALE	11.8	424.3	
166.8	CARBONDALE	GALUM	LIMESTONE	1.9	436.2	
164.9	CARBONDALE		DARK GRAY SHALE	0.9	438.1	
164.0	CARBONDALE	ALLENBY	COAL	0.7	439.0	
163.3	CARBONDALE		CLAYSTONE & SHALE	7.2	439.7	
156.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.1	446.8	LOWER BENCH
153.1	CARBONDALE	LAWSON	GRAY SHALE	1.0	449.9	
152.1	CARBONDALE	BRERETON	LIMESTONE	11.6	450.9	
140.5	CARBONDALE	ANNA	BLACK SHALE	2.5	462.5	
138.0	CARBONDALE	HERRIN	COAL	8.4	465.0	

MAPID: 11900533000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 33 QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.673626

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.926175

DATE COLLECTED:

SURFACE ELEVATION (FT.): 603.0

LOGGED (FT.): 473.4

LOG TYPE: Drillers Log

SOURCE: NO COMPANY

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
183.8	MODESTO	PIASA	LIMESTONE	5.0	419.2	
178.8	MODESTO		UNCLASSIFIED	6.0	424.2	
172.8	CARBONDALE		UNCLASSIFIED	10.8	430.2	
162.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.9	441.0	
153.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	449.9	
152.1	CARBONDALE	BRERETON	LIMESTONE	11.6	450.9	
140.5	CARBONDALE	ANNA	BLACK SHALE	2.5	462.5	
138.0	CARBONDALE	HERRIN	COAL	8.4	465.0	

MAPID: 11900533000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 33    QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.673626    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.926175    DATE COLLECTED: 5 / 0 / 1945

SURFACE ELEVATION (FT.): 602.6    LOGGED (FT.): 473.2    LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 106    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
602.6			UNCLASSIFIED	119.0	0.0	NO RECORD
483.6			GRAY SHALE	1.0	119.0	
482.6			GRAY SHALE	7.0	120.0	
475.6			DARK GRAY SHALE	7.8	127.0	
467.8			GRAY SHALE	3.0	134.8	
464.8			GRAY SHALE	2.3	137.8	
462.6			GRAY SHALE	5.8	140.0	
456.8			SHALE	0.3	145.8	
456.5			LIMESTONE	0.5	146.1	
456.0			COAL	0.3	146.6	
455.7			UNDERCLAY	0.3	146.9	
455.4			UNDERCLAY	1.3	147.2	
454.2			UNDERCLAY	4.6	148.4	
449.6			GRAY SHALE	9.0	153.0	
440.6			GRAY SHALE	3.4	162.0	
437.2			GRAY SHALE	8.8	165.4	
428.4			DARK GRAY SHALE	1.4	174.2	
427.0			LIMESTONE	5.6	175.6	
421.4	BOND	CARTHAGE	BLACK SHALE	1.9	181.2	
419.5	MODESTO		SHALE	5.0	183.1	
414.5	MODESTO		GRAY SHALE	4.6	188.1	
409.9	MODESTO		GRAY SHALE	2.6	192.7	
407.3	MODESTO		SHALE	5.3	195.3	
402.0	MODESTO		GRAY SHALE	5.0	200.6	
397.0	MODESTO		GRAY SHALE	10.0	205.6	
387.0	MODESTO		GRAY SHALE	2.2	215.6	
384.8	MODESTO		DARK GRAY SHALE	0.5	217.8	
384.3	MODESTO	CHAPEL	COAL	0.2	218.3	
384.2	MODESTO	CHAPEL	COAL	1.8	218.4	
382.3	MODESTO	CHAPEL	COAL	0.2	220.3	
382.2	MODESTO		GRAY SHALE	2.3	220.4	
379.8	MODESTO		GRAY SILTSTONE	2.3	222.8	
377.5	MODESTO		GRAY SILTSTONE	8.2	225.1	
369.3	MODESTO		GRAY SHALE	4.6	233.3	
364.8	MODESTO		GRAY SHALE	8.0	237.8	
356.8	MODESTO		GRAY SHALE	1.6	245.8	
355.2	MODESTO		GRAY SHALE	5.3	247.4	
349.9	MODESTO		GRAY SHALE	3.2	252.7	
346.8	MODESTO		DARK GRAY SHALE	1.3	255.8	

345.5	MODESTO	COAL	0.3	257.1	
345.3	MODESTO	UNDERCLAY	1.7	257.3	
343.6	MODESTO	UNCLASSIFIED	0.3	259.0	SIDERITE CONCENTRATION
343.3	MODESTO	SHALE	6.4	259.3	
336.9	MODESTO	SHALE	2.0	265.7	
334.9	MODESTO	DARK GRAY SHALE	4.3	267.7	
330.7	MODESTO	GRAY SILTSTONE	2.6	271.9	
328.1	MODESTO	SANDSTONE	1.1	274.5	
327.0	MODESTO	SANDSTONE	0.4	275.6	
326.6	MODESTO	GRAY SILTSTONE	0.7	276.0	
325.9	MODESTO	SANDSTONE	6.6	276.7	
319.3	MODESTO	SANDSTONE	2.0	283.3	
317.3	MODESTO	DARK GRAY SHALE	0.3	285.3	
317.0	MODESTO	SANDSTONE	3.4	285.6	
313.6	MODESTO	GRAY SILTSTONE	0.6	289.0	
313.0	MODESTO	SANDSTONE	5.5	289.6	
307.5	MODESTO	SANDSTONE	0.7	295.1	
306.8	MODESTO	SANDSTONE	1.3	295.8	
305.6	MODESTO	SANDSTONE	4.8	297.0	
300.8	MODESTO	GRAY SILTSTONE	3.6	301.8	
297.2	MODESTO	SANDSTONE	4.6	305.4	
292.6	MODESTO	SANDSTONE	5.3	310.0	
287.3	MODESTO	SANDSTONE	0.3	315.3	
286.9	MODESTO	SANDSTONE	3.7	315.7	
283.3	MODESTO	SANDSTONE	5.9	319.3	
277.3	MODESTO	SANDSTONE	1.3	325.3	
276.1	MODESTO	SANDSTONE	8.5	326.5	
267.6	MODESTO	SANDSTONE	0.3	335.0	
267.3	MODESTO	SANDSTONE	9.7	335.3	
257.6	MODESTO	SANDSTONE	1.3	345.0	
256.3	MODESTO	SANDSTONE	8.6	346.3	
247.7	MODESTO	SANDSTONE	0.7	354.9	
247.0	MODESTO	SANDSTONE	10.5	355.6	
236.5	MODESTO	SANDSTONE	2.2	366.1	
234.3	MODESTO	SANDSTONE	0.6	368.3	
233.8	MODESTO	CONGLOMERATE	1.4	368.8	
232.3	MODESTO	GRAY SILTSTONE	0.9	370.3	
231.5	MODESTO	SANDSTONE	2.3	371.1	
229.3	MODESTO	SANDSTONE	2.8	373.3	
226.5	MODESTO	SANDSTONE	0.4	376.1	
226.1	MODESTO	SANDSTONE	5.0	376.5	
221.1	MODESTO	COAL	0.2	381.5	
220.9	MODESTO	SANDSTONE	0.8	381.7	
220.1	MODESTO	SHALE	4.0	382.5	
216.1	MODESTO	SHALE	2.5	386.5	
213.6	MODESTO	BLACK SHALE	0.0	389.0	
213.6	MODESTO	DARK GRAY SHALE	7.4	389.0	
206.2	MODESTO	DARK GRAY SHALE	1.1	396.4	

205.1	MODESTO		DARK GRAY SHALE	0.4	397.5
204.7	MODESTO		SANDSTONE	2.8	397.9
201.9	MODESTO		SANDSTONE	2.3	400.7
199.7	MODESTO		SANDSTONE	0.9	402.9
198.8	MODESTO		GRAY SHALE	1.6	403.8
197.2	MODESTO		GRAY SHALE	6.5	405.4
190.7	MODESTO		DARK GRAY SHALE	0.6	411.9
190.1	MODESTO		DARK GRAY SHALE	0.6	412.5
189.5	MODESTO		GRAY SHALE	0.3	413.1
189.2	MODESTO		GRAY SHALE	1.0	413.4
188.2	MODESTO		UNDERCLAY	0.9	414.4
187.3	MODESTO		UNDERCLAY	1.4	415.3
185.8	MODESTO		UNDERCLAY	0.7	416.8
185.2	MODESTO	PIASA	LIMESTONE	4.3	417.4
180.8	MODESTO	PIASA	LIMESTONE	0.2	421.8
180.7	MODESTO		CALCAREOUS SHALE	0.1	421.9
180.6	MODESTO		LIMESTONE	0.5	422.0
180.1	MODESTO		GRAY SHALE	0.5	422.5
179.7	MODESTO		DARK GRAY SHALE	0.7	422.9
179.0	MODESTO		UNDERCLAY	1.8	423.6
177.3	MODESTO		GRAY SHALE	1.8	425.3
175.5	MODESTO		GRAY SHALE	2.3	427.1
173.3	MODESTO		DARK GRAY SHALE	6.7	429.3
166.6	MODESTO		LIMESTONE	0.3	436.0
166.3	MODESTO		LIMESTONE	1.6	436.3
164.7	MODESTO		GRAY SHALE	0.5	437.9
164.2	MODESTO		BLACK SHALE	0.4	438.4
163.8	CARBONDALE	DANVILLE	COAL	0.7	438.8
163.1	CARBONDALE		UNDERCLAY	0.2	439.5
162.9	CARBONDALE		UNDERCLAY	1.0	439.7
161.8	CARBONDALE		UNDERCLAY	4.0	440.8
157.8	CARBONDALE		UNDERCLAY	1.4	444.8
156.4	CARBONDALE		GRAY SHALE	0.4	446.2
156.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.1	446.6
152.9	CARBONDALE		GRAY SHALE	1.0	449.7
151.9	CARBONDALE	BRERETON	LIMESTONE	5.3	450.7
146.6	CARBONDALE	BRERETON	LIMESTONE	6.3	456.0
140.3	CARBONDALE		BLACK SHALE	2.5	462.3
137.8	CARBONDALE	HERRIN	COAL	8.4	464.8

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MAPID: 11900534000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 33 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.673176 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.918725 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 442.2 LOG TYPE: Drillers Log

SOURCE: NO COMPANY 107 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
204.2	MODESTO	PIASA	LIMESTONE	4.9	395.8
199.3	MODESTO		UNCLASSIFIED	5.1	400.7
194.2	CARBONDALE		UNCLASSIFIED	5.1	405.8
189.1	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	410.9
185.1	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	414.9
182.1	CARBONDALE		SHALE	2.0	417.9
180.1	CARBONDALE	BRERETON	LIMESTONE	13.3	419.9
166.8	CARBONDALE	ANNA	BLACK SHALE	0.8	433.2
166.0	CARBONDALE	HERRIN	COAL	8.2	434.0

MAPID: 11923621000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 33 QUARTERS/FOOTAGES: 2075' N line, 2590' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.665686 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.927109 DATE COLLECTED: 5 / 25 / 1978

SURFACE ELEVATION (FT.): 602.0 LOGGED (FT.): 496.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-37 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
381.0	MODESTO	CHAPEL	COAL	3.0	221.0
163.3	CARBONDALE	DANVILLE	COAL	-	438.7
134.5	CARBONDALE	HERRIN	COAL	10.5	467.5

MAPID: 11923621000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 33    QUARTERS/FOOTAGES: 2075' N line, 2590' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.665686    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.927109    DATE COLLECTED: 5 / 25 / 1978

SURFACE ELEVATION (FT.): 602.0    LOGGED (FT.): 496.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-77-37    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
602.0			UNCONSOLIDATED	68.0	0.0
534.0	BOND		SANDSTONE/LIMESTONE	2.0	68.0
532.0	BOND		GRAY SHALE	18.0	70.0
514.0	BOND		SHALE	4.0	88.0
510.0	BOND		GRAY SHALE	59.0	92.0
451.0	BOND		SHALE	3.0	151.0
448.0	BOND		GRAY SHALE	26.0	154.0
422.0	BOND	CARTHAGE	LIMESTONE	6.0	180.0
416.0	BOND		BLACK SHALE	4.0	186.0
412.0	MODESTO		GRAY SHALE	32.0	190.0
380.0	MODESTO	CHAPEL	COAL	2.0	222.0
378.0	MODESTO		GRAY SHALE	16.0	224.0
362.0	MODESTO		SANDY SHALE	10.0	240.0
352.0	MODESTO		CALCAREOUS SHALE	40.0	250.0
312.0	MODESTO		GRAY SHALE	12.0	290.0
300.0	MODESTO		SANDY SHALE	8.0	302.0
292.0	MODESTO		SHALY SANDSTONE	73.0	310.0
219.0	MODESTO		GRAY SHALE	37.0	383.0
182.0	MODESTO	PIASA	LIMESTONE	6.0	420.0
176.0	MODESTO		SHALE	10.0	426.0
166.0	MODESTO		LIMESTONE	2.0	436.0
164.0	CARBONDALE	DANVILLE	COAL	2.0	438.0
162.0	CARBONDALE		GRAY SHALE	7.0	440.0
155.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	447.0
147.0	CARBONDALE		SHALE	3.0	455.0
144.0	CARBONDALE	BRERETON	LIMESTONE	7.0	458.0
137.0	CARBONDALE	ANNA	BLACK SHALE	2.5	465.0
134.5	CARBONDALE	HERRIN	COAL	10.5	467.5
124.0	CARBONDALE		UNDERCLAY	1.2	478.0
122.8	CARBONDALE		CORE LOSS	0.3	479.2
122.5	CARBONDALE		CALCAREOUS SHALE	3.5	479.5
119.0	CARBONDALE		GRAY SHALE	3.0	483.0
116.0	CARBONDALE		CALCAREOUS SHALE	10.0	486.0

MAPID: 11923622000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 33    QUARTERS/FOOTAGES: 1999' S line, 2300' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.666494    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.923425    DATE COLLECTED: 5 / 22 / 1978

SURFACE ELEVATION (FT.): 605.0    LOGGED (FT.): 510.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-7738    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
380.0	MODESTO	CHAPEL	COAL	2.0	225.0	
161.7			COAL	1.0	443.3	



MAPID: 11923622000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 5W    SECTION: 33    QUARTERS/FOOTAGES: 1999' S line, 2300' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.666494    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.923425    DATE COLLECTED: 5 / 22 / 1978

SURFACE ELEVATION (FT.): 605.0    LOGGED (FT.): 510.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-7738    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
605.0			UNCONSOLIDATED	89.0	0.0
516.0	BOND		GRAY SHALE	60.5	89.0
455.5	BOND		LIMESTONE	1.0	149.5
454.5	BOND		COAL	1.5	150.5
453.0	BOND		GRAY SHALE	8.0	152.0
445.0	BOND		LIMESTONE	1.5	160.0
443.5	BOND		GRAY SHALE	21.5	161.5
422.0	BOND	CARTHAGE	LIMESTONE	6.0	183.0
416.0	MODESTO		BLACK SHALE	3.0	189.0
413.0	MODESTO		CALCAREOUS SHALE	13.0	192.0
400.0	MODESTO		GRAY SHALE	17.0	205.0
383.0	MODESTO	CHAPEL	COAL	2.0	222.0
381.0	MODESTO		GRAY SHALE	4.0	224.0
377.0	MODESTO		SANDY SHALE	40.0	228.0
337.0	MODESTO		GRAY SHALE	20.0	268.0
317.0	MODESTO		SANDY SHALE	6.0	288.0
311.0	MODESTO		SHALY SANDSTONE	14.0	294.0
297.0	MODESTO		SANDY SHALE	4.0	308.0
293.0	MODESTO		SANDY LIMESTONE	11.0	312.0
282.0	MODESTO		SANDY SHALE	14.0	323.0
268.0	MODESTO		SANDSTONE	55.0	337.0
213.0	MODESTO		GRAY SHALE	9.0	392.0
204.0	MODESTO		BLACK SHALE	3.0	401.0
201.0	MODESTO		CALCAREOUS SANDSTONE	19.0	404.0
182.0	MODESTO	PIASA	LIMESTONE	7.0	423.0
175.0	MODESTO		BLACK SHALE	2.0	430.0
173.0	MODESTO		GRAY SHALE	8.0	432.0
165.0	MODESTO		SHALY LIMESTONE	2.5	440.0
162.5	MODESTO		CALCAREOUS SHALE	0.8	442.5
161.7	CARBONDALE	DANVILLE	COAL	1.0	443.3
160.7	CARBONDALE		CLAYSTONE	5.4	444.3
155.3	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	449.7
151.5	CARBONDALE		SHALE	1.4	453.5
150.1	CARBONDALE	BRERETON	LIMESTONE	4.6	454.9
145.5	CARBONDALE	BRERETON	LIMESTONE	7.9	459.5
137.6	CARBONDALE		CORE LOSS	2.6	467.4
135.0	CARBONDALE	ANNA	BLACK SHALE	3.9	470.0
131.1	CARBONDALE	HERRIN	COAL	6.5	473.9

124.6	CARBONDALE	HERRIN	CORE LOSS	0.2	480.4
124.5	CARBONDALE	HERRIN	CLAYSTONE	1.1	480.5
123.4	CARBONDALE	HERRIN	COAL	3.0	481.6
120.4	CARBONDALE		UNDERCLAY	0.9	484.6
119.5	CARBONDALE		UNDERCLAY	14.5	485.5
105.0	CARBONDALE		GRAY SHALE	10.0	500.0

**MAPID:** 11924029000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 33    **QUARTERS/FOOTAGES:** 126' S line, 2598' W line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.665139    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.918276    **DATE COLLECTED:** 11 / 19 / 1979  
**SURFACE ELEVATION (FT.):** 588.0    **LOGGED (FT.):** 435.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL ND-79-33-44C    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
408.0	MODESTO	CHAPEL	COAL	1.5	180.0
177.5	CARBONDALE	HERRIN	COAL	6.2	410.5
167.0	CARBONDALE	HERRIN	COAL	1.0	421.0

MAPID: 11924029000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 33 QUARTERS/FOOTAGES: 126' S line, 2598' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.665139 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.918276 DATE COLLECTED: 11 / 19 / 1979

SURFACE ELEVATION (FT.): 588.0 LOGGED (FT.): 435.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-33-44C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
588.0			UNCONSOLIDATED	74.0	0.0
514.0	BOND		SHALE	8.0	74.0
506.0	BOND		GRAY SHALE	25.0	82.0
481.0	BOND		LIMESTONE	1.0	107.0
480.0	BOND		COAL	1.0	108.0
479.0	BOND		GRAY SHALE	33.6	109.0
445.4	BOND	CARTHAGE	LIMESTONE	5.7	142.6
439.7	MODESTO		BLACK SHALE	5.7	148.3
434.0	MODESTO		GRAY SHALE	24.0	154.0
410.0	MODESTO	CHAPEL	COAL	2.5	178.0
407.5	MODESTO		GRAY SHALE	25.5	180.5
382.0	MODESTO		SANDY SHALE	41.0	206.0
341.0	MODESTO		SANDY SHALE	43.5	247.0
297.5	MODESTO		SANDSTONE	89.5	290.5
208.0	MODESTO	PIASA	LIMESTONE	3.0	380.0
205.0			SANDY SHALE	12.4	383.0
192.6	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	395.4
189.4	CARBONDALE		SHALE	1.6	398.6
187.8	CARBONDALE	BRERETON	LIMESTONE	10.4	400.2
177.4	CARBONDALE	ANNA	BLACK SHALE	0.6	410.6
176.8	CARBONDALE	HERRIN	COAL	5.5	411.2
171.3	CARBONDALE	HERRIN	UNDERCLAY	0.7	416.7
170.6	CARBONDALE	HERRIN	CORE LOSS	1.7	417.4
169.0	CARBONDALE	HERRIN	SHALE	1.9	419.0
167.1	CARBONDALE	HERRIN	COAL	1.3	420.9
165.8	CARBONDALE		GRAY SHALE	12.8	422.2

MAPID: 11900711000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 34 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.65074 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.930255 DATE COLLECTED: 8 / 0 / 1954

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL 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	14.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE		UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	7.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	2.5	

MAPID: 11902451000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 34 QUARTERS/FOOTAGES: 2719' S line, 36' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.637633 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.925895 DATE COLLECTED:

SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 498.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. 4 WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
189.0	MODESTO	PIASA	LIMESTONE	3.0	403.0
186.0	CARBONDALE	ENERGY	SHALE	92.0	406.0

MAPID: 11902451000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 5W SECTION: 34 QUARTERS/FOOTAGES: 2719' S line, 36' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.637633 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.925895 DATE COLLECTED: 9 / 0 / 1949

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: SOHIO 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	6.0	

**MAPID:** 11902451000C    **VERSION:** 3    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 2719' S line, 36' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.637633    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.925895    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 592.0    **LOGGED (FT.):** 919.0    **LOG TYPE:** Drillers Log  
**SOURCE:** SOHIO PETROLEUM CO.    4    **WELL TYPE:** Coal Test  
**COMMENT:** NO DATE GIVEN, ELECTRIC LOG ENCLOSED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	0.0	OIL TEST E-LOG ONLY

**MAPID:** 11902452000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 34' S line, 36' W line of SW SW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.655425    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.918187    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 585.0    **LOGGED (FT.):** 873.0    **LOG TYPE:** Drillers Log  
**SOURCE:** SOHIO PETROLEUM CO.    2    **WELL TYPE:** Coal Test  
**COMMENT:** NO DATE GIVEN, ELECTRIC LOG ENCLOSED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	0.0	OIL TEST E-LOG ONLY

**MAPID:** 11902452000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 5W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 34' S line, 36' W line of SW SW  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.655425    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.918187    **DATE COLLECTED:** 9 / 0 / 1949  
**SURFACE ELEVATION (FT.):** 585.0    **LOGGED (FT.):** 873.0    **LOG TYPE:** Electric Log  
**SOURCE:** SOHIO 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	5.0	
-	MODESTO		UNCLASSIFIED	5.0	
-	CARBONDALE		UNCLASSIFIED	7.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	
-	CARBONDALE		UNCLASSIFIED	1.0	
-	CARBONDALE	BRERETON	LIMESTONE	11.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.0	
-	CARBONDALE	HERRIN	COAL	2.5	

MAPID: 11900019000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 2 QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.732672 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.99295 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 593.1 LOGGED (FT.): 381.0 LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
243.1	CARBONDALE	HERRIN	COAL	7.3	350.0	

MAPID: 11900019000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 2 QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.732672 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.99295 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Water Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	12.8		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.2		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5		
-	CARBONDALE	BRERETON	LIMESTONE	11.0		
-	CARBONDALE	ANNA	BLACK SHALE	3.6		
-	CARBONDALE	HERRIN	COAL	7.3		

MAPID: 11900019000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 2    QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.732672    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.99295    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 593.1    LOGGED (FT.): 381.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    2    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
593.1			CLAY	20.0	0.0	
573.1			SAND	40.0	20.0	SD AND GRAVEL
533.1			SAND	10.0	60.0	
523.1			CLAY	25.0	70.0	
498.1			CLAY	25.0	95.0	
473.1			SHALE	54.0	120.0	
419.1			LIMESTONE	6.0	174.0	
413.1			GRAY SHALE	19.0	180.0	
394.1			SHALE	2.0	199.0	
392.1			GRAY SHALE	11.0	201.0	
381.1			COAL	0.2	212.0	
380.9			UNDERCLAY	1.8	212.2	
379.1			SHALE	10.0	214.0	
369.1			SANDSTONE	26.0	224.0	
343.1			SANDY SHALE	33.0	250.0	
310.1			GRAY SHALE	18.0	283.0	
292.1			CALCAREOUS SHALE	19.0	301.0	
273.1			GRAY SHALE	13.0	320.0	
260.1			GRAY SHALE	13.0	333.0	
247.1			CALCAREOUS SHALE	3.0	346.0	
244.1			COAL	0.3	349.0	
243.8			COAL	0.5	349.3	
243.3			GRAY SHALE	8.2	349.8	
235.1			GRAY SHALE	2.0	358.0	
233.1			LIMESTONE	2.0	360.0	
231.1			SHALE	2.5	362.0	
228.6			LIMESTONE	0.8	364.5	
227.8			DARK SHALE	4.0	365.3	
223.8	CARBONDALE	HERRIN	COAL	6.8	369.3	
217.1	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	376.0	BLU BAND
217.1	CARBONDALE	HERRIN	COAL	0.5	376.0	
216.6			UNDERCLAY	1.5	376.5	
215.1			GRAY SHALE	2.0	378.0	
213.1			LIMESTONE	1.0	380.0	

MAPID: 11900020000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 2 QUARTERS/FOOTAGES: 1200' S line, 1700' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.732731 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.993533 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 327.3 LOG TYPE: Drillers Log

SOURCE: WILLIAMSON T W WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
309.7	MODESTO	PIASA	LIMESTONE	4.5	279.3
305.2	MODESTO		UNCLASSIFIED	4.0	283.8
301.2	CARBONDALE	DANVILLE	COAL	1.0	287.8
300.2	CARBONDALE		UNCLASSIFIED	9.0	288.8
291.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	297.8
284.7	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	304.3
281.7	CARBONDALE	BRERETON	LIMESTONE	12.7	307.3
269.0	CARBONDALE	HERRIN	COAL	7.3	320.0

MAPID: 11900020000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 2 QUARTERS/FOOTAGES: 1200' S line, 1700' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.732731 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.993533 DATE COLLECTED:

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 327.7 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
302.0	MODESTO	PIASA	LIMESTONE	4.5	287.0
297.5	MODESTO		BLACK SHALE	0.7	291.5
296.8	CARBONDALE		SHALE	9.5	292.2
287.3	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	301.7
285.8	CARBONDALE	BANKSTON FORK	SHALE	0.5	303.2
285.3	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	303.7
284.3	CARBONDALE	LAWSON	SHALE	3.0	304.7
281.3	CARBONDALE	BRERETON	LIMESTONE	12.7	307.7
268.7	CARBONDALE	ANNA	BLACK SHALE	1.7	320.3
267.0	CARBONDALE	HERRIN	COAL	5.7	322.0



**MAPID:** 11900020000C    **VERSION:** 3    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 2    **QUARTERS/FOOTAGES:** 1200' S line, 1700' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.732731    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.993533    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 589.3    **LOGGED (FT.):** 329.0    **LOG TYPE:**  
**SOURCE:** WILLIAMSON0002    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
267.3	CARBONDALE	HERRIN	COAL	5.7	322.0	

**MAPID:** 11902146000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 3    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE SE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.749279    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.991301    **DATE COLLECTED:** 1 / 0 / 1968  
**SURFACE ELEVATION (FT.):** 610.0    **LOGGED (FT.):** 318.0    **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.)		COMMENT
				UNIT	OVERBURDEN	
298.0	CARBONDALE	HERRIN	COAL	6.0	312.0	

**MAPID:** 11900021000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 5    **QUARTERS/FOOTAGES:** SE SE SE SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.792857    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.991125    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 613.0    **LOGGED (FT.):** 691.0    **LOG TYPE:** Drillers Log  
**SOURCE:** S O U C C 0017    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
327.0	CARBONDALE	HERRIN	COAL	6.3	286.0	

**MAPID:** 11900021000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 5    **QUARTERS/FOOTAGES:** SE SE SE SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.792857    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.991125    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 613.0    **LOGGED (FT.):** 292.3    **LOG TYPE:** Drillers Log  
**SOURCE:** SOUTHERN COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
327.0	CARBONDALE	HERRIN	COAL	6.3	286.0	

MAPID: 11900021000C VERSION: 3

PROJECT: EIA-DOE

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 5

QUARTERS/FOOTAGES: SE SE SE SW

QUADRANGLE: WORDEN

LONGITUDE: -89.792857

GEOLOGIST: JACOBSON

CONFIDENTIAL: N

LATITUDE: 38.991125

DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 613.0

LOGGED (FT.): 691.0

LOG TYPE: Drillers Log

SOURCE: SOU C C 0017

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
226.5	CARBONDALE	HERRIN	COAL	6.3	386.5	

MAPID: 11900021000C VERSION: 4

PROJECT: ROOF STUDY

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 5

QUARTERS/FOOTAGES: SE SE SE SW

QUADRANGLE: WORDEN

LONGITUDE: -89.792857

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.991125

DATE COLLECTED:

SURFACE ELEVATION (FT.): 613.0

LOGGED (FT.): 292.3

LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. 17

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
366.0	MODESTO	PIASA	LIMESTONE	4.7	247.0	
361.3	MODESTO		CLAYSTONE & SHALE	5.3	251.7	
356.1	CARBONDALE	DANVILLE	COAL	1.0	256.9	
355.1	CARBONDALE		CLAYSTONE & SHALE	3.6	257.9	
351.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	261.5	LOWER BENCH
349.5	CARBONDALE	LAWSON	GRAY SHALE	1.0	263.5	
348.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	264.5	
346.5	CARBONDALE	BRERETON	LIMESTONE	19.1	266.5	
327.4	CARBONDALE	ANNA	SHALE	0.4	285.6	
327.0	CARBONDALE	HERRIN	COAL	6.3	286.0	

MAPID: 11901162000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.80673 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.982633 DATE COLLECTED: 6 / 0 / 1964

SURFACE ELEVATION (FT.): 603.0 LOGGED (FT.): 263.0 LOG TYPE: Electric Log

SOURCE: WILSON, CARLINE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.0	MODESTO	PIASA	LIMESTONE	6.0	223.0
374.0	MODESTO		UNCLASSIFIED	3.0	229.0
371.0	CARBONDALE		UNCLASSIFIED	9.0	232.0
362.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	241.0
358.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	245.0
357.0	CARBONDALE	BRERETON	LIMESTONE	8.0	246.0
349.0	CARBONDALE	ANNA	BLACK SHALE	3.0	254.0
346.0	CARBONDALE	HERRIN	COAL	6.0	257.0

MAPID: 11901240000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE

QUADRANGLE: WORDEN LONGITUDE: -89.802015 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.984435 DATE COLLECTED: 3 / 0 / 1967

SURFACE ELEVATION (FT.): 597.0 LOGGED (FT.): 275.0 LOG TYPE: Electric Log

SOURCE: WILSON, CARLINE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
367.0	MODESTO	PIASA	LIMESTONE	8.0	230.0
359.0	MODESTO		UNCLASSIFIED	4.0	238.0
355.0	CARBONDALE		UNCLASSIFIED	12.0	242.0
343.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	254.0
338.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	259.0
337.0	CARBONDALE	BRERETON	LIMESTONE	10.0	260.0
327.0	CARBONDALE	HERRIN	COAL	5.0	270.0

MAPID: 11901697000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.808929 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.988086 DATE COLLECTED: 9 / 0 / 1948

SURFACE ELEVATION (FT.): 596.0 LOGGED (FT.): 260.0 LOG TYPE: Electric Log

SOURCE: PENNINGTON & HOPKINS WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
376.0	MODESTO	PIASA	LIMESTONE	7.0	220.0
369.0	MODESTO		UNCLASSIFIED	2.0	227.0
367.0	CARBONDALE		UNCLASSIFIED	10.0	229.0
357.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	239.0
351.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	245.0
349.0	CARBONDALE	BRERETON	LIMESTONE	9.0	247.0
340.0	CARBONDALE	HERRIN	COAL	4.0	256.0

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MAPID: 1192366000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 7 QUARTERS/FOOTAGES: 1315' S line, 1157' W line

QUADRANGLE: WORDEN LONGITUDE: -89.807956 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.979947 DATE COLLECTED: 12 / 1 / 1978

SURFACE ELEVATION (FT.): 610.0 LOGGED (FT.): 370.0 LOG TYPE: Drillers Log

SOURCE: MOBIL OIL MOS-77-29 WELL TYPE: Coal Test

COMMENT: DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
610.0			UNCONSOLIDATED	155.0	0.0
455.0	BOND		GRAY SHALE	19.8	155.0
435.2	BOND	CARTHAGE	LIMESTONE	4.9	174.8
430.3	MODESTO		GRAY SHALE	36.8	179.7
393.5	MODESTO	CHAPEL	COAL	0.2	216.5
393.3	MODESTO		SANDY SHALE	17.3	216.7
376.0	MODESTO		GRAY SHALE	66.5	234.0
309.5	MODESTO		SHALE	13.5	300.5
296.0	MODESTO		LIMESTONE	1.0	314.0
295.0	MODESTO		GRAY SHALE	0.3	315.0
294.7	MODESTO		LIMESTONE	0.7	315.3
294.0	MODESTO		GRAY SHALE	6.0	316.0
288.0	MODESTO		SANDY SHALE	5.0	322.0
283.0	MODESTO		SHALE	1.0	327.0
282.0	MODESTO		SHALE	3.8	328.0
278.2	MODESTO	PIASA	LIMESTONE	3.2	331.8
275.0	MODESTO		GRAY SHALE	7.0	335.0
268.0	MODESTO		BLACK SHALE	4.0	342.0
264.0	CARBONDALE		GRAY SHALE	2.0	346.0
262.0	CARBONDALE		SHALE	7.0	348.0
255.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	355.0
251.5	CARBONDALE		SHALE	3.3	358.5
248.2	CARBONDALE	BRERETON	LIMESTONE	5.7	361.8
242.5	CARBONDALE		UNCLASSIFIED	2.5	367.5

MAPID: 11900111000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 8 QUARTERS/FOOTAGES: 5000' S line, 2800' E line

QUADRANGLE: WORDEN LONGITUDE: -89.792817 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.989982 DATE COLLECTED:

SURFACE ELEVATION (FT.): 613.4 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
331.4	CARBONDALE	HERRIN	COAL	5.2	282.0

MAPID: 11900111000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 8 QUARTERS/FOOTAGES: 5000' S line, 2800' E line

QUADRANGLE: WORDEN LONGITUDE: -89.792817 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.989982 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 613.0 LOGGED (FT.): 291.2 LOG TYPE: Drillers Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
330.3	CARBONDALE		UNCLASSIFIED	3.3	282.7
327.0	CARBONDALE	HERRIN	COAL	5.2	286.0

MAPID: 11901698000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 8 QUARTERS/FOOTAGES: 335' S line, 2479' E line

QUADRANGLE: WORDEN LONGITUDE: -89.791557 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.977085 DATE COLLECTED: 10 / 0 / 1951

SURFACE ELEVATION (FT.): 601.0 LOGGED (FT.): 284.0 LOG TYPE: Electric Log

SOURCE: MT. OLIVE & STAUNTON COAL CO. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
364.0	MODESTO	PIASA	LIMESTONE	6.0	237.0
358.0	MODESTO		UNCLASSIFIED	5.0	243.0
353.0	CARBONDALE		UNCLASSIFIED	12.0	248.0
341.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	260.0
336.0	CARBONDALE	BRERETON	LIMESTONE	9.0	265.0
327.0	CARBONDALE	ANNA	BLACK SHALE	4.0	274.0
323.0	CARBONDALE	HERRIN	COAL	6.0	278.0

MAPID: 11901698000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 8 QUARTERS/FOOTAGES: 335' S line, 2479' E line

QUADRANGLE: WORDEN LONGITUDE: -89.791557 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.977085 DATE COLLECTED:

SURFACE ELEVATION (FT.): 601.0 LOGGED (FT.): 284.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
364.0	MODESTO	PIASA	LIMESTONE	6.0	237.0
358.0	MODESTO		GRAY SHALE	13.0	243.0
345.0	CARBONDALE		DARK GRAY SHALE	9.0	256.0
336.0	CARBONDALE	BRERETON	LIMESTONE	9.0	265.0
327.0	CARBONDALE	ANNA	BLACK SHALE	4.0	274.0
323.0	CARBONDALE	HERRIN	COAL	6.0	278.0

MAPID: 11900767000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 9 QUARTERS/FOOTAGES: 448' S line, 236' W line of SE SW

QUADRANGLE: WORDEN LONGITUDE: -89.777333 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.9772 DATE COLLECTED: 3 / 0 / 1950

SURFACE ELEVATION (FT.): 596.0 LOGGED (FT.): 287.0 LOG TYPE: Electric Log

SOURCE: BRADSHAW, J. R. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
352.0	MODESTO	PIASA	LIMESTONE	3.0	244.0
349.0	MODESTO		UNCLASSIFIED	5.0	247.0
344.0	CARBONDALE		UNCLASSIFIED	12.0	252.0
332.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	264.0
327.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	269.0
325.0	CARBONDALE	BRERETON	LIMESTONE	8.0	271.0
317.0	CARBONDALE	ANNA	BLACK SHALE	1.0	279.0
316.0	CARBONDALE	HERRIN	COAL	7.0	280.0

MAPID: 11901699000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 9 QUARTERS/FOOTAGES: 638' S line, 308' W line

QUADRANGLE: WORDEN LONGITUDE: -89.781707 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.977761 DATE COLLECTED: 8 / 0 / 1951

SURFACE ELEVATION (FT.): 601.0 LOGGED (FT.): 292.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE 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	CARBONDALE	HERRIN	COAL	5.0	287.0

MAPID: 11901700000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 9 QUARTERS/FOOTAGES: 430' S line, 250' W line of NE

QUADRANGLE: WORDEN LONGITUDE: -89.772756 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.98441 DATE COLLECTED: 1 / 0 / 1949

SURFACE ELEVATION (FT.): 604.0 LOGGED (FT.): 297.0 LOG TYPE: Electric Log

SOURCE: BRADSHAW, RICHARD WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
352.0	MODESTO	PIASA	LIMESTONE	4.0	252.0
348.0	MODESTO		UNCLASSIFIED	4.0	256.0
344.0	CARBONDALE		UNCLASSIFIED	12.0	260.0
332.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	272.0
326.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	278.0
324.0	CARBONDALE	BRERETON	LIMESTONE	9.0	280.0
315.0	CARBONDALE	ANNA	BLACK SHALE	1.0	289.0
314.0	CARBONDALE	HERRIN	COAL	7.0	290.0

MAPID: 11901788000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 9 QUARTERS/FOOTAGES: 200' N line, 200' W line of NE SE

QUADRANGLE: WORDEN LONGITUDE: -89.768296 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.982632 DATE COLLECTED: 3 / 0 / 1918

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0	
-	MODESTO		UNCLASSIFIED	5.0	
-	CARBONDALE		UNCLASSIFIED	14.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	8.0	
-	CARBONDALE	ANNA	BLACK SHALE	3.0	
-	CARBONDALE	HERRIN	COAL	5.0	



**MAPID:** 11900112000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 10    **QUARTERS/FOOTAGES:** 100' N line, 100' W line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.764171    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.99017    **DATE COLLECTED:** 0 / 0 / 1909  
**SURFACE ELEVATION (FT.):** 608.9    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 0002    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
304.9	CARBONDALE	HERRIN	COAL	6.5	304.0	

**MAPID:** 11900112000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 10    **QUARTERS/FOOTAGES:** 100' N line, 100' W line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.764171    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.99017    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 609.0    **LOGGED (FT.):** 310.8    **LOG TYPE:** Drillers Log  
**SOURCE:** WILLIAMSON T    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
345.3	MODESTO	PIASA	LIMESTONE	5.0	263.7	
340.3	MODESTO		UNCLASSIFIED	4.0	268.7	
336.3	CARBONDALE	DANVILLE	COAL	0.5	272.7	
335.8	CARBONDALE		UNCLASSIFIED	10.5	273.2	
325.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	283.7	
318.3	CARBONDALE	BRERETON	LIMESTONE	12.5	290.7	
305.8	CARBONDALE	ANNA	BLACK SHALE	0.8	303.2	
305.0	CARBONDALE	HERRIN	COAL	6.8	304.0	

MAPID: 11900023000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 11 QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.741913 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.976619 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 593.0 LOGGED (FT.): 354.2 LOG TYPE: Drillers Log

SOURCE: EDWARDSVILLE COAL WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
282.8	MODESTO	PIASA	LIMESTONE	4.0	310.2
278.8	MODESTO		UNCLASSIFIED	7.0	314.2
271.8	CARBONDALE		UNCLASSIFIED	7.0	321.2
264.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	328.2
259.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	333.2
256.8	CARBONDALE	BRERETON	LIMESTONE	12.0	336.2
244.8	CARBONDALE	ANNA	BLACK SHALE	0.8	348.2
244.0	CARBONDALE	HERRIN	COAL	5.2	349.0

MAPID: 11900023000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 11 QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.741913 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.976619 DATE COLLECTED:

SURFACE ELEVATION (FT.): 593.0 LOGGED (FT.): 354.2 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
282.8	MODESTO	PIASA	LIMESTONE	4.0	310.2
278.8	MODESTO		GRAY SHALE	2.0	314.2
276.8	CARBONDALE		DARK GRAY SHALE	5.0	316.2
271.8	CARBONDALE		CLAYSTONE	2.0	321.2
269.8	CARBONDALE	LAWSON	GRAY SHALE	5.0	323.2
264.8	CARBONDALE	BRERETON	LIMESTONE	20.0	328.2
244.8	CARBONDALE	ANNA	BLACK SHALE	0.8	348.2
244.0	CARBONDALE	HERRIN	COAL	5.2	349.0

MAPID: 11900023000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 11    QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.741913    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.976619    DATE COLLECTED:

SURFACE ELEVATION (FT.): 593.0    LOGGED (FT.): 357.0    LOG TYPE:

SOURCE: WILLIAMSON0063    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
244.0	CARBONDALE	HERRIN	COAL	5.2	349.0	

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MAPID: 11900023000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 11 QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.741913 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.976619 DATE COLLECTED:

SURFACE ELEVATION (FT.): 593.0 LOGGED (FT.): 357.0 LOG TYPE: Drillers Log

SOURCE: EDWARDSVILLE COAL CO. 6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
593.0			CLAY	15.0	0.0
578.0			HARD PAN	48.0	15.0
530.0			CLAY	28.0	63.0
502.0			SANDY CLAY	63.0	91.0
439.0			SAND	15.0	154.0
424.0			GRAY SHALE	10.0	169.0
414.0			DARK SHALE	6.0	179.0
408.0			COAL	0.7	185.0
407.3			UNDERCLAY	4.0	185.7
403.3			UNDERCLAY	12.0	189.7
391.3			GRAY SHALE	28.0	201.7
363.3			DARK SHALE	33.0	229.7
330.3			GRAY SHALE	21.0	262.7
309.3			SANDY SHALE	8.0	283.7
301.3			DARK SHALE	11.0	291.7
290.3			SHALE	2.0	302.7
288.3			GRAY SHALE	5.3	304.7
283.0			LIMESTONE	4.0	310.0
279.0			GRAY SHALE	2.0	314.0
277.0			DARK SHALE	5.0	316.0
272.0			UNDERCLAY	2.0	321.0
270.0			GRAY SHALE	5.0	323.0
265.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	328.0
260.0	CARBONDALE		LIMESTONE	9.0	333.0
251.0	CARBONDALE	BRERETON	LIMESTONE	6.0	342.0
245.0	CARBONDALE	ANNA	BLACK SHALE	0.8	348.0
244.2	CARBONDALE	HERRIN	COAL	5.2	348.8
239.0			UNDERCLAY	2.5	354.0
236.5			UNDERCLAY	0.5	356.5

MAPID: 11901701000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 11 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.732596 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.983821 DATE COLLECTED: 10 / 0 / 1916

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Dry Hole

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	8.0	
-	MODESTO		UNCLASSIFIED	4.0	
-	CARBONDALE		UNCLASSIFIED	10.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	12.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11900024000C VERSION: 1

PROJECT: NCRDS87

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 12 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.709042 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 38.976583 DATE COLLECTED: 4 / 16 / 1905

SURFACE ELEVATION (FT.): 603.5 LOGGED (FT.): 366.2 LOG TYPE: Drillers Log

SOURCE: MCKINNEY WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
603.5			UNCONSOLIDATED	84.0	0.0	
519.5	BOND		SANDSTONE	6.0	84.0	
513.5	BOND		SHALE	1.0	90.0	
512.5	BOND		BLACK SHALE	3.0	91.0	
509.5	BOND		SHALE	31.0	94.0	
478.5	BOND		COAL	1.4	125.0	
477.1	BOND		UNDERCLAY	2.0	126.4	
475.1	BOND		SHALE	35.0	128.4	
440.1	BOND	CARTHAGE	LIMESTONE	6.3	163.4	
433.7	MODESTO		BLACK SHALE	0.3	169.8	
433.5	MODESTO		SHALE	32.0	170.0	
401.5	MODESTO		COAL	0.6	202.0	
400.9	MODESTO		UNDERCLAY	13.0	202.6	
387.9	MODESTO		SHALE	63.0	215.6	
324.9	MODESTO		BLACK SHALE	6.0	278.6	
318.9	MODESTO		SHALE	9.0	284.6	
309.9	MODESTO		LIMESTONE	1.0	293.6	
308.9	MODESTO		SHALE	27.0	294.6	
281.9	MODESTO	PIASA	LIMESTONE	3.4	321.6	UNCERTAIN CORRELATION
278.5	MODESTO		SHALE	6.0	325.0	
272.5	CARBONDALE	DANVILLE	BONE COAL	0.5	331.0	
272.0	CARBONDALE		UNDERCLAY	4.0	331.5	
268.0	CARBONDALE		BLACK SHALE	1.0	335.5	
267.0	CARBONDALE		SHALE	3.9	336.5	
263.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	340.4	
260.7	CARBONDALE		SHALE	2.4	342.8	
258.2	CARBONDALE	BRERETON	LIMESTONE	14.1	345.3	
244.2	CARBONDALE	HERRIN	COAL	6.3	359.3	
237.8	CARBONDALE		UNDERCLAY	0.5	365.7	

MAPID: 11900024000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 12 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.709042 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.976583 DATE COLLECTED:

SURFACE ELEVATION (FT.): 604.0 LOGGED (FT.): 365.3 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
282.8	MODESTO	PIASA	LIMESTONE	3.4	321.2
279.3	MODESTO		GRAY SHALE	6.0	324.7
273.3	CARBONDALE	DANVILLE	BLACK SHALE	0.5	330.7
272.8	CARBONDALE		CLAYSTONE	4.0	331.2
268.8	CARBONDALE		BLACK SHALE	1.0	335.2
267.8	CARBONDALE		GRAY SHALE	3.9	336.2
263.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	340.1
261.5	CARBONDALE	LAWSON	GRAY SHALE	2.4	342.5
259.1	CARBONDALE	BRERETON	LIMESTONE	14.1	344.9
245.0	CARBONDALE	HERRIN	COAL	6.3	359.0

MAPID: 11900024000C VERSION: 3

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 12 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.709042 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.976583 DATE COLLECTED: 5 / 0 / 1905

SURFACE ELEVATION (FT.): 604.0 LOGGED (FT.): 365.3 LOG TYPE: Drillers Log

SOURCE: MCKINNEY WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
282.8	MODESTO	PIASA	LIMESTONE	3.4	321.2
279.4	MODESTO		UNCLASSIFIED	6.0	324.6
273.4	CARBONDALE	DANVILLE	COAL	0.5	330.6
272.9	CARBONDALE		UNCLASSIFIED	7.9	331.1
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	339.0
261.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.4	342.5
259.1	CARBONDALE	BRERETON	LIMESTONE	14.1	344.9
245.0	CARBONDALE	HERRIN	COAL	6.3	359.0

MAPID: 11900024000C    VERSION: 4

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 12    QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.709042    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.976583    DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 603.5    LOGGED (FT.): 366.0    LOG TYPE:

SOURCE: MCKINNEY    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
244.5	CARBONDALE	HERRIN	COAL	6.3	359.0	

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MAPID: 11900024000C    VERSION: 5

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 12    QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.709042    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.976583    DATE COLLECTED: 5 / 16 / 1905

SURFACE ELEVATION (FT.): 603.5    LOGGED (FT.): 366.2    LOG TYPE: Drillers Log

SOURCE: MCKINNEY    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
603.5			UNCONSOLIDATED	15.0	0.0	
588.5			HARD PAN	28.0	15.0	
560.5			CLAY	32.0	43.0	
528.5			SAND	9.0	75.0	
519.5			SANDSTONE	6.0	84.0	
513.5			GRAY SHALE	1.0	90.0	
512.5			BLACK SHALE	3.0	91.0	
509.5			CALCAREOUS SHALE	26.0	94.0	
483.5			GRAY SHALE	5.0	120.0	
478.5			COAL	1.4	125.0	
477.1			UNDERCLAY	2.0	126.4	
475.1			GRAY SHALE	35.0	128.4	
440.1	BOND	CARTHAGE	LIMESTONE	6.3	163.4	
433.7	MODESTO		BLACK SHALE	0.3	169.8	
433.5	MODESTO		SANDY SHALE	15.0	170.0	
418.5	MODESTO		DARK SHALE	12.0	185.0	
406.5	MODESTO		CALCAREOUS SHALE	5.0	197.0	
401.5	MODESTO		COAL	0.6	202.0	
400.9	MODESTO		UNDERCLAY	3.0	202.6	
397.9	MODESTO		UNDERCLAY	10.0	205.6	
387.9	MODESTO		SANDY SHALE	8.0	215.6	
379.9	MODESTO		DARK SHALE	22.0	223.6	
357.9	MODESTO		GRAY SHALE	18.0	245.6	
339.9	MODESTO		DARK SHALE	15.0	263.6	
324.9	MODESTO		BLACK SHALE	6.0	278.6	
318.9	MODESTO		GRAY SHALE	9.0	284.6	
309.9	MODESTO		LIMESTONE	1.0	293.6	
308.9	MODESTO		GRAY SHALE	23.0	294.6	
285.9	MODESTO		SHALE	1.0	317.6	
284.9	MODESTO		DARK SHALE	3.0	318.6	
281.9	MODESTO	PIASA	LIMESTONE	3.4	321.6	
278.5			GRAY SHALE	6.0	325.0	
272.5	CARBONDALE	DANVILLE	COAL	0.5	331.0	CO W/SOME BK SH STREAKS
272.0	CARBONDALE		UNDERCLAY	4.0	331.5	
268.0	CARBONDALE		BLACK SHALE	1.0	335.5	
267.0	CARBONDALE		GRAY SHALE	3.9	336.5	
263.1	CARBONDALE	BANKSTON FORK	LIMESTONE	2.4	340.4	
260.7	CARBONDALE		GRAY SHALE	2.4	342.8	
258.2	CARBONDALE	BRERETON	LIMESTONE	14.1	345.3	

244.2 CARBONDALE HERRIN COAL 6.3 359.3  
 237.8 UNDERCLAY 0.7 365.7

**MAPID:** 11900025000C **VERSION:** 1 **PROJECT:** D JOHNSON  
**COUNTY:** MADISON **TWP/RNG:** 6N 6W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2200' S line, 4750' E line  
**QUADRANGLE:** NEW DOUGLAS **LONGITUDE:** -89.724571 **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N **LATITUDE:** 38.967132 **DATE COLLECTED:** 11 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 566.0 **LOGGED (FT.):** 326.8 **LOG TYPE:** Drillers Log  
**SOURCE:** NEW STAUNTON COAL CO. **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
285.2	MODESTO	PIASA	LIMESTONE	5.0	280.8
280.2	MODESTO		UNCLASSIFIED	2.0	285.8
278.2	CARBONDALE		UNCLASSIFIED	7.0	287.8
271.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	294.8
265.2	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	300.8
262.2	CARBONDALE	BRERETON	LIMESTONE	15.2	303.8
247.0	CARBONDALE	HERRIN	COAL	7.8	319.0

**MAPID:** 11900025000C **VERSION:** 2 **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON **TWP/RNG:** 6N 6W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2200' S line, 4750' E line  
**QUADRANGLE:** NEW DOUGLAS **LONGITUDE:** -89.724571 **GEOLOGIST:**  
**CONFIDENTIAL:** N **LATITUDE:** 38.967132 **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 566.0 **LOGGED (FT.):** 326.8 **LOG TYPE:** Drillers Log  
**SOURCE:** **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
285.2	MODESTO	PIASA	LIMESTONE	5.0	280.8
280.2	MODESTO		GRAY SHALE	6.0	285.8
274.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	12.0	291.8
262.2	CARBONDALE	BRERETON	LIMESTONE	15.2	303.8
247.0	CARBONDALE	HERRIN	COAL	7.8	319.0

**MAPID:** 11900025000C    **VERSION:** 3    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 13    **QUARTERS/FOOTAGES:** 2200' S line, 4750' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.724571    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.967132    **DATE COLLECTED:** 0 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 565.9    **LOGGED (FT.):** 333.0    **LOG TYPE:**  
**SOURCE:** NEW STAUNTON COAL CO. 0015    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
246.9	CARBONDALE	HERRIN	COAL	7.8	319.0	

**MAPID:** 11900263000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 13    **QUARTERS/FOOTAGES:** 4100' S line, 3750' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.721097    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.972373    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 555.2    **LOGGED (FT.):** 310.0    **LOG TYPE:**  
**SOURCE:** AMELING 0019    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
255.2	CARBONDALE	HERRIN	COAL	7.3	300.0	

**MAPID:** 11900263000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 13    **QUARTERS/FOOTAGES:** 4100' S line, 3750' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.721097    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.972373    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 555.0    **LOGGED (FT.):** 307.3    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Water Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
255.0	CARBONDALE	HERRIN	COAL	7.3	300.0	

**MAPID:** 11900264000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 13    **QUARTERS/FOOTAGES:** 3890' S line, 200' E line  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.708533    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.97178    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 577.4    **LOGGED (FT.):** 358.0    **LOG TYPE:**  
**SOURCE:** AMELING 0017    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
229.4	CARBONDALE	HERRIN	COAL	7.5	348.0	

MAPID: 11900264000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 13 QUARTERS/FOOTAGES: 3890' S line, 200' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.708533 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.97178 DATE COLLECTED: 0 / 0 / 1919

SURFACE ELEVATION (FT.): 577.0 LOGGED (FT.): 355.7 LOG TYPE: Drillers Log

SOURCE: AMELING BROS. & CO. WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
229.0	CARBONDALE	HERRIN	COAL	7.7	348.0	

MAPID: 11900265000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 13 QUARTERS/FOOTAGES: 1280' S line, 1310' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.712377 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.964579 DATE COLLECTED: 0 / 0 / 1919

SURFACE ELEVATION (FT.): 557.3 LOGGED (FT.): 343.0 LOG TYPE:

SOURCE: AMELING 0014 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
227.3	CARBONDALE	HERRIN	COAL	6.6	330.0	

MAPID: 11900265000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 13 QUARTERS/FOOTAGES: 1280' S line, 1310' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.712377 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.964579 DATE COLLECTED: 0 / 0 / 1919

SURFACE ELEVATION (FT.): 557.0 LOGGED (FT.): 338.6 LOG TYPE: Drillers Log

SOURCE: AMELING BROS. & CO. WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
227.0	CARBONDALE	HERRIN	COAL	8.6	330.0	

MAPID: 11900026000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 15 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: WORDEN LONGITUDE: -89.761687 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.963051 DATE COLLECTED: 1 / 0 / 1904

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 293.7 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
341.2	MODESTO	PIASA	LIMESTONE	5.7	247.8
335.5	MODESTO		UNCLASSIFIED	6.0	253.5
329.5	CARBONDALE		UNCLASSIFIED	11.3	259.5
318.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.3	270.8
312.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.2	276.1
311.7	CARBONDALE	BRERETON	LIMESTONE	9.2	277.3
302.5	CARBONDALE	ANNA	BLACK SHALE	0.5	286.5
302.0	CARBONDALE	HERRIN	COAL	6.7	287.0

MAPID: 11900026000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 15 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: WORDEN LONGITUDE: -89.761687 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.963051 DATE COLLECTED:

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 292.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
342.2	MODESTO	PIASA	LIMESTONE	3.7	246.8
338.5	MODESTO		SHALE	16.0	250.5
322.5	CARBONDALE	DANVILLE	COAL	1.3	266.5
321.2	CARBONDALE		CLAYSTONE & SHALE	2.0	267.8
319.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	5.3	269.8
313.8	CARBONDALE	LAWSON	GRAY SHALE	1.2	275.2
312.7	CARBONDALE	BRERETON	LIMESTONE	9.2	276.3
303.5	CARBONDALE	ANNA	BLACK SHALE	0.5	285.5
303.0	CARBONDALE	HERRIN	COAL	6.5	286.0

MAPID: 11900026000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 15    QUARTERS/FOOTAGES: SW SW

QUADRANGLE: WORDEN    LONGITUDE: -89.761687    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.963051    DATE COLLECTED: 0 / 0 / 1904

SURFACE ELEVATION (FT.): 588.9    LOGGED (FT.): 295.0    LOG TYPE:

SOURCE: WILLIAMSON    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
301.9	CARBONDALE	HERRIN	COAL	6.5	287.0	

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MAPID: 11900026000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 15    QUARTERS/FOOTAGES: SW SW

QUADRANGLE: WORDEN    LONGITUDE: -89.761687    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.963051    DATE COLLECTED:

SURFACE ELEVATION (FT.): 588.9    LOGGED (FT.): 294.0    LOG TYPE: Drillers Log

SOURCE: T. WILLIAMSON    2    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
588.9			UNCONSOLIDATED	1.0	0.0	SOIL
587.9			CLAY	6.0	1.0	
581.9			SANDY CLAY	38.0	7.0	
543.9			SAND	15.0	45.0	SD AND GRAVEL
528.9			SANDY CLAY	36.0	60.0	
492.9			CLAY	21.0	96.0	
471.9			SAND	15.0	117.0	
456.9			SAND	9.0	132.0	
447.9			GRAVEL	1.0	141.0	
446.9			SANDSTONE	18.0	142.0	
428.9			SANDY SHALE	42.0	160.0	
386.9			CALCAREOUS SHALE	13.0	202.0	
373.9			UNDERCLAY	6.0	215.0	
367.9			SANDSTONE	4.0	221.0	
363.9			SANDSTONE	14.0	225.0	
349.9			CALCAREOUS SHALE	8.3	239.0	
341.6	MODESTO	PIASA	LIMESTONE	3.7	247.3	
337.9	MODESTO		CALCAREOUS SHALE	2.0	251.0	
335.9	MODESTO		CALCAREOUS SHALE	13.0	253.0	
322.9	MODESTO		SHALE	1.0	266.0	
321.9	CARBONDALE	DANVILLE	COAL	1.3	267.0	
320.6	CARBONDALE		UNDERCLAY	2.0	268.3	
318.6	CARBONDALE		CALCAREOUS SHALE	5.3	270.3	
313.2	CARBONDALE		CALCAREOUS SHALE	1.2	275.7	
312.1	CARBONDALE	BRERETON	LIMESTONE	9.2	276.8	
302.9	CARBONDALE	ANNA	BLACK SHALE	0.5	286.0	
302.4	CARBONDALE	HERRIN	COAL	0.1	286.5	
302.3	CARBONDALE	HERRIN	COAL	4.9	286.6	
297.4	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	291.5	SULPHUR
297.4	CARBONDALE	HERRIN	COAL	0.5	291.5	
296.9			UNCLASSIFIED	0.0	292.0	BLU BAND
296.8			COAL	1.0	292.1	
295.8			UNDERCLAY	1.3	293.1	

MAPID: 11900027000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 16

QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: WORDEN

LONGITUDE: -89.767725

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.974969

DATE COLLECTED: 0 / 0 / 1911

SURFACE ELEVATION (FT.): 593.0

LOGGED (FT.): 283.1

LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.

WELL TYPE: Water Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
356.5	MODESTO	PIASA	LIMESTONE	4.0	236.5
352.5	MODESTO		UNCLASSIFIED	6.5	240.5
346.0	CARBONDALE		UNCLASSIFIED	12.7	247.0
333.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.3	259.7
328.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	265.0
326.0	CARBONDALE	BRERETON	LIMESTONE	7.0	267.0
319.0	CARBONDALE	ANNA	BLACK SHALE	2.0	274.0
317.0	CARBONDALE	HERRIN	COAL	7.1	276.0

MAPID: 11900027000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 16

QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: WORDEN

LONGITUDE: -89.767725

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.974969

DATE COLLECTED:

SURFACE ELEVATION (FT.): 593.0

LOGGED (FT.): 284.1

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
355.5	MODESTO	PIASA	LIMESTONE	4.0	237.5
351.5	MODESTO		GRAY SHALE	13.0	241.5
338.5	CARBONDALE	GALUM	LIMESTONE	1.5	254.5
337.0	CARBONDALE	ALLENBY	COAL	0.7	256.0
336.3	CARBONDALE		CLAYSTONE & SHALE	7.3	256.7
329.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	264.0
327.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	266.0
325.0	CARBONDALE	BRERETON	LIMESTONE	7.0	268.0
318.0	CARBONDALE	ANNA	BLACK SHALE	2.0	275.0
316.0	CARBONDALE	HERRIN	COAL	7.1	277.0



MAPID: 11900027000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 16    QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: WORDEN    LONGITUDE: -89.767725    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.974969    DATE COLLECTED: 0 / 0 / 1911

SURFACE ELEVATION (FT.): 593.1    LOGGED (FT.): 535.0    LOG TYPE:

SOURCE: NEW STAUNTON COAL CO.    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
316.1	CARBONDALE	HERRIN	COAL	7.1	277.0	

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MAPID: 11900027000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 16

QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: WORDEN

LONGITUDE: -89.767725

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.974969

DATE COLLECTED: 0 / 0 / 1911

SURFACE ELEVATION (FT.): 593.1

LOGGED (FT.): 535.0

LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
593.1			UNCONSOLIDATED	2.0	0.0	SOIL
591.1			CLAY	16.0	2.0	
575.1			SAND	7.0	18.0	
568.1			CLAY	53.0	25.0	CALC CLY
515.1			CLAY	30.0	78.0	
485.1			LIMESTONE	1.0	108.0	
484.1			SHALE	22.0	109.0	
462.1			SANDSTONE	3.0	131.0	
459.1			SANDY SHALE	54.0	134.0	
405.1			CALCAREOUS SHALE	15.0	188.0	
390.1			SHALE	11.0	203.0	
379.1			CALCAREOUS SHALE	6.0	214.0	
373.1			SHALE	9.0	220.0	
364.1			SANDY SHALE	2.0	229.0	
362.1			SHALE	2.0	231.0	
360.1			SHALE	4.0	233.0	
356.1	MODESTO	PIASA	LIMESTONE	4.0	237.0	
352.1	MODESTO		CALCAREOUS SHALE	13.0	241.0	
339.1	MODESTO		LIMESTONE	1.5	254.0	
337.6	CARBONDALE	DANVILLE	COAL	0.7	255.5	
336.9	CARBONDALE		UNDERCLAY	7.3	256.2	
329.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	263.5	
327.6	CARBONDALE		CALCAREOUS SHALE	2.0	265.5	
325.6	CARBONDALE	BRERETON	LIMESTONE	7.0	267.5	
318.6	CARBONDALE	ANNA	BLACK SHALE	2.0	274.5	
316.6	CARBONDALE	HERRIN	COAL	6.0	276.5	
310.6	CARBONDALE	HERRIN	ROCK	0.1	282.5	BLU BAND
310.5	CARBONDALE	HERRIN	COAL	1.0	282.6	
309.5			UNDERCLAY	2.4	283.6	
307.1			LIMESTONE	7.0	286.0	
300.1			CALCAREOUS SHALE	6.0	293.0	CALC SH
294.1			CALCAREOUS SHALE	10.0	299.0	
284.1			BLACK SHALE	1.5	309.0	
282.6			SHALE	4.0	310.5	
278.6			CALCAREOUS SHALE	4.0	314.5	
274.6			CALCAREOUS SHALE	1.5	318.5	
273.1			SANDY SHALE	15.0	320.0	
258.1			CALCAREOUS SHALE	37.3	335.0	
220.8			COAL	0.7	372.3	

220.1	GRAY SHALE	0.3	373.0	
219.8	COAL	0.7	373.3	
219.1	CALCAREOUS SHALE	34.0	374.0	
185.1	SANDY SHALE	0.5	408.0	
184.6	BLACK SHALE	0.5	408.5	
184.1	COAL	0.4	409.0	
183.7	BLACK SHALE	0.6	409.4	
183.1	COAL	2.7	410.0	
180.4	CALCAREOUS SHALE	1.3	412.7	
179.1	UNDERCLAY	3.0	414.0	
176.1	LIMESTONE	2.5	417.0	
173.6	COAL	0.8	419.5	
172.8	UNCLASSIFIED	0.1	420.3	BLU BAND
172.8	COAL	1.3	420.3	
171.5	COAL	0.4	421.6	
171.1	BLACK SHALE	0.5	422.0	
170.6	LIMESTONE	3.0	422.5	
167.6	SHALE	5.5	425.5	
162.1	LIMESTONE	1.0	431.0	
161.1	COAL	1.2	432.0	
159.9	UNDERCLAY	8.8	433.2	
151.1	DARK SHALE	15.0	442.0	
136.1	LIMESTONE	0.5	457.0	
135.6	DARK SHALE	1.0	457.5	
134.6	LIMESTONE	1.5	458.5	
133.1	CALCAREOUS SHALE	6.2	460.0	
126.9	COAL	0.5	466.2	
126.4	SANDSTONE	0.1	466.7	
126.3	COAL	0.5	466.8	
125.8	CALCAREOUS SHALE	3.8	467.3	
122.1	SHALE	19.0	471.0	
103.1	BLACK SHALE	11.0	490.0	
92.1	SANDSTONE	34.0	501.0	

**MAPID:** 11900113000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 16    **QUARTERS/FOOTAGES:** 2250' S line, 1150' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.768178    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.967506    **DATE COLLECTED:** 0 / 0 / 1906  
**SURFACE ELEVATION (FT.):** 591.3    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LVNGSTNMTO    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
313.3	CARBONDALE	HERRIN	COAL	6.0	278.0

MAPID: 11900113000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 16 QUARTERS/FOOTAGES: 2250' S line, 1150' E line

QUADRANGLE: WORDEN LONGITUDE: -89.768178 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.967506 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 591.0 LOGGED (FT.): 282.0 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Mine Shaft

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
315.0	CARBONDALE	HERRIN	COAL	6.0	276.0	

MAPID: 11901049000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 16 QUARTERS/FOOTAGES: 620' S line, 220' E line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.77418 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.966736 DATE COLLECTED: 10 / 0 / 1961

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 292.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
334.0	MODESTO	PIASA	LIMESTONE	2.0	246.0	
332.0	MODESTO		UNCLASSIFIED	4.0	248.0	
328.0	CARBONDALE		UNCLASSIFIED	12.0	252.0	
316.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	264.0	
311.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	269.0	
308.0	CARBONDALE	BRERETON	LIMESTONE	12.0	272.0	
296.0	CARBONDALE	ANNA	BLACK SHALE	1.0	284.0	
295.0	CARBONDALE	HERRIN	COAL	7.0	285.0	

MAPID: 11901194000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 16 QUARTERS/FOOTAGES: 565' N line, 40' W line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.777919 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.967146 DATE COLLECTED: 8 / 0 / 1965

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 260.0 LOG TYPE: Electric Log

SOURCE: DUNCAN, N. V. DRLG. CO. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
356.0	MODESTO	PIASA	LIMESTONE	4.0	216.0
352.0	MODESTO		UNCLASSIFIED	3.0	220.0
349.0	CARBONDALE		UNCLASSIFIED	9.0	223.0
340.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	232.0
336.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	236.0
334.0	CARBONDALE	BRERETON	LIMESTONE	14.0	238.0
320.0	CARBONDALE	ANNA	BLACK SHALE	2.0	252.0
318.0	CARBONDALE	HERRIN	COAL	6.0	254.0

MAPID: 11901455000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: WORDEN LONGITUDE: -89.779252 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.969633 DATE COLLECTED: 5 / 0 / 1967

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 280.0 LOG TYPE: Electric Log

SOURCE: KROHN, WM. H. WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
355.0	MODESTO	PIASA	LIMESTONE	5.0	235.0
350.0	MODESTO		UNCLASSIFIED	4.0	240.0
346.0	CARBONDALE		UNCLASSIFIED	10.0	244.0
336.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	254.0
331.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	259.0
330.0	CARBONDALE	BRERETON	LIMESTONE	12.0	260.0
318.0	CARBONDALE	ANNA	BLACK SHALE	1.0	272.0
317.0	CARBONDALE	HERRIN	COAL	7.0	273.0

MAPID: 11902432000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 16 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW

QUADRANGLE: WORDEN LONGITUDE: -89.78155 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.967839 DATE COLLECTED: 9 / 0 / 1970

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 290.0 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	OVERBURDEN COMMENT
347.0	MODESTO	PIASA	LIMESTONE	6.0	243.0
341.0	MODESTO		UNCLASSIFIED	4.0	249.0
337.0	CARBONDALE		UNCLASSIFIED	10.0	253.0
327.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	263.0
323.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	267.0
321.0	CARBONDALE	BRERETON	LIMESTONE	13.0	269.0
308.0	CARBONDALE	ANNA	BLACK SHALE	1.0	282.0
307.0	CARBONDALE	HERRIN	COAL	7.0	283.0

MAPID: 11900635000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: WORDEN LONGITUDE: -89.799894 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.975391 DATE COLLECTED: 8 / 0 / 1956

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: WILSON, CARLINE 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	5.0	
-	CARBONDALE		UNCLASSIFIED	13.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	
-	CARBONDALE	BRERETON	LIMESTONE	9.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11900710000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WORDEN LONGITUDE: -89.792917 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.969807 DATE COLLECTED: 8 / 0 / 1948

SURFACE ELEVATION (FT.): 596.0 LOGGED (FT.): 290.5 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
352.0	MODESTO	PIASA	LIMESTONE	4.5	244.0
347.5	MODESTO		UNCLASSIFIED	4.0	248.5
343.5	CARBONDALE		UNCLASSIFIED	9.5	252.5
334.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	262.0
330.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	266.0
326.0	CARBONDALE		UNCLASSIFIED	1.0	270.0
325.0	CARBONDALE	BRERETON	LIMESTONE	9.0	271.0
316.0	CARBONDALE	ANNA	BLACK SHALE	4.0	280.0
312.0	CARBONDALE	HERRIN	COAL	6.5	284.0

MAPID: 11900710000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WORDEN LONGITUDE: -89.792917 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.969807 DATE COLLECTED:

SURFACE ELEVATION (FT.): 596.0 LOGGED (FT.): 290.0 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
352.0	MODESTO	PIASA	LIMESTONE	4.0	244.0
348.0	MODESTO		GRAY SHALE	10.0	248.0
338.0	CARBONDALE		SHALE	5.0	258.0
333.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	263.0
330.0	CARBONDALE	LAWSON	SHALE	6.0	266.0
324.0	CARBONDALE	BRERETON	LIMESTONE	6.0	272.0
318.0	CARBONDALE	ANNA	SHALE	6.0	278.0
312.0	CARBONDALE	HERRIN	COAL	6.0	284.0

MAPID: 11900840000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: 990' S line, 280' W line of NE

QUADRANGLE: WORDEN LONGITUDE: -89.790923 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.971565 DATE COLLECTED: 12 / 0 / 1958

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 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	4.0	
-	MODESTO		UNCLASSIFIED	6.0	
-	CARBONDALE		UNCLASSIFIED	18.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	6.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	4.0	

MAPID: 11901703000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SE

QUADRANGLE: WORDEN LONGITUDE: -89.790734 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.964263 DATE COLLECTED: 10 / 0 / 1948

SURFACE ELEVATION (FT.): 591.0 LOGGED (FT.): 265.5 LOG TYPE: Electric Log

SOURCE: MAZZARINO, M. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
371.5	MODESTO	PIASA	LIMESTONE	7.0	219.5
364.5	MODESTO		UNCLASSIFIED	5.0	226.5
359.5	CARBONDALE		UNCLASSIFIED	17.0	231.5
342.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	248.5
336.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	254.5
333.5	CARBONDALE	BRERETON	LIMESTONE	4.0	257.5
329.5	CARBONDALE	ANNA	BLACK SHALE	0.5	261.5
329.0	CARBONDALE	HERRIN	COAL	3.5	262.0



MAPID: 11901711000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: WORDEN LONGITUDE: -89.797658 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.964279 DATE COLLECTED: 10 / 0 / 1949

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 284.5 LOG TYPE: Electric Log

SOURCE: NEARY & CAHILL WELL TYPE: Oil and Gas Test

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
349.0	MODESTO	PIASA	LIMESTONE	3.5	241.0
345.5	MODESTO		UNCLASSIFIED	5.5	244.5
340.0	CARBONDALE		UNCLASSIFIED	16.0	250.0
324.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	266.0
320.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	270.0
319.0	CARBONDALE	BRERETON	LIMESTONE	4.0	271.0
315.0	CARBONDALE	ANNA	BLACK SHALE	2.0	275.0
313.0	CARBONDALE	HERRIN	COAL	7.5	277.0

MAPID: 11901711000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 17    QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: WORDEN    LONGITUDE: -89.797658    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.964279    DATE COLLECTED: 10 / 0 / 1949

SURFACE ELEVATION (FT.): 590.0    LOGGED (FT.): 601.0    LOG TYPE: Drillers Log

SOURCE: NEARY & CAHILL    7    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.0			UNCONSOLIDATED	92.0	0.0	
498.0			GRAY SHALE	19.0	92.0	
479.0			SANDSTONE	3.0	111.0	
476.0			CALCAREOUS SHALE	24.0	114.0	
452.0			SANDSTONE	3.0	138.0	
449.0			SANDY SHALE	54.0	141.0	
395.0			GRAY SHALE	14.0	195.0	
381.0			GRAY SHALE	19.0	209.0	
362.0			SANDSTONE	3.0	228.0	
359.0			LIMESTONE	3.0	231.0	
356.0			SHALE	7.0	234.0	
349.0	MODESTO	PIASA	LIMESTONE	3.5	241.0	
345.5			SHALE	5.5	244.5	
340.0			ROCK	2.0	250.0	IRON ROCK STREAKS
338.0			CALCAREOUS SHALE	7.0	252.0	
331.0	CARBONDALE	DANVILLE	COAL	4.0	259.0	
327.0	CARBONDALE		SHALE	3.0	263.0	
324.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	266.0	
320.0	CARBONDALE		SHALE	1.0	270.0	
319.0	CARBONDALE	BRERETON	LIMESTONE	4.0	271.0	
315.0	CARBONDALE	ANNA	BLACK SHALE	2.0	275.0	
313.0	CARBONDALE	HERRIN	COAL	7.5	277.0	
305.5			UNDERCLAY	2.5	284.5	
303.0			LIMESTONE	7.0	287.0	
296.0			BLACK SHALE	1.0	294.0	
295.0			BLACK SHALE	1.0	295.0	
294.0			GRAY SHALE	30.0	296.0	
264.0			SANDSTONE	3.0	326.0	
261.0			LIMESTONE	3.0	329.0	
258.0			SHALE	33.0	332.0	
225.0			COAL	2.0	365.0	
223.0			SHALE	3.0	367.0	
220.0			SANDSTONE	38.0	370.0	
182.0			SHALE	4.0	408.0	
178.0			BLACK SHALE	3.0	412.0	
175.0			COAL	2.5	415.0	
172.5			SHALE	0.5	417.5	
172.0			LIMESTONE	2.5	418.0	
169.5			SHALE	1.5	420.5	

168.0	LIMESTONE	3.0	422.0	
165.0	COAL	5.0	425.0	
160.0	SHALE	10.0	430.0	
150.0	CALCAREOUS SHALE	22.0	440.0	
128.0	COAL	3.0	462.0	
125.0	GRAY SHALE	14.0	465.0	
111.0	BLACK SHALE	2.0	479.0	
109.0	SHALE	12.0	481.0	
97.0	BLACK SHALE	3.0	493.0	
94.0	GRAY SHALE	13.7	496.0	
80.3	SHALE	0.3	509.7	
80.0	CALCAREOUS SHALE	7.5	510.0	
72.5	CALCAREOUS SHALE	1.5	517.5	
71.0	CALCAREOUS SHALE	18.5	519.0	
52.5	CALCAREOUS SHALE	10.5	537.5	
42.0	CALCAREOUS SHALE	2.0	548.0	
40.0	LIMESTONE	4.0	550.0	
36.0	LIMESTONE	2.0	554.0	LS W/ SH LAYERS
34.0	SHALE	4.0	556.0	SH W/ LS LAYERS
30.0	LIMESTONE	6.0	560.0	
24.0	SHALE	3.0	566.0	
21.0	SHALE	6.5	569.0	
14.5	SHALE	9.2	575.5	
5.3	SANDSTONE	4.3	584.7	
1.0	SANDSTONE	3.0	589.0	
-2.0	SANDSTONE	2.0	592.0	
-4.0	GRAY SHALE	0.5	594.0	
-4.5	LIMESTONE	0.5	594.5	
-5.0	SANDY SHALE	4.0	595.0	
-9.0	SHALE	2.0	599.0	

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MAPID: 11901722000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: 477' S line, 332' W line of NW SW NW

QUADRANGLE: WORDEN LONGITUDE: -89.799901 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.972072 DATE COLLECTED: 5 / 0 / 1949

SURFACE ELEVATION (FT.): 599.0 LOGGED (FT.): 279.0 LOG TYPE: Electric Log

SOURCE: SHULL, O. R. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
366.0	MODESTO	PIASA	LIMESTONE	4.0	233.0
362.0	MODESTO		UNCLASSIFIED	6.0	237.0
356.0	CARBONDALE		UNCLASSIFIED	17.0	243.0
339.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	260.0
334.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	265.0
332.0	CARBONDALE	BRERETON	LIMESTONE	6.0	267.0
326.0	CARBONDALE	HERRIN	COAL	6.0	273.0

MAPID: 11901744000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 370' W line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.790597 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.967919 DATE COLLECTED: 9 / 0 / 1949

SURFACE ELEVATION (FT.): 593.0 LOGGED (FT.): 284.0 LOG TYPE: Electric Log

SOURCE: HAUSMANN A J 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
355.0	MODESTO	PIASA	LIMESTONE	4.0	238.0
351.0	MODESTO		UNCLASSIFIED	5.0	242.0
346.0	CARBONDALE		UNCLASSIFIED	14.0	247.0
332.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	261.0
327.0	CARBONDALE	BRERETON	LIMESTONE	8.0	266.0
319.0	CARBONDALE	ANNA	BLACK SHALE	5.0	274.0
314.0	CARBONDALE	HERRIN	COAL	5.0	279.0

MAPID: 11901745000C    VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 17    QUARTERS/FOOTAGES: SW NE SW

QUADRANGLE: WORDEN    LONGITUDE: -89.795356    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.966112    DATE COLLECTED: 11 / 0 / 1949

SURFACE ELEVATION (FT.): 592.0    LOGGED (FT.): 557.0    LOG TYPE: Drillers Log

SOURCE: NEARY & CAHILL    1    WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
592.0			UNCONSOLIDATED	94.0	0.0	
498.0			GRAY SHALE	44.0	94.0	
454.0			SANDSTONE	1.0	138.0	
453.0			SHALE	10.0	139.0	
443.0			SANDSTONE	8.0	149.0	
435.0			SANDY SHALE	49.0	157.0	
386.0			SHALE	20.0	206.0	
366.0			SANDSTONE	10.0	226.0	
356.0			SHALE	4.5	236.0	
351.5			LIMESTONE	6.5	240.5	
345.0			SHALE	4.0	247.0	
341.0			GRAY SHALE	9.5	251.0	
331.5			COAL	1.5	260.5	
330.0			SHALE	4.0	262.0	
326.0			LIMESTONE	4.5	266.0	
321.5			SHALE	1.5	270.5	
320.0			LIMESTONE	4.0	272.0	
316.0			COAL	-11.5	276.0	THIS IS ACTUAL DEPTH FROM LOG!
327.5			GRAY SHALE	19.5	264.5	
308.0			LIMESTONE	11.0	284.0	
297.0			SHALE	3.5	295.0	
293.5			LIMESTONE	7.5	298.5	
286.0			CALCAREOUS SHALE	27.0	306.0	
259.0			LIMESTONE	2.5	333.0	
256.5			SANDY SHALE	79.5	335.5	
177.0			LIMESTONE	0.5	415.0	
176.5			SHALE	1.0	415.5	
175.5			COAL	2.0	416.5	
173.5			LIMESTONE	2.0	418.5	
171.5			SHALE	3.0	420.5	
168.5			COAL	1.5	423.5	
167.0			SHALE	0.5	425.0	
166.5			CALCAREOUS SHALE	3.0	425.5	
163.5			COAL	1.5	428.5	
162.0			CALCAREOUS SHALE	13.0	430.0	
149.0			LIMESTONE	1.5	443.0	
147.5			CALCAREOUS SHALE	5.5	444.5	
142.0			SHALE	16.0	450.0	
126.0			COAL	1.5	466.0	

124.5	SHALE	32.5	467.5
92.0	SANDSTONE	12.0	500.0
80.0	SANDY SHALE	2.0	512.0
78.0	SANDSTONE	3.5	514.0
74.5	SANDSTONE	11.5	517.5
63.0	SANDSTONE	2.0	529.0
61.0	SANDY SHALE	2.0	531.0
59.0	LIMESTONE	2.0	533.0
57.0	LIMESTONE	7.5	535.0
49.5	CALCAREOUS SHALE	3.5	542.5
46.0	CALCAREOUS SHALE	11.0	546.0

**MAPID:** 11901746000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 17    **QUARTERS/FOOTAGES:** NE NE SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.793055    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.967935    **DATE COLLECTED:** 11 / 0 / 1949  
**SURFACE ELEVATION (FT.):** 594.0    **LOGGED (FT.):** 284.0    **LOG TYPE:** Electric Log  
**SOURCE:** NEARY & CAHILL    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN COMMENT
357.0	MODESTO	PIASA	LIMESTONE	4.0	237.0
353.0	MODESTO		UNCLASSIFIED	4.5	241.0
348.5	CARBONDALE		UNCLASSIFIED	15.5	245.5
333.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	261.0
327.0	CARBONDALE	BRERETON	LIMESTONE	8.0	267.0
319.0	CARBONDALE	ANNA	BLACK SHALE	3.0	275.0
316.0	CARBONDALE	HERRIN	COAL	6.0	278.0

MAPID: 11901746000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 17

QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: WORDEN

LONGITUDE: -89.793055

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.967935

DATE COLLECTED: 11 / 0 / 1949

SURFACE ELEVATION (FT.): 594.0

LOGGED (FT.): 577.0

LOG TYPE: Drillers Log

SOURCE: NEARY & CAHILL 2

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
594.0			UNCONSOLIDATED	23.0	0.0
571.0			CLAY	37.0	23.0
534.0			CLAY	17.0	60.0
517.0			CLAY	9.0	77.0
508.0			SANDY SHALE	46.0	86.0
462.0			CALCAREOUS SHALE	105.0	132.0
357.0	MODESTO	PIASA	LIMESTONE	4.0	237.0
353.0			CALCAREOUS SHALE	2.0	241.0
351.0			CALCAREOUS SHALE	7.0	243.0
344.0			CALCAREOUS SHALE	5.0	250.0
339.0	CARBONDALE	DANVILLE	COAL	2.0	255.0
337.0	CARBONDALE		CALCAREOUS SHALE	6.0	257.0
331.0	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	263.0
319.0	CARBONDALE		SHALE	3.0	275.0
316.0	CARBONDALE	HERRIN	COAL	6.0	278.0
310.0			UNDERCLAY	3.0	284.0
307.0			LIMESTONE	6.0	287.0
301.0			SHALE	4.0	293.0
297.0			LIMESTONE	2.0	297.0
295.0			SHALE	4.0	299.0
291.0			LIMESTONE	2.0	303.0
289.0			SHALE	13.0	305.0
276.0			SHALE	1.0	318.0
275.0			SHALE	93.0	319.0
182.0			SANDSTONE	1.0	412.0
181.0			COAL	1.0	413.0
180.0			UNDERCLAY	2.0	414.0
178.0			LIMESTONE	1.0	416.0
177.0			COAL	2.0	417.0
175.0			SHALE	28.0	419.0
147.0			COAL	3.0	447.0
144.0			UNDERCLAY	1.0	450.0
143.0			SHALE	13.0	451.0
130.0			COAL	2.0	464.0
128.0			UNDERCLAY	4.0	466.0
124.0			SHALE	20.0	470.0
104.0			CALCAREOUS SHALE	12.0	490.0
92.0			SANDY SHALE	19.0	502.0
73.0			SHALE	2.0	521.0

71.0	SANDSTONE	6.0	523.0
65.0	CALCAREOUS SHALE	2.0	529.0
63.0	SANDY SHALE	4.0	531.0
59.0	CALCAREOUS SHALE	3.0	535.0
56.0	SANDY SHALE	10.0	538.0
46.0	CALCAREOUS SHALE	3.5	548.0
42.5	SHALE	2.0	551.5
40.5	SANDY SHALE	2.5	553.5
38.0	LIMESTONE	2.5	556.0
35.5	SHALE	2.0	558.5
33.5	SANDY SHALE	16.5	560.5

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MAPID: 11901747000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.793055 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.967935 DATE COLLECTED: 11 / 0 / 1949

SURFACE ELEVATION (FT.): 594.0 LOGGED (FT.): 570.0 LOG TYPE: Drillers Log

SOURCE: NEARY AND CAHILL 3 WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
594.0			UNCONSOLIDATED	19.0	0.0
575.0			CALCAREOUS SHALE	23.0	19.0
552.0			SANDSTONE	2.0	42.0
550.0			SANDY SHALE	23.0	44.0
527.0			SHALE	11.0	67.0
516.0			SHALE	6.0	78.0
510.0			CALCAREOUS SHALE	59.0	84.0
451.0			CALCAREOUS SHALE	5.0	143.0
446.0			SANDSTONE	1.0	148.0
445.0			CALCAREOUS SHALE	51.0	149.0
394.0			SANDY SHALE	27.0	200.0
367.0			SANDSTONE	1.5	227.0
365.5			SANDY SHALE	7.5	228.5
358.0			SHALE	1.5	236.0
356.5			CALCAREOUS SHALE	1.5	237.5
355.0	MODESTO	PIASA	LIMESTONE	3.0	239.0
352.0			CALCAREOUS SHALE	16.0	242.0
336.0	CARBONDALE	DANVILLE	COAL	2.5	258.0
333.5	CARBONDALE		CALCAREOUS SHALE	3.0	260.5
330.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	263.5
328.0	CARBONDALE		SHALE	2.0	266.0
326.0	CARBONDALE	BRERETON	LIMESTONE	9.0	268.0
317.0	CARBONDALE		SHALE	3.0	277.0
314.0	CARBONDALE	HERRIN	COAL	7.0	280.0
307.0			SHALE	2.0	287.0
305.0			LIMESTONE	2.0	289.0
303.0			SHALE	8.0	291.0
295.0			LIMESTONE	3.0	299.0
292.0			SHALE	23.0	302.0
269.0			SANDSTONE	1.0	325.0
268.0			SHALE	2.0	326.0
266.0			CALCAREOUS SHALE	82.0	328.0
184.0			CALCAREOUS SHALE	7.0	410.0
177.0			CALCAREOUS SHALE	1.0	417.0
176.0			CALCAREOUS SHALE	4.0	418.0
172.0			SHALE	1.5	422.0
170.5			SHALE	29.5	423.5
141.0			COAL	2.0	453.0
139.0			SHALE	35.0	455.0

104.0	LIMESTONE	10.0	490.0
94.0	SHALE	11.0	500.0
83.0	COAL	1.0	511.0
82.0	CALCAREOUS SHALE	8.0	512.0
74.0	LIMESTONE	16.0	520.0
58.0	SHALE	6.0	536.0
52.0	LIMESTONE	7.0	542.0
45.0	CALCAREOUS SHALE	4.0	549.0
41.0	SHALE	3.0	553.0
38.0	SHALE	1.0	556.0
37.0	LIMESTONE	4.0	557.0
33.0	SHALE	4.0	561.0
29.0	LIMESTONE	5.0	565.0

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MAPID: 11901748000C    VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 17    QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: WORDEN    LONGITUDE: -89.793054    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.966099    DATE COLLECTED: 12 / 0 / 1949

SURFACE ELEVATION (FT.): 593.0    LOGGED (FT.): 585.0    LOG TYPE: Drillers Log

SOURCE: NEARY AND CAHILL    4    WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
593.0			UNCONSOLIDATED	18.0	0.0
575.0			CLAY	37.0	18.0
538.0			CLAY	4.0	55.0
534.0			CLAY	19.0	59.0
515.0			CALCAREOUS SHALE	40.0	78.0
475.0			COAL	2.0	118.0
473.0			CALCAREOUS SHALE	37.0	120.0
436.0			SANDSTONE	2.0	157.0
434.0			CALCAREOUS SHALE	76.0	159.0
358.0			LIMESTONE	5.0	235.0
353.0			LIMESTONE	3.5	240.0
349.5			CALCAREOUS SHALE	14.5	243.5
335.0			COAL	2.0	258.0
333.0			CALCAREOUS SHALE	4.0	260.0
329.0			LIMESTONE	12.0	264.0
317.0			COAL	8.0	276.0
309.0			SHALE	4.0	284.0
305.0			LIMESTONE	3.0	288.0
302.0			SHALE	2.0	291.0
300.0			LIMESTONE	2.0	293.0
298.0			SHALE	3.0	295.0
295.0			LIMESTONE	1.0	298.0
294.0			SHALE	4.0	299.0
290.0			LIMESTONE	1.5	303.0
288.5			SHALE	9.5	304.5
279.0			LIMESTONE	2.0	314.0
277.0			SANDY SHALE	102.0	316.0
175.0			COAL	1.5	418.0
173.5			SHALE	2.5	419.5
171.0			COAL	2.0	422.0
169.0			SANDY SHALE	76.0	424.0
93.0			SHALE	38.0	500.0
55.0			CALCAREOUS SHALE	6.0	538.0
49.0			LIMESTONE	1.0	544.0
48.0			CALCAREOUS SHALE	2.0	545.0
46.0			SANDY SHALE	3.0	547.0
43.0			SHALE	4.0	550.0
39.0			CALCAREOUS SHALE	3.0	554.0
36.0			SHALE	4.0	557.0

32.0	CALCAREOUS SHALE	10.5	561.0
21.5	SHALE	1.5	571.5
20.0	SHALE	1.5	573.0
18.5	SANDY SHALE	8.5	574.5
10.0	SHALE	2.0	583.0

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MAPID: 11901749000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 17 QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.793054 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.966099 DATE COLLECTED: 4 / 0 / 1950

SURFACE ELEVATION (FT.): 593.0 LOGGED (FT.): 585.0 LOG TYPE: Drillers Log

SOURCE: NEARY AND CAHILL 5 WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
593.0			CLAY	17.0	0.0
576.0			SAND	33.0	17.0
543.0			CLAY	9.0	50.0
534.0			LIMESTONE	1.0	59.0
533.0			SHALE	19.0	60.0
514.0			SANDY SHALE	50.0	79.0
464.0			SANDSTONE	14.0	129.0
450.0			LIMESTONE	3.5	143.0
446.5			SANDSTONE	5.5	146.5
441.0			SANDSTONE	30.0	152.0
411.0			SANDY SHALE	16.0	182.0
395.0			DARK GRAY SHALE	12.0	198.0
383.0			SANDSTONE	32.0	210.0
351.0	MODESTO	PIASA	LIMESTONE	5.5	242.0
345.5			SANDSTONE	2.5	247.5
343.0			DARK GRAY SHALE	4.0	250.0
339.0			SANDY SHALE	7.0	254.0
332.0	CARBONDALE	DANVILLE	COAL	3.0	261.0
329.0	CARBONDALE		GRAY SHALE	2.0	264.0
327.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	266.0
325.0	CARBONDALE		LIMESTONE	1.5	268.0
323.5	CARBONDALE	BRERETON	LIMESTONE	4.5	269.5
319.0	CARBONDALE	ANNA	BLACK SHALE	1.0	274.0
318.0	CARBONDALE	HERRIN	COAL	3.0	275.0
315.0	CARBONDALE	HERRIN	COAL	7.0	278.0
308.0			GRAY SHALE	3.0	285.0
305.0			LIMESTONE	3.0	288.0
302.0			GRAY SHALE	13.0	291.0
289.0			LIMESTONE	1.5	304.0
287.5			BLACK SHALE	3.5	305.5
284.0			GRAY SHALE	6.0	309.0
278.0			SANDSTONE	7.0	315.0
271.0			LIMESTONE	3.0	322.0
268.0			SANDSTONE	13.0	325.0
255.0			SANDSTONE	17.0	338.0
238.0			SANDY SHALE	21.0	355.0
217.0			COAL	2.0	376.0
215.0			BLACK SHALE	2.0	378.0
213.0			SANDY SHALE	2.0	380.0

211.0	SANDSTONE	14.0	382.0
197.0	SANDY SHALE	22.0	396.0
175.0	COAL	2.0	418.0
173.0	LIMESTONE	2.0	420.0
171.0	BLACK SHALE	4.0	422.0
167.0	SANDY SHALE	7.0	426.0
160.0	SANDSTONE	2.0	433.0
158.0	SANDY SHALE	32.0	435.0
126.0	COAL	2.0	467.0
124.0	CALCAREOUS SHALE	7.0	469.0
117.0	COAL	1.0	476.0
116.0	SHALE	15.0	477.0
101.0	DARK GRAY SHALE	28.0	492.0
73.0	SANDSTONE	0.8	520.0
72.2	LIMESTONE	1.7	520.8
70.5	CALCAREOUS SHALE	2.0	522.5
68.5	DARK GRAY SHALE	12.5	524.5
56.0	LIMESTONE	3.3	537.0
52.7	LIMESTONE	6.5	540.3
46.2	CALCAREOUS SHALE	1.5	546.8
44.7	CALCAREOUS SHALE	1.5	548.3
43.2	SHALE	2.5	549.8
40.7	CALCAREOUS SHALE	1.5	552.3
39.2	CALCAREOUS SHALE	3.0	553.8
36.2	CALCAREOUS SHALE	1.5	556.8
34.7	SANDY SHALE	3.3	558.3
31.3	SANDY SHALE	1.5	561.7
29.8	SANDY SHALE	4.2	563.2
25.7	SANDSTONE	4.0	567.3
21.7	SANDSTONE	1.0	571.3
20.7	LIMESTONE	1.5	572.3
19.2	SANDSTONE	3.5	573.8
15.7	SANDY SHALE	1.5	577.3
14.2	SHALE	5.0	578.8
9.2	SHALE	1.2	583.8

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MAPID: 11901750000C    VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 17    QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: WORDEN    LONGITUDE: -89.795359    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.962432    DATE COLLECTED: 5 / 0 / 1950

SURFACE ELEVATION (FT.): 590.0    LOGGED (FT.): 573.5    LOG TYPE: Drillers Log

SOURCE: NEARY AND CAHILL    6    WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.0			UNCONSOLIDATED	86.0	0.0	
504.0			SHALE	12.0	86.0	
492.0			SANDSTONE	14.0	98.0	
478.0			SANDSTONE	4.0	112.0	
474.0			SANDY SHALE	20.0	116.0	
454.0			SANDSTONE	9.0	136.0	
445.0			LIMESTONE	2.0	145.0	
443.0			SANDY SHALE	51.0	147.0	
392.0			GRAY SHALE	16.0	198.0	
376.0			GRAY SHALE	22.0	214.0	GY SH W/LS STREAKS
354.0			SHALE	3.0	236.0	
351.0			GRAY SHALE	2.0	239.0	
349.0	MODESTO	PIASA	LIMESTONE	5.5	241.0	
343.5			SANDY SHALE	4.5	246.5	
339.0			DARK GRAY SHALE	10.0	251.0	
329.0	CARBONDALE	DANVILLE	COAL	1.5	261.0	
327.5	CARBONDALE		CALCAREOUS SHALE	3.5	262.5	
324.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	266.0	
322.0	CARBONDALE		CALCAREOUS SHALE	1.0	268.0	
321.0	CARBONDALE	BRERETON	LIMESTONE	1.0	269.0	
320.0	CARBONDALE	BRERETON	LIMESTONE	5.0	270.0	
315.0	CARBONDALE		GRAY SHALE	2.0	275.0	
313.0	CARBONDALE	ANNA	BLACK SHALE	2.0	277.0	
311.0	CARBONDALE	HERRIN	COAL	5.0	279.0	
306.0			GRAY SHALE	2.0	284.0	
304.0			LIMESTONE	6.0	286.0	
298.0			GRAY SHALE	9.0	292.0	GY SH W/LS STREAKS
289.0			SANDSTONE	2.0	301.0	
287.0			LIMESTONE	1.0	303.0	
286.0			SANDSTONE	22.0	304.0	
264.0			LIMESTONE	3.0	326.0	
261.0			DARK GRAY SHALE	42.0	329.0	
219.0			COAL	2.0	371.0	
217.0			GRAY SHALE	5.0	373.0	
212.0			SANDSTONE	14.0	378.0	
198.0			SANDY SHALE	21.0	392.0	
177.0			COAL	2.0	413.0	
175.0			LIMESTONE	1.0	415.0	
174.0			BLACK SHALE	4.0	416.0	

170.0	GRAY SHALE	3.0	420.0	
167.0	LIMESTONE	2.0	423.0	
165.0	GRAY SHALE	2.0	425.0	
163.0	BLACK SHALE	3.0	427.0	
160.0	GRAY SHALE	2.0	430.0	
158.0	CALCAREOUS SHALE	3.0	432.0	
155.0	SHALE	4.0	435.0	
151.0	GRAY SHALE	27.0	439.0	
124.0	DARK GRAY SHALE	54.0	466.0	
70.0	UNCLASSIFIED	11.0	520.0	CORE LOSS
59.0	SHALE	3.8	531.0	
55.2	LIMESTONE	0.8	534.8	
54.4	SHALE	0.5	535.6	
53.9	CALCAREOUS SHALE	1.3	536.1	
52.7	LIMESTONE	1.2	537.3	
51.5	SHALE	10.6	538.5	
40.9	LIMESTONE	1.0	549.1	
39.9	CALCAREOUS SHALE	3.8	550.1	
36.2	LIMESTONE	0.6	553.8	
35.6	CALCAREOUS SHALE	3.2	554.4	
32.4	SHALE	0.9	557.6	
31.5	SHALE	1.5	558.5	
30.0	CALCAREOUS SHALE	0.8	560.0	
29.2	CALCAREOUS SHALE	1.0	560.8	
28.2	CALCAREOUS SHALE	1.5	561.8	
26.7	SHALE	1.5	563.3	
25.2	CALCAREOUS SHALE	1.7	564.8	
23.5	SHALE	2.3	566.5	
21.2	SHALE	4.8	568.8	

**MAPID:** 11900114000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 18    **QUARTERS/FOOTAGES:** 3600' S line, 2350' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.80939    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.971515    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 602.3    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** DECAMP CMC0001    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
327.3	CARBONDALE	HERRIN	COAL	5.3	275.0	



MAPID: 11900114000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 18 QUARTERS/FOOTAGES: 3600' S line, 2350' E line

QUADRANGLE: WORDEN LONGITUDE: -89.80939 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.971515 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 602.0 LOGGED (FT.): 280.3 LOG TYPE: Drillers Log

SOURCE: DECAMP COAL MINING WELL TYPE: Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
327.0	CARBONDALE	HERRIN	COAL	5.3	275.0	

MAPID: 11900707000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 18 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: WORDEN LONGITUDE: -89.802289 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.962431 DATE COLLECTED: 8 / 0 / 1948

SURFACE ELEVATION (FT.): 591.0 LOGGED (FT.): 285.5 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
347.1	MODESTO	PIASA	LIMESTONE	4.0	243.9	
343.1	MODESTO		UNCLASSIFIED	5.5	247.9	
337.6	CARBONDALE		UNCLASSIFIED	16.5	253.4	
321.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	269.9	
317.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	273.9	
315.1	CARBONDALE	BRERETON	LIMESTONE	2.8	275.9	
312.3	CARBONDALE	ANNA	BLACK SHALE	2.3	278.7	
310.0	CARBONDALE	HERRIN	COAL	4.5	281.0	

MAPID: 11900707000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 18 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: WORDEN LONGITUDE: -89.802289 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.962431 DATE COLLECTED:

SURFACE ELEVATION (FT.): 591.0 LOGGED (FT.): 286.5 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
346.0	MODESTO	PIASA	LIMESTONE	3.0	245.0
343.0	MODESTO		SHALE	13.0	248.0
330.0	CARBONDALE		SHALE	2.5	261.0
327.5	CARBONDALE	GALUM	LIMESTONE	2.5	263.5
325.0	CARBONDALE		SHALE	4.0	266.0
321.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	270.0
317.0	CARBONDALE	LAWSON	SHALE	3.0	274.0
314.0	CARBONDALE	BRERETON	LIMESTONE	2.0	277.0
312.0	CARBONDALE	ANNA	SHALE	3.0	279.0
309.0	CARBONDALE	HERRIN	COAL	4.5	282.0

MAPID: 11901761000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 18 QUARTERS/FOOTAGES: 995' N line, 335' E line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.802291 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.966175 DATE COLLECTED: 10 / 0 / 1949

SURFACE ELEVATION (FT.): 594.0 LOGGED (FT.): 274.0 LOG TYPE: Electric Log

SOURCE: SOHIO 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
364.0	MODESTO	PIASA	LIMESTONE	2.5	230.0
361.5	MODESTO		UNCLASSIFIED	5.0	232.5
356.5	CARBONDALE		UNCLASSIFIED	20.5	237.5
336.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	258.0
332.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	261.5
331.0	CARBONDALE	BRERETON	LIMESTONE	4.5	263.0
326.5	CARBONDALE	ANNA	BLACK SHALE	2.5	267.5
324.0	CARBONDALE	HERRIN	COAL	4.0	270.0

MAPID: 11900706000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 1200' S line, 2020' E line

QUADRANGLE: WORDEN LONGITUDE: -89.80832 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.950517 DATE COLLECTED: 6 / 0 / 1954

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 262.5 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
363.5	MODESTO	PIASA	LIMESTONE	5.5	216.5
358.0	MODESTO		UNCLASSIFIED	6.0	222.0
352.0	CARBONDALE		UNCLASSIFIED	17.0	228.0
335.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	245.0
329.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	250.5
327.5	CARBONDALE	BRERETON	LIMESTONE	3.5	252.5
324.0	CARBONDALE	ANNA	BLACK SHALE	2.0	256.0
322.0	CARBONDALE	HERRIN	COAL	4.5	258.0

MAPID: 11900706000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 1200' S line, 2020' E line

QUADRANGLE: WORDEN LONGITUDE: -89.80832 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.950517 DATE COLLECTED:

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 262.0 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
362.5	MODESTO	PIASA	LIMESTONE	4.0	217.5
358.5	MODESTO		SHALE	17.0	221.5
341.5	CARBONDALE		SHALE	2.0	238.5
339.5	CARBONDALE		SHALE	6.0	240.5
333.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	246.5
329.0	CARBONDALE	LAWSON	SHALE	5.0	251.0
324.0	CARBONDALE	ANNA	SHALE	2.0	256.0
322.0	CARBONDALE	HERRIN	COAL	4.0	258.0

MAPID: 11901764000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: WORDEN LONGITUDE: -89.802355 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.948059 DATE COLLECTED: 9 / 0 / 1953

SURFACE ELEVATION (FT.): 586.0 LOGGED (FT.): 279.0 LOG TYPE: Electric Log

SOURCE: KLEEMAN, JOHN WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
348.0	MODESTO	PIASA	LIMESTONE	5.0	238.0
343.0	MODESTO		UNCLASSIFIED	5.0	243.0
338.0	CARBONDALE		UNCLASSIFIED	15.0	248.0
323.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	263.0
318.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	268.0
315.0	CARBONDALE	BRERETON	LIMESTONE	5.0	271.0
310.0	CARBONDALE	HERRIN	COAL	3.0	276.0

MAPID: 11901776000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 665' S line, 655' W line of SE SE

QUADRANGLE: WORDEN LONGITUDE: -89.803537 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.948994 DATE COLLECTED: 7 / 0 / 1950

SURFACE ELEVATION (FT.): 583.0 LOGGED (FT.): 272.0 LOG TYPE: Electric Log

SOURCE: NEARY & CAHILL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
354.0	MODESTO	PIASA	LIMESTONE	4.0	229.0
350.0	MODESTO		UNCLASSIFIED	5.0	233.0
345.0	CARBONDALE		UNCLASSIFIED	10.0	238.0
335.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	248.0
329.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	253.5
326.5	CARBONDALE	BRERETON	LIMESTONE	5.5	256.5
321.0	CARBONDALE	ANNA	BLACK SHALE	6.0	262.0
315.0	CARBONDALE	HERRIN	COAL	4.0	268.0

MAPID: 1190178000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 330' N line, 330' E line  
 QUADRANGLE: WORDEN LONGITUDE: -89.802299 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.960609 DATE COLLECTED: 11 / 0 / 1948  
 SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 286.0 LOG TYPE: Electric Log  
 SOURCE: NEARY JOHN L WELL TYPE: Dry Hole  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
354.0	MODESTO	PIASA	LIMESTONE	10.0	236.0
344.0	MODESTO		UNCLASSIFIED	5.0	246.0
339.0	CARBONDALE		UNCLASSIFIED	14.0	251.0
325.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	265.0
320.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	270.0
318.0	CARBONDALE	BRERETON	LIMESTONE	6.0	272.0
312.0	CARBONDALE	HERRIN	COAL	8.0	278.0

MAPID: 11901786000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 288' S line, 398' E line of NE  
 QUADRANGLE: WORDEN LONGITUDE: -89.802562 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.955131 DATE COLLECTED: 1 / 0 / 1950  
 SURFACE ELEVATION (FT.): 588.0 LOGGED (FT.): 276.0 LOG TYPE: Electric Log  
 SOURCE: WILSON, ARNOLD WELL TYPE: Dry Hole  
 COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
355.5	MODESTO	PIASA	LIMESTONE	6.5	232.5
349.0	MODESTO		UNCLASSIFIED	4.0	239.0
345.0	CARBONDALE		UNCLASSIFIED	15.0	243.0
330.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	258.0
326.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	262.0
325.0	CARBONDALE	BRERETON	LIMESTONE	4.0	263.0
321.0	CARBONDALE	ANNA	BLACK SHALE	3.0	267.0
318.0	CARBONDALE	HERRIN	COAL	6.0	270.0

MAPID: 11923630000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 19    QUARTERS/FOOTAGES: 35' S line, 5' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.81323    GEOLOGIST: JACOBSON

CONFIDENTIAL: N    LATITUDE: 38.947348    DATE COLLECTED: 10 / 31 / 1978

SURFACE ELEVATION (FT.): 580.0    LOGGED (FT.): 310.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-12    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
310.0	CARBONDALE	DANVILLE	COAL	1.5	270.0
293.0	CARBONDALE	HERRIN	COAL	7.0	287.0

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MAPID: 11923630000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 35' S line, 5' W line

QUADRANGLE: WORDEN LONGITUDE: -89.81323 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.947348 DATE COLLECTED: 10 / 31 / 1978

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 310.0 WELL TYPE: Coal Test

SOURCE: MOBIL OIL ND-78-12

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
580.0			UNCONSOLIDATED	79.0	0.0
501.0	BOND		SILTSTONE	1.0	79.0
500.0	BOND		GRAY SHALE	17.2	80.0
482.8	BOND	CARTHAGE	LIMESTONE	6.8	97.2
476.0	MODESTO		SHALE	1.0	104.0
475.0	MODESTO		GRAY SHALE	28.0	105.0
447.0	MODESTO	CHAPEL	BLACK SHALE	2.0	133.0
445.0	MODESTO		SANDY SHALE	5.0	135.0
440.0	MODESTO		LIMESTONE	0.5	140.0
439.5	MODESTO		SANDY SHALE	16.5	140.5
423.0	MODESTO		GRAY SHALE	71.0	157.0
352.0	MODESTO		SANDSTONE	16.5	228.0
335.5	MODESTO		SANDY SHALE	3.5	244.5
332.0	MODESTO		GRAY SHALE	4.0	248.0
328.0	MODESTO	PIASA	LIMESTONE	4.6	252.0
323.4	MODESTO		GRAY SHALE	13.9	256.6
309.5	CARBONDALE	DANVILLE	COAL	1.5	270.5
308.0	CARBONDALE		GRAY SHALE	4.0	272.0
304.0	CARBONDALE	BANKSTON FORK	SANDY LIMESTONE	5.0	276.0
299.0	CARBONDALE		GRAY SHALE	1.8	281.0
297.2	CARBONDALE	BRERETON	LIMESTONE	0.6	282.8
296.6	CARBONDALE	ANNA	BLACK SHALE	3.6	283.4
293.0	CARBONDALE	HERRIN	COAL	7.0	287.0
286.0	CARBONDALE		SHALE	0.2	294.0
285.8	CARBONDALE		CORE LOSS	0.8	294.2
285.0	CARBONDALE		GRAY SHALE	1.0	295.0
284.0	CARBONDALE		LIMESTONE	1.0	296.0
283.0	CARBONDALE		CALCAREOUS SHALE	2.0	297.0
281.0	CARBONDALE		GRAY SHALE	7.0	299.0
274.0	CARBONDALE		CALCAREOUS SHALE	1.0	306.0
273.0	CARBONDALE		LIMESTONE	2.0	307.0
271.0	CARBONDALE		GRAY SHALE	1.0	309.0

MAPID: 11924030000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 19 QUARTERS/FOOTAGES: 2590' S line, 2150' E line

QUADRANGLE: WORDEN LONGITUDE: -89.808761 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.954358 DATE COLLECTED: 10 / 26 / 1979

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 290.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-19-53C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
582.0			UNCONSOLIDATED	79.0	0.0
503.0	MODESTO		GRAY SHALE	121.0	79.0
382.0	MODESTO		GRAY SHALE	20.0	200.0
362.0	MODESTO		SHALE	8.8	220.0
353.2	MODESTO	PIASA	LIMESTONE	4.2	228.8
349.0	MODESTO		GRAY SHALE	14.6	233.0
334.4	CARBONDALE	DANVILLE	COAL	1.4	247.6
333.0	CARBONDALE		GRAY SHALE	4.0	249.0
329.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	253.0
324.8	CARBONDALE		GRAY SHALE	2.0	257.2
322.8	CARBONDALE	BRERETON	LIMESTONE	3.0	259.2
319.8	CARBONDALE	ANNA	BLACK SHALE	2.3	262.2
317.5	CARBONDALE	HERRIN	COAL	7.3	264.5
310.2	CARBONDALE		SHALE	0.2	271.8
310.0	CARBONDALE		CORE LOSS	0.6	272.0
309.5	CARBONDALE		GRAY SHALE	2.0	272.5
307.5	CARBONDALE		LIMESTONE	5.5	274.5
302.0	CARBONDALE		GRAY SHALE	6.0	280.0
296.0	CARBONDALE		GRAY SHALE	4.0	286.0

MAPID: 11900705000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NW

QUADRANGLE: WORDEN LONGITUDE: -89.799972 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.958826 DATE COLLECTED: 8 / 0 / 1948

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 286.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. 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
347.0	MODESTO	PIASA	LIMESTONE	5.0	243.0
342.0	MODESTO		UNCLASSIFIED	5.5	248.0
336.5	CARBONDALE		UNCLASSIFIED	15.0	253.5
321.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	268.5
318.5	CARBONDALE	BRERETON	LIMESTONE	4.0	271.5
314.5	CARBONDALE	ANNA	BLACK SHALE	4.5	275.5
310.0	CARBONDALE	HERRIN	COAL	6.0	280.0



MAPID: 11901234000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: WORDEN LONGITUDE: -89.799965 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.960601 DATE COLLECTED: 10 / 0 / 1947

SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 291.0 LOG TYPE: Electric Log

SOURCE: SOHIO 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
342.0	MODESTO	PIASA	LIMESTONE	4.0	250.0
338.0	MODESTO		UNCLASSIFIED	5.0	254.0
333.0	CARBONDALE		UNCLASSIFIED	14.0	259.0
319.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	273.0
315.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	276.5
314.5	CARBONDALE	BRERETON	LIMESTONE	4.5	277.5
310.0	CARBONDALE	ANNA	BLACK SHALE	3.0	282.0
307.0	CARBONDALE	HERRIN	COAL	6.0	285.0

MAPID: 11901234000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: WORDEN LONGITUDE: -89.799965 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.960601 DATE COLLECTED:

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 287.0 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
342.0	MODESTO	PIASA	LIMESTONE	3.0	247.0
339.0	MODESTO		SHALE	14.0	250.0
325.0	CARBONDALE		SHALE	1.0	264.0
324.0	CARBONDALE		SHALE	5.0	265.0
319.0	CARBONDALE	BRERETON	LIMESTONE	7.0	270.0
312.0	CARBONDALE	ANNA	SHALE	5.0	277.0
306.0	CARBONDALE	HERRIN	COAL	4.0	283.0

MAPID: 11901234000C VERSION: 3

PROJECT: IDMM-GWQX

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: WORDEN LONGITUDE: -89.799965 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 38.960601 DATE COLLECTED: 10 / 0 / 1947

SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 418.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT: ELEV. IS SURF, NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
347.0	MODESTO	PIASA	UNCLASSIFIED	-	245.0
311.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	281.0
292.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	300.0
289.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	303.0
174.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	418.0

MAPID: 11901789000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' S line, 60' W line

QUADRANGLE: WORDEN LONGITUDE: -89.800976 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.948043 DATE COLLECTED: 11 / 0 / 1953

SURFACE ELEVATION (FT.): 583.0 LOGGED (FT.): 270.0 LOG TYPE: Electric Log

SOURCE: NEIHLS & WILLS WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
354.0	MODESTO	PIASA	LIMESTONE	4.0	229.0
350.0	MODESTO		UNCLASSIFIED	4.0	233.0
346.0	CARBONDALE		UNCLASSIFIED	12.0	237.0
334.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	249.0
330.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	253.0
327.0	CARBONDALE	BRERETON	LIMESTONE	6.0	256.0
321.0	CARBONDALE	ANNA	BLACK SHALE	4.0	262.0
317.0	CARBONDALE	HERRIN	COAL	4.0	266.0

MAPID: 11901808000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 870' N line, 524' E line of SW

QUADRANGLE: WORDEN LONGITUDE: -89.79377 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.951885 DATE COLLECTED: 2 / 0 / 1954

SURFACE ELEVATION (FT.): 577.0 LOGGED (FT.): 281.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
334.0	MODESTO	PIASA	LIMESTONE	5.0	243.0
329.0	MODESTO		UNCLASSIFIED	4.5	248.0
324.5	CARBONDALE		UNCLASSIFIED	12.5	252.5
312.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	265.0
306.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	271.0
304.0	CARBONDALE	BRERETON	LIMESTONE	6.0	273.0
298.0	CARBONDALE	HERRIN	COAL	2.0	279.0

MAPID: 11901809000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SE

QUADRANGLE: WORDEN LONGITUDE: -89.788461 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.947915 DATE COLLECTED: 5 / 0 / 1950

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 300.0 LOG TYPE: Electric Log

SOURCE: NEARY & CAHILL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
326.0	MODESTO	PIASA	LIMESTONE	6.0	256.0
320.0	MODESTO		UNCLASSIFIED	4.5	262.0
315.5	CARBONDALE	DANVILLE	COAL	1.0	266.5
314.5	CARBONDALE		UNCLASSIFIED	14.0	267.5
300.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5	281.5
297.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	285.0
295.0	CARBONDALE	BRERETON	LIMESTONE	5.0	287.0
290.0	CARBONDALE	ANNA	BLACK SHALE	3.0	292.0
287.0	CARBONDALE	HERRIN	COAL	5.0	295.0

MAPID: 11901817000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SE

QUADRANGLE: WORDEN LONGITUDE: -89.786121 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.953337 DATE COLLECTED: 6 / 0 / 1950

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: NEARY & CAHILL WELL TYPE: Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

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

MAPID: 11923631000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 20 QUARTERS/FOOTAGES: 40' N line, 2600' E line

QUADRANGLE: WORDEN LONGITUDE: -89.791864 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.961406 DATE COLLECTED: 11 / 1 / 1978

SURFACE ELEVATION (FT.): 585.0 LOGGED (FT.): 298.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-11 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
331.5	CARBONDALE	DANVILLE	COAL	1.0	253.5	
311.5	CARBONDALE	HERRIN	COAL	6.6	273.5	

MAPID: 11923631000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 20    QUARTERS/FOOTAGES: 40' N line, 2600' E line

QUADRANGLE: WORDEN    LONGITUDE: -89.791864    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.961406    DATE COLLECTED: 11 / 1 / 1978

SURFACE ELEVATION (FT.): 585.0    LOGGED (FT.): 298.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-11    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
585.0			UNCONSOLIDATED	96.0	0.0
489.0	MODESTO		SANDSTONE	3.0	96.0
486.0	MODESTO		GRAY SHALE	9.0	99.0
477.0	MODESTO		SANDSTONE	5.0	108.0
472.0	MODESTO		SHALE	3.0	113.0
469.0	MODESTO		GRAY SHALE	4.0	116.0
465.0	MODESTO		SHALY SANDSTONE	21.0	120.0
444.0	MODESTO		SILTY SHALE	49.0	141.0
395.0	MODESTO		GRAY SHALE	22.5	190.0
372.5	MODESTO		SANDSTONE	16.0	212.5
356.5	MODESTO		GRAY SHALE	7.5	228.5
349.0	MODESTO	PIASA	LIMESTONE	5.0	236.0
344.0	MODESTO		GRAY SHALE	12.0	241.0
332.0	MODESTO		BLACK SHALE	1.0	253.0
331.0	CARBONDALE	DANVILLE	COAL	1.0	254.0
330.0	CARBONDALE		GRAY SHALE	2.5	255.0
327.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	257.5
325.5	CARBONDALE		GRAY SHALE	2.3	259.5
323.2	CARBONDALE	BRERETON	LIMESTONE	10.2	261.8
313.0	CARBONDALE	ANNA	BLACK SHALE	1.5	272.0
311.5	CARBONDALE	HERRIN	COAL	6.6	273.5
304.9	CARBONDALE		SHALE	1.3	280.1
303.6	CARBONDALE		CORE LOSS	0.1	281.4
303.5	CARBONDALE		CALCAREOUS SHALE	1.5	281.5
302.0	CARBONDALE		LIMESTONE	7.0	283.0
295.0	CARBONDALE		GRAY SHALE	8.0	290.0

MAPID: 11901819000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 21 QUARTERS/FOOTAGES: 400' N line, 343' E line of NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.769866 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.952992 DATE COLLECTED: 8 / 0 / 1954

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 263.0 LOG TYPE: Electric Log

SOURCE: MITCHELL, JOHN T. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
335.0	MODESTO	PIASA	LIMESTONE	2.0	221.0
333.0	MODESTO		UNCLASSIFIED	5.5	223.0
327.5	CARBONDALE		UNCLASSIFIED	15.5	228.5
312.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	244.0
307.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	249.0
304.0	CARBONDALE	BRERETON	LIMESTONE	5.0	252.0
299.0	CARBONDALE	ANNA	BLACK SHALE	1.0	257.0
298.0	CARBONDALE	HERRIN	COAL	5.0	258.0

MAPID: 11901821000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 150' E line of SE NE SE

QUADRANGLE: WORDEN LONGITUDE: -89.764511 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.951351 DATE COLLECTED: 5 / 0 / 1931

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 294.0 LOG TYPE: Drillers Log

SOURCE: ZICOS, GEORGE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
320.0	MODESTO	PIASA	LIMESTONE	5.0	250.0
315.0	MODESTO		UNCLASSIFIED	4.0	255.0
311.0	CARBONDALE		UNCLASSIFIED	16.0	259.0
295.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	275.0
291.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	279.0
290.0	CARBONDALE	BRERETON	LIMESTONE	5.0	280.0
285.0	CARBONDALE	ANNA	BLACK SHALE	2.0	285.0
283.0	CARBONDALE	HERRIN	COAL	7.0	287.0

MAPID: 11901826000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE

QUADRANGLE: WORDEN LONGITUDE: -89.76515 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.954955 DATE COLLECTED: 8 / 0 / 1951

SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 294.0 LOG TYPE: Electric Log

SOURCE: ZICOS, GEORGE 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	5.0	250.0
323.0	MODESTO		UNCLASSIFIED	5.0	255.0
318.0	CARBONDALE		UNCLASSIFIED	15.0	260.0
303.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	275.0
299.0	CARBONDALE	BRERETON	LIMESTONE	4.0	279.0
295.0	CARBONDALE	ANNA	BLACK SHALE	5.0	283.0
290.0	CARBONDALE	HERRIN	COAL	6.0	288.0

MAPID: 11902573000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 21 QUARTERS/FOOTAGES: 1320' S line, 664' E line

QUADRANGLE: WORDEN LONGITUDE: -89.766325 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.950493 DATE COLLECTED:

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 300.5 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
317.0	MODESTO	PIASA	LIMESTONE	3.5	258.0
313.5	MODESTO		SHALE	17.0	261.5
296.5	CARBONDALE		SHALE	2.0	278.5
294.5	CARBONDALE		SHALE	6.5	280.5
288.0	CARBONDALE	BRERETON	LIMESTONE	4.5	287.0
283.5	CARBONDALE	ANNA	BLACK SHALE	4.0	291.5
279.0	CARBONDALE	HERRIN	COAL	4.5	296.0

MAPID: 11924031000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 21 QUARTERS/FOOTAGES: 175' S line, 400' W line

QUADRANGLE: WORDEN LONGITUDE: -89.781247 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.947416 DATE COLLECTED: 10 / 30 / 1979

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 315.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-21-51C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
303.0	CARBONDALE	DANVILLE	COAL	2.0	272.0
283.8	CARBONDALE	HERRIN	COAL	7.1	291.2

MAPID: 11924031000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 21 QUARTERS/FOOTAGES: 175' S line, 400' W line

QUADRANGLE: WORDEN LONGITUDE: -89.781247 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.947416 DATE COLLECTED: 10 / 30 / 1979

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 315.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-21-51C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
575.0			UNCONSOLIDATED	105.0	0.0
470.0	MODESTO		SHALE	7.0	105.0
463.0	MODESTO		GRAY SHALE	20.0	112.0
443.0	MODESTO	CHAPEL	COAL	0.5	132.0
442.5	MODESTO		SANDY SHALE	7.5	132.5
435.0	MODESTO		GRAY SHALE	82.0	140.0
353.0	MODESTO		SANDY SHALE	2.5	222.0
350.5	MODESTO		SHALE	8.5	224.5
342.0	MODESTO		GRAY SHALE	15.0	233.0
327.0	MODESTO		SHALE	5.0	248.0
322.0	MODESTO	PIASA	LIMESTONE	3.0	253.0
319.0	MODESTO		GRAY SHALE	15.0	256.0
304.0	CARBONDALE	DANVILLE	COAL	1.5	271.0
302.5	CARBONDALE		GRAY SHALE	5.4	272.5
297.1	CARBONDALE	BANKSTON FORK	LIMESTONE	3.7	277.9
293.4	CARBONDALE		GRAY SHALE	2.0	281.6
291.4	CARBONDALE	BRERETON	LIMESTONE	3.5	283.6
287.9	CARBONDALE	ANNA	BLACK SHALE	4.1	287.1
283.8	CARBONDALE	HERRIN	COAL	7.1	291.2
276.7	CARBONDALE		CORE LOSS	0.3	298.3
276.5	CARBONDALE		GRAY SHALE	3.5	298.5
273.0	CARBONDALE		CALCAREOUS SHALE	6.0	302.0
267.0	CARBONDALE		GRAY SHALE	7.0	308.0



MAPID: 11900768000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 22 QUARTERS/FOOTAGES: 430' N line, 440' E line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.75152 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.960026 DATE COLLECTED: 11 / 0 / 1951

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 303.0 LOG TYPE: Electric Log

SOURCE: ZICOS, GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
321.0	MODESTO	PIASA	LIMESTONE	5.0	259.0
316.0	MODESTO		UNCLASSIFIED	5.0	264.0
311.0	CARBONDALE		UNCLASSIFIED	15.0	269.0
296.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	284.0
292.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	288.0
290.0	CARBONDALE	BRERETON	LIMESTONE	7.0	290.0
283.0	CARBONDALE	HERRIN	COAL	6.0	297.0

MAPID: 11901022000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 22 QUARTERS/FOOTAGES: 140' S line, 330' W line of NE SE SW

QUADRANGLE: WORDEN LONGITUDE: -89.755784 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.948971 DATE COLLECTED: 2 / 0 / 1961

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 328.0 LOG TYPE: Electric Log

SOURCE: M M & S OIL & GAS CO WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
294.0	MODESTO	PIASA	LIMESTONE	4.0	286.0
290.0	MODESTO		UNCLASSIFIED	6.0	290.0
284.0	CARBONDALE		UNCLASSIFIED	16.0	296.0
268.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	312.0
263.0	CARBONDALE	BRERETON	LIMESTONE	5.0	317.0
258.0	CARBONDALE	HERRIN	COAL	6.0	322.0

MAPID: 11901025000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 22 QUARTERS/FOOTAGES: 250' S line, 450' W line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.753017 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.94745 DATE COLLECTED: 4 / 0 / 1961

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 335.0 LOG TYPE: Electric Log

SOURCE: M M & S OIL & GAS CO WELL TYPE: Producer-Oil

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	294.0
282.0	MODESTO		UNCLASSIFIED	6.0	298.0
276.0	CARBONDALE		UNCLASSIFIED	16.0	304.0
260.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	320.0
256.0	CARBONDALE	BRERETON	LIMESTONE	5.0	324.0
251.0	CARBONDALE	HERRIN	COAL	6.0	329.0

MAPID: 11901038000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 22 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.748747 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.947642 DATE COLLECTED: 7 / 0 / 1961

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 346.0 LOG TYPE: Electric Log

SOURCE: M M & S OIL & GAS CO WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
276.0	MODESTO	PIASA	LIMESTONE	4.0	299.0
272.0	MODESTO		UNCLASSIFIED	5.0	303.0
267.0	CARBONDALE		UNCLASSIFIED	13.0	308.0
254.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	321.0
249.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	326.0
246.0	CARBONDALE	BRERETON	LIMESTONE	9.0	329.0
237.0	CARBONDALE	ANNA	BLACK SHALE	2.0	338.0
235.0	CARBONDALE	HERRIN	COAL	6.0	340.0

MAPID: 1190183000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 22 QUARTERS/FOOTAGES: 330' S line, 200' W line of NW SW

QUADRANGLE: WORDEN LONGITUDE: -89.763273 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.951342 DATE COLLECTED: 3 / 0 / 1951

SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 300.0 LOG TYPE: Electric Log

SOURCE: ZICOS, GEORGE WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
315.0	MODESTO	PIASA	LIMESTONE	4.0	263.0
311.0	MODESTO		UNCLASSIFIED	5.0	267.0
306.0	CARBONDALE		UNCLASSIFIED	14.0	272.0
292.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	286.0
288.0	CARBONDALE	BRERETON	LIMESTONE	5.0	290.0
283.0	CARBONDALE	HERRIN	COAL	5.0	295.0

MAPID: 11924173000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 22 QUARTERS/FOOTAGES: 24' S line, 66' W line

QUADRANGLE: WORDEN LONGITUDE: -89.763738 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.946902 DATE COLLECTED: 10 / 14 / 1979

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 345.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-38 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
275.0	CARBONDALE	DANVILLE	COAL	2.0	301.0
256.0	CARBONDALE	HERRIN	COAL	7.1	320.0

MAPID: 11924173000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 22 QUARTERS/FOOTAGES: 24' S line, 66' W line

QUADRANGLE: WORDEN LONGITUDE: -89.763738 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.946902 DATE COLLECTED: 10 / 14 / 1979

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 345.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-38 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
576.0			UNCONSOLIDATED	157.0	0.0
419.0	MODESTO		GRAY SHALE	11.0	157.0
408.0	MODESTO		SANDY SHALE	27.0	168.0
381.0	MODESTO		SILTY SHALE	59.0	195.0
322.0	MODESTO		SHALE	4.0	254.0
318.0	MODESTO		SANDY SHALE	19.0	258.0
299.0	MODESTO		SHALE	5.0	277.0
294.0	MODESTO	PIASA	LIMESTONE	3.0	282.0
291.0	MODESTO		GRAY SHALE	16.0	285.0
275.0	CARBONDALE	DANVILLE	COAL	1.0	301.0
274.0	CARBONDALE		GRAY SHALE	5.0	302.0
269.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	307.0
267.0	CARBONDALE		SANDY SHALE	3.0	309.0
264.0	CARBONDALE	BRERETON	LIMESTONE	5.0	312.0
259.0	CARBONDALE	ANNA	BLACK SHALE	2.7	317.0
256.3	CARBONDALE	HERRIN	COAL	6.5	319.7
249.8	CARBONDALE		UNDERCLAY	3.3	326.2
246.5	CARBONDALE		SHALY LIMESTONE	6.5	329.5
240.0	CARBONDALE		GRAY SHALE	6.0	336.0
234.0	CARBONDALE		LIMESTONE	1.0	342.0
233.0	CARBONDALE		GRAY SHALE	2.0	343.0

MAPID: 11900028000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 23 QUARTERS/FOOTAGES: 2750' S line, 2900' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.736837 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.954196 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 351.5 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
271.0	MODESTO	PIASA	LIMESTONE	6.0	307.0
265.0	MODESTO		UNCLASSIFIED	2.0	313.0
263.0	CARBONDALE		UNCLASSIFIED	10.0	315.0
253.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	325.0
247.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	331.0
244.0	CARBONDALE	BRERETON	LIMESTONE	11.0	334.0
233.0	CARBONDALE	HERRIN	COAL	6.5	345.0

MAPID: 11900028000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 23 QUARTERS/FOOTAGES: 2750' S line, 2900' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.736837 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.954196 DATE COLLECTED:

SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 351.5 LOG TYPE: Drillers Log

SOURCE: POOR DESCRIPTION WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
271.0	MODESTO	PIASA	LIMESTONE	6.0	307.0
265.0	MODESTO		BLACK SHALE	2.0	313.0
263.0	CARBONDALE	LAWSON	GRAY SHALE	19.0	315.0
244.0	CARBONDALE	BRERETON	LIMESTONE	11.0	334.0
233.0	CARBONDALE	HERRIN	COAL	6.5	345.0

MAPID: 11900028000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 23 QUARTERS/FOOTAGES: 2750' S line, 2900' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.736837 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.954196 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 578.2 LOGGED (FT.): 353.0 LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 0014 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
233.2	CARBONDALE	HERRIN	COAL	6.5	345.0

MAPID: 11900629000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 330' W line of SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.744073 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.947602 DATE COLLECTED: 10 / 0 / 1956

SURFACE ELEVATION (FT.): 579.0 LOGGED (FT.): 361.0 LOG TYPE: Electric Log

SOURCE: INSALACO FRANK WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
265.0	MODESTO	PIASA	LIMESTONE	6.0	314.0
259.0	MODESTO		UNCLASSIFIED	5.0	320.0
254.0	CARBONDALE		UNCLASSIFIED	13.0	325.0
241.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	338.0
238.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	341.0
234.0	CARBONDALE	BRERETON	LIMESTONE	10.0	345.0
224.0	CARBONDALE	ANNA	BLACK SHALE	1.0	355.0
223.0	CARBONDALE	HERRIN	COAL	5.0	356.0

MAPID: 11900764000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 23 QUARTERS/FOOTAGES: 330' N line, 370' W line of SW SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.734601 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.9493 DATE COLLECTED: 2 / 0 / 1957

SURFACE ELEVATION (FT.): 541.0 LOGGED (FT.): 330.0 LOG TYPE: Electric Log

SOURCE: INSALACO FRANK WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
259.0	MODESTO	PIASA	LIMESTONE	2.0	282.0
257.0	MODESTO		UNCLASSIFIED	5.0	284.0
252.0	CARBONDALE		UNCLASSIFIED	15.0	289.0
237.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	304.0
231.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	310.0
227.0	CARBONDALE	BRERETON	LIMESTONE	9.0	314.0
218.0	CARBONDALE	ANNA	BLACK SHALE	1.0	323.0
217.0	CARBONDALE	HERRIN	COAL	6.0	324.0

MAPID: 11900029000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 24 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.7148 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.955627 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 369.3 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
246.8	MODESTO	PIASA	LIMESTONE	4.0	322.2
242.8	MODESTO		UNCLASSIFIED	3.0	326.2
239.8	CARBONDALE		UNCLASSIFIED	8.0	329.2
231.8	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	337.2
226.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	342.2
223.8	CARBONDALE	BRERETON	LIMESTONE	16.8	345.2
207.0	CARBONDALE	HERRIN	COAL	7.3	362.0

MAPID: 11900029000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 24 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.7148 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.955627 DATE COLLECTED:

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 369.3 LOG TYPE: Drillers Log

SOURCE: POOR DESCRIPTION WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
246.7	MODESTO	PIASA	LIMESTONE	4.0	322.3
242.7	CARBONDALE	LAWSON	GRAY SHALE	19.0	326.3
223.7	CARBONDALE	BRERETON	LIMESTONE	16.8	345.3
207.0	CARBONDALE	HERRIN	COAL	7.3	362.0

MAPID: 11900029000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 24 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.7148 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.955627 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 568.8 LOGGED (FT.): 370.0 LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 0012 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
206.8	CARBONDALE	HERRIN	COAL	7.3	362.0

MAPID: 11900029000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 24    QUARTERS/FOOTAGES: SW NE

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.7148    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.955627    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 568.8    LOGGED (FT.): 370.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    12    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
568.8			SANDY CLAY	15.0	0.0	
553.8			GRAVEL	12.0	15.0	
541.8			HARD PAN	54.0	27.0	CLY AND HARDPAN
487.8			LIMESTONE	11.0	81.0	
476.8			BLACK SHALE	2.0	92.0	
474.8			GRAY SHALE	40.8	94.0	
434.0			COAL	0.2	134.8	
433.8			GRAY SHALE	13.6	135.0	
420.2			COAL	0.4	148.6	
419.8			GRAY SHALE	13.0	149.0	
406.8			LIMESTONE	6.0	162.0	
400.8			GRAY SHALE	28.0	168.0	
372.8			GRAY SHALE	7.6	196.0	
365.2			COAL	0.4	203.6	
364.8			GRAY SHALE	7.0	204.0	
357.8			SANDSTONE	14.0	211.0	
343.8			SANDY SHALE	10.0	225.0	
333.8			GRAY SHALE	61.0	235.0	
272.8			COAL	0.7	296.0	
272.1			CALCAREOUS SHALE	12.3	296.7	
259.8			GRAY SHALE	13.0	309.0	
246.8	MODESTO	PIASA	LIMESTONE	2.0	322.0	
244.8	MODESTO	PIASA	LIMESTONE	2.0	324.0	
242.8	CARBONDALE	LAWSON	GRAY SHALE	19.0	326.0	
223.8	CARBONDALE	BRERETON	LIMESTONE	16.8	345.0	
207.0	CARBONDALE	HERRIN	COAL	7.3	361.8	
199.7			UNDERCLAY	0.9	369.1	



**MAPID:** 11900133000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 24    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.708888    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.960143    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 596.7    **LOGGED (FT.):** 372.0    **LOG TYPE:**  
**SOURCE:** AMELING 0018    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
233.7	CARBONDALE	HERRIN	COAL	7.6	363.0	

**MAPID:** 11900133000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 24    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.708888    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.960143    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 597.0    **LOGGED (FT.):** 370.5    **LOG TYPE:** Drillers Log  
**SOURCE:** AMELING BROS. & CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
235.2	CARBONDALE	ANNA	BLACK SHALE	1.2	361.8	
234.0	CARBONDALE	HERRIN	COAL	7.5	363.0	

**MAPID:** 11900134000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 24    **QUARTERS/FOOTAGES:** 290' S line, 1350' E line of SE  
**QUADRANGLE:** NEW DOUGLAS    **LONGITUDE:** -89.712538    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.947415    **DATE COLLECTED:** 0 / 0 / 1919  
**SURFACE ELEVATION (FT.):** 586.8    **LOGGED (FT.):** 398.0    **LOG TYPE:**  
**SOURCE:** AMELING 0012    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
195.8	CARBONDALE	HERRIN	COAL	6.4	391.0	

MAPID: 11900134000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 24 QUARTERS/FOOTAGES: 290' S line, 1350' E line of SE  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.712538 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.947415 DATE COLLECTED: 0 / 0 / 1919  
 SURFACE ELEVATION (FT.): 587.0 LOGGED (FT.): 397.3 LOG TYPE: Drillers Log  
 SOURCE: AMELING BROS. & CO. WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
210.2	CARBONDALE	BRERETON	LIMESTONE	14.2	376.8
196.0	CARBONDALE	HERRIN	COAL	6.3	391.0

MAPID: 11900135000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 24 QUARTERS/FOOTAGES: 2850' S line, 3800' E line  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.721172 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.954398 DATE COLLECTED: 0 / 0 / 1919  
 SURFACE ELEVATION (FT.): 586.1 LOGGED (FT.): 368.0 LOG TYPE:  
 SOURCE: AMELING WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
225.1	CARBONDALE	HERRIN	COAL	6.3	361.0

MAPID: 11900135000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 24 QUARTERS/FOOTAGES: 2850' S line, 3800' E line  
 QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.721172 GEOLOGIST: D. JOHNSON  
 CONFIDENTIAL: N LATITUDE: 38.954398 DATE COLLECTED: 0 / 0 / 1919  
 SURFACE ELEVATION (FT.): 586.0 LOGGED (FT.): 367.3 LOG TYPE: Drillers Log  
 SOURCE: AMELING BROS. & CO. WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
239.1	CARBONDALE	BRERETON	LIMESTONE	14.1	346.9
225.0	CARBONDALE	HERRIN	COAL	6.3	361.0

MAPID: 11900584000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 24 QUARTERS/FOOTAGES: 550' S line, 750' W line of NW NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.714503 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.958954 DATE COLLECTED: 4 / 0 / 1956

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 377.0 LOG TYPE: Electric Log

SOURCE: ALLEN, NELSON WELL TYPE: Junked Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
260.0	MODESTO	PIASA	LIMESTONE	6.0	330.0
254.0	MODESTO		UNCLASSIFIED	5.0	336.0
249.0	CARBONDALE		UNCLASSIFIED	14.0	341.0
235.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	355.0
230.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	360.0
228.0	CARBONDALE	BRERETON	LIMESTONE	8.0	362.0
220.0	CARBONDALE	ANNA	BLACK SHALE	2.0	370.0
218.0	CARBONDALE	HERRIN	COAL	5.0	372.0

MAPID: 11900030000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 25 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.718344 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.945643 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 387.5 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
244.0	MODESTO	PIASA	LIMESTONE	6.0	338.0
238.0	MODESTO		UNCLASSIFIED	3.0	344.0
235.0	CARBONDALE		UNCLASSIFIED	7.0	347.0
228.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	354.0
223.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	359.0
220.0	CARBONDALE	BRERETON	LIMESTONE	18.0	362.0
202.0	CARBONDALE	HERRIN	COAL	7.5	380.0

MAPID: 11900030000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 25 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.718344

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.945643

DATE COLLECTED:

SURFACE ELEVATION (FT.): 582.0

LOGGED (FT.): 387.5

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
244.0	MODESTO	PIASA	LIMESTONE	6.0	338.0
238.0	MODESTO		DARK GRAY SHALE	3.0	344.0
235.0	CARBONDALE		DARK GRAY SHALE	7.0	347.0
228.0	CARBONDALE	GALUM	LIMESTONE	3.0	354.0
225.0	CARBONDALE		SHALE	5.0	357.0
220.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	362.0
219.0	CARBONDALE	LAWSON	GRAY SHALE	3.0	363.0
216.0	CARBONDALE	BRERETON	LIMESTONE	14.0	366.0
202.0	CARBONDALE	HERRIN	COAL	7.5	380.0

MAPID: 11900030000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 25 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.718344

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.945643

DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 581.9

LOGGED (FT.): 390.0

LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 0004

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
201.9	CARBONDALE	HERRIN	COAL	7.5	380.0

MAPID: 11900030000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 25    QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.718344    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.945643    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 581.9    LOGGED (FT.): 390.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    4    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
581.9			CLAY	11.0	0.0	
570.9			SAND	40.0	11.0	UNCONS SD AND GRAVEL
530.9			SAND	9.0	51.0	
521.9			CLAY	21.0	60.0	
500.9			LIMESTONE	3.0	81.0	
497.9			GRAY SHALE	16.0	84.0	
481.9			LIMESTONE	5.0	100.0	
476.9			BLACK SHALE	3.0	105.0	
473.9			GRAY SHALE	10.0	108.0	
463.9			GRAY SHALE	20.0	118.0	
443.9			COAL	1.0	138.0	
442.9			GRAY SHALE	11.0	139.0	
431.9			CALCAREOUS SHALE	10.0	150.0	
421.9			GRAY SHALE	15.0	160.0	
406.9			CALCAREOUS SHALE	4.0	175.0	
402.9			LIMESTONE	5.0	179.0	
397.9			CALCAREOUS SHALE	18.0	184.0	
379.9			GRAY SHALE	21.0	202.0	
358.9			CALCAREOUS SHALE	18.0	223.0	
340.9			SANDY SHALE	27.0	241.0	
313.9			CALCAREOUS SHALE	30.0	268.0	
283.9			DARK SHALE	18.0	298.0	
265.9			DARK SHALE	7.0	316.0	
258.9			CALCAREOUS SHALE	14.0	323.0	
244.9			SHALE	1.0	337.0	
243.9	MODESTO	PIASA	LIMESTONE	6.0	338.0	
237.9			DARK SHALE	3.0	344.0	
234.9			CALCAREOUS SHALE	5.0	347.0	
229.9			SHALE	2.0	352.0	
227.9	CARBONDALE	GALUM	LIMESTONE	3.0	354.0	
224.9	CARBONDALE		SHALE	5.0	357.0	
219.9	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	362.0	
218.9	CARBONDALE		SHALE	3.0	363.0	
215.9	CARBONDALE	BRERETON	LIMESTONE	14.0	366.0	
201.9	CARBONDALE	HERRIN	COAL	7.5	380.0	
194.4			UNDERCLAY	0.3	387.5	
194.1			LIMESTONE	2.3	387.8	

MAPID: 11900031000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 25 QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.718362 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.932858 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 566.2 LOGGED (FT.): 389.0 LOG TYPE:

SOURCE: NEW STAUNTON COAL CO. 0005 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
189.2	CARBONDALE	HERRIN	COAL	6.4	377.0	

MAPID: 11900031000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 25 QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.718362 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.932858 DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 566.0 LOGGED (FT.): 383.5 LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
231.2	MODESTO	PIASA	LIMESTONE	6.5	334.8	
224.7	MODESTO		UNCLASSIFIED	2.2	341.3	
222.5	CARBONDALE		UNCLASSIFIED	8.0	343.5	
214.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.3	351.5	
209.2	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	356.8	
207.2	CARBONDALE	BRERETON	LIMESTONE	13.8	358.8	
193.4	CARBONDALE	ANNA	BLACK SHALE	4.4	372.6	
189.0	CARBONDALE	HERRIN	COAL	6.5	377.0	

MAPID: 11900031000C    VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 25    QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.718362    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.932858    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 566.2    LOGGED (FT.): 389.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    5    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
566.2			UNCONSOLIDATED	5.0	0.0	SOIL
561.2			CLAY	7.0	5.0	
554.2			SAND	16.0	12.0	
538.2			SANDY CLAY	24.0	28.0	
514.2			CLAY	18.0	52.0	
496.2			GRAVEL	2.0	70.0	
494.2			CALCAREOUS SHALE	2.0	72.0	
492.2			LIMESTONE	2.0	74.0	
490.2			CALCAREOUS SHALE	7.0	76.0	
483.2			LIMESTONE	4.0	83.0	
479.2			GRAY SHALE	3.0	87.0	
476.2			SHALE	7.0	90.0	
469.2			GRAY SHALE	12.0	97.0	
457.2			LIMESTONE	6.0	109.0	
451.2			BLACK SHALE	4.5	115.0	
446.7			GRAY SHALE	7.5	119.5	
439.2			CALCAREOUS SHALE	15.0	127.0	
424.2			COAL	1.5	142.0	
422.7			SANDY SHALE	18.5	143.5	
404.2			GRAY SHALE	26.2	162.0	
378.0			BLACK SHALE	0.8	188.2	
377.2			GRAY SHALE	13.0	189.0	
364.2			CALCAREOUS SHALE	1.0	202.0	
363.2			SANDY SHALE	14.0	203.0	
349.2			SANDSTONE	6.0	217.0	
343.2			SANDY SHALE	4.0	223.0	
339.2			SANDSTONE	56.0	227.0	
283.2			CALCAREOUS SHALE	4.0	283.0	
279.2			SANDSTONE	15.0	287.0	
264.2			BLACK SHALE	8.0	302.0	
256.2			SHALE	25.0	310.0	
231.2	MODESTO	PIASA	LIMESTONE	6.5	335.0	
224.7	MODESTO		CALCAREOUS SHALE	0.5	341.5	
224.2	MODESTO		DARK SHALE	0.5	342.0	
223.7	MODESTO		GRAY SHALE	5.5	342.5	
218.2	CARBONDALE	DANVILLE	COAL	0.7	348.0	
217.5	CARBONDALE		CALCAREOUS SHALE	6.3	348.7	
211.2	CARBONDALE		CALCAREOUS SHALE	4.0	355.0	
207.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	359.0	

203.7	CARBONDALE		GRAY SHALE	5.0	362.5
198.7	CARBONDALE	BRERETON	LIMESTONE	5.3	367.5
193.4	CARBONDALE	ANNA	BLACK SHALE	4.4	372.8
188.9	CARBONDALE	HERRIN	COAL	6.4	377.3
182.5			CALCAREOUS SHALE	5.3	383.7

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MAPID: 11923645000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 25    QUARTERS/FOOTAGES: 49' S line, 68' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.726216    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.932065    DATE COLLECTED: 11 / 13 / 1978

SURFACE ELEVATION (FT.): 574.0    LOGGED (FT.): 400.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-42    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
574.0			UNCONSOLIDATED	85.0	0.0
489.0	BOND		GRAY SHALE	28.0	85.0
461.0	BOND	CARTHAGE	LIMESTONE	5.0	113.0
456.0	MODESTO		BLACK SHALE	3.0	118.0
453.0	MODESTO		GRAY SHALE	25.0	121.0
428.0	MODESTO		BLACK SHALE	1.0	146.0
427.0	MODESTO	CHAPEL	COAL	1.5	147.0
425.5	MODESTO		GRAY SHALE	59.5	148.5
366.0	MODESTO		SILTY SHALE	11.0	208.0
355.0	MODESTO		GRAY SHALE	5.0	219.0
350.0	MODESTO		SILTY SHALE	4.0	224.0
346.0	MODESTO		GRAY SHALE	14.0	228.0
332.0	MODESTO		SHALE & SANDSTONE	60.0	242.0
272.0	MODESTO		GRAY SHALE	3.0	302.0
269.0	MODESTO		GRAY SHALE	5.0	305.0
264.0	MODESTO		SHALE	2.0	310.0
262.0	MODESTO		GRAY SHALE	5.5	312.0
256.5	MODESTO		SANDSTONE	6.5	317.5
250.0	MODESTO		SHALE	8.0	324.0
242.0	MODESTO		GRAY SHALE	3.0	332.0
239.0	MODESTO	PIASA	LIMESTONE	5.0	335.0
234.0	MODESTO		GRAY SHALE	10.0	340.0
224.0	CARBONDALE	DANVILLE	COAL	2.0	350.0
222.0	CARBONDALE		CALCAREOUS SHALE	4.5	352.0
217.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	356.5
213.5	CARBONDALE		GRAY SHALE	4.5	360.5
209.0	CARBONDALE	BRERETON	LIMESTONE	6.0	365.0
203.0	CARBONDALE	ANNA	BLACK SHALE	4.0	371.0
199.0	CARBONDALE	HERRIN	COAL	7.3	375.0
191.7	CARBONDALE		SHALE	0.2	382.3
191.5	CARBONDALE		CORE LOSS	0.6	382.5
190.9	CARBONDALE		CALCAREOUS SHALE	2.9	383.1
188.0	CARBONDALE		LIMESTONE	8.0	386.0
180.0	CARBONDALE		GRAY SHALE	6.0	394.0

MAPID: 11923655000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 25    QUARTERS/FOOTAGES: 1848' S line, 2613' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.717257    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.937048    DATE COLLECTED: 11 / 15 / 1978

SURFACE ELEVATION (FT.): 580.0    LOGGED (FT.): 407.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-40    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
580.0			UNCONSOLIDATED	54.0	0.0
526.0	BOND		GRAY SHALE	31.0	54.0
495.0	BOND		LIMESTONE	1.0	85.0
494.0	BOND		COAL	1.0	86.0
493.0	BOND		GRAY SHALE	6.0	87.0
487.0	BOND		LIMESTONE	2.0	93.0
485.0	BOND		GRAY SHALE	23.0	95.0
462.0	BOND	CARTHAGE	LIMESTONE	5.0	118.0
457.0	MODESTO		BLACK SHALE	3.0	123.0
454.0	MODESTO		GRAY SHALE	33.0	126.0
421.0	MODESTO	CHAPEL	COAL	1.0	159.0
420.0	MODESTO		GRAY SHALE	9.0	160.0
411.0	MODESTO		SANDY SHALE	5.0	169.0
406.0	MODESTO		GRAY SHALE	16.0	174.0
390.0	MODESTO		SANDY SHALE	35.0	190.0
355.0	MODESTO		GRAY SHALE	3.5	225.0
351.5	MODESTO		LIMESTONE	0.5	228.5
351.0	MODESTO		GRAY SHALE	3.0	229.0
348.0	MODESTO		SANDY SHALE	3.5	232.0
344.5	MODESTO		SANDSTONE	5.5	235.5
339.0	MODESTO		SANDY SHALE	49.0	241.0
290.0	MODESTO		SANDY SHALE	14.0	290.0
276.0	MODESTO		SILTY SHALE	10.0	304.0
266.0	MODESTO		GRAY SHALE	8.0	314.0
258.0	MODESTO		SILTY SHALE	9.0	322.0
249.0	MODESTO		GRAY SHALE	3.0	331.0
246.0	MODESTO		BLACK SHALE	3.0	334.0
243.0	MODESTO		SHALE	8.0	337.0
235.0	MODESTO	PIASA	LIMESTONE	5.0	345.0
230.0	MODESTO		GRAY SHALE	10.0	350.0
220.0	MODESTO		BLACK SHALE	1.0	360.0
219.0	CARBONDALE	DANVILLE	COAL	0.0	361.0
219.0	CARBONDALE		CALCAREOUS SHALE	4.0	361.0
215.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.3	365.0
210.7	CARBONDALE		GRAY SHALE	3.8	369.3
207.0	CARBONDALE	BRERETON	SHALY LIMESTONE	8.3	373.0
198.7	CARBONDALE	ANNA	BLACK SHALE	2.7	381.3
196.1	CARBONDALE	HERRIN	COAL	7.4	383.9
188.7	CARBONDALE		SHALE	0.8	391.3

187.9	CARBONDALE	CORE LOSS	0.7	392.1
187.2	CARBONDALE	GRAY SHALE	2.2	392.8
185.0	CARBONDALE	LIMESTONE	1.5	395.0
183.5	CARBONDALE	GRAY SHALE	10.5	396.5

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MAPID: 11924174000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 25    QUARTERS/FOOTAGES: 60' N line, 363' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.709056

GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.94648

DATE COLLECTED: 10 / 20 / 1977

SURFACE ELEVATION (FT.): 595.0

LOGGED (FT.): 427.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-36

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
595.0			UNCONSOLIDATED	54.0	0.0
541.0	BOND		GRAY SHALE	41.0	54.0
500.0	BOND		LIMESTONE W/ COAL	1.0	95.0
499.0	BOND		GRAY SHALE	3.0	96.0
496.0	BOND		GRAY SHALE	7.0	99.0
489.0	BOND		GRAY SHALE	17.5	106.0
471.5	BOND	CARTHAGE	LIMESTONE	6.5	123.5
465.0	MODESTO		BLACK SHALE	3.0	130.0
462.0	MODESTO		GRAY SHALE	22.0	133.0
440.0	MODESTO	CHAPEL	COAL	3.5	155.0
436.5	MODESTO		GRAY SHALE	38.5	158.5
398.0	MODESTO		LIMESTONE	7.0	197.0
391.0	MODESTO		GRAY SHALE	32.5	204.0
358.5	MODESTO		COAL	1.0	236.5
357.5	MODESTO		SANDY SHALE	1.5	237.5
356.0	MODESTO		SANDY LIMESTONE	5.0	239.0
351.0	MODESTO		CALCAREOUS SANDSTONE	4.0	244.0
347.0	MODESTO		SANDSTONE/SHALE	12.0	248.0
335.0	MODESTO		SILTY SHALE	15.0	260.0
320.0	MODESTO		GRAY SHALE	48.0	275.0
272.0	MODESTO		LIMESTONE	0.2	323.0
271.8	MODESTO		SILTY SHALE	27.8	323.2
244.0	MODESTO		CALCAREOUS SHALE	2.0	351.0
242.0	MODESTO		SHALE	5.0	353.0
237.0	MODESTO	PIASA	LIMESTONE	7.0	358.0
230.0	MODESTO		BLACK SHALE	2.0	365.0
228.0	MODESTO		GRAY SHALE	8.5	367.0
219.5	CARBONDALE	DANVILLE	BLACK SHALE	1.0	375.5
218.5	CARBONDALE		GRAY SHALE	2.5	376.5
216.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	379.0
211.5	CARBONDALE		GRAY SHALE	3.5	383.5
208.0	CARBONDALE	BRERETON	LIMESTONE	12.5	387.0
195.5	CARBONDALE	HERRIN	COAL	7.1	399.5
188.4	CARBONDALE		UNDERCLAY	1.0	406.6
187.5	CARBONDALE		CORE LOSS	0.4	407.5
187.1	CARBONDALE		GRAY SHALE	4.1	407.9
183.0	CARBONDALE		LIMESTONE	4.0	412.0
179.0	CARBONDALE		GRAY SHALE	7.0	416.0

172.0 CARBONDALE LIMESTONE 1.0 423.0  
 171.0 CARBONDALE GRAY SHALE 3.0 424.0

**MAPID:** 11900033000C **VERSION:** 1 **PROJECT:** D JOHNSON  
**COUNTY:** MADISON **TWP/RNG:** 6N 6W **SECTION:** 26 **QUARTERS/FOOTAGES:** SE SW  
**QUADRANGLE:** NEW DOUGLAS **LONGITUDE:** -89.7383 **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N **LATITUDE:** 38.93381 **DATE COLLECTED:** 11 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 530.0 **LOGGED (FT.):** 325.3 **LOG TYPE:** Drillers Log  
**SOURCE:** NEW STAUNTON COAL CO. **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
248.8	MODESTO	PIASA	LIMESTONE	6.0	281.2
242.8	MODESTO		UNCLASSIFIED	4.0	287.2
238.8	CARBONDALE		UNCLASSIFIED	9.5	291.2
229.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	300.7
224.8	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	305.2
223.8	CARBONDALE	BRERETON	LIMESTONE	6.0	306.2
217.8	CARBONDALE	ANNA	BLACK SHALE	4.8	312.2
213.0	CARBONDALE	HERRIN	COAL	8.3	317.0

**MAPID:** 11900033000C **VERSION:** 2 **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON **TWP/RNG:** 6N 6W **SECTION:** 26 **QUARTERS/FOOTAGES:** SE SW  
**QUADRANGLE:** NEW DOUGLAS **LONGITUDE:** -89.7383 **GEOLOGIST:**  
**CONFIDENTIAL:** N **LATITUDE:** 38.93381 **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 530.0 **LOGGED (FT.):** 325.3 **LOG TYPE:** Drillers Log  
**SOURCE:** **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
248.7	MODESTO	PIASA	LIMESTONE	6.0	281.3
242.7	MODESTO		GRAY SHALE	10.0	287.3
232.7	CARBONDALE	DANVILLE	COAL	1.5	297.3
231.2	CARBONDALE		GRAY SHALE	6.5	298.8
224.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	305.3
221.7	CARBONDALE	LAWSON	GRAY SHALE	2.0	308.3
219.7	CARBONDALE	BRERETON	LIMESTONE	2.0	310.3
217.7	CARBONDALE	ANNA	BLACK SHALE	4.8	312.3
213.0	CARBONDALE	HERRIN	COAL	8.3	317.0

MAPID: 11900033000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 26    QUARTERS/FOOTAGES: SE SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.7383    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.93381    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 529.9    LOGGED (FT.): 327.0    LOG TYPE:

SOURCE: NEW STAUNTON COAL CO.    0003    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
212.9	CARBONDALE	HERRIN	COAL	7.3	317.0	

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MAPID: 11900033000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 26    QUARTERS/FOOTAGES: SE SW

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.7383    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.93381    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 529.9    LOGGED (FT.): 327.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    3    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
529.9			CLAY	30.0	0.0	
499.9			SAND	43.0	30.0	SD AND GRAVEL
456.9			GRAY SHALE	12.0	73.0	
444.9			COAL	1.0	85.0	
443.9			GRAY SHALE	9.0	86.0	
434.9			CALCAREOUS SHALE	30.0	95.0	
404.9			LIMESTONE	5.0	125.0	
399.9			GRAY SHALE	15.0	130.0	
384.9			GRAY SHALE	20.0	145.0	
364.9			COAL	0.2	165.0	
364.7			CALCAREOUS SHALE	3.8	165.2	
360.9			SANDY SHALE	32.0	169.0	
328.9			GRAY SHALE	30.0	201.0	
298.9			GRAY SHALE	20.0	231.0	
278.9			CALCAREOUS SHALE	27.0	251.0	
251.9			SHALE	1.0	278.0	
250.9			DARK SHALE	2.0	279.0	
248.9	MODESTO	PIASA	LIMESTONE	6.0	281.0	
242.9	MODESTO		GRAY SHALE	10.0	287.0	
232.9	CARBONDALE	DANVILLE	COAL	1.5	297.0	
231.4	CARBONDALE		GRAY SHALE	6.5	298.5	
224.9	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	305.0	
221.9	CARBONDALE		SHALE	2.0	308.0	
219.9	CARBONDALE	BRERETON	LIMESTONE	2.0	310.0	
217.9	CARBONDALE	ANNA	DARK SHALE	1.0	312.0	
216.9	CARBONDALE	ANNA	DARK SHALE	3.8	313.0	
213.1	CARBONDALE	HERRIN	COAL	7.3	316.8	
205.9	CARBONDALE	HERRIN	ROCK	0.1	324.0	BLU BAND
205.8	CARBONDALE	HERRIN	COAL	0.9	324.1	
204.9			UNDERCLAY	2.0	325.0	

MAPID: 11901036000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.744133 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.940261 DATE COLLECTED: 6 / 0 / 1961

SURFACE ELEVATION (FT.): 577.0 LOGGED (FT.): 354.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J.

WELL TYPE: Producer-Gas

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
265.0	MODESTO	PIASA	LIMESTONE	6.0	312.0
259.0	MODESTO		UNCLASSIFIED	4.0	318.0
255.0	CARBONDALE		UNCLASSIFIED	11.0	322.0
244.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.0	333.0
242.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	335.0
240.0	CARBONDALE	BRERETON	LIMESTONE	11.0	337.0
229.0	CARBONDALE	HERRIN	COAL	6.0	348.0

MAPID: 11901047000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 26 QUARTERS/FOOTAGES: 990' S line, 1650' E line of NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.732364 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.941986 DATE COLLECTED: 9 / 0 / 1961

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 331.0 LOG TYPE: Electric Log

SOURCE: DEFRATIS & ASSC

WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
275.0	MODESTO	PIASA	LIMESTONE	4.0	285.0
271.0	MODESTO		UNCLASSIFIED	5.0	289.0
266.0	CARBONDALE		UNCLASSIFIED	13.0	294.0
253.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	307.0
248.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	312.0
246.0	CARBONDALE	BRERETON	LIMESTONE	10.0	314.0
236.0	CARBONDALE	ANNA	BLACK SHALE	1.0	324.0
235.0	CARBONDALE	HERRIN	COAL	6.0	325.0



MAPID: 11901075000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.74422 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.934767 DATE COLLECTED: 6 / 0 / 1962

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 346.0 LOG TYPE: Electric Log

SOURCE: M M & S OIL & GAS CO WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
260.0	MODESTO	PIASA	LIMESTONE	4.0	313.0
256.0	MODESTO		UNCLASSIFIED	3.0	317.0
253.0	CARBONDALE		UNCLASSIFIED	10.0	320.0
243.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	330.0
240.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	333.0
239.0	CARBONDALE	BRERETON	LIMESTONE	6.0	334.0
233.0	CARBONDALE	HERRIN	COAL	6.0	340.0

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MAPID: 11923646000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 26    QUARTERS/FOOTAGES: 60' N line, 2160' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.737568    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.946445    DATE COLLECTED: 11 / 6 / 1978

SURFACE ELEVATION (FT.): 555.0    LOGGED (FT.): 365.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-36    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0			UNCONSOLIDATED	112.0	0.0
443.0	BOND		GRAY SHALE	33.5	112.0
409.5	BOND	CARTHAGE	LIMESTONE	5.5	145.5
404.0	MODESTO		GRAY SHALE	33.5	151.0
370.5	MODESTO	CHAPEL	COAL	0.5	184.5
370.0	MODESTO		GRAY SHALE	22.0	185.0
348.0	MODESTO		SANDSTONE	13.0	207.0
335.0	MODESTO		SANDY SHALE	57.0	220.0
278.0	MODESTO		SHALE	4.0	277.0
274.0	MODESTO		SANDY SHALE	21.0	281.0
253.0	MODESTO		SHALE	3.0	302.0
250.0	MODESTO	PIASA	LIMESTONE	2.5	305.0
247.5	MODESTO		GRAY SHALE	11.0	307.5
236.5	MODESTO		SHALY LIMESTONE	3.5	318.5
233.0	CARBONDALE	DANVILLE	COAL	0.5	322.0
232.5	CARBONDALE		SHALE	4.5	322.5
228.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	327.0
226.0	CARBONDALE		SHALE	5.0	329.0
221.0	CARBONDALE	BRERETON	LIMESTONE	9.0	334.0
212.0	CARBONDALE	ANNA	BLACK SHALE	1.0	343.0
211.0	CARBONDALE	HERRIN	COAL	6.5	344.0
204.5	CARBONDALE		SHALY LIMESTONE	0.2	350.5
204.3	CARBONDALE		CORE LOSS	1.8	350.7
202.5	CARBONDALE		CALCAREOUS SHALE	1.5	352.5
201.0	CARBONDALE		LIMESTONE	5.0	354.0
196.0	CARBONDALE		GRAY SHALE	4.0	359.0
192.0	CARBONDALE		LIMESTONE	1.0	363.0
191.0	CARBONDALE		GRAY SHALE	1.0	364.0

MAPID: 11923647000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 26    QUARTERS/FOOTAGES: 2575' S line, 2580' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.735631    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.939078    DATE COLLECTED: 11 / 9 / 1978

SURFACE ELEVATION (FT.): 538.0    LOGGED (FT.): 340.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-39    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
538.0			UNCONSOLIDATED	54.0	0.0
484.0	BOND	CARTHAGE	LIMESTONE	6.0	54.0
478.0	MODESTO		BLACK SHALE	3.5	60.0
474.5	MODESTO		GRAY SHALE	20.0	63.5
454.5	MODESTO	CHAPEL	COAL	1.5	83.5
453.0	MODESTO		GRAY SHALE	40.0	85.0
413.0	MODESTO		BLACK SHALE	2.5	125.0
410.5	MODESTO		GRAY SHALE	37.5	127.5
373.0	MODESTO		LIMESTONE	4.0	165.0
369.0	MODESTO		GRAY SHALE	112.0	169.0
257.0	MODESTO	PIASA	LIMESTONE	3.0	281.0
254.0	MODESTO		CALCAREOUS SHALE	14.5	284.0
239.5	CARBONDALE	DANVILLE	COAL	0.5	298.5
239.0	CARBONDALE		GRAY SHALE	6.0	299.0
233.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	305.0
230.0	CARBONDALE		GRAY SHALE	2.5	308.0
227.5	CARBONDALE	BRERETON	LIMESTONE	1.0	310.5
226.5	CARBONDALE	ENERGY	GRAY SHALE	5.7	311.5
220.8	CARBONDALE	HERRIN	COAL	8.3	317.2
212.5	CARBONDALE		CORE LOSS	0.7	325.5
211.8	CARBONDALE		GRAY SHALE	3.8	326.2
208.0	CARBONDALE		SHALY LIMESTONE	6.0	330.0
202.0	CARBONDALE		SHALE	2.5	336.0
199.5	CARBONDALE		LIMESTONE	1.5	338.5

MAPID: 11900034000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 27

QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: WORDEN

LONGITUDE: -89.751202

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.932949

DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 543.0

LOGGED (FT.): 327.0

LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
265.0	MODESTO	PIASA	LIMESTONE	7.0	278.0
258.0	MODESTO		UNCLASSIFIED	6.0	285.0
252.0	CARBONDALE		UNCLASSIFIED	12.4	291.0
239.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.6	303.4
234.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	309.0
232.0	CARBONDALE	BRERETON	LIMESTONE	6.0	311.0
226.0	CARBONDALE	ANNA	BLACK SHALE	3.0	317.0
223.0	CARBONDALE	HERRIN	COAL	7.0	320.0

MAPID: 11900034000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON

TWP/RNG: 6N 6W

SECTION: 27

QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: WORDEN

LONGITUDE: -89.751202

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.932949

DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0

LOGGED (FT.): 326.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
266.0	MODESTO	PIASA	CALCAREOUS SHALE	7.0	277.0
259.0	MODESTO		CALCAREOUS SHALE	16.0	284.0
243.0	CARBONDALE	DANVILLE	COAL	0.2	300.0
242.8	CARBONDALE		BLACK SHALE	0.3	300.2
242.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	9.6	300.4
233.0	CARBONDALE	BRERETON	LIMESTONE	6.0	310.0
227.0	CARBONDALE	ANNA	BLACK SHALE	3.0	316.0
224.0	CARBONDALE	HERRIN	COAL	7.0	319.0

MAPID: 11900034000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 27    QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: WORDEN    LONGITUDE: -89.751202    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.932949    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 542.6    LOGGED (FT.): 327.0    LOG TYPE:

SOURCE: NEW STAUNTON COAL CO.    1    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
223.6	CARBONDALE	HERRIN	COAL	7.0	319.0	

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MAPID: 11900034000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 27    QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: WORDEN    LONGITUDE: -89.751202    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.932949    DATE COLLECTED: 11 / 0 / 1920

SURFACE ELEVATION (FT.): 542.6    LOGGED (FT.): 327.0    LOG TYPE: Drillers Log

SOURCE: NEW STAUNTON COAL CO.    1    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
542.6			UNCONSOLIDATED	2.0	0.0
540.6			DARK CLAY	3.0	2.0
537.6			SAND	35.0	5.0
502.6			SAND	8.0	40.0
494.6			SANDY CLAY	42.0	48.0
452.6			GRAY SHALE	1.5	90.0
451.1			COAL	0.5	91.5
450.6			GRAY SHALE	10.0	92.0
440.6			SHALE	23.0	102.0
417.6			LIMESTONE	4.0	125.0
413.6			CALCAREOUS SHALE	10.0	129.0
403.6			DARK SHALE	11.0	139.0
392.6			DARK SHALE	22.0	150.0
370.6			CALCAREOUS SHALE	11.0	172.0
359.6			SANDSTONE	12.0	183.0
347.6			DARK SHALE	8.0	195.0
339.6			SANDY SHALE	31.0	203.0
308.6			SANDY SHALE	19.0	234.0
289.6			DARK SHALE	5.0	253.0
284.6			DARK SHALE	14.0	258.0
270.6			DARK GRAY SHALE	2.8	272.0
267.8			COAL	0.2	274.8
267.6			BONE COAL	0.3	275.0
267.3			DARK SHALE	1.8	275.3
265.6			CALCAREOUS SHALE	7.0	277.0
258.6			CALCAREOUS SHALE	12.0	284.0
246.6			CALCAREOUS SHALE	4.0	296.0
242.6	CARBONDALE	DANVILLE	COAL	0.2	300.0
242.4	CARBONDALE		BLACK SHALE	0.3	300.2
242.2	CARBONDALE		CALCAREOUS SHALE	9.6	300.4
232.6	CARBONDALE	BRERETON	LIMESTONE	6.0	310.0
226.6	CARBONDALE	ANNA	DARK SHALE	3.0	316.0
223.6	CARBONDALE	HERRIN	COAL	6.5	319.0
217.1	CARBONDALE	HERRIN	ROCK	0.0	325.5
217.1	CARBONDALE	HERRIN	COAL	0.5	325.5
216.6			UNDERCLAY	1.0	326.0

MAPID: 11900704000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' N line, 432' W line of SW

QUADRANGLE: WORDEN LONGITUDE: -89.76242 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.938532 DATE COLLECTED: 8 / 0 / 1950

SURFACE ELEVATION (FT.): 563.0 LOGGED (FT.): 335.0 LOG TYPE: Electric Log

SOURCE: ROBISON, H. F. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
271.0	MODESTO	PIASA	LIMESTONE	4.0	292.0
267.0	MODESTO		UNCLASSIFIED	5.0	296.0
262.0	CARBONDALE		UNCLASSIFIED	15.0	301.0
247.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	316.0
243.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	320.0
241.0	CARBONDALE	BRERETON	LIMESTONE	5.0	322.0
236.0	CARBONDALE	ANNA	BLACK SHALE	3.0	327.0
233.0	CARBONDALE	HERRIN	COAL	5.0	330.0

MAPID: 11901001000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.753454 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.94399 DATE COLLECTED: 11 / 0 / 1960

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 334.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
269.0	MODESTO	PIASA	LIMESTONE	4.0	287.0
265.0	MODESTO		UNCLASSIFIED	6.0	291.0
259.0	CARBONDALE		UNCLASSIFIED	15.0	297.0
244.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	312.0
238.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	318.0
235.0	CARBONDALE	BRERETON	LIMESTONE	7.0	321.0
228.0	CARBONDALE	HERRIN	COAL	6.0	328.0

MAPID: 11901006000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.751161 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.938477 DATE COLLECTED: 12 / 0 / 1960

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 361.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J. WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
257.0	MODESTO	PIASA	LIMESTONE	6.0	318.0
251.0	MODESTO		UNCLASSIFIED	4.0	324.0
247.0	CARBONDALE		UNCLASSIFIED	12.0	328.0
235.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	340.0
230.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	345.0
229.0	CARBONDALE	BRERETON	LIMESTONE	7.0	346.0
222.0	CARBONDALE	ANNA	BLACK SHALE	2.0	353.0
220.0	CARBONDALE	HERRIN	COAL	6.0	355.0

MAPID: 11901050000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NW

QUADRANGLE: WORDEN LONGITUDE: -89.755795 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.942182 DATE COLLECTED: 11 / 0 / 1961

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 346.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J. WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
266.0	MODESTO	PIASA	LIMESTONE	6.0	304.0
260.0	MODESTO		UNCLASSIFIED	5.0	310.0
255.0	CARBONDALE		UNCLASSIFIED	15.0	315.0
240.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	330.0
237.0	CARBONDALE	BRERETON	LIMESTONE	4.0	333.0
233.0	CARBONDALE	ANNA	BLACK SHALE	3.0	337.0
230.0	CARBONDALE	HERRIN	COAL	6.0	340.0



MAPID: 11901059000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.748795 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.942142 DATE COLLECTED: 12 / 0 / 1961

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 354.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
263.0	MODESTO	PIASA	LIMESTONE	6.0	312.0
257.0	MODESTO		UNCLASSIFIED	5.0	318.0
252.0	CARBONDALE		UNCLASSIFIED	15.0	323.0
237.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	338.0
233.0	CARBONDALE	BRERETON	LIMESTONE	5.0	342.0
228.0	CARBONDALE	ANNA	BLACK SHALE	1.0	347.0
227.0	CARBONDALE	HERRIN	COAL	6.0	348.0

MAPID: 11901198000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SW

QUADRANGLE: WORDEN LONGITUDE: -89.760466 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.932965 DATE COLLECTED: 8 / 0 / 1965

SURFACE ELEVATION (FT.): 566.0 LOGGED (FT.): 349.0 LOG TYPE: Electric Log

SOURCE: WILLIAMS, M. J. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
258.0	MODESTO	PIASA	LIMESTONE	4.0	308.0
254.0	MODESTO		UNCLASSIFIED	5.5	312.0
248.5	CARBONDALE		UNCLASSIFIED	15.5	317.5
233.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	333.0
228.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	338.0
226.0	CARBONDALE	BRERETON	LIMESTONE	7.0	340.0
219.0	CARBONDALE	HERRIN	COAL	2.0	347.0

MAPID: 11901967000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: WORDEN LONGITUDE: -89.762804 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.945919 DATE COLLECTED: 7 / 0 / 1952

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 336.0 LOG TYPE: Electric Log

SOURCE: NETTLE & NIEKAMP WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
287.0	MODESTO	PIASA	LIMESTONE	4.0	286.0
283.0	MODESTO		UNCLASSIFIED	6.0	290.0
277.0	CARBONDALE		UNCLASSIFIED	18.0	296.0
259.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	314.0
254.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	319.0
252.0	CARBONDALE	BRERETON	LIMESTONE	7.0	321.0
245.0	CARBONDALE	ANNA	BLACK SHALE	2.0	328.0
243.0	CARBONDALE	HERRIN	COAL	6.0	330.0

MAPID: 11923632000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 2600' N line, 70' W line

QUADRANGLE: WORDEN LONGITUDE: -89.7637 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.939658 DATE COLLECTED: 11 / 2 / 1978

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 360.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-37 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
570.0			UNCONSOLIDATED	143.0	0.0
427.0	BOND		GRAY SHALE	4.0	143.0
423.0	BOND	CARTHAGE	LIMESTONE	4.0	147.0
419.0	MODESTO		GRAY SHALE	31.5	151.0
387.5	MODESTO	CHAPEL	COAL	0.5	182.5
387.0	MODESTO		GRAY SHALE	14.0	183.0
373.0	MODESTO		SANDSTONE	11.0	197.0
362.0	MODESTO		SANDY SHALE	87.0	208.0
275.0	MODESTO		SHALE	5.0	295.0
270.0	MODESTO	PIASA	LIMESTONE	4.5	300.0
265.5	MODESTO		GRAY SHALE	10.0	304.5
255.5	MODESTO		LIMESTONE	1.5	314.5
254.0	MODESTO		GRAY SHALE	2.0	316.0
252.0	CARBONDALE	DANVILLE	COAL	1.0	318.0
251.0	CARBONDALE		GRAY SHALE	8.0	319.0
243.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	327.0
240.5	CARBONDALE		GRAY SHALE	3.5	329.5
237.0	CARBONDALE	BRERETON	LIMESTONE	2.0	333.0
235.0	CARBONDALE	ANNA	BLACK SHALE	1.1	335.0
233.9	CARBONDALE	HERRIN	COAL	6.8	336.1
227.2	CARBONDALE		CLAYSTONE & SHALE	1.0	342.8
226.1	CARBONDALE		CORE LOSS	0.2	343.9
226.0	CARBONDALE		GRAY SHALE	2.5	344.0
223.5	CARBONDALE		LIMESTONE	4.0	346.5
219.5	CARBONDALE		GRAY SHALE	4.0	350.5
215.5	CARBONDALE		LIMESTONE	1.0	354.5
214.5	CARBONDALE		GRAY SHALE	4.5	355.5

MAPID: 11923648000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 27 QUARTERS/FOOTAGES: 1207' N line, 792' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.748082 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.943392 DATE COLLECTED: 11 / 6 / 1978

SURFACE ELEVATION (FT.): 574.0 LOGGED (FT.): 368.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-35 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
574.0			UNCONSOLIDATED	124.0	0.0	
450.0	MODESTO		GRAY SHALE	158.0	124.0	
292.0	MODESTO		SANDY LIMESTONE	2.0	282.0	
290.0	MODESTO		CALCAREOUS SHALE	6.0	284.0	
284.0	MODESTO		GRAY SHALE	5.0	290.0	
279.0	MODESTO		CALCAREOUS SHALE	3.0	295.0	
276.0	MODESTO		SHALE	6.9	298.0	
269.1	MODESTO	PIASA	SHALY LIMESTONE	5.6	304.9	
263.5	MODESTO		SHALE	2.5	310.5	
261.0	MODESTO		GRAY SHALE	8.0	313.0	
253.0	MODESTO		LIMESTONE	2.0	321.0	
251.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	323.0	
250.0	CARBONDALE		GRAY SHALE	7.0	324.0	
243.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	331.0	
241.0	CARBONDALE		GRAY SHALE	4.0	333.0	
237.0	CARBONDALE	BRERETON	LIMESTONE	6.3	337.0	
230.7	CARBONDALE	ANNA	BLACK SHALE	1.1	343.3	
229.6	CARBONDALE	HERRIN	COAL	6.6	344.4	
223.0	CARBONDALE		SHALE	0.2	351.0	
222.7	CARBONDALE		CORE LOSS	0.8	351.3	
222.0	CARBONDALE		GRAY SHALE	3.0	352.0	
219.0	CARBONDALE		CALCAREOUS SHALE	1.0	355.0	
218.0	CARBONDALE		LIMESTONE	2.0	356.0	
216.0	CARBONDALE		GRAY SHALE	5.0	358.0	
211.0	CARBONDALE		LIMESTONE	1.5	363.0	
209.5	CARBONDALE		GRAY SHALE	3.5	364.5	

MAPID: 11923649000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 27    QUARTERS/FOOTAGES: 2570' S line, 2632' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.754645    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.939134    DATE COLLECTED: 11 / 8 / 1978

SURFACE ELEVATION (FT.): 565.0    LOGGED (FT.): 380.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-38    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
565.0			UNCONSOLIDATED	96.5	0.0
468.5	BOND	CARTHAGE	LIMESTONE	5.5	96.5
463.0	MODESTO		BLACK SHALE	3.0	102.0
460.0	MODESTO		SANDY SHALE	40.0	105.0
420.0	MODESTO	CHAPEL	COAL	1.0	145.0
419.0	MODESTO	CHAPEL	SHALE	1.0	146.0
418.0	MODESTO	CHAPEL	COAL	1.0	147.0
417.0	MODESTO		GRAY SHALE	27.0	148.0
390.0	MODESTO		LIMESTONE	3.5	175.0
386.5	MODESTO		GRAY SHALE	49.5	178.5
337.0	MODESTO		SANDY SHALE	88.0	228.0
249.0	MODESTO		SHALE	1.5	316.0
247.5	MODESTO	PIASA	LIMESTONE	4.5	317.5
243.0	MODESTO		CALCAREOUS SHALE	5.0	322.0
238.0	MODESTO		GRAY SHALE	10.5	327.0
227.5	CARBONDALE	DANVILLE	COAL	0.5	337.5
227.0	CARBONDALE		GRAY SHALE	5.5	338.0
221.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	343.5
218.5	CARBONDALE		GRAY SHALE	2.5	346.5
216.0	CARBONDALE	BRERETON	LIMESTONE	4.0	349.0
212.0	CARBONDALE	ANNA	BLACK SHALE	4.0	353.0
208.0	CARBONDALE	HERRIN	COAL	7.5	357.0
200.5	CARBONDALE		CLAYSTONE & SHALE	0.3	364.5
200.3	CARBONDALE		CORE LOSS	0.3	364.7
200.0	CARBONDALE		GRAY SHALE	3.5	365.0
196.5	CARBONDALE		LIMESTONE	2.5	368.5
194.0	CARBONDALE		GRAY SHALE	6.8	371.0
187.2	CARBONDALE		LIMESTONE	0.7	377.8
186.5	CARBONDALE		GRAY SHALE	1.5	378.5

MAPID: 11900871000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.765114 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.938551 DATE COLLECTED: 4 / 0 / 1950

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 345.0 LOG TYPE: Electric Log

SOURCE: BELL, WM. ESTATE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
266.0	MODESTO	PIASA	LIMESTONE	4.0	303.0
262.0	MODESTO		UNCLASSIFIED	5.0	307.0
257.0	CARBONDALE		UNCLASSIFIED	13.0	312.0
244.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	325.0
240.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	329.0
239.0	CARBONDALE	BRERETON	LIMESTONE	5.0	330.0
234.0	CARBONDALE	ANNA	BLACK SHALE	4.0	335.0
230.0	CARBONDALE	HERRIN	COAL	6.0	339.0

MAPID: 11901030000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 28 QUARTERS/FOOTAGES: 630' N line, 370' E line of NW NE NE

QUADRANGLE: WORDEN LONGITUDE: -89.767613 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.945118 DATE COLLECTED: 5 / 0 / 1961

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 314.0 LOG TYPE: Electric Log

SOURCE: SCHENK, S. B. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
293.0	MODESTO	PIASA	LIMESTONE	5.0	272.0
288.0	MODESTO		UNCLASSIFIED	4.0	277.0
284.0	CARBONDALE		UNCLASSIFIED	12.0	281.0
272.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	293.0
267.0	CARBONDALE	BRERETON	LIMESTONE	5.0	298.0
262.0	CARBONDALE	ANNA	BLACK SHALE	6.0	303.0
256.0	CARBONDALE	HERRIN	COAL	5.0	309.0

MAPID: 11901071000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.776768 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.936823 DATE COLLECTED: 5 / 0 / 1962

SURFACE ELEVATION (FT.): 568.0 LOGGED (FT.): 312.0 LOG TYPE: Electric Log

SOURCE: ZICOS, GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
297.0	MODESTO	PIASA	LIMESTONE	4.0	271.0
293.0	MODESTO		UNCLASSIFIED	5.0	275.0
288.0	CARBONDALE		UNCLASSIFIED	16.0	280.0
272.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	296.0
267.0	CARBONDALE	BRERETON	LIMESTONE	5.0	301.0
262.0	CARBONDALE	ANNA	BLACK SHALE	2.0	306.0
260.0	CARBONDALE	HERRIN	COAL	4.0	308.0

MAPID: 11901972000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 370' W line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.771971 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.938615 DATE COLLECTED: 6 / 0 / 1953

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 295.0 LOG TYPE: Electric Log

SOURCE: SPADE 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
293.0	MODESTO	PIASA	LIMESTONE	4.0	249.0
289.0	MODESTO		UNCLASSIFIED	6.0	253.0
283.0	CARBONDALE		UNCLASSIFIED	13.0	259.0
270.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	272.0
264.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	278.0
262.0	CARBONDALE	BRERETON	LIMESTONE	8.0	280.0
254.0	CARBONDALE	HERRIN	COAL	7.0	288.0

MAPID: 11901984000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NE

QUADRANGLE: WORDEN LONGITUDE: -89.765124 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.942242 DATE COLLECTED: 1 / 0 / 1951

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 330.0 LOG TYPE: Electric Log

SOURCE: ZICOS, GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
282.0	MODESTO	PIASA	LIMESTONE	6.0	288.0
276.0	MODESTO		UNCLASSIFIED	4.0	294.0
272.0	CARBONDALE		UNCLASSIFIED	12.0	298.0
260.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	310.0
254.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	316.0
252.0	CARBONDALE	BRERETON	LIMESTONE	8.0	318.0
244.0	CARBONDALE	HERRIN	COAL	4.0	326.0

MAPID: 11901986000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 28 QUARTERS/FOOTAGES: 200' S line, 330' E line of NE NW

QUADRANGLE: WORDEN LONGITUDE: -89.774469 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.943774 DATE COLLECTED: 7 / 0 / 1950

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 310.0 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	OVERBURDEN COMMENT
308.0	MODESTO	PIASA	LIMESTONE	4.0	268.0
304.0	MODESTO		UNCLASSIFIED	5.5	272.0
298.5	CARBONDALE		UNCLASSIFIED	15.5	277.5
283.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	293.0
278.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	298.0
274.0	CARBONDALE	BRERETON	LIMESTONE	4.0	302.0
270.0	CARBONDALE	HERRIN	COAL	4.0	306.0



MAPID: 11923633000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 28    QUARTERS/FOOTAGES: 50' S line, 80' E line

QUADRANGLE: WORDEN    LONGITUDE: -89.764206    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.932206    DATE COLLECTED: 11 / 1 / 1978

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 355.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-1    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	139.0	0.0
421.0	MODESTO	CHAPEL	COAL	2.0	139.0
419.0	MODESTO		GRAY SHALE	26.5	141.0
392.5	MODESTO		LIMESTONE	1.5	167.5
391.0	MODESTO		SANDY SHALE	27.0	169.0
364.0	MODESTO		GRAY SHALE	17.5	196.0
346.5	MODESTO		LIMESTONE	2.5	213.5
344.0	MODESTO		GRAY SHALE	69.0	216.0
275.0	MODESTO		COAL	0.3	285.0
274.7	MODESTO		GRAY SHALE	9.2	285.3
265.5	MODESTO		LIMESTONE	1.0	294.5
264.5	MODESTO		GRAY SHALE	9.0	295.5
255.5	MODESTO		SHALE	2.5	304.5
253.0	MODESTO	PIASA	LIMESTONE	2.5	307.0
250.5	MODESTO		GRAY SHALE	3.5	309.5
247.0	CARBONDALE	DANVILLE	COAL	1.0	313.0
246.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	3.0	314.0
243.0	CARBONDALE		GRAY SHALE	3.0	317.0
240.0	CARBONDALE	BRERETON	LIMESTONE	11.0	320.0
229.0	CARBONDALE	ANNA	BLACK SHALE	1.5	331.0
227.5	CARBONDALE	HERRIN	COAL	6.7	332.5
220.8	CARBONDALE		SHALE	0.7	339.2
220.1	CARBONDALE		CORE LOSS	0.6	339.9
219.5	CARBONDALE		GRAY SHALE	13.5	340.5
206.0	CARBONDALE		LIMESTONE	1.0	354.0

MAPID: 11900703000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 29 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: WORDEN LONGITUDE: -89.800134 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.937052 DATE COLLECTED: 4 / 0 / 1950

SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 310.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL 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	5.0	263.0
310.0	MODESTO		UNCLASSIFIED	4.5	268.0
305.5	CARBONDALE	DANVILLE	COAL	1.5	272.5
304.0	CARBONDALE		UNCLASSIFIED	18.0	274.0
286.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	292.0
280.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	298.0
278.0	CARBONDALE	BRERETON	LIMESTONE	4.0	300.0
274.0	CARBONDALE	ANNA	BLACK SHALE	1.0	304.0
273.0	CARBONDALE	HERRIN	COAL	5.0	305.0

MAPID: 11900703000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 29 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: WORDEN LONGITUDE: -89.800134 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.937052 DATE COLLECTED:

SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 309.0 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
315.5	MODESTO	PIASA	LIMESTONE	5.0	262.5
310.5	MODESTO		SHALE	10.0	267.5
300.5	CARBONDALE		SHALE	3.0	277.5
297.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	280.5
294.5	CARBONDALE	LAWSON	GRAY SHALE	10.0	283.5
284.5	CARBONDALE	CONANT	LIMESTONE	4.0	293.5
280.5	CARBONDALE		SHALE	0.5	297.5
280.0	CARBONDALE	BRERETON	LIMESTONE	5.0	298.0
275.0	CARBONDALE	ANNA	BLACK SHALE	1.0	303.0
274.0	CARBONDALE	HERRIN	COAL	5.0	304.0

MAPID: 11901996000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.788445 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.938774 DATE COLLECTED: 10 / 0 / 1953

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 307.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
320.0	MODESTO	PIASA	LIMESTONE	8.0	255.0
312.0	MODESTO		UNCLASSIFIED	5.0	263.0
307.0	CARBONDALE		UNCLASSIFIED	15.0	268.0
292.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	283.0
286.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	289.0
283.0	CARBONDALE	BRERETON	LIMESTONE	7.0	292.0
276.0	CARBONDALE	ANNA	BLACK SHALE	2.0	299.0
274.0	CARBONDALE	HERRIN	COAL	6.0	301.0

MAPID: 11902000000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 29 QUARTERS/FOOTAGES: 1182' S line, 333' W line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.790776 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.935657 DATE COLLECTED: 12 / 0 / 1954

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 307.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE 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
305.0	MODESTO	PIASA	LIMESTONE	4.0	265.0
301.0	MODESTO		UNCLASSIFIED	7.0	269.0
294.0	CARBONDALE		UNCLASSIFIED	12.0	276.0
282.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	288.0
277.0	CARBONDALE	BRERETON	LIMESTONE	5.0	293.0
272.0	CARBONDALE	ANNA	BLACK SHALE	2.0	298.0
270.0	CARBONDALE	HERRIN	COAL	7.0	300.0

MAPID: 11902002000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 29 QUARTERS/FOOTAGES: 1280' S line, 648' W line of NW

QUADRANGLE: WORDEN LONGITUDE: -89.798941 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.94333 DATE COLLECTED: 4 / 0 / 1959

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 270.0 LOG TYPE: Electric Log

SOURCE: WILSON, CARLINE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
353.0	MODESTO	PIASA	LIMESTONE	8.0	227.0
345.0	MODESTO		UNCLASSIFIED	5.0	235.0
340.0	CARBONDALE		UNCLASSIFIED	14.0	240.0
326.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	254.0
319.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	261.0
316.0	CARBONDALE	BRERETON	LIMESTONE	2.0	264.0
314.0	CARBONDALE	ANNA	BLACK SHALE	2.0	266.0
312.0	CARBONDALE	HERRIN	COAL	2.0	268.0

MAPID: 11902017000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 29 QUARTERS/FOOTAGES: 907' S line, 770' E line of NW

QUADRANGLE: WORDEN LONGITUDE: -89.794659 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.942256 DATE COLLECTED: 10 / 0 / 1950

SURFACE ELEVATION (FT.): 577.0 LOGGED (FT.): 275.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
344.0	MODESTO	PIASA	LIMESTONE	4.0	233.0
340.0	MODESTO		UNCLASSIFIED	5.0	237.0
335.0	CARBONDALE		UNCLASSIFIED	12.0	242.0
323.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	254.0
317.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	260.0
315.0	CARBONDALE	BRERETON	LIMESTONE	6.0	262.0
309.0	CARBONDALE	ANNA	BLACK SHALE	2.0	268.0
307.0	CARBONDALE	HERRIN	COAL	5.0	270.0

MAPID: 11924032000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 29 QUARTERS/FOOTAGES: 1190' N line, 2610' E line

QUADRANGLE: WORDEN LONGITUDE: -89.791869 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.943754 DATE COLLECTED: 10 / 31 / 1979

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 310.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-29-52C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
575.0			UNCONSOLIDATED	94.0	0.0
481.0	BOND	CARTHAGE	LIMESTONE	7.0	94.0
474.0	MODESTO		GRAY SHALE	30.0	101.0
444.0	MODESTO		COAL	0.5	131.0
443.5	MODESTO		CALCAREOUS SHALE	8.5	131.5
435.0	MODESTO		GRAY SHALE	8.0	140.0
427.0	MODESTO		GRAY SHALE	12.0	148.0
415.0	MODESTO		SILTY SHALE	50.0	160.0
365.0	MODESTO		GRAY SHALE	32.5	210.0
332.5	MODESTO		SHALE	6.0	242.5
326.5	MODESTO	PIASA	SHALY LIMESTONE	5.5	248.5
321.0	MODESTO		GRAY SHALE	13.3	254.0
307.7	CARBONDALE	DANVILLE	COAL	1.8	267.3
305.9	CARBONDALE		GRAY SHALE	2.0	269.1
303.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.1	271.1
298.8	CARBONDALE		GRAY SHALE	1.5	276.2
297.3	CARBONDALE	BRERETON	LIMESTONE	5.5	277.7
291.8	CARBONDALE	ANNA	BLACK SHALE	2.7	283.2
289.1	CARBONDALE	HERRIN	COAL	6.7	285.9
282.4	CARBONDALE		SHALE	0.3	292.6
282.1	CARBONDALE		CORE LOSS	0.7	292.9
281.5	CARBONDALE		GRAY SHALE	2.5	293.5
279.0	CARBONDALE		LIMESTONE	5.0	296.0
274.0	CARBONDALE		GRAY SHALE	6.0	301.0
268.0	CARBONDALE		LIMESTONE	1.0	307.0
267.0	CARBONDALE		CALCAREOUS SHALE	2.0	308.0

MAPID: 11924175000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 29    QUARTERS/FOOTAGES: 62' N line, 92' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.800869    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.946961    DATE COLLECTED: 10 / 14 / 1977

SURFACE ELEVATION (FT.): 580.0    LOGGED (FT.): 290.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-39    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.0			UNCONSOLIDATED	79.0	0.0	
501.0	BOND	CARTHAGE	LIMESTONE	4.0	79.0	
497.0	MODESTO		GRAY SHALE	31.0	83.0	
466.0	MODESTO		SHALE	2.0	114.0	
464.0	MODESTO		SANDY SHALE	20.0	116.0	
444.0	MODESTO		GRAY SHALE	73.0	136.0	
371.0	MODESTO		SANDSTONE	7.0	209.0	
364.0	MODESTO		SANDY SHALE	13.0	216.0	
351.0	MODESTO		GRAY SHALE	5.0	229.0	
346.0	MODESTO	PIASA	LIMESTONE	5.0	234.0	
341.0	MODESTO		GRAY SHALE	12.5	239.0	
328.5	CARBONDALE	DANVILLE	COAL	1.5	251.5	
327.0	CARBONDALE		GRAY SHALE	3.0	253.0	
324.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	256.0	
319.5	CARBONDALE		GRAY SHALE	1.5	260.5	
318.0	CARBONDALE	BRERETON	LIMESTONE	6.0	262.0	
312.0	CARBONDALE	ANNA	BLACK SHALE	2.3	268.0	
309.7	CARBONDALE	HERRIN	COAL	4.0	270.3	
305.7	CARBONDALE		UNDERCLAY	2.4	274.3	
303.3	CARBONDALE		UNDERCLAY	0.3	276.7	
303.0	CARBONDALE		UNDERCLAY	1.5	277.0	
301.5	CARBONDALE		LIMESTONE	1.5	278.5	
300.0	CARBONDALE		GRAY SHALE	8.5	280.0	
291.5	CARBONDALE		LIMESTONE	1.5	288.5	

MAPID: 11900701000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 30 QUARTERS/FOOTAGES: 425' N line, 680' E line

QUADRANGLE: WORDEN LONGITUDE: -89.803609 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.945985 DATE COLLECTED:

SURFACE ELEVATION (FT.): 588.0 LOGGED (FT.): 319.5 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
318.0	MODESTO	PIASA	LIMESTONE	5.0	270.0
313.0	MODESTO		SHALE	5.0	275.0
308.0	CARBONDALE	DANVILLE	COAL	2.0	280.0
306.0	CARBONDALE		SHALE	10.0	282.0
296.0	CARBONDALE	GALUM	LIMESTONE	2.0	292.0
294.0	CARBONDALE		SHALE	6.0	294.0
288.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	300.0
284.0	CARBONDALE	LAWSON	GRAY SHALE	6.0	304.0
278.0	CARBONDALE	BRERETON	LIMESTONE	4.0	310.0
274.0	CARBONDALE	ANNA	BLACK SHALE	1.0	314.0
273.0	CARBONDALE	HERRIN	COAL	4.5	315.0

MAPID: 11902021000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 30 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NE

QUADRANGLE: WORDEN LONGITUDE: -89.80476 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.940772 DATE COLLECTED: 12 / 0 / 1948

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 296.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
331.0	MODESTO	PIASA	LIMESTONE	6.0	249.0
325.0	MODESTO		UNCLASSIFIED	6.0	255.0
319.0	CARBONDALE		UNCLASSIFIED	17.0	261.0
302.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	278.0
297.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	283.0
295.0	CARBONDALE	BRERETON	LIMESTONE	5.0	285.0
290.0	CARBONDALE	HERRIN	COAL	6.0	290.0

MAPID: 11902023000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 30 QUARTERS/FOOTAGES: 760' N line, 800' E line

QUADRANGLE: WORDEN LONGITUDE: -89.804043 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.945065 DATE COLLECTED: 7 / 0 / 1951

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 270.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
357.0	MODESTO	PIASA	LIMESTONE	8.0	225.0
349.0	MODESTO		UNCLASSIFIED	6.0	233.0
343.0	CARBONDALE		UNCLASSIFIED	15.0	239.0
328.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	254.0
324.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	258.0
322.0	CARBONDALE	BRERETON	LIMESTONE	6.0	260.0
316.0	CARBONDALE	HERRIN	COAL	4.0	266.0

MAPID: 11902042000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 30 QUARTERS/FOOTAGES: 165' N line, 165' W line of SE SE

QUADRANGLE: WORDEN LONGITUDE: -89.805396 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.935757 DATE COLLECTED: 7 / 0 / 1954

SURFACE ELEVATION (FT.): 574.0 LOGGED (FT.): 303.0 LOG TYPE: Electric Log

SOURCE: SITZES O F WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
319.0	MODESTO	PIASA	LIMESTONE	8.0	255.0
311.0	MODESTO		UNCLASSIFIED	4.0	263.0
307.0	CARBONDALE		UNCLASSIFIED	15.0	267.0
292.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	282.0
286.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	288.0
284.0	CARBONDALE	BRERETON	LIMESTONE	7.0	290.0
277.0	CARBONDALE	ANNA	BLACK SHALE	1.0	297.0
276.0	CARBONDALE	HERRIN	COAL	5.0	298.0



MAPID: 11902045000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 30 QUARTERS/FOOTAGES: 340' N line, 80' E line of NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.80623 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.938938 DATE COLLECTED: 2 / 0 / 1948

SURFACE ELEVATION (FT.): 579.0 LOGGED (FT.): 297.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
326.0	MODESTO	PIASA	LIMESTONE	7.0	253.0
319.0	MODESTO		UNCLASSIFIED	5.0	260.0
314.0	CARBONDALE		UNCLASSIFIED	14.0	265.0
300.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	279.0
294.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	285.0
293.0	CARBONDALE	BRERETON	LIMESTONE	6.0	286.0
287.0	CARBONDALE	HERRIN	COAL	5.0	292.0

MAPID: 11902047000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 30 QUARTERS/FOOTAGES: 200' N line, 330' W line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.809233 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.939358 DATE COLLECTED: 8 / 0 / 1953

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 316.0 LOG TYPE: Electric Log

SOURCE: NEAL A W 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	8.0	264.0
303.0	MODESTO		UNCLASSIFIED	6.0	272.0
297.0	CARBONDALE		UNCLASSIFIED	21.0	278.0
276.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	299.0
271.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	304.0
270.0	CARBONDALE	BRERETON	LIMESTONE	5.0	305.0
265.0	CARBONDALE	ANNA	BLACK SHALE	4.0	310.0
261.0	CARBONDALE	HERRIN	COAL	2.0	314.0

**MAPID:** 11900035000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 31    **QUARTERS/FOOTAGES:** SW SW NE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.809614    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.926227    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 563.2    **LOGGED (FT.):** 323.0    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 0020    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
260.2	CARBONDALE	HERRIN	COAL	7.3	303.0	

**MAPID:** 11900035000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 31    **QUARTERS/FOOTAGES:** SW SW NE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.809614    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.926227    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 563.0    **LOGGED (FT.):** 310.3    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
260.0	CARBONDALE	HERRIN	COAL	7.3	303.0	

**MAPID:** 11900035000C    **VERSION:** 3    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 31    **QUARTERS/FOOTAGES:** SW SW NE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.809614    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.926227    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 563.0    **LOGGED (FT.):** 310.3    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 20    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
298.4	MODESTO	PIASA	LIMESTONE	6.0	264.6	
292.4	MODESTO		SHALE	13.0	270.6	
279.4	CARBONDALE	DANVILLE	COAL	2.0	283.6	
277.4	CARBONDALE		SHALE	1.0	285.6	
276.4	CARBONDALE	LAWSON	DARK GRAY SHALE	5.0	286.6	
271.4	CARBONDALE	BRERETON	LIMESTONE	9.0	291.6	
262.4	CARBONDALE	ANNA	BLACK SHALE	2.4	300.6	
260.0	CARBONDALE	HERRIN	COAL	7.3	303.0	

MAPID: 11902048000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 31 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.809555 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.929874 DATE COLLECTED: 11 / 0 / 1948

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 316.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
293.0	MODESTO	PIASA	LIMESTONE	5.0	280.0
288.0	MODESTO		UNCLASSIFIED	4.0	285.0
284.0	CARBONDALE		UNCLASSIFIED	9.0	289.0
275.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	298.0
270.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	303.0
268.0	CARBONDALE	BRERETON	LIMESTONE	5.0	305.0
263.0	CARBONDALE	HERRIN	COAL	6.0	310.0

MAPID: 11902051000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 31 QUARTERS/FOOTAGES: 340' N line, 1479' W line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.805583 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.924325 DATE COLLECTED: 8 / 0 / 1949

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 317.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
296.0	MODESTO	PIASA	LIMESTONE	11.0	269.0
285.0	MODESTO		UNCLASSIFIED	4.0	280.0
281.0	CARBONDALE		UNCLASSIFIED	12.0	284.0
269.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	296.0
265.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	300.0
264.0	CARBONDALE	BRERETON	LIMESTONE	6.0	301.0
258.0	CARBONDALE	ANNA	BLACK SHALE	5.0	307.0
253.0	CARBONDALE	HERRIN	COAL	5.0	312.0

MAPID: 11923634000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 31    QUARTERS/FOOTAGES: 32' S line, 2629' E line

QUADRANGLE: WORDEN    LONGITUDE: -89.810872    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.918129    DATE COLLECTED: 11 / 2 / 1978

SURFACE ELEVATION (FT.): 565.0    LOGGED (FT.): 335.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-20    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
565.0			UNCONSOLIDATED	86.0	0.0
479.0	BOND		GRAY SHALE	11.0	86.0
468.0	BOND		SHALY LIMESTONE	1.2	97.0
466.8	BOND		BLACK SHALE	1.8	98.2
465.0	BOND		GRAY SHALE	29.8	100.0
435.2	BOND	CARTHAGE	LIMESTONE	2.2	129.8
433.0	MODESTO		BLACK SHALE	1.0	132.0
432.0	MODESTO		LIMESTONE	1.2	133.0
430.8	MODESTO		GRAY SHALE	22.8	134.2
408.0	MODESTO		GRAY SHALE	19.0	157.0
389.0	MODESTO		SILTY SHALE	56.0	176.0
333.0	MODESTO		GRAY SHALE	10.0	232.0
323.0	MODESTO		GRAY SHALE	8.0	242.0
315.0	MODESTO		SANDY SHALE	10.0	250.0
305.0	MODESTO		GRAY SHALE	10.0	260.0
295.0	MODESTO		GRAY SHALE	5.0	270.0
290.0	MODESTO	PIASA	LIMESTONE	4.0	275.0
286.0	MODESTO		GRAY SHALE	4.0	279.0
282.0	MODESTO		BLACK SHALE	1.0	283.0
281.0	MODESTO		GRAY SHALE	9.5	284.0
271.5	CARBONDALE	DANVILLE	COAL	1.5	293.5
270.0	CARBONDALE		GRAY SHALE	5.0	295.0
265.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	2.0	300.0
263.0	CARBONDALE		GRAY SHALE	1.5	302.0
261.5	CARBONDALE	BRERETON	LIMESTONE	5.2	303.5
256.3	CARBONDALE	ANNA	BLACK SHALE	3.7	308.7
252.6	CARBONDALE	HERRIN	COAL	5.7	312.4
246.9	CARBONDALE		SHALE	0.2	318.1
246.7	CARBONDALE		CORE LOSS	1.2	318.3
245.5	CARBONDALE		GRAY SHALE	4.5	319.5
241.0	CARBONDALE		LIMESTONE	1.5	324.0
239.5	CARBONDALE		GRAY SHALE	4.5	325.5
235.0	CARBONDALE		LIMESTONE	1.5	330.0
233.5	CARBONDALE		GRAY SHALE	3.5	331.5

**MAPID:** 11900036000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 32    **QUARTERS/FOOTAGES:** 1490' S line, 2475' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.791536    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.921945    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 555.2    **LOGGED (FT.):** 315.0    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 0023    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
254.2	CARBONDALE	HERRIN	COAL	6.7	301.0

**MAPID:** 11900036000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 32    **QUARTERS/FOOTAGES:** 1490' S line, 2475' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.791536    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.921945    **DATE COLLECTED:** 0 / 0 / 1922  
**SURFACE ELEVATION (FT.):** 555.0    **LOGGED (FT.):** 307.7    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
254.0	CARBONDALE	HERRIN	COAL	6.7	301.0

**MAPID:** 11900036000C    **VERSION:** 3    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 32    **QUARTERS/FOOTAGES:** 1490' S line, 2475' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.791536    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.921945    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 555.0    **LOGGED (FT.):** 306.7    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 23    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
292.5	MODESTO	PIASA	LIMESTONE	7.0	262.5
285.5	MODESTO		GRAY SHALE	13.0	269.5
272.5	CARBONDALE	DANVILLE	COAL	1.0	282.5
271.5	CARBONDALE	LAWSON	GRAY SHALE	4.0	283.5
267.5	CARBONDALE	BRERETON	LIMESTONE	8.0	287.5
259.5	CARBONDALE	ANNA	BLACK SHALE	4.5	295.5
255.0	CARBONDALE	HERRIN	COAL	6.7	300.0

MAPID: 11900700000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 32 QUARTERS/FOOTAGES: 990' S line, 335' W line of SE NW

QUADRANGLE: WORDEN LONGITUDE: -89.795551 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.927887 DATE COLLECTED: 7 / 0 / 1950

SURFACE ELEVATION (FT.): 566.0 LOGGED (FT.): 311.3 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
297.0	MODESTO	PIASA	LIMESTONE	6.0	269.0
291.0	MODESTO		UNCLASSIFIED	5.0	275.0
286.0	CARBONDALE	DANVILLE	COAL	0.5	280.0
285.5	CARBONDALE		UNCLASSIFIED	13.0	280.5
272.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.5	293.5
270.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	296.0
269.0	CARBONDALE	BRERETON	LIMESTONE	6.0	297.0
263.0	CARBONDALE	ANNA	BLACK SHALE	4.0	303.0
259.0	CARBONDALE	HERRIN	COAL	4.3	307.0

MAPID: 11900709000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 32 QUARTERS/FOOTAGES: 50' S line, 40' E line of SW NW SW

QUADRANGLE: WORDEN LONGITUDE: -89.799324 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.921677 DATE COLLECTED: 11 / 0 / 1949

SURFACE ELEVATION (FT.): 573.0 LOGGED (FT.): 5.8 LOG TYPE: Drillers Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	6.0	
-	MODESTO		UNCLASSIFIED	3.5	
-	CARBONDALE	DANVILLE	COAL	1.0	
-	CARBONDALE		UNCLASSIFIED	14.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	
-	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	
-	CARBONDALE	BRERETON	LIMESTONE	6.0	
-	CARBONDALE	ANNA	BLACK SHALE	4.0	
-	CARBONDALE	HERRIN	COAL	5.8	

MAPID: 11902057000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 32 QUARTERS/FOOTAGES: 1240' N line, 912' E line

QUADRANGLE: WORDEN LONGITUDE: -89.785867 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.928919 DATE COLLECTED: 9 / 0 / 1949

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 319.0 LOG TYPE: Electric Log

SOURCE: MYERS O V WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
283.0	MODESTO	PIASA	LIMESTONE	6.0	279.0
277.0	MODESTO		UNCLASSIFIED	3.0	285.0
274.0	CARBONDALE		UNCLASSIFIED	9.0	288.0
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	297.0
260.0	CARBONDALE	BRERETON	LIMESTONE	6.0	302.0
254.0	CARBONDALE	ANNA	BLACK SHALE	4.0	308.0
250.0	CARBONDALE	HERRIN	COAL	7.0	312.0

MAPID: 11902058000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 32 QUARTERS/FOOTAGES: 585' S line, 900' W line of NE

QUADRANGLE: WORDEN LONGITUDE: -89.788887 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.926708 DATE COLLECTED: 5 / 0 / 1949

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 306.0 LOG TYPE: Electric Log

SOURCE: MURPHY WILLIAM R WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
293.0	MODESTO	PIASA	LIMESTONE	6.0	259.0
287.0	MODESTO		UNCLASSIFIED	6.0	265.0
281.0	CARBONDALE		UNCLASSIFIED	16.0	271.0
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	287.0
260.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	292.0
258.0	CARBONDALE	BRERETON	LIMESTONE	4.0	294.0
254.0	CARBONDALE	ANNA	BLACK SHALE	2.0	298.0
252.0	CARBONDALE	HERRIN	COAL	6.0	300.0

MAPID: 11902059000C    VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 32    QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: WORDEN    LONGITUDE: -89.795627    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.924243    DATE COLLECTED: 3 / 0 / 1950

SURFACE ELEVATION (FT.): 565.0    LOGGED (FT.): 578.0    LOG TYPE: Drillers Log

SOURCE: JOSEPH KESL, JR.    1    WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
565.0			CLAY	17.0	0.0
548.0			CLAY	44.0	17.0
504.0			CLAY	12.0	61.0
492.0			CLAY	14.0	73.0
478.0			CLAY	21.0	87.0
457.0			CALCAREOUS SHALE	23.0	108.0
434.0			LIMESTONE	2.0	131.0
432.0			CALCAREOUS SHALE	22.0	133.0
410.0			LIMESTONE	1.5	155.0
408.5			CALCAREOUS SHALE	60.5	156.5
348.0			CALCAREOUS SHALE	12.0	217.0
336.0			LIMESTONE	2.0	229.0
334.0			CALCAREOUS SHALE	28.0	231.0
306.0			COAL	1.5	259.0
304.5			UNDERCLAY	3.5	260.5
301.0	MODESTO	PIASA	LIMESTONE	5.0	264.0
296.0			GRAY SHALE	3.0	269.0
293.0			LIMESTONE	1.0	272.0
292.0			CALCAREOUS SHALE	11.0	273.0
281.0	CARBONDALE	DANVILLE	COAL	1.0	284.0
280.0	CARBONDALE		CALCAREOUS SHALE	5.0	285.0
275.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	290.0
272.0	CARBONDALE		CALCAREOUS SHALE	1.0	293.0
271.0	CARBONDALE	BRERETON	LIMESTONE	3.0	294.0
268.0	CARBONDALE		CALCAREOUS SHALE	2.0	297.0
266.0	CARBONDALE	ANNA	BLACK SHALE	2.0	299.0
264.0	CARBONDALE	HERRIN	COAL	2.0	301.0
262.0			LIMESTONE	4.0	303.0
258.0			SHALE	1.0	307.0
257.0			COAL	2.0	308.0
255.0			UNDERCLAY	3.0	310.0
252.0			LIMESTONE	5.0	313.0
247.0			CALCAREOUS SHALE	9.0	318.0
238.0			LIMESTONE	2.0	327.0
236.0			GRAY SHALE	72.0	329.0
164.0			COAL	2.0	401.0
162.0			BLACK SHALE	3.0	403.0
159.0			COAL	2.0	406.0
157.0			DARK GRAY SHALE	32.0	408.0



125.0	SHALE	4.0	440.0
121.0	LIMESTONE	3.0	444.0
118.0	GRAY SHALE	2.0	447.0
116.0	LIMESTONE	3.0	449.0
113.0	GRAY SHALE	31.0	452.0
82.0	SHALE	6.0	483.0
76.0	CALCAREOUS SHALE	13.0	489.0
63.0	LIMESTONE	1.0	502.0
62.0	CALCAREOUS SHALE	8.0	503.0
54.0	SHALE	4.0	511.0
50.0	DARK GRAY SHALE	4.5	515.0
45.5	SHALE	1.5	519.5
44.0	GRAY SHALE	4.0	521.0
40.0	CALCAREOUS SHALE	22.0	525.0
18.0	SANDY SHALE	3.0	547.0
15.0	CALCAREOUS SHALE	6.0	550.0
9.0	SHALE	3.0	556.0
6.0	CALCAREOUS SHALE	5.0	559.0
1.0	SANDSTONE	14.0	564.0

**MAPID:** 11902061000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 32    **QUARTERS/FOOTAGES:** 335' S line, 550' E line of SW SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.798835    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.91881    **DATE COLLECTED:** 10 / 0 / 1951  
**SURFACE ELEVATION (FT.):** 564.0    **LOGGED (FT.):** 311.5    **LOG TYPE:** Electric Log  
**SOURCE:** KESL JOE JR ETAL    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
294.5	MODESTO	PIASA	LIMESTONE	5.0	269.5
289.5	MODESTO		UNCLASSIFIED	4.0	274.5
285.5	CARBONDALE	DANVILLE	COAL	0.5	278.5
285.0	CARBONDALE		UNCLASSIFIED	13.0	279.0
272.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.0	292.0
270.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	294.0
268.0	CARBONDALE	BRERETON	LIMESTONE	5.0	296.0
263.0	CARBONDALE	ANNA	BLACK SHALE	4.0	301.0
259.0	CARBONDALE	HERRIN	COAL	6.5	305.0

MAPID: 11924176000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 32 QUARTERS/FOOTAGES: 380' N line, 475' W line

QUADRANGLE: WORDEN LONGITUDE: -89.799687 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.931441 DATE COLLECTED: 10 / 13 / 1977

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 326.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-31 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
565.0			UNCONSOLIDATED	102.0	0.0
463.0	BOND		SHALE	12.0	102.0
451.0	BOND		GRAY SHALE	3.0	114.0
448.0	BOND	CARTHAGE	LIMESTONE	6.5	117.0
441.5	MODESTO		GRAY SHALE	25.5	123.5
416.0	MODESTO	CHAPEL	COAL	0.5	149.0
415.5	MODESTO		GRAY SHALE	6.5	149.5
409.0	MODESTO		SANDY LIMESTONE	1.0	156.0
408.0	MODESTO		SANDY SHALE	8.0	157.0
400.0	MODESTO		GRAY SHALE	71.0	165.0
329.0	MODESTO		SANDY SHALE	22.0	236.0
307.0	MODESTO		SANDSTONE	7.0	258.0
300.0	MODESTO		GRAY SHALE	2.0	265.0
298.0	MODESTO	PIASA	LIMESTONE	5.0	267.0
293.0	MODESTO		SHALE	3.0	272.0
290.0	MODESTO		GRAY SHALE	3.0	275.0
287.0	MODESTO		GRAY SHALE	3.0	278.0
284.0	MODESTO		GRAY SHALE	4.6	281.0
279.4	CARBONDALE	DANVILLE	COAL	1.5	285.6
277.9	CARBONDALE		CALCAREOUS SHALE	4.9	287.1
273.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	292.0
270.0	CARBONDALE		SANDY SHALE	3.0	295.0
267.0	CARBONDALE	BRERETON	LIMESTONE	3.0	298.0
264.0	CARBONDALE	ANNA	BLACK SHALE	3.0	301.0
261.0	CARBONDALE	HERRIN	COAL	7.2	304.0
253.8	CARBONDALE		UNDERCLAY	5.0	311.2
248.8	CARBONDALE		CALCAREOUS SHALE	1.8	316.2
247.0	CARBONDALE		SHALE	4.0	318.0
243.0	CARBONDALE		LIMESTONE	4.0	322.0

MAPID: 11924177000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 32    QUARTERS/FOOTAGES: 350' S line, 1375' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.796711    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.918837    DATE COLLECTED: 10 / 11 / 1977

SURFACE ELEVATION (FT.): 555.0    LOGGED (FT.): 320.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-30    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0			UNCONSOLIDATED	101.0	0.0
454.0	BOND	CARTHAGE	SHALY LIMESTONE	9.0	101.0
445.0	MODESTO		GRAY SHALE	8.0	110.0
437.0	MODESTO		LIMESTONE	2.0	118.0
435.0	MODESTO		GRAY SHALE	30.0	120.0
405.0	MODESTO		SANDY SHALE	40.0	150.0
365.0	MODESTO		GRAY SHALE	37.0	190.0
328.0	MODESTO		GRAY SHALE	3.0	227.0
325.0	MODESTO		GRAY SHALE	4.0	230.0
321.0	MODESTO		CALCAREOUS SHALE	2.0	234.0
319.0	MODESTO		SANDSTONE	9.0	236.0
310.0	MODESTO		GRAY SHALE	10.0	245.0
300.0	MODESTO		SHALE	3.0	255.0
297.0	MODESTO	PIASA	LIMESTONE	3.0	258.0
294.0	MODESTO		SHALE	6.0	261.0
288.0			COAL	1.0	267.0
287.0			GRAY SHALE	7.5	268.0
279.5			LIMESTONE	2.5	275.5
277.0	CARBONDALE	DANVILLE	COAL	1.0	278.0
276.0	CARBONDALE		GRAY SHALE	6.5	279.0
269.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	285.5
268.0	CARBONDALE		GRAY SHALE	2.0	287.0
266.0	CARBONDALE	BRERETON	LIMESTONE	5.0	289.0
261.0	CARBONDALE	ANNA	BLACK SHALE	2.0	294.0
259.0	CARBONDALE	HERRIN	COAL	7.1	296.0
251.9	CARBONDALE		UNDERCLAY	4.0	303.1
248.0	CARBONDALE		SHALY LIMESTONE	0.5	307.0
247.5	CARBONDALE		GRAY SHALE	8.5	307.5
239.0	CARBONDALE		LIMESTONE	1.0	316.0
238.0	CARBONDALE		GRAY SHALE	3.0	317.0

MAPID: 11924178000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 32    QUARTERS/FOOTAGES: 37' S line, 392' E line of SE

QUADRANGLE: WORDEN    LONGITUDE: -89.784261    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.91788    DATE COLLECTED: 10 / 12 / 1979

SURFACE ELEVATION (FT.): 555.0    LOGGED (FT.): 352.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-32    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0			UNCONSOLIDATED	132.0	0.0
423.0	MODESTO		GRAY SHALE	12.5	132.0
410.5	MODESTO	CARLINVILLE	LIMESTONE	2.0	144.5
408.5	MODESTO		GRAY SHALE	23.0	146.5
385.5	MODESTO	CHAPEL	COAL	0.5	169.5
385.0	MODESTO		GRAY SHALE	7.0	170.0
378.0	MODESTO		SHALY SANDSTONE	9.0	177.0
369.0	MODESTO		SANDY SHALE	11.0	186.0
358.0	MODESTO		SILTY SHALE	58.0	197.0
300.0	MODESTO		GRAY SHALE	6.0	255.0
294.0	MODESTO		GRAY SHALE	4.0	261.0
290.0	MODESTO		SANDSTONE/SHALE	15.0	265.0
275.0	MODESTO		CALCAREOUS SHALE	2.0	280.0
273.0	MODESTO		SILTY SHALE	5.0	282.0
268.0	MODESTO		SHALE	3.0	287.0
265.0	MODESTO	PIASA	LIMESTONE	5.0	290.0
260.0	MODESTO		SHALE	13.0	295.0
247.0	CARBONDALE	DANVILLE	COAL	1.0	308.0
246.0	CARBONDALE		GRAY SHALE	4.0	309.0
242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	313.0
240.5	CARBONDALE		GRAY SHALE	1.5	314.5
239.0	CARBONDALE	BRERETON	LIMESTONE	5.0	316.0
234.0	CARBONDALE	ANNA	BLACK SHALE	4.9	321.0
229.1	CARBONDALE	HERRIN	COAL	7.0	325.9
222.1	CARBONDALE		UNDERCLAY	4.6	332.9
217.5	CARBONDALE		LIMESTONE	3.7	337.5
213.8	CARBONDALE		GRAY SHALE	4.8	341.2
209.0	CARBONDALE		LIMESTONE	1.0	346.0
208.0	CARBONDALE		SHALE	4.0	347.0
204.0	CARBONDALE		LIMESTONE	1.0	351.0

MAPID: 11902062000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 46' E line of NW SE NE

QUADRANGLE: WORDEN LONGITUDE: -89.766405 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.927565 DATE COLLECTED: 1 / 0 / 1954

SURFACE ELEVATION (FT.): 564.0 LOGGED (FT.): 333.0 LOG TYPE: Electric Log

SOURCE: SCHENK, S. B. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
274.0	MODESTO	PIASA	LIMESTONE	5.0	290.0
269.0	MODESTO		UNCLASSIFIED	6.0	295.0
263.0	CARBONDALE		UNCLASSIFIED	18.0	301.0
245.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	319.0
239.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	325.0
238.0	CARBONDALE	BRERETON	LIMESTONE	4.0	326.0
234.0	CARBONDALE	ANNA	BLACK SHALE	1.0	330.0
233.0	CARBONDALE	HERRIN	COAL	2.0	331.0

MAPID: 11902068000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 33 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: WORDEN LONGITUDE: -89.776782 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.929512 DATE COLLECTED: 2 / 0 / 1950

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 317.0 LOG TYPE: Electric Log

SOURCE: TURNER LEROY WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
272.0	MODESTO	PIASA	LIMESTONE	3.0	280.0
269.0	MODESTO		UNCLASSIFIED	6.0	283.0
263.0	CARBONDALE		UNCLASSIFIED	14.0	289.0
249.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	303.0
245.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	307.0
244.0	CARBONDALE	BRERETON	LIMESTONE	5.0	308.0
239.0	CARBONDALE	ANNA	BLACK SHALE	2.0	313.0
237.0	CARBONDALE	HERRIN	COAL	2.0	315.0

**MAPID:** 11900052000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 800' S line, 2550' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.754456    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.919832    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 559.3    **LOGGED (FT.):** 228.0    **LOG TYPE:** Drillers Log  
**SOURCE:** SOU COAL X0009    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
347.3	CARBONDALE	HERRIN	COAL	6.4	212.0	

**MAPID:** 11900052000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 800' S line, 2550' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.754456    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.919832    **DATE COLLECTED:** 0 / 0 / 1921  
**SURFACE ELEVATION (FT.):** 559.0    **LOGGED (FT.):** 218.4    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
347.0	CARBONDALE	HERRIN	COAL	6.4	212.0	

**MAPID:** 11900052000C    **VERSION:** 3    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 6W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 800' S line, 2550' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.754456    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.919832    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 559.0    **LOGGED (FT.):** 218.4    **LOG TYPE:** Drillers Log  
**SOURCE:** MT. OLIVE & STAUNTON COAL CO. 9    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
384.0	MODESTO	PIASA	LIMESTONE	4.0	175.0	
380.0	MODESTO		CLAYSTONE & SHALE	6.7	179.0	
373.3	CARBONDALE	DANVILLE	COAL	0.3	185.7	
373.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	7.5	186.0	LOWER BENCH
365.5	CARBONDALE	JAMESTOWN	COAL	0.2	193.5	
365.3	CARBONDALE		CLAYSTONE & SHALE	0.3	193.7	
365.0	CARBONDALE	BRERETON	LIMESTONE	17.6	194.0	
347.4	CARBONDALE	ANNA	SHALE	0.2	211.6	
347.0	CARBONDALE	HERRIN	COAL	6.4	212.0	

MAPID: 11902077000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: WORDEN LONGITUDE: -89.751215 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.925741 DATE COLLECTED: 6 / 0 / 1953

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: SCHENK, S. B. 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	5.0	
-	CARBONDALE	DANVILLE	COAL	2.0	
-	CARBONDALE		UNCLASSIFIED	10.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	
-	CARBONDALE	BRERETON	LIMESTONE	5.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.0	
-	CARBONDALE	HERRIN	COAL	2.0	

MAPID: 11902080000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 34 QUARTERS/FOOTAGES: 1650' N line, 1650' W line

QUADRANGLE: WORDEN LONGITUDE: -89.758064 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.927493 DATE COLLECTED: 7 / 0 / 1950

SURFACE ELEVATION (FT.): 558.0 LOGGED (FT.): 341.8 LOG TYPE: Electric Log

SOURCE: MABRY & IRELAND WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
260.8	MODESTO	PIASA	LIMESTONE	3.0	297.2
257.8	MODESTO		UNCLASSIFIED	5.5	300.2
252.3	CARBONDALE	DANVILLE	COAL	0.5	305.7
251.8	CARBONDALE		UNCLASSIFIED	14.5	306.2
237.3	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	320.7
234.3	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	323.7
231.3	CARBONDALE	BRERETON	LIMESTONE	7.0	326.7
224.3	CARBONDALE	ANNA	BLACK SHALE	3.3	333.7
221.0	CARBONDALE	HERRIN	COAL	4.8	337.0

MAPID: 1190208000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 34 QUARTERS/FOOTAGES: 1650' N line, 1650' W line

QUADRANGLE: WORDEN LONGITUDE: -89.758064

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.927493

DATE COLLECTED:

SURFACE ELEVATION (FT.): 558.0

LOGGED (FT.): 340.5

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
261.5	MODESTO	PIASA	LIMESTONE	4.0	296.5
257.5	MODESTO		SHALE	13.0	300.5
244.5	CARBONDALE		SHALE	1.0	313.5
243.5	CARBONDALE		BLACK SHALE	3.0	314.5
240.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	317.5
235.5	CARBONDALE	LAWSON	SHALE	2.0	322.5
233.5	CARBONDALE	CONANT	LIMESTONE	4.0	324.5
229.5	CARBONDALE	BRERETON	LIMESTONE	4.0	328.5
225.5	CARBONDALE	ANNA	BLACK SHALE	3.5	332.5
222.0	CARBONDALE	HERRIN	COAL	4.5	336.0

MAPID: 11902082000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.758097

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.923918

DATE COLLECTED: 11 / 0 / 1953

SURFACE ELEVATION (FT.): 561.0

LOGGED (FT.): 332.0

LOG TYPE: Electric Log

SOURCE: SCHENK, S. B.

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
271.0	MODESTO	PIASA	LIMESTONE	5.0	290.0
266.0	MODESTO		UNCLASSIFIED	5.0	295.0
261.0	CARBONDALE		UNCLASSIFIED	14.0	300.0
247.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	314.0
243.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	318.0
241.0	CARBONDALE	BRERETON	LIMESTONE	8.0	320.0
233.0	CARBONDALE	ANNA	BLACK SHALE	2.0	328.0
231.0	CARBONDALE	HERRIN	COAL	2.0	330.0



MAPID: 1190209000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' N line, 330' E line of NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.746597 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.931104 DATE COLLECTED: 10 / 0 / 1952

SURFACE ELEVATION (FT.): 554.0 LOGGED (FT.): 338.0 LOG TYPE: Electric Log

SOURCE: SCHENK, S. B. WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
259.0	MODESTO	PIASA	LIMESTONE	9.0	295.0
250.0	MODESTO		UNCLASSIFIED	5.0	304.0
245.0	CARBONDALE		UNCLASSIFIED	12.0	309.0
233.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	321.0
230.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	324.0
228.0	CARBONDALE	BRERETON	LIMESTONE	7.0	326.0
221.0	CARBONDALE	ANNA	BLACK SHALE	3.0	333.0
218.0	CARBONDALE	HERRIN	COAL	2.0	336.0

MAPID: 11902095000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 34 QUARTERS/FOOTAGES: 330' N line, 270' W line of NE SE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.749092 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.923921 DATE COLLECTED: 3 / 0 / 1953

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 349.0 LOG TYPE: Electric Log

SOURCE: SCHENK, S. B. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
255.0	MODESTO	PIASA	LIMESTONE	7.0	310.0
248.0	MODESTO		UNCLASSIFIED	5.0	317.0
243.0	CARBONDALE		UNCLASSIFIED	13.0	322.0
230.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	335.0
226.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	339.0
225.0	CARBONDALE	BRERETON	LIMESTONE	5.0	340.0
220.0	CARBONDALE	ANNA	BLACK SHALE	2.0	345.0
218.0	CARBONDALE	HERRIN	COAL	2.0	347.0

MAPID: 11902426000C    VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 34    QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NW

QUADRANGLE: WORDEN    LONGITUDE: -89.762729    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.927532    DATE COLLECTED: 11 / 0 / 1970

SURFACE ELEVATION (FT.): 540.0    LOGGED (FT.): 316.0    LOG TYPE: Electric Log

SOURCE: SCHENK, S. B.    WELL TYPE: Producer-Oil

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
268.0	MODESTO	PIASA	LIMESTONE	5.0	272.0
263.0	MODESTO		UNCLASSIFIED	5.0	277.0
258.0	CARBONDALE		UNCLASSIFIED	12.0	282.0
246.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	294.0
242.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	298.0
240.0	CARBONDALE	BRERETON	LIMESTONE	7.0	300.0
233.0	CARBONDALE	ANNA	BLACK SHALE	5.0	307.0
228.0	CARBONDALE	HERRIN	COAL	4.0	312.0

MAPID: 11923635000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 34    QUARTERS/FOOTAGES: 725' S line, 1255' W line

QUADRANGLE: WORDEN    LONGITUDE: -89.75941    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.919608    DATE COLLECTED: 10 / 31 / 1978

SURFACE ELEVATION (FT.): 555.0    LOGGED (FT.): 350.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-45    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0			UNCONSOLIDATED	83.0	0.0
472.0	MODESTO		GRAY SHALE	4.5	83.0
467.5	MODESTO		COAL	1.5	87.5
466.0	MODESTO		GRAY SHALE	21.0	89.0
445.0	MODESTO	MACOUPIN	LIMESTONE	1.0	110.0
444.0	MODESTO		GRAY SHALE	12.5	111.0
431.5	MODESTO		GRAY SHALE	22.4	123.5
409.1	MODESTO	CARLINVILLE	LIMESTONE	5.6	145.9
403.5	MODESTO		GRAY SHALE	26.5	151.5
377.0	MODESTO		SANDY SHALE	100.0	178.0
277.0	MODESTO		COAL	1.0	278.0
276.0	MODESTO		GRAY SHALE	14.3	279.0
261.7	MODESTO	PIASA	LIMESTONE	3.7	293.3
258.0	MODESTO		GRAY SHALE	11.0	297.0
247.0	CARBONDALE	DANVILLE	SHALE	1.5	308.0
245.5	CARBONDALE		GRAY SHALE	3.5	309.5
242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	313.0
240.5	CARBONDALE		GRAY SHALE	3.5	314.5
237.0	CARBONDALE	BRERETON	LIMESTONE	6.0	318.0
231.0	CARBONDALE	ANNA	BLACK SHALE	3.4	324.0
227.6	CARBONDALE	HERRIN	COAL	6.6	327.4
221.0	CARBONDALE		SHALE	1.7	334.0
219.3	CARBONDALE		GRAY SHALE	2.3	335.7
217.0	CARBONDALE		LIMESTONE	2.0	338.0
215.0	CARBONDALE		GRAY SHALE	6.5	340.0
208.5	CARBONDALE		LIMESTONE	0.5	346.5
208.0	CARBONDALE		GRAY SHALE	3.0	347.0

MAPID: 11923656000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 34    QUARTERS/FOOTAGES: 1800' N line, 2590' E line

QUADRANGLE: WORDEN    LONGITUDE: -89.754588    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.927067    DATE COLLECTED: 11 / 22 / 1978

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 361.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-44    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	109.0	0.0
451.0	MODESTO		GRAY SHALE	10.0	109.0
441.0	MODESTO	MACOUPIN	LIMESTONE	1.0	119.0
440.0	MODESTO		GRAY SHALE	31.5	120.0
408.5	MODESTO	CARLINVILLE	LIMESTONE	6.5	151.5
402.0	MODESTO		GRAY SHALE	27.5	158.0
374.5	MODESTO	CHAPEL	COAL	0.5	185.5
374.0	MODESTO		GRAY SHALE	11.0	186.0
363.0	MODESTO		SANDSTONE	16.0	197.0
347.0	MODESTO		SANDY SHALE	64.0	213.0
283.0	MODESTO		SHALE	4.0	277.0
279.0	MODESTO		GRAY SHALE	20.0	281.0
259.0	MODESTO	PIASA	LIMESTONE	2.0	301.0
257.0	MODESTO		GRAY SHALE	3.0	303.0
254.0	MODESTO		CARBONACEOUS SHALE	3.0	306.0
251.0	MODESTO		CLAYSTONE	4.7	309.0
246.3	MODESTO		GRAY SHALE	1.9	313.7
244.4	MODESTO		GRAY SHALE	3.0	315.6
241.4	CARBONDALE	DANVILLE	COAL	1.0	318.6
240.4	CARBONDALE		CARBONACEOUS CLAYSTONE	2.4	319.6
238.0	CARBONDALE		SILTY CLAYSTONE	3.8	322.0
234.2	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	1.3	325.8
233.0	CARBONDALE		CALCAREOUS SILTSTONE	2.2	327.0
230.8	CARBONDALE	BRERETON	LIMESTONE	6.5	329.2
224.3	CARBONDALE		UNCLASSIFIED	0.3	335.7
224.0	CARBONDALE	ENERGY	SILTSTONE	1.7	336.0
222.3	CARBONDALE	ENERGY	SHALE	1.1	337.7
221.2	CARBONDALE	ENERGY	SHALE	0.4	338.8
220.8	CARBONDALE	HERRIN	COAL	6.8	339.2
214.0	CARBONDALE		CLAYSTONE	2.4	346.0
211.6	CARBONDALE		LIMESTONE	2.6	348.4
209.0	CARBONDALE		CLAYSTONE	1.2	351.0
207.8	CARBONDALE		CLAYSTONE	3.5	352.2
204.3	CARBONDALE	SPRINGFIELD	COAL	0.4	355.7
204.0	CARBONDALE		CLAYSTONE	0.5	356.0
203.5	CARBONDALE		GRAY SHALE	1.0	356.5
202.5	CARBONDALE		SHALY LIMESTONE	0.5	357.5
202.0	CARBONDALE		SHALE	2.8	358.0

MAPID: 11924001000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 34    QUARTERS/FOOTAGES: 2610' S line, 1288' E line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.749989

GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.924844

DATE COLLECTED: 5 / 15 / 1979

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 360.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-34-3C

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	83.5	0.0
476.5	BOND	CARTHAGE	LIMESTONE	4.5	83.5
472.0	MODESTO		BLACK SHALE	4.0	88.0
468.0	MODESTO		GRAY SHALE	16.0	92.0
452.0	MODESTO		COAL	2.0	108.0
450.0	MODESTO		GRAY SHALE	20.0	110.0
430.0	MODESTO		SANDSTONE	10.0	130.0
420.0	MODESTO		GRAY SHALE	8.0	140.0
412.0	MODESTO		GRAY SHALE	4.0	148.0
408.0	MODESTO	CARLINVILLE	LIMESTONE	6.0	152.0
402.0	MODESTO		GRAY SHALE	38.0	158.0
364.0	MODESTO	CHAPEL	COAL	0.5	196.0
363.5	MODESTO		GRAY SHALE	107.0	196.5
256.5	MODESTO	PIASA	LIMESTONE	5.0	303.5
251.5	MODESTO		SHALE	1.5	308.5
250.0	MODESTO		GRAY SHALE	4.0	310.0
246.0	MODESTO		SHALE	5.5	314.0
240.5	CARBONDALE	DANVILLE	COAL	1.0	319.5
239.5	CARBONDALE		SHALE	3.2	320.5
236.3	CARBONDALE		CORE LOSS	0.3	323.7
236.0	CARBONDALE		GRAY SHALE	0.9	324.0
235.1	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	324.9
228.2	CARBONDALE		GRAY SHALE	3.2	331.8
225.0	CARBONDALE	ANNA	BLACK SHALE	3.3	335.0
221.7	CARBONDALE	HERRIN	COAL	6.9	338.3
214.8	CARBONDALE		SHALE	3.9	345.2
211.0	CARBONDALE		LIMESTONE	2.0	349.0
209.0	CARBONDALE		SHALE	7.0	351.0
202.0	CARBONDALE		SHALY LIMESTONE	2.0	358.0

MAPID: 11902099000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 35 QUARTERS/FOOTAGES: 415' N line, 366' W line of NE NW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.739396 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.93084 DATE COLLECTED: 6 / 0 / 1951

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 339.0 LOG TYPE: Electric Log

SOURCE: SCHENK, S. B. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
246.0	MODESTO	PIASA	LIMESTONE	6.0	297.0
240.0	MODESTO		UNCLASSIFIED	6.0	303.0
234.0	CARBONDALE		UNCLASSIFIED	16.0	309.0
218.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	325.0
215.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	328.0
214.0	CARBONDALE	BRERETON	LIMESTONE	4.0	329.0
210.0	CARBONDALE	ANNA	BLACK SHALE	4.0	333.0
206.0	CARBONDALE	HERRIN	COAL	2.0	337.0

MAPID: 11902100000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 35 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.734805 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.925651 DATE COLLECTED: 12 / 0 / 1953

SURFACE ELEVATION (FT.): 536.0 LOGGED (FT.): 350.0 LOG TYPE: Electric Log

SOURCE: CLARK A M WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
236.0	MODESTO	PIASA	LIMESTONE	5.0	300.0
231.0	MODESTO		UNCLASSIFIED	7.0	305.0
224.0	CARBONDALE		UNCLASSIFIED	18.0	312.0
206.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	330.0
202.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	334.0
200.0	CARBONDALE	BRERETON	LIMESTONE	4.0	336.0
196.0	CARBONDALE	ANNA	BLACK SHALE	8.0	340.0
188.0	CARBONDALE	HERRIN	COAL	2.0	348.0

MAPID: 11902102000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 35 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.744264 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.931095 DATE COLLECTED: 2 / 0 / 1954

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 360.0 LOG TYPE: Electric Log

SOURCE: SCHENK, S. B. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
256.0	MODESTO	PIASA	LIMESTONE	5.0	315.0
251.0	MODESTO		UNCLASSIFIED	5.0	320.0
246.0	CARBONDALE		UNCLASSIFIED	15.0	325.0
231.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	340.0
226.0	CARBONDALE	BRERETON	LIMESTONE	5.0	345.0
221.0	CARBONDALE	ANNA	BLACK SHALE	4.0	350.0
217.0	CARBONDALE	HERRIN	COAL	6.0	354.0

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MAPID: 1192365000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 35 QUARTERS/FOOTAGES: 210' S line, 200' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.744739 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.918224 DATE COLLECTED: 11 / 14 / 1978

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 360.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-46 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	69.0	0.0
491.0	BOND		GRAY SHALE	5.5	69.0
485.5	BOND	CARTHAGE	LIMESTONE	5.0	74.5
480.5	MODESTO		BLACK SHALE	3.5	79.5
477.0	MODESTO		GRAY SHALE	29.5	83.0
447.5	MODESTO	CHAPEL	COAL	1.5	112.5
446.0	MODESTO		GRAY SHALE	68.0	114.0
378.0	MODESTO		SANDSTONE	46.0	182.0
332.0	MODESTO		SANDSTONE	13.0	228.0
319.0	MODESTO		GRAY SHALE	29.0	241.0
290.0	MODESTO		GRAY SHALE	36.0	270.0
254.0	MODESTO	PIASA	LIMESTONE	3.5	306.0
250.5	MODESTO		GRAY SHALE	13.2	309.5
237.3	CARBONDALE	DANVILLE	COAL	0.6	322.7
236.7	CARBONDALE		GRAY SHALE	8.2	323.3
228.5	CARBONDALE	BRERETON	LIMESTONE	5.0	331.5
223.5	CARBONDALE		SHALE	1.0	336.5
222.5	CARBONDALE	HERRIN	COAL	7.3	337.5
215.2	CARBONDALE		SHALE	0.2	344.8
215.0	CARBONDALE		CORE LOSS	0.5	345.0
214.5	CARBONDALE		GRAY SHALE	10.5	345.5
204.0	CARBONDALE		LIMESTONE	1.0	356.0
203.0	CARBONDALE		GRAY SHALE	3.0	357.0



MAPID: 11923651000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 35    QUARTERS/FOOTAGES: 2600' N line, 2050' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.738192    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.924802    DATE COLLECTED: 11 / 10 / 1978

SURFACE ELEVATION (FT.): 540.0    LOGGED (FT.): 336.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-47    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0			UNCONSOLIDATED	40.0	0.0
500.0	BOND		SHALE	15.0	40.0
485.0	BOND		GRAY SHALE	20.5	55.0
464.5	BOND	CARTHAGE	LIMESTONE	5.0	75.5
459.5	MODESTO		BLACK SHALE	4.0	80.5
455.5	MODESTO		GRAY SHALE	29.5	84.5
426.0	MODESTO	CHAPEL	COAL	1.5	114.0
424.5	MODESTO		GRAY SHALE	89.0	115.5
335.5	MODESTO		UNCLASSIFIED	1.0	204.5
334.5	MODESTO		GRAY SHALE	44.5	205.5
290.0	MODESTO		SHALE	6.0	250.0
284.0	MODESTO		GRAY SHALE	23.0	256.0
261.0	MODESTO	PIASA	LIMESTONE	3.0	279.0
258.0	MODESTO		GRAY SHALE	13.5	282.0
244.5	CARBONDALE	DANVILLE	COAL	0.5	295.5
244.0	CARBONDALE		CALCAREOUS SHALE	4.6	296.0
239.4	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	2.3	300.6
237.1	CARBONDALE		GRAY SHALE	1.0	302.9
236.1	CARBONDALE	BRERETON	LIMESTONE	6.6	303.9
229.5	CARBONDALE		GRAY SHALE	2.8	310.5
226.7	CARBONDALE	ANNA	BLACK SHALE	0.7	313.3
226.0	CARBONDALE	HERRIN	COAL	7.0	314.0
219.0	CARBONDALE		CLAYSTONE	2.0	321.0
217.0	CARBONDALE		LIMESTONE	0.7	323.0
216.3	CARBONDALE		CLAYSTONE	8.1	323.7
208.2	CARBONDALE		GRAY SHALE	2.7	331.8
205.5	CARBONDALE		LIMESTONE	0.7	334.5
204.8	CARBONDALE		CORE LOSS	0.8	335.2

MAPID: 11923657000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 35 QUARTERS/FOOTAGES: 40' N line, 510' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.743627 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.931894 DATE COLLECTED: 11 / 16 / 1978

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 380.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-43 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
570.0			UNCONSOLIDATED	108.0	0.0
462.0	BOND	CARTHAGE	LIMESTONE	5.0	108.0
457.0	MODESTO		BLACK SHALE	4.0	113.0
453.0	MODESTO		GRAY SHALE	28.0	117.0
425.0	MODESTO	CHAPEL	COAL	1.0	145.0
424.0	MODESTO		GRAY SHALE	26.3	146.0
397.7	MODESTO		COAL	1.0	172.3
396.7	MODESTO		SANDY SHALE	23.7	173.3
373.0	MODESTO		LIMESTONE	2.0	197.0
371.0	MODESTO		SANDY SHALE	12.0	199.0
359.0	MODESTO		LIMESTONE	1.0	211.0
358.0	MODESTO		GRAY SHALE	86.0	212.0
272.0	MODESTO		SHALE	3.0	298.0
269.0	MODESTO		GRAY SHALE	23.0	301.0
246.0	MODESTO	PIASA	LIMESTONE	4.0	324.0
242.0	MODESTO		GRAY SHALE	12.5	328.0
229.5	CARBONDALE	DANVILLE	COAL	1.5	340.5
228.0	CARBONDALE		GRAY SHALE	3.5	342.0
224.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	345.5
222.4	CARBONDALE		GRAY SHALE	1.9	347.6
220.5	CARBONDALE	BRERETON	LIMESTONE	4.5	349.5
216.0	CARBONDALE	ANNA	BLACK SHALE	5.1	354.0
210.9	CARBONDALE	HERRIN	COAL	7.0	359.1
203.9	CARBONDALE		SHALE	0.8	366.1
203.0	CARBONDALE		CORE LOSS	0.1	367.0
203.0	CARBONDALE		GRAY SHALE	2.5	367.0
200.5	CARBONDALE		LIMESTONE	2.0	369.5
198.5	CARBONDALE		SHALE	6.5	371.5
192.0	CARBONDALE		LIMESTONE	2.0	378.0

MAPID: 1192418000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 35 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.741897 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.922103 DATE COLLECTED: 10 / 19 / 1977

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 400.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-37 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	90.0	0.0
470.0	BOND		GRAY SHALE	5.0	90.0
465.0	BOND	CARTHAGE	LIMESTONE	6.0	95.0
459.0	MODESTO		GRAY SHALE	1.0	101.0
458.0	MODESTO		BLACK SHALE	3.0	102.0
455.0	MODESTO		GRAY SHALE	4.5	105.0
450.5	MODESTO		LIMESTONE	0.5	109.5
450.0	MODESTO		GRAY SHALE	22.0	110.0
428.0	MODESTO	CHAPEL	COAL	2.0	132.0
426.0	MODESTO		GRAY SHALE	65.0	134.0
361.0	MODESTO		SHALE	5.0	199.0
356.0	MODESTO		LIMESTONE	1.0	204.0
355.0	MODESTO		GRAY SHALE	15.5	205.0
339.5	MODESTO		LIMESTONE	6.0	220.5
333.5	MODESTO		GRAY SHALE	41.5	226.5
292.0	MODESTO		LIMESTONE	7.5	268.0
284.5	MODESTO		GRAY SHALE	26.5	275.5
258.0	CARBONDALE		SANDY SHALE	55.0	302.0
203.0	CARBONDALE		GRAY SHALE	9.0	357.0
194.0	CARBONDALE		SHALE	6.0	366.0
188.0	CARBONDALE		LIMESTONE	6.5	372.0
181.5	CARBONDALE		GRAY SHALE	17.5	378.5
164.0	CARBONDALE		SANDSTONE	4.0	396.0

MAPID: 11900535000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 36 QUARTERS/FOOTAGES: 2640' N line, 0' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.708052

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.924672

DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 420.1

LOG TYPE: Survey Core Study

SOURCE: NO COMPANY DD109

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
237.4	MODESTO	PIASA	LIMESTONE	6.7	357.6	
230.7	MODESTO		SHALE	10.0	364.3	
220.7	CARBONDALE		SHALE	3.8	374.3	
216.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	378.1	LOWER BENCH
214.0	CARBONDALE	LAWSON	GRAY SHALE	0.8	381.0	
213.2	CARBONDALE	BRERETON	LIMESTONE	1.2	381.8	
212.0	CARBONDALE	ENERGY	GRAY SHALE	30.0	383.0	
182.0	CARBONDALE	HERRIN	COAL	7.1	413.0	

MAPID: 11900535000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 36 QUARTERS/FOOTAGES: 2640' N line, 0' E line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.708052

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.924672

DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 420.1

LOG TYPE: Drillers Log

SOURCE: NO COMPANY DD109

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
238.0	MODESTO	PIASA	LIMESTONE	6.8	357.0	
231.2	MODESTO		UNCLASSIFIED	4.5	363.8	
226.7	CARBONDALE		UNCLASSIFIED	8.6	368.3	
218.1	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	376.9	
213.3	CARBONDALE	ANNA	BLACK SHALE	0.5	381.7	
212.8	CARBONDALE	ENERGY	SHALE	30.8	382.2	
182.0	CARBONDALE	HERRIN	COAL	7.1	413.0	

MAPID: 11923669000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 6W    SECTION: 36    QUARTERS/FOOTAGES: 500' S line, 567' W line

QUADRANGLE: NEW DOUGLAS    LONGITUDE: -89.724559    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.918778    DATE COLLECTED: 11 / 30 / 1978

SURFACE ELEVATION (FT.): 580.0    LOGGED (FT.): 433.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL MOS-78-48    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
580.0			UNCONSOLIDATED	32.5	0.0
547.5	BOND		CALCAREOUS SANDSTONE	1.5	32.5
546.0	BOND		GRAY SHALE	44.0	34.0
502.0	BOND		LIMESTONE	1.0	78.0
501.0	BOND		SHALE	0.3	79.0
500.7	BOND		GRAY SHALE	2.7	79.3
498.0	BOND		CALCAREOUS SHALE	6.0	82.0
492.0	BOND		GRAY SHALE	24.5	88.0
467.5	BOND	CARTHAGE	LIMESTONE	4.5	112.5
463.0	MODESTO		BLACK SHALE	5.0	117.0
458.0	MODESTO		GRAY SHALE	23.5	122.0
434.5	MODESTO	CHAPEL	COAL	1.5	145.5
433.0	MODESTO		SANDY SHALE	7.0	147.0
426.0	MODESTO		SANDSTONE	18.0	154.0
408.0	MODESTO		SANDY SHALE	38.0	172.0
370.0	MODESTO		SANDY SHALE	58.0	210.0
312.0	MODESTO		SANDSTONE	1.0	268.0
311.0	MODESTO		SANDY SHALE	48.0	269.0
263.0	MODESTO		GRAY SHALE	15.0	317.0
248.0	CARBONDALE	ENERGY	SAND	10.0	332.0
238.0	CARBONDALE	ENERGY	SANDY SHALE	11.5	342.0
226.5	CARBONDALE	ENERGY	SANDSTONE	2.5	353.5
224.0	CARBONDALE	ENERGY	SANDSTONE/SILTSTONE	7.0	356.0
217.0	CARBONDALE	ENERGY	SILTSTONE/SANDSTONE	20.0	363.0
197.0	CARBONDALE	ENERGY	GRAY SHALE	10.0	383.0
187.0	CARBONDALE		CALCAREOUS SHALE	4.2	393.0
182.8	CARBONDALE		CLAYSTONE	1.5	397.2
181.3	CARBONDALE		SHALE	5.3	398.7
176.0	CARBONDALE	ST. DAVID	LIMESTONE	1.0	404.0
175.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	405.0
173.0	CARBONDALE		SHALE	6.0	407.0
167.0	CARBONDALE		LIMESTONE	2.5	413.0
164.5	CARBONDALE		SHALE	5.0	415.5
159.5	CARBONDALE		SHALE	10.5	420.5
149.0	CARBONDALE		CALCAREOUS SHALE	2.0	431.0

MAPID: 11924181000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 6W SECTION: 36 QUARTERS/FOOTAGES: 2595' S line, 2600' W line

QUADRANGLE: NEW DOUGLAS LONGITUDE: -89.717329 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.924537 DATE COLLECTED: 10 / 18 / 1977

SURFACE ELEVATION (FT.): 585.0 LOGGED (FT.): 420.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-35 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
585.0			UNCONSOLIDATED	38.0	0.0
547.0	BOND		SANDSTONE	3.0	38.0
544.0	BOND		SILTY SHALE	4.0	41.0
540.0	BOND		GRAY SHALE	44.8	45.0
495.2	BOND		LIMESTONE	0.4	89.8
494.8	BOND		GRAY SHALE	9.8	90.2
485.0	BOND		GRAY SHALE	21.8	100.0
463.2	BOND	CARTHAGE	LIMESTONE	5.0	121.8
458.2	MODESTO		BLACK SHALE	4.2	126.8
454.0	MODESTO		GRAY SHALE	26.5	131.0
427.5	MODESTO	CHAPEL	COAL	1.0	157.5
426.5	MODESTO		SANDY SHALE	11.5	158.5
415.0	MODESTO		GRAY SHALE	20.0	170.0
395.0	MODESTO		SANDY SHALE	52.0	190.0
343.0	MODESTO		SANDSTONE/SHALE	70.0	242.0
273.0	MODESTO		SANDSTONE	13.0	312.0
260.0	MODESTO		GRAY SHALE	4.0	325.0
256.0	MODESTO		SANDSTONE	2.0	329.0
254.0	MODESTO		CALCAREOUS SHALE	2.0	331.0
252.0	MODESTO		SANDSTONE	7.5	333.0
244.5	MODESTO		SANDY LIMESTONE	1.5	340.5
243.0	MODESTO		SHALE	6.0	342.0
237.0	MODESTO		SHALE	8.0	348.0
229.0	MODESTO	PIASA	LIMESTONE	2.0	356.0
227.0	MODESTO		SHALE	8.5	358.0
218.5			LIMESTONE	3.5	366.5
215.0	CARBONDALE	ENERGY	SANDY SHALE	26.5	370.0
188.5	CARBONDALE	HERRIN	COAL	8.0	396.5
180.5	CARBONDALE		GRAY SHALE	15.5	404.5

MAPID: 11901126000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 1 QUARTERS/FOOTAGES: 22' N line, 2400' W line

QUADRANGLE: WORDEN LONGITUDE: -89.823238 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.998325 DATE COLLECTED:

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 202.1 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. G-19 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
386.0	MODESTO	PIASA	LIMESTONE	3.2	158.0	
382.8	MODESTO		GRAY SHALE	16.8	161.2	
366.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.9	178.0	LOWER BENCH
365.2	CARBONDALE	LAWSON	SILTSTONE	2.1	178.8	
363.1	CARBONDALE	BRERETON	LIMESTONE	9.7	180.9	
353.4	CARBONDALE	ANNA	DARK GRAY SHALE	0.6	190.6	
348.0	CARBONDALE	HERRIN	COAL	6.1	196.0	

MAPID: 11901126000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 1 QUARTERS/FOOTAGES: 22' N line, 2400' W line

QUADRANGLE: WORDEN LONGITUDE: -89.823238 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.998325 DATE COLLECTED:

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 202.1 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. G-19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
384.6	MODESTO	PIASA	LIMESTONE	3.2	159.4	
381.4	MODESTO		UNCLASSIFIED	4.8	162.6	
376.6	CARBONDALE		UNCLASSIFIED	12.0	167.4	
364.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	179.4	
360.4	CARBONDALE	ANVIL ROCK	SANDSTONE	2.1	183.6	
358.3	CARBONDALE	BRERETON	LIMESTONE	9.7	185.7	
348.6	CARBONDALE	ANNA	BLACK SHALE	0.6	195.4	
348.0	CARBONDALE	HERRIN	COAL	6.1	196.0	

**MAPID:** 11901126000C    **VERSION:** 3    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 1    **QUARTERS/FOOTAGES:** 22' N line, 2400' W line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.823238    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.998325    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 544.0    **LOGGED (FT.):** 202.5    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    G-19    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
348.5	CARBONDALE	HERRIN	COAL	6.1	195.5	

**MAPID:** 11900761000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 2    **QUARTERS/FOOTAGES:** 2450' S line, 700' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.83421    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.99772    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 506.0    **LOGGED (FT.):** 165.5    **LOG TYPE:** Drillers Log  
**SOURCE:** MOFFAT COAL CO.    5    **WELL TYPE:** Coal Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
387.0	MODESTO	PIASA	LIMESTONE	1.0	119.0	
386.0	MODESTO		GRAY SHALE	6.0	120.0	
380.0	CARBONDALE	DANVILLE	COAL	0.7	126.0	
379.3	CARBONDALE		CLAYSTONE	2.3	126.7	
377.0	CARBONDALE	LAWSON	GRAY SHALE	18.5	129.0	
358.5	CARBONDALE	BRERETON	LIMESTONE	10.0	147.5	
348.5	CARBONDALE	ANNA	BLACK SHALE	1.0	157.5	
347.0	CARBONDALE	HERRIN	COAL	6.5	159.0	



MAPID: 11900761000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 2 QUARTERS/FOOTAGES: 2450' S line, 700' E line

QUADRANGLE: WORDEN LONGITUDE: -89.83421 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.99772 DATE COLLECTED:

SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 165.5 LOG TYPE: Drillers Log

SOURCE: MOFFAT COAL CO. 5 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
386.8	MODESTO	PIASA	LIMESTONE	3.0	119.2
383.8	MODESTO		UNCLASSIFIED	4.0	122.2
379.8	CARBONDALE	DANVILLE	COAL	0.7	126.2
379.1	CARBONDALE		UNCLASSIFIED	9.8	126.9
369.3	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	136.7
363.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	142.7
360.3	CARBONDALE		SHALE	2.0	145.7
358.3	CARBONDALE	BRERETON	LIMESTONE	10.0	147.7
348.3	CARBONDALE	ANNA	BLACK SHALE	1.3	157.7
347.0	CARBONDALE	HERRIN	COAL	6.5	159.0

MAPID: 11900761000C VERSION: 3

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 2 QUARTERS/FOOTAGES: 2450' S line, 700' E line

QUADRANGLE: WORDEN LONGITUDE: -89.83421 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.99772 DATE COLLECTED:

SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 168.0 LOG TYPE: Drillers Log

SOURCE: MOFFAT COAL CO. 5 WELL TYPE: Coal Test

COMMENT: CORE 15'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.0	CARBONDALE	DANVILLE	COAL	0.7	126.0
347.5	CARBONDALE	HERRIN	COAL	6.5	158.5

MAPID: 11900762000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 4 QUARTERS/FOOTAGES: 30' S line, 2250' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.879815

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.991586

DATE COLLECTED:

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 204.3

LOG TYPE: Survey Core Study

SOURCE: MOFFAT COAL CO. 6

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
410.0	MODESTO	PIASA	LIMESTONE	2.7	160.0
407.3	MODESTO		DARK GRAY SHALE	8.3	162.7
399.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.0	171.0
396.0	CARBONDALE	LAWSON	GRAY SHALE	10.0	174.0
386.0	CARBONDALE	BRERETON	LIMESTONE	9.7	184.0
376.3	CARBONDALE	ANNA	BLACK SHALE	4.7	193.7
372.0	CARBONDALE	HERRIN	COAL	6.3	198.0

MAPID: 11900762000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 4 QUARTERS/FOOTAGES: 30' S line, 2250' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.879815

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.991586

DATE COLLECTED:

SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 204.3

LOG TYPE: Drillers Log

SOURCE: MOFFAT COAL CO. 6

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
410.4	MODESTO	PIASA	LIMESTONE	2.7	159.6
407.7	MODESTO		UNCLASSIFIED	2.0	162.3
405.7	CARBONDALE	DANVILLE	COAL	0.6	164.3
405.1	CARBONDALE		UNCLASSIFIED	8.8	164.9
396.3	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	173.7
390.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	179.7
387.3	CARBONDALE		SHALE	1.0	182.7
386.3	CARBONDALE	BRERETON	LIMESTONE	9.7	183.7
376.6	CARBONDALE	ANNA	BLACK SHALE	4.6	193.4
372.0	CARBONDALE	HERRIN	COAL	6.3	198.0

**MAPID:** 11900762000C    **VERSION:** 3    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 4    **QUARTERS/FOOTAGES:** 30' S line, 2250' W line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.879815    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.991586    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 206.0    **LOG TYPE:** Drillers Log  
**SOURCE:** MOFFAT COAL CO.    6    **WELL TYPE:** Coal Test  
**COMMENT:** CORE 25'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
371.7	CARBONDALE	HERRIN	COAL	6.2	198.3

**MAPID:** 11900909000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 4    **QUARTERS/FOOTAGES:** 552' S line, 340' W line of SE  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.877315    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.993019    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 586.0    **LOGGED (FT.):** 218.0    **LOG TYPE:** Drillers Log  
**SOURCE:** LIVERMORE, H. E.    **WELL TYPE:** Dry Hole  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
414.0	MODESTO	PIASA	LIMESTONE	6.0	172.0
408.0	MODESTO		UNCLASSIFIED	4.0	178.0
404.0	CARBONDALE		UNCLASSIFIED	10.0	182.0
394.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	192.0
388.0	CARBONDALE	BRERETON	LIMESTONE	13.0	198.0
375.0	CARBONDALE	HERRIN	COAL	7.0	211.0

**MAPID:** 11924033000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 5    **QUARTERS/FOOTAGES:** 1365' S line, 2560' E line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.896912    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.995369    **DATE COLLECTED:** 9 / 28 / 1979  
**SURFACE ELEVATION (FT.):** 595.0    **LOGGED (FT.):** 250.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
366.5	CARBONDALE	HERRIN	COAL	5.1	228.5

MAPID: 11924033000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 5 QUARTERS/FOOTAGES: 1365' S line, 2560' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.896912 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.995369 DATE COLLECTED: 9 / 28 / 1979

SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 250.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
595.0			UNCONSOLIDATED	100.0	0.0
495.0			SHALE	4.0	100.0
491.0			SANDSTONE	4.0	104.0
487.0			SANDY SHALE	16.0	108.0
471.0	MODESTO		GRAY SHALE	62.0	124.0
409.0	MODESTO		SHALE	2.5	186.0
406.5	MODESTO	PIASA	LIMESTONE	4.5	188.5
402.0			GRAY SHALE	22.6	193.0
379.4	CARBONDALE	BANKSTON FORK	LIMESTONE	6.4	215.6
373.0	CARBONDALE		GRAY SHALE	1.6	222.0
371.4	CARBONDALE	BRERETON	LIMESTONE	2.1	223.6
369.3	CARBONDALE	ANNA	BLACK SHALE	2.8	225.7
366.5	CARBONDALE	HERRIN	COAL	5.2	228.5
361.4	CARBONDALE		UNDERCLAY	0.5	233.6
360.9	CARBONDALE		CORE LOSS	0.4	234.1
360.5	CARBONDALE		GRAY SHALE	2.5	234.5
358.0	CARBONDALE		LIMESTONE	7.0	237.0
351.0	CARBONDALE		GRAY SHALE	6.0	244.0

MAPID: 11900040000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 6 QUARTERS/FOOTAGES: SE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.919229 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.993649 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 199.2 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
426.1	MODESTO	PIASA	LIMESTONE	4.0	155.9
422.1	MODESTO		UNCLASSIFIED	5.0	159.9
417.1	CARBONDALE		UNCLASSIFIED	13.0	164.9
404.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.8	177.9
399.3	CARBONDALE	BRERETON	LIMESTONE	11.0	182.7
388.3	CARBONDALE	ANNA	BLACK SHALE	0.3	193.7
388.0	CARBONDALE	HERRIN	COAL	5.2	194.0

MAPID: 11900040000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 6 QUARTERS/FOOTAGES: SE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.919229 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.993649 DATE COLLECTED:

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 199.2 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
426.0	MODESTO	PIASA	LIMESTONE	4.0	156.0	
422.0	MODESTO		GRAY SHALE	15.0	160.0	
407.0	CARBONDALE	DANVILLE	COAL	1.5	175.0	
405.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.5	176.5	
404.0	CARBONDALE	BRERETON	LIMESTONE	15.8	178.0	
388.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	193.8	
388.0	CARBONDALE	HERRIN	COAL	5.2	194.0	

MAPID: 11900040000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 6 QUARTERS/FOOTAGES: SE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.919229 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.993649 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 202.0 LOG TYPE:

SOURCE: HUNT R W 00C6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
388.0	CARBONDALE	HERRIN	COAL	5.2	194.0	

MAPID: 11900040000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 6 QUARTERS/FOOTAGES: SE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.919229 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.993649 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 582.0 LOGGED (FT.): 202.0 LOG TYPE: Drillers Log

SOURCE: STANDARD OIL CO. C-6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
582.0			UNCONSOLIDATED	4.0	0.0	GRAVEL AND SURF
578.0			SANDY SHALE	41.0	4.0	
537.0			SANDSTONE	45.0	45.0	
492.0			SANDY SHALE	30.0	90.0	
462.0			CALCAREOUS SHALE	31.0	120.0	
431.0			SHALE	5.0	151.0	
426.0	MODESTO	PIASA	LIMESTONE	4.0	156.0	
422.0	MODESTO		GRAY SHALE	15.0	160.0	
407.0	CARBONDALE	DANVILLE	COAL	1.5	175.0	
405.5	CARBONDALE		CALCAREOUS SHALE	1.5	176.5	
404.0	CARBONDALE	BRERETON	LIMESTONE	15.8	178.0	
388.2	CARBONDALE	ANNA	DARK SHALE	0.3	193.8	
387.8	CARBONDALE	HERRIN	COAL	5.2	194.2	
382.7			UNDERCLAY	2.2	199.3	
380.5			CALCAREOUS SHALE	0.2	201.5	

MAPID: 11924206000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 6 QUARTERS/FOOTAGES: 12' N line, 1018' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.923391 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.998719 DATE COLLECTED: 9 / 28 / 1977

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 260.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-45 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
367.0	CARBONDALE	HERRIN	COAL	5.3	233.0	

MAPID: 11924206000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 7W    SECTION: 6    QUARTERS/FOOTAGES: 12' N line, 1018' W line

QUADRANGLE: PRAIRIETOWN    LONGITUDE: -89.923391    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.998719    DATE COLLECTED: 9 / 28 / 1977

SURFACE ELEVATION (FT.): 600.0    LOGGED (FT.): 260.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-45    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.0			UNCONSOLIDATED	25.0	0.0
575.0	BOND		GRAY SHALE	11.0	25.0
564.0	BOND	CARTHAGE	LIMESTONE	7.0	36.0
557.0	MODESTO		SANDY SHALE	63.0	43.0
494.0	MODESTO		GRAY SHALE	48.0	106.0
446.0	MODESTO		LIMESTONE	1.0	154.0
445.0	MODESTO		SANDY SHALE	41.0	155.0
404.0	MODESTO	PIASA	LIMESTONE	3.5	196.0
400.5	MODESTO		BLACK SHALE	1.5	199.5
399.0	MODESTO		GRAY SHALE	11.0	201.0
388.0	CARBONDALE	DANVILLE	COAL	1.0	212.0
387.0	CARBONDALE		GRAY SHALE	1.5	213.0
385.5	CARBONDALE		CALCAREOUS SHALE	2.5	214.5
383.0	CARBONDALE		GRAY SHALE	4.0	217.0
379.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	221.0
374.0	CARBONDALE		GRAY SHALE	3.0	226.0
371.0	CARBONDALE	BRERETON	SHALY LIMESTONE	4.0	229.0
367.0	CARBONDALE		GRAY SHALE	1.5	233.0
365.5	CARBONDALE	HERRIN	COAL	4.5	234.5
361.0	CARBONDALE		UNDERCLAY	3.0	239.0
358.0	CARBONDALE		LIMESTONE	4.0	242.0
354.0	CARBONDALE		GRAY SHALE	5.5	246.0
348.5	CARBONDALE		LIMESTONE	2.5	251.5
346.0	CARBONDALE		GRAY SHALE	6.0	254.0

MAPID: 11900041000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.923125 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.982017 DATE COLLECTED: 8 / 0 / 1917

SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 243.8 LOG TYPE: Drillers Log

SOURCE: HUNT R W & CO WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
392.0	MODESTO	PIASA	LIMESTONE	4.0	200.0
388.0	MODESTO		UNCLASSIFIED	4.8	204.0
383.2	CARBONDALE		UNCLASSIFIED	13.3	208.8
369.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	222.1
364.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	227.1
363.9	CARBONDALE	BRERETON	LIMESTONE	8.3	228.1
355.6	CARBONDALE	ANNA	BLACK SHALE	2.6	236.4
353.0	CARBONDALE	HERRIN	COAL	4.8	239.0

MAPID: 11900041000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.923125 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.982017 DATE COLLECTED:

SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 243.8 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
392.0	MODESTO	PIASA	LIMESTONE	4.0	200.0
388.0	MODESTO		GRAY SHALE	12.8	204.0
375.2	CARBONDALE	DANVILLE	COAL	2.5	216.8
372.7	CARBONDALE	LAWSON	GRAY SHALE	8.8	219.3
364.0	CARBONDALE	BRERETON	LIMESTONE	8.3	228.0
355.7	CARBONDALE	ANNA	DARK GRAY SHALE	2.6	236.3
353.0	CARBONDALE	HERRIN	COAL	4.8	239.0



MAPID: 11900041000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.923125 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.982017 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 591.9 LOGGED (FT.): 244.0 LOG TYPE:

SOURCE: HUNT R W 00C7 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
352.9	CARBONDALE	HERRIN	COAL	4.8	239.0	

MAPID: 11900041000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.923125 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.982017 DATE COLLECTED: 8 / 0 / 1917

SURFACE ELEVATION (FT.): 591.9 LOGGED (FT.): 244.0 LOG TYPE: Drillers Log

SOURCE: STANDARD OIL CO. C-7 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
591.9			CLAY	20.0	0.0	
571.9			SAND	10.0	20.0	
561.9			SAND	7.0	30.0	SD AND GRAVEL
554.9			LIMESTONE	3.0	37.0	
551.9			GRAY SHALE	4.0	40.0	
547.9			SANDSTONE	6.0	44.0	
541.9			SANDY SHALE	30.0	50.0	
511.9			CALCAREOUS SHALE	15.0	80.0	
496.9			GRAY SHALE	11.0	95.0	
485.9			SANDSTONE	44.0	106.0	
441.9			SANDY SHALE	16.0	150.0	
425.9			CALCAREOUS SHALE	9.0	166.0	
416.9			SANDSTONE	7.0	175.0	
409.9			GRAY SHALE	5.0	182.0	
404.9			SANDSTONE	3.0	187.0	
401.9			CALCAREOUS SHALE	6.0	190.0	
395.9			SHALE	4.0	196.0	
391.9	MODESTO	PIASA	LIMESTONE	4.0	200.0	
387.9	MODESTO		GRAY SHALE	12.8	204.0	
375.1	CARBONDALE	DANVILLE	COAL	2.5	216.8	
372.6	CARBONDALE		GRAY SHALE	8.8	219.3	
363.9	CARBONDALE	BRERETON	LIMESTONE	8.3	228.0	
355.6	CARBONDALE	ANNA	DARK SHALE	2.6	236.3	
353.1	CARBONDALE	HERRIN	COAL	4.8	238.8	
348.3			CALCAREOUS SHALE	0.4	243.6	

MAPID: 11900411000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.911549 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.980938 DATE COLLECTED:

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: WELL TYPE: Underground mine

COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
381.0	CARBONDALE	HERRIN	COAL	6.0	199.0	

MAPID: 11900411000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.911549 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.980938 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	6.0		
-	MODESTO		UNCLASSIFIED	5.0		
-	CARBONDALE		UNCLASSIFIED	13.5		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	13.0		
-	CARBONDALE	HERRIN	COAL	6.0		

MAPID: 11900765000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: 578' N line, 380' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.923142 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.990277 DATE COLLECTED: 12 / 0 / 1942

SURFACE ELEVATION (FT.): 605.0 LOGGED (FT.): 254.0 LOG TYPE: Electric Log

SOURCE: STOUT C E WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
399.0	MODESTO	PIASA	LIMESTONE	5.0	206.0
394.0	MODESTO		UNCLASSIFIED	4.0	211.0
390.0	CARBONDALE		UNCLASSIFIED	12.0	215.0
378.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	227.0
371.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	234.0
368.0	CARBONDALE		UNCLASSIFIED	2.0	237.0
366.0	CARBONDALE	BRERETON	LIMESTONE	7.0	239.0
359.0	CARBONDALE	ANNA	BLACK SHALE	4.0	246.0
355.0	CARBONDALE	HERRIN	COAL	4.0	250.0

MAPID: 11924034000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: 1300' N line, 1620' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.921224 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.988261 DATE COLLECTED: 10 / 3 / 1979

SURFACE ELEVATION (FT.): 604.0 LOGGED (FT.): 257.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-7-27C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
388.9	CARBONDALE	DANVILLE	COAL	1.4	215.1
368.2	CARBONDALE	HERRIN	COAL	5.5	235.8

MAPID: 11924034000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: 1300' N line, 1620' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.921224 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.988261 DATE COLLECTED: 10 / 3 / 1979

SURFACE ELEVATION (FT.): 604.0 LOGGED (FT.): 257.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-7-27C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
604.0			UNCONSOLIDATED	43.0	0.0
561.0			LIMESTONE	0.5	43.0
560.5			SHALE	3.5	43.5
557.0			SANDY SHALE	73.0	47.0
484.0			SANDY SHALE	50.0	120.0
434.0	MODESTO		SHALE	2.0	170.0
432.0	MODESTO		SHALE	5.0	172.0
427.0	MODESTO		SANDSTONE	14.0	177.0
413.0	MODESTO		GRAY SHALE	6.0	191.0
407.0	MODESTO	PIASA	LIMESTONE	4.5	197.0
402.5	MODESTO		GRAY SHALE	10.5	201.5
392.0	MODESTO		SHALE	1.9	212.0
390.1	MODESTO		SHALE	0.9	213.9
389.2	MODESTO		BLACK SHALE	0.3	214.8
388.9	CARBONDALE	DANVILLE	COAL	1.5	215.1
387.4	CARBONDALE		CALCAREOUS SHALE	2.5	216.6
384.9	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.7	219.1
380.2	CARBONDALE		SHALE	0.8	223.8
379.4	CARBONDALE	BRERETON	LIMESTONE	7.6	224.6
371.8	CARBONDALE		SHALE	1.9	232.2
370.0	CARBONDALE	ANNA	BLACK SHALE	1.9	234.0
368.1	CARBONDALE	HERRIN	COAL	5.5	235.9
362.7	CARBONDALE		CORE LOSS	0.7	241.3
362.0	CARBONDALE		GRAY SHALE	2.7	242.0
359.3	CARBONDALE		LIMESTONE	2.8	244.7
356.5	CARBONDALE		GRAY SHALE	0.3	247.5
356.3	CARBONDALE		LIMESTONE	1.2	247.7
355.1	CARBONDALE		GRAY SHALE	3.7	248.9
351.4	CARBONDALE		SHALY LIMESTONE	0.6	252.6
350.9	CARBONDALE		GRAY SHALE	2.9	253.1
348.0	CARBONDALE		CORE LOSS	1.0	256.0

MAPID: 11924207000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: 2090' S line, 1450' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.921852 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.983284 DATE COLLECTED: 9 / 29 / 1977

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 265.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-43 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
378.0	CARBONDALE	DANVILLE	COAL	1.2	222.0
358.0	CARBONDALE	HERRIN	COAL	6.0	242.0

MAPID: 11924207000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 7 QUARTERS/FOOTAGES: 2090' S line, 1450' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.921852 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.983284 DATE COLLECTED: 9 / 29 / 1977

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 265.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-43 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.0			UNCONSOLIDATED	45.0	0.0
555.0	BOND		GRAY SHALE	40.5	45.0
514.5	BOND	CARTHAGE	LIMESTONE	2.0	85.5
512.5	MODESTO		GRAY SHALE	13.5	87.5
499.0	MODESTO		SANDY SHALE	72.5	101.0
426.5	MODESTO		SHALE	3.5	173.5
423.0	MODESTO		BLACK SHALE	2.0	177.0
421.0	MODESTO		SANDY SHALE	25.0	179.0
396.0	MODESTO	PIASA	LIMESTONE	5.0	204.0
391.0	MODESTO		GRAY SHALE	14.0	209.0
377.0	CARBONDALE	DANVILLE	COAL	1.0	223.0
376.0	CARBONDALE		SHALE	7.0	224.0
369.0	CARBONDALE	BRERETON	SHALY LIMESTONE	9.0	231.0
360.0	CARBONDALE	ANNA	BLACK SHALE	3.0	240.0
357.0	CARBONDALE	HERRIN	COAL	5.0	243.0
352.0	CARBONDALE		UNDERCLAY	1.0	248.0
351.0	CARBONDALE		SHALY LIMESTONE	3.0	249.0
348.0	CARBONDALE		GRAY SHALE	2.0	252.0
346.0	CARBONDALE		LIMESTONE	3.0	254.0
343.0	CARBONDALE		SHALE	8.0	257.0

**MAPID:** 11900043000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 8    **QUARTERS/FOOTAGES:** NW SW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.904102    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.982632    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 570.8    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** KLONDIKE M    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
371.8	CARBONDALE	HERRIN	COAL	6.0	199.0	

**MAPID:** 11900043000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 8    **QUARTERS/FOOTAGES:** NW SW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.904102    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.982632    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 571.0    **LOGGED (FT.):** 205.0    **LOG TYPE:** Drillers Log  
**SOURCE:** NO COMPANY    **WELL TYPE:** Mine Shaft  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
372.0	CARBONDALE	HERRIN	COAL	6.0	199.0	

**MAPID:** 11900044000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE NW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.882057    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.988785    **DATE COLLECTED:** 0 / 0 / 1905  
**SURFACE ELEVATION (FT.):** 554.9    **LOGGED (FT.):** 182.0    **LOG TYPE:**  
**SOURCE:** SIMPSON D 0004    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.9	CARBONDALE	HERRIN	COAL	5.2	175.0	

MAPID: 11900044000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.882057 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.988785 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	2.7	
-	MODESTO		UNCLASSIFIED	4.7	
-	CARBONDALE		UNCLASSIFIED	14.2	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.6	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	10.0	
-	CARBONDALE	ANNA	BLACK SHALE	0.5	
-	CARBONDALE	HERRIN	COAL	5.2	

MAPID: 11900044000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: PRAIRIETOWN

LONGITUDE: -89.882057

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.988785

DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 554.9

LOGGED (FT.): 182.0

LOG TYPE: Drillers Log

SOURCE: D. SIMPSON 4

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
554.9			UNCONSOLIDATED	3.0	0.0	SOIL
551.9			CLAY	12.0	3.0	
539.9			SAND	10.0	15.0	
529.9			SANDY CLAY	41.0	25.0	
488.9			CLAY	7.0	66.0	
481.9			UNCONSOLIDATED	10.0	73.0	SD AND GRAVEL
471.9			CLAY	29.0	83.0	
442.9			UNCONSOLIDATED	10.0	112.0	SAND AND GRAVEL
432.9			CALCAREOUS SHALE	3.0	122.0	
429.9			CALCAREOUS SHALE	4.0	125.0	
425.9			CALCAREOUS SHALE	6.0	129.0	
419.9			LIMESTONE	2.7	135.0	
417.2			CALCAREOUS SHALE	0.3	137.7	
416.9			CALCAREOUS SHALE	11.3	138.0	
405.6			BLACK SHALE	1.8	149.3	BK SH W/ CO STREAKS
403.8			CALCAREOUS SHALE	5.4	151.1	
398.4			LIMESTONE	18.6	156.5	
379.8			SHALE	0.5	175.1	
379.3	CARBONDALE	HERRIN	COAL	0.3	175.6	
379.1	CARBONDALE	HERRIN	COAL	3.0	175.8	
376.1	CARBONDALE	HERRIN	ROCK	0.1	178.8	BLU BAND
376.0	CARBONDALE	HERRIN	COAL	1.8	178.9	
374.1			UNDERCLAY	1.3	180.8	

MAPID: 11900045000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 9 QUARTERS/FOOTAGES: 3300' S line, 950' E line

QUADRANGLE: WORDEN

LONGITUDE: -89.872774

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N

LATITUDE: 38.986008

DATE COLLECTED:

SURFACE ELEVATION (FT.): 575.4

LOGGED (FT.): 495.0

LOG TYPE:

SOURCE: MCGAUGHEY 0001

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
371.4	CARBONDALE	HERRIN	COAL	7.0	204.0	



**MAPID:** 11900045000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 3300' S line, 950' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.872774    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.986008    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 211.0    **LOG TYPE:** Drillers Log  
**SOURCE:** NO COMPANY    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
371.0	CARBONDALE	HERRIN	COAL	7.0	204.0	

**MAPID:** 11900046000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 3250' S line, 725' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.871985    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.985864    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 574.5    **LOGGED (FT.):** 410.0    **LOG TYPE:**  
**SOURCE:** MCGAUGHEY 0002    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
370.5	CARBONDALE	HERRIN	COAL	7.0	204.0	

**MAPID:** 11900046000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 3250' S line, 725' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.871985    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.985864    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 211.0    **LOG TYPE:** Drillers Log  
**SOURCE:** NO COMPANY    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
371.0	CARBONDALE	HERRIN	COAL	7.0	204.0	

MAPID: 11900911000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 9 QUARTERS/FOOTAGES: 870' S line, 330' W line of SE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.882363 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.979359 DATE COLLECTED: 6 / 0 / 1954

SURFACE ELEVATION (FT.): 567.0 LOGGED (FT.): 203.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
411.0	MODESTO	PIASA	LIMESTONE	4.0	156.0
407.0	MODESTO		UNCLASSIFIED	5.0	160.0
402.0	CARBONDALE		UNCLASSIFIED	14.0	165.0
388.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	179.0
381.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	186.0
378.0	CARBONDALE	BRERETON	LIMESTONE	10.0	189.0
368.0	CARBONDALE	ANNA	BLACK SHALE	1.0	199.0
367.0	CARBONDALE	HERRIN	COAL	3.0	200.0

MAPID: 11900855000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 10 QUARTERS/FOOTAGES: 400' S line, 330' E line of NW SE

QUADRANGLE: WORDEN LONGITUDE: -89.856777 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.981464 DATE COLLECTED: 5 / 0 / 1959

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: JENSEN CARL 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	4.5	
-	CARBONDALE		UNCLASSIFIED	12.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	
-	CARBONDALE	BRERETON	LIMESTONE	7.0	
-	CARBONDALE	HERRIN	COAL	6.0	

MAPID: 11900047000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: WORDEN LONGITUDE: -89.844905 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.988382 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 177.3 LOG TYPE: Drillers Log

SOURCE: SIMPSON D WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
378.7	MODESTO	PIASA	LIMESTONE	4.8	131.3
373.9	MODESTO		UNCLASSIFIED	5.2	136.1
368.7	CARBONDALE		UNCLASSIFIED	12.0	141.3
356.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	153.3
351.2	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	158.8
349.2	CARBONDALE	BRERETON	LIMESTONE	10.0	160.8
339.2	CARBONDALE	ANNA	BLACK SHALE	0.2	170.8
339.0	CARBONDALE	HERRIN	COAL	6.3	171.0

MAPID: 11900047000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: WORDEN LONGITUDE: -89.844905 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.988382 DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 178.3 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
378.0	MODESTO	PIASA	LIMESTONE	2.3	132.0
375.7	MODESTO		SHALE	16.8	134.3
358.8	CARBONDALE	DANVILLE	BONE COAL	0.8	151.2
358.0	CARBONDALE		CLAYSTONE	2.0	152.0
356.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	154.0
345.0	CARBONDALE	BRERETON	LIMESTONE	6.5	165.0
338.5	CARBONDALE	ANNA	BLACK SHALE	0.2	171.5
338.0	CARBONDALE	HERRIN	COAL	6.3	172.0

MAPID: 11900047000C    VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON    TWP/RNG: 6N 7W    SECTION: 11    QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: WORDEN    LONGITUDE: -89.844905    GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N    LATITUDE: 38.988382    DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 510.0    LOGGED (FT.): 179.0    LOG TYPE:

SOURCE: SIMPSON D 0001    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
339.0	CARBONDALE	HERRIN	COAL	6.3	171.0

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MAPID: 11900047000C    VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 7W    SECTION: 11    QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: WORDEN

LONGITUDE: -89.844905

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.988382

DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 510.0

LOGGED (FT.): 179.0

LOG TYPE: Drillers Log

SOURCE: D. SIMPSON    1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.0			UNCONSOLIDATED	9.0	0.0	
501.0			SAND	14.0	9.0	
487.0			GRAVEL	3.0	23.0	
484.0			CALCAREOUS SHALE	4.0	26.0	
480.0			SANDY SHALE	8.0	30.0	
472.0			SANDSTONE	2.0	38.0	
470.0			SANDY SHALE	26.0	40.0	
444.0			CALCAREOUS SHALE	26.0	66.0	
418.0			CALCAREOUS SHALE	7.6	92.0	
410.4			SHALE	0.4	99.6	
410.0			BLACK SHALE	0.5	100.0	
409.5			CALCAREOUS SHALE	14.5	100.5	
395.0			CALCAREOUS SHALE	11.5	115.0	
383.5			SHALE	5.5	126.5	
378.0	MODESTO	PIASA	LIMESTONE	2.3	132.0	
375.7	MODESTO		CALCAREOUS SHALE	2.5	134.3	
373.2	MODESTO		CALCAREOUS SHALE	11.2	136.8	
362.0	MODESTO		CALCAREOUS SHALE	3.2	148.0	
358.8	CARBONDALE	DANVILLE	COAL	0.8	151.2	
358.0	CARBONDALE		UNDERCLAY	2.0	152.0	
356.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	154.0	
345.0	CARBONDALE	BRERETON	LIMESTONE	6.5	165.0	
338.5	CARBONDALE	ANNA	SHALE	0.2	171.5	
338.3	CARBONDALE	HERRIN	COAL	4.9	171.7	
333.4	CARBONDALE	HERRIN	UNCLASSIFIED	0.1	176.6	SULPHUR BAND
333.3	CARBONDALE	HERRIN	COAL	0.4	176.7	
332.9	CARBONDALE	HERRIN	ROCK	0.1	177.1	BLU BAND
332.8	CARBONDALE	HERRIN	COAL	0.8	177.2	
332.0	CARBONDALE	HERRIN	PYRITE	0.2	178.0	
331.8			UNDERCLAY	0.8	178.2	

MAPID: 1192431000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 11 QUARTERS/FOOTAGES: 545' N line, 382' E line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.842782 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.98232 DATE COLLECTED:

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 525.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 30-9 WELL TYPE: Coal Test

COMMENT: LOC FROM PLUG AFFADVT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
344.2	CARBONDALE	HERRIN	COAL	7.0	227.8	

MAPID: 11900607000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 660' E line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.814481 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.977428 DATE COLLECTED: 4 / 0 / 1956

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE WELL TYPE: Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	4.0		
-	CARBONDALE		UNCLASSIFIED	11.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0		
-	CARBONDALE	BRERETON	LIMESTONE	7.0		
-	CARBONDALE	ANNA	BLACK SHALE	5.0		
-	CARBONDALE	HERRIN	COAL	5.0		

MAPID: 11900734000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 12 QUARTERS/FOOTAGES: 850' S line, 1500' E line

QUADRANGLE: WORDEN LONGITUDE: -89.817395

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.978859

DATE COLLECTED:

SURFACE ELEVATION (FT.): 584.0 LOGGED (FT.): 246.5

LOG TYPE: Survey Core Study

SOURCE: MOFFAT COAL CO. 4

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
382.0	MODESTO	PIASA	LIMESTONE	2.2	202.0
379.8	MODESTO		SHALE	19.1	204.2
360.7	CARBONDALE	DANVILLE	COAL	0.6	223.3
360.2	CARBONDALE		CLAYSTONE & SHALE	1.7	223.8
358.5	CARBONDALE		SILTSTONE	1.7	225.5
356.8	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	227.2
347.3	CARBONDALE	BRERETON	LIMESTONE	2.6	236.7
344.7	CARBONDALE	ANNA	BLACK SHALE	0.6	239.3
344.0	CARBONDALE	HERRIN	COAL	6.5	240.0

MAPID: 11900734000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 12 QUARTERS/FOOTAGES: 850' S line, 1500' E line

QUADRANGLE: WORDEN LONGITUDE: -89.817395

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.978859

DATE COLLECTED:

SURFACE ELEVATION (FT.): 584.0 LOGGED (FT.): 246.5

LOG TYPE: Drillers Log

SOURCE: MOFFAT COAL CO. 4

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
381.7	MODESTO	PIASA	LIMESTONE	4.9	202.3
376.8	MODESTO		UNCLASSIFIED	6.7	207.2
370.1	CARBONDALE		UNCLASSIFIED	13.4	213.9
356.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	227.3
352.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	231.3
350.9	CARBONDALE	BRERETON	LIMESTONE	6.3	233.1
344.6	CARBONDALE	ANNA	BLACK SHALE	0.6	239.4
344.0	CARBONDALE	HERRIN	COAL	6.5	240.0

**MAPID:** 11900734000C    **VERSION:** 3    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 12    **QUARTERS/FOOTAGES:** 850' S line, 1500' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.817395    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.978859    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 584.0    **LOGGED (FT.):** 249.0    **LOG TYPE:**  
**SOURCE:** MOFFAT COAL CO.    4    **WELL TYPE:** Coal Test  
**COMMENT:** CORE 47'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
360.9	CARBONDALE	DANVILLE	COAL	0.6	223.1
344.3	CARBONDALE	HERRIN	COAL	6.5	239.7

**MAPID:** 11900912000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 12    **QUARTERS/FOOTAGES:** 382' S line, 546' W line of SE SW SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.827582    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.977547    **DATE COLLECTED:** 6 / 0 / 1953  
**SURFACE ELEVATION (FT.):** 590.0    **LOGGED (FT.):** 260.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHULL, O. R.    **WELL TYPE:** Dry Hole  
**COMMENT:** LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
375.0	MODESTO	PIASA	LIMESTONE	6.0	215.0
369.0	MODESTO		UNCLASSIFIED	4.0	221.0
365.0	CARBONDALE		UNCLASSIFIED	11.0	225.0
354.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	236.0
348.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	242.0
345.0	CARBONDALE	BRERETON	LIMESTONE	10.0	245.0
335.0	CARBONDALE	HERRIN	COAL	5.0	255.0

**MAPID:** 11900913000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 12    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.813111    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.982763    **DATE COLLECTED:** 3 / 0 / 1950  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** PENNINGTON, ETAL    **WELL TYPE:** Dry Hole  
**COMMENT:** NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	MODESTO	PIASA	LIMESTONE	7.0	
-	MODESTO		UNCLASSIFIED	4.0	
-	CARBONDALE		UNCLASSIFIED	11.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	BRERETON	LIMESTONE	8.0	
-	CARBONDALE	HERRIN	COAL	6.0	



MAPID: 11900914000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 12 QUARTERS/FOOTAGES: 1781' S line, 1' W line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.821962 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.981419 DATE COLLECTED: 1 / 0 / 1950

SURFACE ELEVATION (FT.): 594.0 LOGGED (FT.): 249.0 LOG TYPE: Electric Log

SOURCE: UPDIKE ROY WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
395.0	MODESTO	PIASA	LIMESTONE	9.0	199.0
386.0	MODESTO		UNCLASSIFIED	5.0	208.0
381.0	CARBONDALE		UNCLASSIFIED	15.0	213.0
366.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	228.0
360.0	CARBONDALE	BRERETON	LIMESTONE	10.0	234.0
350.0	CARBONDALE	HERRIN	COAL	5.0	244.0

MAPID: 11901191000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE NE

QUADRANGLE: WORDEN LONGITUDE: -89.815653 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.98635 DATE COLLECTED: 5 / 0 / 1965

SURFACE ELEVATION (FT.): 601.0 LOGGED (FT.): 257.0 LOG TYPE: Electric Log

SOURCE: WILSON, CARLINE WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
390.0	MODESTO	PIASA	LIMESTONE	4.0	211.0
386.0	MODESTO		UNCLASSIFIED	6.0	215.0
380.0	CARBONDALE		UNCLASSIFIED	16.0	221.0
364.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	237.0
361.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	240.0
358.0	CARBONDALE	BRERETON	LIMESTONE	6.0	243.0
352.0	CARBONDALE	ANNA	BLACK SHALE	2.0	249.0
350.0	CARBONDALE	HERRIN	COAL	6.0	251.0

MAPID: 11901226000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE

QUADRANGLE: WORDEN LONGITUDE: -89.820668 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.986367 DATE COLLECTED: 10 / 0 / 1966

SURFACE ELEVATION (FT.): 595.0 LOGGED (FT.): 246.0 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	OVERBURDEN COMMENT
391.0	MODESTO	PIASA	LIMESTONE	4.0	204.0
387.0	MODESTO		UNCLASSIFIED	4.5	208.0
382.5	CARBONDALE		UNCLASSIFIED	12.5	212.5
370.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	225.0
365.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	230.0
363.0	CARBONDALE	BRERETON	LIMESTONE	6.0	232.0
357.0	CARBONDALE	ANNA	BLACK SHALE	2.0	238.0
355.0	CARBONDALE	HERRIN	COAL	6.0	240.0

MAPID: 11900579000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 13 QUARTERS/FOOTAGES: 1020' N line, 330' E line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.813753 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.966365 DATE COLLECTED: 10 / 0 / 1955

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 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	4.0	
-	MODESTO		UNCLASSIFIED	6.0	
-	CARBONDALE		UNCLASSIFIED	18.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	5.0	
-	CARBONDALE	HERRIN	COAL	6.0	

MAPID: 11900915000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 13 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.826091 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.966442 DATE COLLECTED: 8 / 0 / 1948

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 254.0 LOG TYPE: Electric Log

SOURCE: TURNER, ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.0	MODESTO		UNCLASSIFIED	3.5	209.0
376.5	CARBONDALE		UNCLASSIFIED	9.5	212.5
367.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	222.0
362.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	227.0
360.0	CARBONDALE	BRERETON	LIMESTONE	5.0	229.0
355.0	CARBONDALE	ENERGY	UNCLASSIFIED	12.0	234.0
343.0	CARBONDALE	HERRIN	COAL	8.0	246.0

MAPID: 11900575000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 14 QUARTERS/FOOTAGES: 947' N line, 860' E line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.835191 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.966604 DATE COLLECTED: 9 / 0 / 1955

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 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	5.0	
-	CARBONDALE		UNCLASSIFIED	14.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	8.0	
-	CARBONDALE	HERRIN	COAL	2.0	

MAPID: 11900733000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 14 QUARTERS/FOOTAGES: 1590' S line, 1100' E line

QUADRANGLE: WORDEN

LONGITUDE: -89.836042

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.966325

DATE COLLECTED:

SURFACE ELEVATION (FT.): 575.0

LOGGED (FT.): 245.6

LOG TYPE: Survey Core Study

SOURCE: MOFFAT COAL CO. 3

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
377.0	MODESTO	PIASA	LIMESTONE	3.8	198.0
373.2	MODESTO		SHALE	13.9	201.8
359.2	CARBONDALE	DANVILLE	COAL	0.9	215.8
358.3	CARBONDALE		CLAYSTONE	4.1	216.7
354.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	220.8
349.7	CARBONDALE	LAWSON	SILTY SHALE	1.8	225.3
347.9	CARBONDALE	BRERETON	LIMESTONE	6.0	227.1
341.9	CARBONDALE	ANNA	GRAY SHALE	1.3	233.1
335.0	CARBONDALE	HERRIN	COAL	5.6	240.0

MAPID: 11900733000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 14 QUARTERS/FOOTAGES: 1590' S line, 1100' E line

QUADRANGLE: WORDEN

LONGITUDE: -89.836042

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.966325

DATE COLLECTED:

SURFACE ELEVATION (FT.): 575.0

LOGGED (FT.): 245.6

LOG TYPE: Drillers Log

SOURCE: MOFFAT COAL CO. 3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
373.8	MODESTO	PIASA	LIMESTONE	5.8	201.2
368.0	MODESTO		UNCLASSIFIED	5.3	207.0
362.7	CARBONDALE		UNCLASSIFIED	14.1	212.3
348.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	226.4
344.1	CARBONDALE	ANVIL ROCK	SANDSTONE	1.8	230.9
342.3	CARBONDALE	BRERETON	LIMESTONE	6.8	232.7
335.5	CARBONDALE	ANNA	BLACK SHALE	0.5	239.5
335.0	CARBONDALE	HERRIN	COAL	5.6	240.0

MAPID: 11900787000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 14 QUARTERS/FOOTAGES: 330' S line, 450' E line

QUADRANGLE: WORDEN LONGITUDE: -89.833794 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.96282 DATE COLLECTED: 6 / 0 / 1957

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: DICKINSON 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	3.0	
-	MODESTO		UNCLASSIFIED	3.0	
-	CARBONDALE		UNCLASSIFIED	9.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	
-	CARBONDALE	BRERETON	LIMESTONE	9.5	
-	CARBONDALE	ANNA	BLACK SHALE	3.5	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11900837000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 14 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: WORDEN LONGITUDE: -89.842705 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.970209 DATE COLLECTED: 11 / 0 / 1958

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: JENSEN CARL 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	4.5	
-	CARBONDALE		UNCLASSIFIED	12.5	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	
-	CARBONDALE	BRERETON	LIMESTONE	6.5	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11900916000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 20' E line of SE

QUADRANGLE: WORDEN LONGITUDE: -89.832197 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.968277 DATE COLLECTED: 12 / 0 / 1948

SURFACE ELEVATION (FT.): 583.0 LOGGED (FT.): 250.0 LOG TYPE: Electric Log

SOURCE: GERHARDT J W WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
381.0	MODESTO	PIASA	LIMESTONE	3.0	202.0
378.0	MODESTO		UNCLASSIFIED	6.0	205.0
372.0	CARBONDALE		UNCLASSIFIED	14.0	211.0
358.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	225.0
353.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	230.0
351.0	CARBONDALE	BRERETON	LIMESTONE	8.0	232.0
343.0	CARBONDALE	ANNA	BLACK SHALE	3.0	240.0
340.0	CARBONDALE	HERRIN	COAL	7.0	243.0

MAPID: 11900048000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 15 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.856876 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.975818 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 165.9 LOG TYPE: Drillers Log

SOURCE: SIMPSON D WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
389.7	MODESTO	PIASA	LIMESTONE	4.8	120.3
384.9	MODESTO		UNCLASSIFIED	5.6	125.1
379.3	CARBONDALE		UNCLASSIFIED	13.2	130.7
366.1	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.8	143.9
361.3	CARBONDALE	BRERETON	LIMESTONE	7.0	148.7
354.3	CARBONDALE	ANNA	BLACK SHALE	3.3	155.7
351.0	CARBONDALE	HERRIN	COAL	6.9	159.0

MAPID: 11900048000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 15 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.856876 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.975818 DATE COLLECTED:

SURFACE ELEVATION (FT.): 495.0 LOGGED (FT.): 150.9 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
389.0	MODESTO	PIASA	LIMESTONE	4.8	106.0
384.2	MODESTO		GRAY SHALE	14.6	110.8
369.7	CARBONDALE	DANVILLE	COAL	0.8	125.3
368.9	CARBONDALE		CLAYSTONE	3.4	126.1
365.5	CARBONDALE	BRERETON	LIMESTONE	11.8	129.5
353.7	CARBONDALE	ANNA	BLACK SHALE	3.3	141.3
351.0	CARBONDALE	HERRIN	COAL	6.9	144.0

MAPID: 11900048000C VERSION: 3

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 15 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.856876 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.975818 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 495.0 LOGGED (FT.): 152.0 LOG TYPE:

SOURCE: SIMPSON D 0002 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
351.0	CARBONDALE	HERRIN	COAL	6.9	144.0

MAPID: 11900048000C VERSION: 4

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 15 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WORDEN LONGITUDE: -89.856876 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.975818 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 153.0 LOG TYPE: Drillers Log

SOURCE: SULLIVAN MCH CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
510.0			UNCONSOLIDATED	2.0	0.0
508.0			UNDERCLAY	10.0	2.0
498.0			SANDSTONE	36.0	12.0
462.0			SANDSTONE	17.3	48.0
444.7			SANDY SHALE	6.4	65.3
438.3			UNDERCLAY	5.3	71.7
433.0			SANDSTONE	14.0	77.0
419.0			CALCAREOUS SHALE	11.0	91.0
408.0			SHALE	1.0	102.0
407.0			CALCAREOUS SHALE	2.5	103.0
404.5	MODESTO	PIASA	LIMESTONE	4.8	105.5
399.7	MODESTO		CALCAREOUS SHALE	12.8	110.3
387.0	MODESTO		CALCAREOUS SHALE	1.8	123.0
385.2	CARBONDALE	DANVILLE	COAL	0.8	124.8
384.4	CARBONDALE		UNDERCLAY	3.4	125.6
381.0	CARBONDALE		LIMESTONE	10.0	129.0
371.0	CARBONDALE	BRERETON	LIMESTONE	1.8	139.0
369.2	CARBONDALE		CALCAREOUS SHALE	2.3	140.8
367.0	CARBONDALE	ANNA	BLACK SHALE	1.1	143.0
365.9	CARBONDALE	HERRIN	COAL	5.6	144.1
360.3	CARBONDALE	HERRIN	CALCAREOUS SHALE	0.1	149.7
360.2	CARBONDALE	HERRIN	COAL	1.3	149.8
359.0			UNDERCLAY	2.0	151.0

MAPID: 11900050000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 16 QUARTERS/FOOTAGES: 0' N line, 660' E line of NE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.881385 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.969705 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 533.1 LOGGED (FT.): 171.0 LOG TYPE:

SOURCE: SIMPSON D 0003 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
369.1	CARBONDALE	HERRIN	COAL	7.3	164.0



MAPID: 11900050000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 16 QUARTERS/FOOTAGES: 0' N line, 660' E line of NE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.881385 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.969705 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 533.0 LOGGED (FT.): 171.3 LOG TYPE: Drillers Log

SOURCE: SIMPSON D WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
408.8	MODESTO	PIASA	LIMESTONE	3.3	124.2
405.5	MODESTO		UNCLASSIFIED	4.6	127.5
400.9	CARBONDALE		UNCLASSIFIED	11.9	132.1
389.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	144.0
383.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	150.0
381.0	CARBONDALE	BRERETON	LIMESTONE	9.3	152.0
371.7	CARBONDALE	ANNA	BLACK SHALE	2.7	161.3
369.0	CARBONDALE	HERRIN	COAL	7.3	164.0

MAPID: 11900050000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 16 QUARTERS/FOOTAGES: 0' N line, 660' E line of NE SW

QUADRANGLE: PRAIRIETOWN

LONGITUDE: -89.881385

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.969705

DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 533.1

LOGGED (FT.): 171.0

LOG TYPE: Drillers Log

SOURCE: D. SIMPSON 3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
533.1			UNCONSOLIDATED	8.0	0.0	
525.1			CLAY	12.0	8.0	
513.1			SAND	5.0	20.0	SD AND GRAVEL
508.1			CLAY	30.0	25.0	
478.1			SAND	4.0	55.0	
474.1			SANDY CLAY	26.0	59.0	
448.1			SAND	10.0	85.0	
438.1			CALCAREOUS SHALE	6.8	95.0	
431.3			COAL	0.5	101.8	
430.8			UNDERCLAY	2.7	102.3	
428.1			UNDERCLAY	9.0	105.0	
419.1			CALCAREOUS SHALE	4.0	114.0	
415.1			CALCAREOUS SHALE	2.0	118.0	
413.1			SHALE	2.0	120.0	
411.1			SHALE	2.8	122.0	
408.3	MODESTO	PIASA	LIMESTONE	3.3	124.8	
405.1	MODESTO		CALCAREOUS SHALE	9.0	128.0	
396.1	MODESTO		CALCAREOUS SHALE	2.6	137.0	
393.5	CARBONDALE	DANVILLE	COAL	0.3	139.6	
393.2	CARBONDALE		UNDERCLAY	0.1	139.9	
393.1	CARBONDALE		CALCAREOUS SHALE	4.5	140.0	
388.6	CARBONDALE	BANKSTON FORK	LIMESTONE	13.5	144.5	
375.1	CARBONDALE	BRERETON	LIMESTONE	3.8	158.0	
371.3	CARBONDALE	ANNA	SHALE	0.2	161.8	
371.1	CARBONDALE	ANNA	BLACK SHALE	2.0	162.0	
369.1	CARBONDALE	ANNA	GRAY SHALE	0.5	164.0	
368.6	CARBONDALE	HERRIN	COAL	0.2	164.5	
368.4	CARBONDALE	HERRIN	COAL	5.8	164.7	
364.7	CARBONDALE	HERRIN	UNCLASSIFIED	0.1	168.4	THIS IS DEPTH RECORDED IN LOG!
364.6	CARBONDALE	HERRIN	COAL	1.3	168.5	
363.3			UNDERCLAY	1.3	169.8	

MAPID: 11901048000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 16 QUARTERS/FOOTAGES: 355' N line, 350' W line of SE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.882566 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.96511 DATE COLLECTED: 11 / 0 / 1961

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 180.0 LOG TYPE: Electric Log

SOURCE: WEDER HERBERT WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
401.0	MODESTO	PIASA	LIMESTONE	6.0	139.0
395.0	MODESTO		UNCLASSIFIED	4.0	145.0
391.0	CARBONDALE		UNCLASSIFIED	11.0	149.0
380.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	160.0
376.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	164.0
374.0	CARBONDALE	BRERETON	LIMESTONE	6.0	166.0
368.0	CARBONDALE	ANNA	BLACK SHALE	3.0	172.0
365.0	CARBONDALE	HERRIN	COAL	5.0	175.0

MAPID: 11900051000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 18 QUARTERS/FOOTAGES: 4500' S line, 575' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.908429 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.975403 DATE COLLECTED:

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 540.0 LOG TYPE:

SOURCE: SHERMAN 1 WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
355.0	CARBONDALE	HERRIN	COAL	6.0	220.0

MAPID: 11900051000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 18 QUARTERS/FOOTAGES: 4500' S line, 575' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.908429 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.975403 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 226.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
405.0	MODESTO	PIASA	LIMESTONE	3.0	170.0
402.0	MODESTO		UNCLASSIFIED	6.0	173.0
396.0	CARBONDALE		UNCLASSIFIED	18.0	179.0
378.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	197.0
372.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	203.0
370.0	CARBONDALE	BRERETON	LIMESTONE	15.0	205.0
355.0	CARBONDALE	HERRIN	COAL	6.0	220.0

MAPID: 11900256000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 18 QUARTERS/FOOTAGES: 2150' S line, 300' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.90738 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.968919 DATE COLLECTED:

SURFACE ELEVATION (FT.): 576.7 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: PRTOWN CC WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
375.7	CARBONDALE	HERRIN	COAL	6.3	201.0

MAPID: 11900256000C    VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 6N 7W    SECTION: 18    QUARTERS/FOOTAGES: 2150' S line, 300' E line

QUADRANGLE: PRAIRIETOWN    LONGITUDE: -89.90738    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.968919    DATE COLLECTED: 1 / 0 / 1947

SURFACE ELEVATION (FT.):    LOGGED (FT.): 0.0    LOG TYPE: Drillers Log

SOURCE: NO COMPANY    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	6.0	
-	CARBONDALE		UNCLASSIFIED	14.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	15.0	
-	CARBONDALE	ANNA	BLACK SHALE	2.0	
-	CARBONDALE	HERRIN	COAL	6.5	

MAPID: 11924002000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 7W    SECTION: 18    QUARTERS/FOOTAGES: 792' N line, 1560' W line

QUADRANGLE: PRAIRIETOWN    LONGITUDE: -89.921497    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.975323    DATE COLLECTED: 5 / 9 / 1979

SURFACE ELEVATION (FT.): 585.0    LOGGED (FT.): 250.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-18-23    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
585.0			UNCONSOLIDATED	51.0	0.0	
534.0	MODESTO		GRAY SHALE	107.5	51.0	
426.5	MODESTO		LIMESTONE	0.5	158.5	
426.0	MODESTO		GRAY SHALE	28.0	159.0	
398.0	MODESTO		SHALE	2.0	187.0	
396.0	MODESTO		GRAY SHALE	2.0	189.0	
394.0	MODESTO	PIASA	LIMESTONE	4.0	191.0	
390.0	MODESTO		GRAY SHALE	14.0	195.0	
376.0	CARBONDALE	DANVILLE	COAL	2.0	209.0	
374.0	CARBONDALE		GRAY SHALE	3.0	211.0	
371.0	CARBONDALE	BRERETON	LIMESTONE	10.0	214.0	
361.0	CARBONDALE		GRAY SHALE	2.0	224.0	
359.0	CARBONDALE	ANNA	BLACK SHALE	1.9	226.0	
357.1	CARBONDALE	HERRIN	COAL	5.7	227.9	
351.5	CARBONDALE		GRAY SHALE	3.5	233.5	
348.0	CARBONDALE		LIMESTONE	2.0	237.0	
346.0	CARBONDALE		CALCAREOUS SHALE	4.0	239.0	
342.0	CARBONDALE		GRAY SHALE	5.0	243.0	
337.0	CARBONDALE		LIMESTONE	1.0	248.0	
336.0	CARBONDALE		GRAY SHALE	1.0	249.0	

MAPID: 11900565000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 19 QUARTERS/FOOTAGES: 530' S line, 110' E line of SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.92243 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.94972 DATE COLLECTED: 7 / 0 / 1955

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: KNOCHE WILFRED L 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	10.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	
-	CARBONDALE	BRERETON	LIMESTONE	10.0	
-	CARBONDALE	ANNA	BLACK SHALE	4.0	
-	CARBONDALE	HERRIN	COAL	5.0	

MAPID: 11902745000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 1980' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.920182 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.949165 DATE COLLECTED:

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 174.5 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 12750-C WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
418.0	MODESTO	PIASA	LIMESTONE	3.6	132.0
414.4	MODESTO		GRAY SHALE	13.6	135.6
400.8	CARBONDALE	DANVILLE	COAL	0.5	149.2
400.3	CARBONDALE	LAWSON	GRAY SHALE	2.7	149.7
397.6	CARBONDALE	BRERETON	LIMESTONE	13.4	152.4
384.2	CARBONDALE	ANNA	DARK GRAY SHALE	3.6	165.8
381.0	CARBONDALE	HERRIN	COAL	5.5	169.0

MAPID: 11924035000C    VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 7W    SECTION: 19    QUARTERS/FOOTAGES: 1060' N line, 1615' W line

QUADRANGLE: PRAIRIETOWN    LONGITUDE: -89.921356    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.960013    DATE COLLECTED: 10 / 25 / 1979

SURFACE ELEVATION (FT.): 570.0    LOGGED (FT.): 225.0    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-19-56C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.0			UNCONSOLIDATED	50.0	0.0	
520.0	MODESTO		SANDY SHALE	44.0	50.0	
476.0	MODESTO		GRAY SHALE	52.0	94.0	
424.0	MODESTO		SANDY SHALE	11.0	146.0	
413.0	MODESTO		SHALE	5.5	157.0	
407.5	MODESTO	PIASA	LIMESTONE	4.5	162.5	
403.0	MODESTO		GRAY SHALE	14.0	167.0	
389.0	CARBONDALE	DANVILLE	COAL	1.5	181.0	
387.5	CARBONDALE		GRAY SHALE	4.0	182.5	
383.5	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	3.7	186.5	
379.8	CARBONDALE		GRAY SHALE	1.2	190.2	
378.6	CARBONDALE	BRERETON	SHALY LIMESTONE	10.5	191.4	
368.1	CARBONDALE	ANNA	BLACK SHALE	1.5	201.9	
366.6	CARBONDALE	HERRIN	COAL	5.7	203.4	
360.9	CARBONDALE		SHALE	1.4	209.1	
359.5	CARBONDALE		LIMESTONE	8.5	210.5	
351.0	CARBONDALE		GRAY SHALE	6.0	219.0	



MAPID: 11924208000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 19 QUARTERS/FOOTAGES: 2350' S line, 1375' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.922262 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.954745 DATE COLLECTED: 10 / 3 / 1977

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 210.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-6 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
565.0			UNCONSOLIDATED	52.0	0.0
513.0	MODESTO		GRAY SHALE	68.0	52.0
445.0	MODESTO		SHALE	5.0	120.0
440.0	MODESTO		GRAY SHALE	5.0	125.0
435.0	MODESTO		SANDSTONE	4.5	130.0
430.5	MODESTO		SANDY SHALE	13.5	134.5
417.0	MODESTO	PIASA	LIMESTONE	4.0	148.0
413.0	MODESTO		GRAY SHALE	13.0	152.0
400.0	CARBONDALE	DANVILLE	COAL	2.0	165.0
398.0	CARBONDALE		GRAY SHALE	5.0	167.0
393.0	CARBONDALE	BRERETON	SHALY LIMESTONE	8.0	172.0
385.0	CARBONDALE		SHALE	1.9	180.0
383.1	CARBONDALE	HERRIN	COAL	6.3	181.9
376.8	CARBONDALE		UNDERCLAY	1.4	188.2
375.5	CARBONDALE		CORE LOSS	0.5	189.5
375.0	CARBONDALE		GRAY SHALE	5.0	190.0
370.0	CARBONDALE		LIMESTONE	3.0	195.0
367.0	CARBONDALE		GRAY SHALE	5.0	198.0
362.0	CARBONDALE		LIMESTONE	0.8	203.0
361.2	CARBONDALE		GRAY SHALE	2.2	203.8
359.0	CARBONDALE		LIMESTONE	2.0	206.0
357.0	CARBONDALE		GRAY SHALE	2.0	208.0

MAPID: 11924209000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 19 QUARTERS/FOOTAGES: 795' S line, 625' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.908816 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.950431 DATE COLLECTED: 9 / 30 / 1979

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 220.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-42 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
550.0			UNCONSOLIDATED	128.0	0.0	
422.0	MODESTO		GRAY SHALE	12.5	128.0	
409.5	MODESTO		SHALE	5.5	140.5	
404.0	MODESTO	PIASA	LIMESTONE	4.5	146.0	
399.5	MODESTO		GRAY SHALE	11.5	150.5	
388.0	CARBONDALE	DANVILLE	COAL	1.5	162.0	
386.5	CARBONDALE		GRAY SHALE	9.5	163.5	
377.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	5.0	173.0	UNCERTAIN CORRELATION
372.0	CARBONDALE	BRERETON	LIMESTONE	3.0	178.0	
369.0	CARBONDALE	ANNA	BLACK SHALE	2.5	181.0	
366.5	CARBONDALE	HERRIN	COAL	7.0	183.5	
359.5	CARBONDALE		UNDERCLAY	3.5	190.5	
356.0	CARBONDALE		SHALY LIMESTONE	3.0	194.0	
353.0	CARBONDALE		GRAY SHALE	1.0	197.0	
352.0	CARBONDALE	ST. DAVID	LIMESTONE	1.0	198.0	
351.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.0	199.0	
350.0	CARBONDALE		GRAY SHALE	5.0	200.0	
345.0	CARBONDALE		LIMESTONE	3.0	205.0	
342.0	CARBONDALE		SANDY SHALE	12.0	208.0	

MAPID: 11900687000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 20 QUARTERS/FOOTAGES: SE NW SE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.891242 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.957641 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 182.1 LOG TYPE: Survey Core Study

SOURCE: MOFFAT COAL CO. 2 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
408.0	MODESTO	PIASA	LIMESTONE	3.3	135.0
404.7	MODESTO		CALCAREOUS SHALE	1.8	138.3
402.8	CARBONDALE	DANVILLE	COAL	1.0	140.2
401.9	CARBONDALE		CLAYSTONE	0.6	141.1
401.3	CARBONDALE		CLAYSTONE & SHALE	2.3	141.7
398.9	CARBONDALE	BANKSTON FORK	LIMESTONE	10.6	144.1
388.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	154.7
386.3	CARBONDALE	BRERETON	LIMESTONE	7.4	156.7
378.9	CARBONDALE	ANNA	GRAY SHALE	0.6	164.1
366.0	CARBONDALE	HERRIN	COAL	5.1	177.0

MAPID: 11900687000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 20 QUARTERS/FOOTAGES: SE NW SE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.891242 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.957641 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 182.1 LOG TYPE: Drillers Log

SOURCE: MOFFAT COAL CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
406.8	MODESTO	PIASA	LIMESTONE	3.3	136.2
403.5	MODESTO		UNCLASSIFIED	4.5	139.5
399.0	CARBONDALE		UNCLASSIFIED	10.2	144.0
388.8	CARBONDALE	BANKSTON FORK	LIMESTONE	10.6	154.2
378.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.7	164.8
375.5	CARBONDALE		SHALE	0.6	167.5
374.9	CARBONDALE	BRERETON	LIMESTONE	8.3	168.1
366.6	CARBONDALE	ANNA	BLACK SHALE	0.6	176.4
366.0	CARBONDALE	HERRIN	COAL	5.1	177.0

MAPID: 11900917000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 21 QUARTERS/FOOTAGES: 575' N line, 1460' W line of SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.883159 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.953715 DATE COLLECTED: 3 / 0 / 1950

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 192.0 LOG TYPE: Electric Log

SOURCE: UPDIKE ROY WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
398.0	MODESTO	PIASA	LIMESTONE	4.0	155.0
394.0	MODESTO		UNCLASSIFIED	5.0	159.0
389.0	CARBONDALE		UNCLASSIFIED	13.0	164.0
376.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	177.0
373.0	CARBONDALE	BRERETON	LIMESTONE	4.0	180.0
369.0	CARBONDALE	ANNA	BLACK SHALE	2.0	184.0
367.0	CARBONDALE	HERRIN	COAL	6.0	186.0

MAPID: 11900661000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 22 QUARTERS/FOOTAGES: NW SW NE

QUADRANGLE: WORDEN LONGITUDE: -89.859094 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.957701 DATE COLLECTED:

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 228.8 LOG TYPE: Survey Core Study

SOURCE: MOFFAT COAL CO. 1 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
360.0	MODESTO	PIASA	LIMESTONE	4.8	184.0
355.2	MODESTO		SHALE	11.7	188.8
343.5	CARBONDALE	DANVILLE	COAL	0.5	200.5
343.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.6	201.0
338.4	CARBONDALE	LAWSON	GRAY SHALE	0.6	205.6
337.8	CARBONDALE	BRERETON	LIMESTONE	7.3	206.2
330.5	CARBONDALE	ANNA	BLACK SHALE	3.4	213.5
322.0	CARBONDALE	HERRIN	COAL	6.8	222.0

MAPID: 11900661000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON

TWP/RNG: 6N 7W

SECTION: 22

QUARTERS/FOOTAGES: NW SW NE

QUADRANGLE: WORDEN

LONGITUDE: -89.859094

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.957701

DATE COLLECTED:

SURFACE ELEVATION (FT.): 536.2

LOGGED (FT.): 0.0

LOG TYPE: Drillers Log

SOURCE: MOFFAT COAL CO. 1

WELL TYPE: Coal Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	4.8		
-	MODESTO		UNCLASSIFIED	1.7		
-	CARBONDALE	DANVILLE	COAL	0.2		
-	CARBONDALE		UNCLASSIFIED	45.4		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	4.6		
-	CARBONDALE	ANVIL ROCK	SANDSTONE	0.6		
-	CARBONDALE	BRERETON	LIMESTONE	7.3		
-	CARBONDALE	ANNA	BLACK SHALE	3.7		
-	CARBONDALE	HERRIN	COAL	6.8		ELEVATION OF HERRIN = 322

MAPID: 11900180000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON

TWP/RNG: 6N 7W

SECTION: 24

QUARTERS/FOOTAGES: 1600' N line, 2105' E line

QUADRANGLE: WORDEN

LONGITUDE: -89.820357

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N

LATITUDE: 38.957441

DATE COLLECTED:

SURFACE ELEVATION (FT.): 589.1

LOGGED (FT.): 0.0

LOG TYPE:

SOURCE: INTRST CMC

WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
319.1	CARBONDALE	HERRIN	COAL	7.0	270.0	

MAPID: 11900180000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 24 QUARTERS/FOOTAGES: 1600' N line, 2105' E line

QUADRANGLE: WORDEN LONGITUDE: -89.820357 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.957441 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 589.0 LOGGED (FT.): 282.5 LOG TYPE: Drillers Log

SOURCE: INTERL COAL & MNG WELL TYPE: Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
348.0	MODESTO	PIASA	LIMESTONE	3.5	241.0
344.5	MODESTO		UNCLASSIFIED	4.5	244.5
340.0	CARBONDALE		UNCLASSIFIED	11.5	249.0
328.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	260.5
325.5	CARBONDALE	BRERETON	LIMESTONE	4.0	263.5
321.5	CARBONDALE	ENERGY	UNCLASSIFIED	7.5	267.5
314.0	CARBONDALE	HERRIN	COAL	7.5	275.0

MAPID: 11900570000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 24 QUARTERS/FOOTAGES: 363' S line, 535' E line of SW NW

QUADRANGLE: WORDEN LONGITUDE: -89.829372 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.95563 DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 265.0 LOG TYPE: Electric Log

SOURCE: SHULL, O. R. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
360.0	MODESTO	PIASA	LIMESTONE	5.0	220.0
355.0	MODESTO		UNCLASSIFIED	5.0	225.0
350.0	CARBONDALE		UNCLASSIFIED	15.0	230.0
335.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	245.0
329.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	251.0
327.0	CARBONDALE	BRERETON	LIMESTONE	6.0	253.0
321.0	CARBONDALE	ANNA	BLACK SHALE	1.0	259.0
320.0	CARBONDALE	HERRIN	COAL	5.0	260.0

MAPID: 11900576000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 24 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE

QUADRANGLE: WORDEN LONGITUDE: -89.814147 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.955462 DATE COLLECTED: 9 / 0 / 1955

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: JENSEN CARL 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	5.0	
-	CARBONDALE		UNCLASSIFIED	14.0	
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	
-	CARBONDALE	BRERETON	LIMESTONE	5.0	
-	CARBONDALE	ANNA	BLACK SHALE	1.0	
-	CARBONDALE	HERRIN	COAL	6.0	

MAPID: 11900918000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 24 QUARTERS/FOOTAGES: 165' N line, 165' E line of SE NE

QUADRANGLE: WORDEN LONGITUDE: -89.813489 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.957739 DATE COLLECTED: 6 / 0 / 1951

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 280.0 LOG TYPE: Electric Log

SOURCE: LIVERMORE, H. E. WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
360.0	MODESTO	PIASA	LIMESTONE	4.0	230.0
356.0	MODESTO		UNCLASSIFIED	3.0	234.0
353.0	CARBONDALE		UNCLASSIFIED	8.0	237.0
345.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	245.0
340.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	250.0
338.0	CARBONDALE	BRERETON	LIMESTONE	8.0	252.0
330.0	CARBONDALE	ENERGY	UNCLASSIFIED	17.0	260.0
313.0	CARBONDALE	HERRIN	COAL	3.0	277.0

MAPID: 11900919000C    VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON    TWP/RNG: 6N 7W    SECTION: 24    QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: WORDEN    LONGITUDE: -89.81439    GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N    LATITUDE: 38.948173    DATE COLLECTED: 7 / 0 / 1948

SURFACE ELEVATION (FT.): 585.0    LOGGED (FT.): 268.0    LOG TYPE: Electric Log

SOURCE: CASSENS GEORGE    WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
370.0	MODESTO	PIASA	LIMESTONE	4.0	215.0
366.0	MODESTO		UNCLASSIFIED	6.0	219.0
360.0	CARBONDALE		UNCLASSIFIED	18.0	225.0
342.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	243.0
337.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	248.0
335.0	CARBONDALE	BRERETON	LIMESTONE	5.0	250.0
330.0	CARBONDALE	ENERGY	UNCLASSIFIED	10.0	255.0
320.0	CARBONDALE	HERRIN	COAL	3.0	265.0



MAPID: 11902106000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 24 QUARTERS/FOOTAGES: NW SE NE

QUADRANGLE: WORDEN LONGITUDE: -89.816552 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.957297 DATE COLLECTED:

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 300.5 LOG TYPE: Drillers Log

SOURCE: INTERSTATE COAL & MINING CO. 3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.0			UNCONSOLIDATED	23.0	0.0	
557.0			UNCONSOLIDATED	17.0	23.0	SD
540.0			CLAY	6.0	40.0	
534.0			CLAY	14.0	46.0	
520.0			SAND	8.0	60.0	
512.0			SANDSTONE	9.0	68.0	
503.0			LIMESTONE	5.0	77.0	
498.0			SHALE	32.0	82.0	
466.0			SANDSTONE	75.0	114.0	
391.0			SHALE	20.0	189.0	
371.0			UNDERCLAY	4.0	209.0	
367.0			SANDSTONE	15.0	213.0	
352.0			SHALE	8.5	228.0	
343.5			ROCK	3.5	236.5	
340.0			SHALE	9.0	240.0	
331.0			SHALE	5.0	249.0	
326.0	CARBONDALE	DANVILLE	COAL	2.0	254.0	
324.0	CARBONDALE		SANDSTONE	3.0	256.0	
321.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	259.0	
317.0	CARBONDALE	ANVIL ROCK	ROCK	3.0	263.0	
314.0	CARBONDALE	ENERGY	SHALE	4.5	266.0	
309.5	CARBONDALE	HERRIN	COAL	7.5	270.5	
302.0			UNDERCLAY	3.0	278.0	
299.0			ROCK	5.0	281.0	
294.0			ROCK	4.0	286.0	
290.0			SANDSTONE	6.0	290.0	
284.0			SHALE	1.0	296.0	
283.0			UNDERCLAY	3.5	297.0	

MAPID: 11924210000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 24 QUARTERS/FOOTAGES: 2598' N line, 906' W line

QUADRANGLE: WORDEN LONGITUDE: -89.829128 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.954711 DATE COLLECTED: 10 / 13 / 1977

SURFACE ELEVATION (FT.): 585.0 LOGGED (FT.): 291.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-40 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
585.0			UNCONSOLIDATED	68.0	0.0
517.0	BOND		GRAY SHALE	2.5	68.0
514.5	BOND	CARTHAGE	LIMESTONE	5.5	70.5
509.0	MODESTO		GRAY SHALE	39.0	76.0
470.0	MODESTO		SHALY SANDSTONE	5.0	115.0
465.0	MODESTO		SANDY SHALE	104.0	120.0
361.0	MODESTO		SHALE	5.0	224.0
356.0	MODESTO	PIASA	LIMESTONE	4.0	229.0
352.0	MODESTO		GRAY SHALE	13.0	233.0
339.0	CARBONDALE	DANVILLE	COAL	2.5	246.0
336.5	CARBONDALE		GRAY SHALE	4.5	248.5
332.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.0	253.0
328.0	CARBONDALE		GRAY SHALE	1.0	257.0
327.0	CARBONDALE	BRERETON	SHALY LIMESTONE	5.0	258.0
322.0	CARBONDALE	ANNA	BLACK SHALE	1.5	263.0
320.5	CARBONDALE	HERRIN	COAL	5.5	264.5
315.0	CARBONDALE		UNDERCLAY	1.7	270.0
313.3	CARBONDALE		SHALY LIMESTONE	6.4	271.7
307.0	CARBONDALE		CALCAREOUS SHALE	13.0	278.0

MAPID: 11900115000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 25 QUARTERS/FOOTAGES: 1350' S line, 5050' E line

QUADRANGLE: WORDEN LONGITUDE: -89.831352 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.936672 DATE COLLECTED:

SURFACE ELEVATION (FT.): 578.6 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: ILL P L C WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
314.6	CARBONDALE	HERRIN	COAL	5.5	264.0

MAPID: 11900115000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 25 QUARTERS/FOOTAGES: 1350' S line, 5050' E line

QUADRANGLE: WORDEN LONGITUDE: -89.831352 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.936672 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 579.0 LOGGED (FT.): 270.5 LOG TYPE: Drillers Log

SOURCE: ILL POWER & LIGHT WELL TYPE: Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
315.0	CARBONDALE	HERRIN	COAL	6.5	264.0	

MAPID: 11900181000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 25 QUARTERS/FOOTAGES: 4670' S line, 3900' E line

QUADRANGLE: WORDEN LONGITUDE: -89.827075 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.945767 DATE COLLECTED:

SURFACE ELEVATION (FT.): 579.6 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: CONSOL STL12HS WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
299.6	CARBONDALE	HERRIN	COAL	6.5	280.0	

MAPID: 11900181000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 25 QUARTERS/FOOTAGES: 4670' S line, 3900' E line

QUADRANGLE: WORDEN LONGITUDE: -89.827075 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.945767 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 286.0 LOG TYPE: Drillers Log

SOURCE: WABASH COAL WELL TYPE: Plugged and/or Abandoned

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
300.0	CARBONDALE	HERRIN	COAL	6.0	280.0	

MAPID: 11900766000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 25 QUARTERS/FOOTAGES: 250' N line, 385' E line of SE SE

QUADRANGLE: WORDEN LONGITUDE: -89.81489 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.935635 DATE COLLECTED: 6 / 0 / 1950

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 312.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL 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	5.0	266.5
300.5	MODESTO		UNCLASSIFIED	5.0	271.5
295.5	CARBONDALE		UNCLASSIFIED	19.0	276.5
276.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	295.5
272.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	299.5
270.5	CARBONDALE	BRERETON	LIMESTONE	2.5	301.5
268.0	CARBONDALE	ANNA	BLACK SHALE	3.0	304.0
265.0	CARBONDALE	HERRIN	COAL	5.0	307.0

MAPID: 11900921000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 25 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE SW

QUADRANGLE: WORDEN LONGITUDE: -89.82671 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.935581 DATE COLLECTED: 11 / 0 / 1949

SURFACE ELEVATION (FT.): 578.0 LOGGED (FT.): 294.0 LOG TYPE: Electric Log

SOURCE: MCLAUGHLIN, D. W. 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	8.0	250.0
320.0	MODESTO		UNCLASSIFIED	3.0	258.0
317.0	CARBONDALE		UNCLASSIFIED	9.0	261.0
308.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	270.0
304.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	274.0
302.0	CARBONDALE	BRERETON	LIMESTONE	8.0	276.0
294.0	CARBONDALE	ANNA	BLACK SHALE	6.0	284.0
288.0	CARBONDALE	HERRIN	COAL	4.0	290.0

MAPID: 11900922000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 25 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW NW

QUADRANGLE: WORDEN LONGITUDE: -89.828903 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.942841 DATE COLLECTED: 8 / 0 / 1948

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 270.0 LOG TYPE: Electric Log

SOURCE: HAUSMANN A J WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
341.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	239.0
337.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	243.0
335.0	CARBONDALE	BRERETON	LIMESTONE	8.0	245.0
327.0	CARBONDALE	ENERGY	UNCLASSIFIED	11.0	253.0
316.0	CARBONDALE	HERRIN	COAL	6.0	264.0

MAPID: 11900923000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 990' W line

QUADRANGLE: WORDEN LONGITUDE: -89.847431 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.946652 DATE COLLECTED: 3 / 0 / 1954

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 245.0 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
369.0	MODESTO	PIASA	LIMESTONE	2.0	202.0
367.0	MODESTO		UNCLASSIFIED	5.0	204.0
362.0	CARBONDALE		UNCLASSIFIED	13.0	209.0
349.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	222.0
344.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	227.0
341.0	CARBONDALE	BRERETON	LIMESTONE	8.0	230.0
333.0	CARBONDALE	ANNA	BLACK SHALE	1.0	238.0
332.0	CARBONDALE	HERRIN	COAL	6.0	239.0

MAPID: 11900923000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 990' W line

QUADRANGLE: WORDEN LONGITUDE: -89.847431

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.946652

DATE COLLECTED:

SURFACE ELEVATION (FT.): 571.0

LOGGED (FT.): 239.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
375.0	MODESTO	PIASA	LIMESTONE	2.0	196.0
373.0	MODESTO		DARK GRAY SHALE	18.0	198.0
355.0	CARBONDALE		DARK GRAY SHALE	5.0	216.0
350.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.0	221.0
347.0	CARBONDALE	BRERETON	LIMESTONE	7.0	224.0
340.0	CARBONDALE	ANNA	SHALE	2.0	231.0
338.0	CARBONDALE	HERRIN	COAL	6.0	233.0

MAPID: 11900421000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 27 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: WORDEN LONGITUDE: -89.863796

GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.939587

DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 512.6

LOGGED (FT.): 0.0

LOG TYPE:

SOURCE: WORDEN CC

WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
327.6	CARBONDALE	HERRIN	COAL	6.5	185.0

MAPID: 11900421000C VERSION: 2

PROJECT: D JOHNSON

COUNTY: MADISON

TWP/RNG: 6N 7W

SECTION: 27

QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: WORDEN

LONGITUDE: -89.863796

GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N

LATITUDE: 38.939587

DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 513.0

LOGGED (FT.): 191.5

LOG TYPE: Drillers Log

SOURCE: WORDEN COAL CO

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
371.2	MODESTO	PIASA	LIMESTONE	4.0	141.8
367.2	MODESTO		UNCLASSIFIED	6.0	145.8
361.2	CARBONDALE		UNCLASSIFIED	14.5	151.8
346.7	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.7	166.3
342.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	171.0
340.0	CARBONDALE	BRERETON	LIMESTONE	7.0	173.0
333.0	CARBONDALE	ANNA	BLACK SHALE	5.0	180.0
328.0	CARBONDALE	HERRIN	COAL	6.5	185.0

MAPID: 11900421000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON

TWP/RNG: 6N 7W

SECTION: 27

QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: WORDEN

LONGITUDE: -89.863796

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 38.939587

DATE COLLECTED:

SURFACE ELEVATION (FT.): 512.6

LOGGED (FT.): 194.7

LOG TYPE: Drillers Log

SOURCE: WORDEN COAL CO.

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
512.6			CLAY	24.0	0.0
488.6			UNCONSOLIDATED	76.0	24.0 CLY.SD.MUD
412.6			CLAY	11.0	100.0
401.6			CLAY	3.0	111.0
398.6			SHALE	21.0	114.0
377.6			SHALE	7.0	135.0
370.6	MODESTO	PIASA	LIMESTONE	4.0	142.0
366.6			ROCK	1.0	146.0
365.6			ROCK	11.0	147.0
354.6			SHALE	5.0	158.0
349.6	CARBONDALE	DANVILLE	COAL	0.5	163.0
349.1	CARBONDALE		UNDERCLAY	7.0	163.5
342.1	CARBONDALE		ROCK	0.7	170.5
341.4	CARBONDALE		SHALE	2.0	171.2
339.4	CARBONDALE		ROCK	7.0	173.2
332.4	CARBONDALE		ROCK	5.0	180.2
327.4	CARBONDALE	HERRIN	COAL	6.5	185.2
320.9			UNDERCLAY	3.0	191.7

MAPID: 11902676000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 27 QUARTERS/FOOTAGES: 2640' N line, 2640' W line

QUADRANGLE: WORDEN LONGITUDE: -89.860293 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.94049 DATE COLLECTED:

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 155.5 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 12065-C WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
405.0	MODESTO	PIASA	LIMESTONE	4.0	115.0
401.0	MODESTO		SHALE	18.4	119.0
382.6	CARBONDALE	BRERETON	LIMESTONE	11.3	137.4
371.3	CARBONDALE	ANNA	MOTTLED SHALE	0.9	148.7
370.0	CARBONDALE	HERRIN	COAL	5.5	150.0

MAPID: 11900879000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.903267 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.936437 DATE COLLECTED: 7 / 0 / 1959

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 111.0 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	OVERBURDEN COMMENT
423.0	MODESTO	PIASA	LIMESTONE	5.0	67.0
418.0	MODESTO		UNCLASSIFIED	5.0	72.0
413.0	CARBONDALE		UNCLASSIFIED	12.0	77.0
401.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	89.0
396.0	CARBONDALE	BRERETON	LIMESTONE	10.0	94.0
386.0	CARBONDALE	ANNA	BLACK SHALE	1.0	104.0
385.0	CARBONDALE	HERRIN	COAL	6.0	105.0



MAPID: 11902607000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 29 QUARTERS/FOOTAGES: 990' S line, 330' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.905568 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.936473 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 109.1 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 12825-C WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
430.0	MODESTO	PIASA	LIMESTONE	2.7	70.0	
427.3	MODESTO		ROCK	11.3	72.7	
416.0	CARBONDALE	DANVILLE	COAL	1.3	84.0	
414.7	CARBONDALE		CLAYSTONE	3.3	85.3	
411.4	CARBONDALE		GRAY SHALE	4.4	88.6	
407.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	93.0	UPPER BENCH
404.3	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	3.3	95.7	SHALE PARTING
401.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.9	99.0	LOWER BENCH
399.1	CARBONDALE	LAWSON	GRAY SHALE	1.7	100.9	
397.4	CARBONDALE	LAWSON	DARK GRAY SHALE	1.0	102.6	
396.5	CARBONDALE	BRERETON	LIMESTONE	0.5	103.5	
396.0	CARBONDALE	HERRIN	COAL	5.1	104.0	

MAPID: 11902677000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 30 QUARTERS/FOOTAGES: 990' S line, 1650' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.912567 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.936492 DATE COLLECTED:

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 157.8 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 12749-C WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
411.0	MODESTO	PIASA	LIMESTONE	3.6	114.0	
407.4	MODESTO		GRAY SHALE	9.7	117.6	
397.7	CARBONDALE	DANVILLE	COAL	0.5	127.3	
397.2	CARBONDALE		GRAY SHALE	3.7	127.8	
393.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	131.5	LOWER BENCH
384.0	CARBONDALE	LAWSON	GRAY SHALE	4.0	141.0	
380.0	CARBONDALE	BRERETON	LIMESTONE	3.8	145.0	
376.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.4	148.8	
373.0	CARBONDALE	HERRIN	COAL	5.8	152.0	

MAPID: 11902640000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 32 QUARTERS/FOOTAGES: 2640' N line, 1320' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.901997 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.926425 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 101.3 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 12820-C WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
423.6	MODESTO		GRAY SHALE	2.3	76.4
421.3	CARBONDALE	DANVILLE	COAL	1.1	78.7
420.2	CARBONDALE		CLAYSTONE	2.0	79.8
418.2	CARBONDALE		GRAY SHALE	3.9	81.8
414.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	85.7
406.0	CARBONDALE	LAWSON	GRAY SHALE	0.7	94.0
405.3	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	94.7
404.0	CARBONDALE	HERRIN	COAL	5.3	96.0

MAPID: 11924179000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 33 QUARTERS/FOOTAGES: 2000' S line, 2400' W line

QUADRANGLE: WORDEN LONGITUDE: -89.774284 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.923207 DATE COLLECTED: 10 / 13 / 1977

SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 125.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-41 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
485.0			UNCONSOLIDATED	44.0	0.0
441.0	MODESTO		GRAY SHALE	39.0	44.0
402.0	CARBONDALE	DANVILLE	COAL	2.0	83.0
400.0	CARBONDALE		SHALE	5.0	85.0
395.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	90.0
390.0	CARBONDALE		SHALE	0.5	95.0
389.5	CARBONDALE	BRERETON	LIMESTONE	7.5	95.5
382.0	CARBONDALE	ANNA	BLACK SHALE	2.0	103.0
380.0	CARBONDALE	HERRIN	COAL	4.3	105.0
375.7	CARBONDALE		UNDERCLAY	0.7	109.3
375.0	CARBONDALE		LIMESTONE	2.5	110.0
372.5	CARBONDALE		SHALE	1.5	112.5
371.0	CARBONDALE		LIMESTONE	2.0	114.0
369.0	CARBONDALE		GRAY SHALE	9.0	116.0

**MAPID:** 11900182000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 35    **QUARTERS/FOOTAGES:** 2540' S line, 2680' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.842108    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.92551    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 568.4    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LENART 11    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
298.4	CARBONDALE	HERRIN	COAL	7.0	270.0	

**MAPID:** 11900182000C    **VERSION:** 2    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 35    **QUARTERS/FOOTAGES:** 2540' S line, 2680' E line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.842108    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.92551    **DATE COLLECTED:** 0 / 0 / 1900  
**SURFACE ELEVATION (FT.):** 568.0    **LOGGED (FT.):** 277.0    **LOG TYPE:** Drillers Log  
**SOURCE:** LENART    **WELL TYPE:** Plugged and/or Abandoned  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
298.0	CARBONDALE	HERRIN	COAL	7.0	270.0	

**MAPID:** 11900924000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 35    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW NW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.84987    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.928496    **DATE COLLECTED:** 6 / 0 / 1952  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** LALOR STEPHEN P    **WELL TYPE:** Dry Hole  
**COMMENT:** NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	MODESTO	PIASA	LIMESTONE	5.0		
-	MODESTO		UNCLASSIFIED	5.0		
-	CARBONDALE		UNCLASSIFIED	9.0		
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0		
-	CARBONDALE	BRERETON	LIMESTONE	9.0		
-	CARBONDALE	HERRIN	COAL	7.0		

**MAPID:** 11923623000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 35    **QUARTERS/FOOTAGES:** 51' S line, 775' W line  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.848454    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.918727    **DATE COLLECTED:** 6 / 9 / 1978  
**SURFACE ELEVATION (FT.):** 560.0    **LOGGED (FT.):** 245.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL MOS-77-55    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	158.0	0.0
402.0	MODESTO		SHALE	10.0	158.0
392.0	MODESTO		SANDY SHALE	22.0	168.0
370.0	MODESTO	PIASA	LIMESTONE	3.0	190.0
367.0	MODESTO		GRAY SHALE	10.0	193.0
357.0	CARBONDALE	DANVILLE	COAL	1.5	203.0
355.5	CARBONDALE		GRAY SHALE	6.0	204.5
349.5	CARBONDALE	BRERETON	LIMESTONE	6.0	210.5
343.5	CARBONDALE	ANNA	BLACK SHALE	3.9	216.5
339.6	CARBONDALE	HERRIN	COAL	6.7	220.4
332.9	CARBONDALE		UNDERCLAY	0.9	227.1
332.0	CARBONDALE		SHALE	8.0	228.0
324.0	CARBONDALE		GRAY SHALE	8.0	236.0
316.0	CARBONDALE		LIMESTONE	1.0	244.0

**MAPID:** 11900583000C    **VERSION:** 1    **PROJECT:** D JOHNSON  
**COUNTY:** MADISON    **TWP/RNG:** 6N 7W    **SECTION:** 36    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE SW  
**QUADRANGLE:** WORDEN    **LONGITUDE:** -89.824437    **GEOLOGIST:** D. JOHNSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.920977    **DATE COLLECTED:** 11 / 0 / 1955  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 0.0    **LOG TYPE:** Electric Log  
**SOURCE:** WOLTZ, ELDON A.    **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	5.0	
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	
-	CARBONDALE	BRERETON	LIMESTONE	9.0	
-	CARBONDALE	HERRIN	COAL	6.0	

MAPID: 11900925000C VERSION: 1

PROJECT: D JOHNSON

COUNTY: MADISON TWP/RNG: 6N 7W SECTION: 36 QUARTERS/FOOTAGES: 243' S line, 440' E line of SW

QUADRANGLE: WORDEN LONGITUDE: -89.824848 GEOLOGIST: D. JOHNSON

CONFIDENTIAL: N LATITUDE: 38.918917 DATE COLLECTED: 8 / 0 / 1949

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 301.0 LOG TYPE: Electric Log

SOURCE: KESL JOE JR ETAL WELL TYPE: Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
306.0	MODESTO	PIASA	LIMESTONE	3.0	256.0
303.0	MODESTO		UNCLASSIFIED	6.0	259.0
297.0	CARBONDALE		UNCLASSIFIED	18.0	265.0
279.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	283.0
275.0	CARBONDALE	BRERETON	LIMESTONE	8.0	287.0
267.0	CARBONDALE	HERRIN	COAL	6.0	295.0

MAPID: 11924140000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 4 QUARTERS/FOOTAGES: 1300' S line, 1125' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.986635 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.998314 DATE COLLECTED: 5 / 16 / 1975

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 199.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NID-27 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
430.0	CARBONDALE	DANVILLE	COAL	1.5	160.0
413.4	CARBONDALE	HERRIN	COAL	4.4	176.6

MAPID: 1192414000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 4 QUARTERS/FOOTAGES: 1300' S line, 1125' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.986635

GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.998314

DATE COLLECTED: 5 / 16 / 1975

SURFACE ELEVATION (FT.): 590.0

LOGGED (FT.): 199.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NID-27

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
590.0			UNCONSOLIDATED	143.0	0.0
447.0	MODESTO		GRAY SHALE	17.0	143.0
430.0	CARBONDALE	DANVILLE	COAL	1.5	160.0
428.5	CARBONDALE		GRAY SHALE	8.5	161.5
420.0	CARBONDALE	BRERETON	LIMESTONE	3.5	170.0
416.5	CARBONDALE	ANNA	BLACK SHALE	3.1	173.5
413.4	CARBONDALE	HERRIN	COAL	4.4	176.6
409.0	CARBONDALE		GRAY SHALE	18.0	181.0

MAPID: 11924141000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 4 QUARTERS/FOOTAGES: 1281' S line, 1362' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997344

GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.998645

DATE COLLECTED: 9 / 27 / 1977

SURFACE ELEVATION (FT.): 600.0

LOGGED (FT.): 240.0

LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-2

WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.0			UNCONSOLIDATED	196.5	0.0
-	CARBONDALE	DANVILLE	COAL	0.0	
-	CARBONDALE	HERRIN	COAL	0.0	
403.5	CARBONDALE		LIMESTONE	2.5	196.5
401.0	CARBONDALE		SHALE	12.0	199.0
389.0	CARBONDALE		SANDSTONE/SHALE	11.0	211.0
378.0	CARBONDALE		GRAY SHALE	18.0	222.0

MAPID: 11900054000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.03257 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.987728 DATE COLLECTED: 0 / 0 / 1906

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 49.0 LOG TYPE:

SOURCE: BIVENS WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
470.0	CARBONDALE	HERRIN	COAL	5.0	41.0	

MAPID: 11900054000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.03257 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.987728 DATE COLLECTED:

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 45.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	30.2	
478.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.0	32.2	
477.8	CARBONDALE	BRERETON	LIMESTONE	6.5	33.2	
471.3	CARBONDALE	ANNA	GRAY SHALE	1.3	39.7	
470.0	CARBONDALE	HERRIN	COAL	4.0	41.0	

MAPID: 11900054000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.03257 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.987728 DATE COLLECTED: 0 / 0 / 1906

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 49.0 LOG TYPE: Drillers Log

SOURCE: A.T. BIVENS 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
511.0			UNCONSOLIDATED	15.0	0.0	
496.0			SAND	13.0	15.0	
483.0			GRAVEL	2.0	28.0	
481.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	30.0	
479.0	CARBONDALE		CALCAREOUS SHALE	1.0	32.0	
478.0	CARBONDALE	BRERETON	LIMESTONE	6.5	33.0	
471.5	CARBONDALE		GRAY SHALE	1.3	39.5	
470.2	CARBONDALE	HERRIN	COAL	2.8	40.8	
467.3	CARBONDALE	HERRIN	ROCK	0.1	43.7	BLU BAND
467.2	CARBONDALE	HERRIN	COAL	1.1	43.8	
466.2			UNDERCLAY	1.2	44.8	
465.0			CALCAREOUS SHALE	3.0	46.0	

MAPID: 11990197000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NE

QUADRANGLE: BETHALTO LONGITUDE: -90.026119 GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.992246 DATE COLLECTED: 9 / 23 / 1959

SURFACE ELEVATION (FT.): 515.7 LOGGED (FT.): 50.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C357 WELL TYPE: Coal Test

COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.7	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
495.7	MODESTO		ROCK	9.0	20.0	
486.7	CARBONDALE	DANVILLE	COAL	2.0	29.0	
484.7	CARBONDALE		ROCK	14.5	31.0	
470.2	CARBONDALE	HERRIN	COAL	2.7	45.5	
467.5	CARBONDALE		ROCK	1.8	48.2	



MAPID: 1199020000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.036572 GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.995884 DATE COLLECTED: 9 / 22 / 1959

SURFACE ELEVATION (FT.): 564.5 LOGGED (FT.): 101.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C403 WELL TYPE: Coal Test

COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
564.5	PLEISTOCENE		UNCONSOLIDATED	75.0	0.0	
489.5	MODESTO		ROCK	3.0	75.0	
486.5	CARBONDALE	DANVILLE	COAL	3.2	78.0	
483.3	CARBONDALE		ROCK	14.8	81.2	
468.5	CARBONDALE	HERRIN	COAL	3.2	96.0	
465.3	CARBONDALE		ROCK	1.8	99.2	

MAPID: 11990222000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 150' N line, 660' E line of NE

QUADRANGLE: BETHALTO LONGITUDE: -90.023242 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.995461 DATE COLLECTED: 9 / 23 / 1959

SURFACE ELEVATION (FT.): 511.1 LOGGED (FT.): 47.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C305 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
511.1	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
505.1	PLEISTOCENE		SAND & GRAVEL	10.0	6.0	
495.1	SHELBURN		SHALE	5.0	16.0	
490.1	SHELBURN	DANVILLE	COAL	2.5	21.0	FAIER
487.6	SHELBURN		UNDERCLAY	2.0	23.5	
485.6	SHELBURN		SANDSTONE/SHALE	7.5	25.5	
478.1	SHELBURN	BRERETON	LIMESTONE	6.0	33.0	
472.1	CARBONDALE		SHALE	0.5	39.0	
471.6	CARBONDALE	HERRIN	COAL	3.8	39.5	FAIR
467.8	CARBONDALE		UNDERCLAY	3.8	43.3	

MAPID: 11990223000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 165' E line of NW SE

QUADRANGLE: BETHALTO LONGITUDE: -90.02669 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.988619 DATE COLLECTED: 9 / 23 / 1959

SURFACE ELEVATION (FT.): 513.3 LOGGED (FT.): 47.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C306P WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
513.3	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
507.3	PLEISTOCENE		CLAY	14.0	6.0	
493.3	SHELBURN		SHALE	1.5	20.0	
491.8	SHELBURN	DANVILLE	COAL	2.8	21.5	FAIR
489.0	SHELBURN		SHALE	3.8	24.3	
485.3	SHELBURN		LIMESTONE	1.5	28.0	
483.8	SHELBURN		SHALE	7.5	29.5	
476.3	SHELBURN	BRERETON	LIMESTONE	4.2	37.0	
472.1	SHELBURN		SHALE	2.3	41.2	BLUE
469.8	CARBONDALE	HERRIN	COAL	0.5	43.5	SOFT
469.3	CARBONDALE	HERRIN	COAL	2.0	44.0	FAIR
467.3	CARBONDALE		UNDERCLAY	1.0	46.0	

MAPID: 11990224000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.041709 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.992268 DATE COLLECTED: 9 / 21 / 1959

SURFACE ELEVATION (FT.): 578.3 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C351 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
578.3	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
570.3	PLEISTOCENE		CLAY & GRAVEL	12.0	8.0	
558.3	PLEISTOCENE		CLAY	88.0	20.0	

MAPID: 11990225000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.03652 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.992262 DATE COLLECTED: 9 / 21 / 1959

SURFACE ELEVATION (FT.): 577.8 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C353 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
577.8	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
571.8	PLEISTOCENE		CLAY	81.0	6.0	
490.8	CARBONDALE		GRAY SHALE	10.0	87.0	

MAPID: 11990226000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NW

QUADRANGLE: BETHALTO LONGITUDE: -90.031319 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.992253 DATE COLLECTED: 9 / 23 / 1959

SURFACE ELEVATION (FT.): 590.8 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C355 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.8	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
580.8	PLEISTOCENE		CLAY	85.0	10.0	
495.8	SHELBURN		DARK SHALE	10.0	95.0	
485.8	SHELBURN	DANVILLE	COAL	3.2	105.0	
482.6	SHELBURN		UNDERCLAY	1.8	108.2	
480.8	SHELBURN		GRAY SHALE	6.0	110.0	HARD
474.8	SHELBURN	BRERETON	LIMESTONE	4.0	116.0	HARD
470.8	CARBONDALE	ANNA	DARK SHALE	3.0	120.0	
467.8	CARBONDALE	HERRIN	RASH	0.5	123.0	
467.3	CARBONDALE	HERRIN	COAL	3.0	123.5	FAIR
464.3	CARBONDALE		UNDERCLAY	1.5	126.5	

MAPID: 11990227000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NE

QUADRANGLE: BETHALTO LONGITUDE: -90.026119 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 38.992246 DATE COLLECTED: 9 / 23 / 1959

SURFACE ELEVATION (FT.): 515.7 LOGGED (FT.): 50.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C357 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.7	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
509.7	PLEISTOCENE		SAND & GRAVEL	14.0	6.0	
495.7	SHELBURN		GRAY SHALE	9.0	20.0	HARD
486.7	SHELBURN	DANVILLE	COAL	2.0	29.0	
484.7	SHELBURN		UNDERCLAY	1.0	31.0	
483.7	SHELBURN		LIMESTONE	2.0	32.0	HARD
481.7	SHELBURN		GRAY SHALE	4.0	34.0	
477.7	SHELBURN		LIMESTONE	2.0	38.0	HARD
475.7	SHELBURN		GRAY SHALE	5.5	40.0	HARD
470.2	CARBONDALE	HERRIN	COAL	2.7	45.5	
467.5	CARBONDALE		UNDERCLAY	1.8	48.2	

MAPID: 11990228000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 495' N line, 1' W line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.041755 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.994521 DATE COLLECTED: 9 / 25 / 1959

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 31.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C376D WELL TYPE: Coal Test

COMMENT: BOX 43 CAVED IN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
532.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
526.0	PLEISTOCENE		SAND & GRAVEL	8.0	6.0	
518.0	PLEISTOCENE		CLAY	14.0	14.0	
504.0	PLEISTOCENE		SAND	3.0	28.0	

MAPID: 11990229000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 7 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.03135 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.99588 DATE COLLECTED: 9 / 22 / 1959  
 SURFACE ELEVATION (FT.): 584.6 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE C405 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
584.6	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
573.6	PLEISTOCENE		SAND & GRAVEL	20.0	11.0	
553.6	PLEISTOCENE		CLAY	49.0	31.0	
504.6	CARBONDALE		SANDY SHALE	28.0	80.0	SOFT

MAPID: 11990230000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 1' E line of NW SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.01619 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.98755 DATE COLLECTED: 11 / 9 / 1961  
 SURFACE ELEVATION (FT.): 592.9 LOGGED (FT.): 158.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE C286 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
592.9	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
580.9	PLEISTOCENE		CLAY	16.0	12.0	
564.9	PLEISTOCENE		CLAY	42.0	28.0	
522.9	PLEISTOCENE		CLAY	45.0	70.0	
477.9	SHELBURN		SANDY SHALE	8.6	115.0	
469.3	SHELBURN	BRERETON	LIMESTONE	3.7	123.6	
465.6	CARBONDALE		GRAY SHALE	0.8	127.3	
464.9	CARBONDALE	HERRIN	COAL	2.8	128.0	FAIR
462.1	CARBONDALE		UNDERCLAY	1.2	130.8	
460.9	CARBONDALE		SANDY SHALE	3.0	132.0	
457.9	CARBONDALE		LIMESTONE	3.0	135.0	
454.9	CARBONDALE		SANDY SHALE	20.0	138.0	

MAPID: 11990231000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 9 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997127 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.991468 DATE COLLECTED: 11 / 9 / 1961

SURFACE ELEVATION (FT.): 603.9 LOGGED (FT.): 158.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C369 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
603.9	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
593.9	PLEISTOCENE		CLAY	11.0	10.0
582.9	PLEISTOCENE		CLAY	74.0	21.0
508.9	PLEISTOCENE		CLAY	63.0	95.0

MAPID: 11900055000C VERSION: 2

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 10 QUARTERS/FOOTAGES: NE SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.979217 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.989977 DATE COLLECTED: 0 / 0 / 1906

SURFACE ELEVATION (FT.): 568.3 LOGGED (FT.): 155.0 LOG TYPE:

SOURCE: BIVENS 0S15 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
417.3	CARBONDALE	HERRIN	COAL	3.2	151.0

MAPID: 11900055000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 10 QUARTERS/FOOTAGES: NE SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.979217 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.989977 DATE COLLECTED: 0 / 0 / 1906

SURFACE ELEVATION (FT.): 568.3 LOGGED (FT.): 155.0 LOG TYPE: Drillers Log

SOURCE: A.T. BIVENS 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
568.3			UNCONSOLIDATED	7.0	0.0	SOIL
561.3			CLAY	77.0	7.0	
484.3			SAND	2.0	84.0	
482.3			CALCAREOUS SHALE	2.0	86.0	
480.3			SANDY SHALE	18.0	88.0	
462.3			CALCAREOUS SHALE	7.0	106.0	
455.3			LIMESTONE	3.0	113.0	
452.3			CALCAREOUS SHALE	2.5	116.0	
449.8			GRAY SHALE	1.0	118.5	
448.8			BLACK SHALE	0.5	119.5	
448.3			CALCAREOUS SHALE	9.1	120.0	
439.2			SHALE	0.7	129.1	
438.5			BLACK SHALE	0.3	129.8	
438.3	CARBONDALE	DANVILLE	COAL	1.7	130.0	
436.6	CARBONDALE		UNDERCLAY	2.8	131.7	
433.8	CARBONDALE		LIMESTONE	15.5	134.5	
418.3	CARBONDALE		GRAY SHALE	0.8	150.0	
417.5	CARBONDALE	HERRIN	COAL	2.3	150.8	
415.2	CARBONDALE	HERRIN	ROCK	0.2	153.1	BLU BAND
415.0	CARBONDALE	HERRIN	COAL	0.8	153.3	
414.3			UNDERCLAY	1.0	154.0	

MAPID: 11924142000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 10 QUARTERS/FOOTAGES: 1780' S line, 1075' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.9682 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.984501 DATE COLLECTED: 5 / 15 / 1975

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 222.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-24 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
418.2	CARBONDALE	DANVILLE	COAL	2.7	181.8	
397.2	CARBONDALE	HERRIN	COAL	1.7	202.8	

MAPID: 11924142000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 10 QUARTERS/FOOTAGES: 1780' S line, 1075' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.9682 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.984501 DATE COLLECTED: 5 / 15 / 1975

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 222.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-24 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.0			UNCONSOLIDATED	126.0	0.0	
474.0	MODESTO		GRAY SHALE	11.0	126.0	
463.0	MODESTO		BLACK SHALE	5.0	137.0	
458.0	MODESTO		GRAY SHALE	21.0	142.0	
437.0	MODESTO	PIASA	LIMESTONE	3.0	163.0	
434.0	MODESTO		GRAY SHALE	15.8	166.0	
418.2	CARBONDALE	DANVILLE	COAL	2.7	181.8	
415.5	CARBONDALE		GRAY SHALE	9.5	184.5	
406.0	CARBONDALE	BRERETON	LIMESTONE	7.0	194.0	
399.0	CARBONDALE	ANNA	BLACK SHALE	1.8	201.0	
397.2	CARBONDALE	HERRIN	COAL	1.7	202.8	
395.5	CARBONDALE		GRAY SHALE	17.5	204.5	

MAPID: 11924036000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 11 QUARTERS/FOOTAGES: 200' N line, 2600' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.955347 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.993455 DATE COLLECTED: 10 / 1 / 1979

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 200.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-11-33C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
441.0	CARBONDALE	DANVILLE	COAL	0.7	159.0	
420.9	CARBONDALE	HERRIN	COAL	4.0	179.1	



MAPID: 11924036000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 11 QUARTERS/FOOTAGES: 200' N line, 2600' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.955347 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.993455 DATE COLLECTED: 10 / 1 / 1979

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 200.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-11-33C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG,CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.0			UNCONSOLIDATED	144.0	0.0
456.0	MODESTO	PIASA	LIMESTONE	3.0	144.0
453.0	MODESTO		GRAY SHALE	11.5	147.0
441.5	CARBONDALE	DANVILLE	COAL	1.0	158.5
440.5	CARBONDALE		GRAY SHALE	7.3	159.5
433.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	166.8
430.0	CARBONDALE		GRAY SHALE	3.9	170.0
426.1	CARBONDALE	BRERETON	LIMESTONE	4.7	173.9
421.4	CARBONDALE		SHALE	0.5	178.6
420.9	CARBONDALE	HERRIN	COAL	4.0	179.1
416.9	CARBONDALE		CLAYSTONE & SHALE	0.7	183.1
416.3	CARBONDALE		CORE LOSS	0.3	183.7
416.0	CARBONDALE		GRAY SHALE	2.0	184.0
414.0	CARBONDALE		LIMESTONE	2.0	186.0
412.0	CARBONDALE		GRAY SHALE	8.0	188.0
404.0	CARBONDALE		LIMESTONE	2.0	196.0
402.0	CARBONDALE		GRAY SHALE	1.0	198.0
401.0	CARBONDALE		LIMESTONE	1.0	199.0

MAPID: 11924143000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 11 QUARTERS/FOOTAGES: 462' S line, 2175' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.953286 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.980386 DATE COLLECTED: 9 / 30 / 1977

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 235.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-44 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
390.2	CARBONDALE	HERRIN	COAL	5.2	209.8

MAPID: 11924143000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 11 QUARTERS/FOOTAGES: 462' S line, 2175' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.953286 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.980386 DATE COLLECTED: 9 / 30 / 1977

SURFACE ELEVATION (FT.): 600.0 LOGGED (FT.): 235.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-44 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
600.0			UNCONSOLIDATED	152.0	0.0
448.0	MODESTO		GRAY SHALE	18.5	152.0
429.5	MODESTO		SHALE	2.0	170.5
427.5	MODESTO	PIASA	LIMESTONE	4.5	172.5
423.0	MODESTO		GRAY SHALE	14.0	177.0
409.0	CARBONDALE	DANVILLE	COAL	3.0	191.0
406.0	CARBONDALE		GRAY SHALE	3.0	194.0
403.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	6.0	197.0
397.0	CARBONDALE		SHALE	1.5	203.0
395.5	CARBONDALE	BRERETON	SHALY LIMESTONE	3.5	204.5
392.0	CARBONDALE		SHALE	1.6	208.0
390.4	CARBONDALE	HERRIN	COAL	5.4	209.6
385.0	CARBONDALE		UNDERCLAY	1.5	215.0
383.5	CARBONDALE		LIMESTONE	2.0	216.5
381.5	CARBONDALE		CALCAREOUS SHALE	16.5	218.5

MAPID: 11924144000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 12 QUARTERS/FOOTAGES: 1450' S line, 1190' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941327 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.982637 DATE COLLECTED: 5 / 12 / 1975

SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 222.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-18A WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
380.0	CARBONDALE	HERRIN	COAL	4.0	212.0

MAPID: 11924144000C VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 12 QUARTERS/FOOTAGES: 1450' S line, 1190' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.941327 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.982637 DATE COLLECTED: 5 / 12 / 1975

SURFACE ELEVATION (FT.): 592.0 LOGGED (FT.): 222.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-18A WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
592.0			UNCONSOLIDATED	93.0	0.0
499.0	MODESTO		SANDSTONE	8.0	93.0
491.0	MODESTO		LIMESTONE	2.0	101.0
489.0	MODESTO		GRAY SHALE	53.0	103.0
436.0	MODESTO	PIASA	LIMESTONE	1.0	156.0
435.0	MODESTO		GRAY SHALE	11.0	157.0
424.0	MODESTO		SHALE	2.0	168.0
422.0	MODESTO		GRAY SHALE	18.0	170.0
404.0	CARBONDALE	DANVILLE	COAL	1.0	188.0
403.0	CARBONDALE		GRAY SHALE	3.0	189.0
400.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	11.0	192.0
389.0	CARBONDALE		GRAY SHALE	3.0	203.0
386.0	CARBONDALE	BRERETON	LIMESTONE	5.0	206.0
381.0	CARBONDALE	ENERGY	SHALE	1.0	211.0
380.0	CARBONDALE	HERRIN	COAL	4.0	212.0
376.0	CARBONDALE		UNDERCLAY	2.0	216.0
374.0	CARBONDALE		LIMESTONE	3.0	218.0
371.0	CARBONDALE		SHALE	1.0	221.0

MAPID: 11924145000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 12 QUARTERS/FOOTAGES: 10' N line, 1300' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.940654 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.993338 DATE COLLECTED: 5 / 13 / 1975

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 197.5 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-19 AND NDI-19C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
420.0	CARBONDALE	DANVILLE	COAL	2.0	170.0
400.0	CARBONDALE	HERRIN	COAL	4.1	190.0

MAPID: 11924145000C    VERSION: 2

PROJECT: NCRDS89

COUNTY: MADISON    TWP/RNG: 6N 8W    SECTION: 12    QUARTERS/FOOTAGES: 10' N line, 1300' W line

QUADRANGLE: PRAIRIETOWN    LONGITUDE: -89.940654    GEOLOGIST: SROKA

CONFIDENTIAL: N    LATITUDE: 38.993338    DATE COLLECTED: 5 / 13 / 1975

SURFACE ELEVATION (FT.): 590.0    LOGGED (FT.): 197.5    LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-19 AND NDI-19C    WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
590.0			UNCONSOLIDATED	21.0	0.0
569.0	BOND		GRAY SHALE	17.0	21.0
552.0	BOND	CARTHAGE	LIMESTONE	4.0	38.0
548.0	MODESTO		SHALY SANDSTONE	8.0	42.0
540.0	MODESTO		GRAY SHALE	32.0	50.0
508.0	MODESTO		SANDSTONE	28.0	82.0
480.0	MODESTO		GRAY SHALE	6.5	110.0
473.5	MODESTO		LIMESTONE	0.5	116.5
473.0	MODESTO		SHALE	4.0	117.0
469.0	MODESTO		BLACK SHALE	2.0	121.0
467.0	MODESTO		GRAY SHALE	7.0	123.0
460.0	MODESTO		SANDSTONE	15.0	130.0
445.0	MODESTO		GRAY SHALE	6.0	145.0
439.0	MODESTO	PIASA	LIMESTONE	4.0	151.0
435.0	MODESTO		SHALE	15.0	155.0
420.0	CARBONDALE	DANVILLE	COAL	2.0	170.0
418.0	CARBONDALE		GRAY SHALE	6.0	172.0
412.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	178.0
410.0	CARBONDALE		SHALE	1.3	180.0
408.7	CARBONDALE	BRERETON	LIMESTONE	4.1	181.3
404.6	CARBONDALE	BRERETON	GRAY SHALE	0.9	185.4
403.8	CARBONDALE	BRERETON	LIMESTONE	1.4	186.2
402.4	CARBONDALE		SHALE	2.4	187.6
400.0	CARBONDALE	HERRIN	COAL	4.1	190.0
395.9	CARBONDALE		UNDERCLAY	1.6	194.1
394.2	CARBONDALE		LIMESTONE	1.8	195.8

**MAPID:** 11900056000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 13    **QUARTERS/FOOTAGES:** SE NW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.938695    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.97283    **DATE COLLECTED:** 0 / 0 / 1915  
**SURFACE ELEVATION (FT.):** 590.9    **LOGGED (FT.):** 540.0    **LOG TYPE:**  
**SOURCE:** DUIS J G    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
375.9	CARBONDALE	HERRIN	COAL	7.0	215.0	

**MAPID:** 11900057000C    **VERSION:** 2    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 13    **QUARTERS/FOOTAGES:** SW NW SW NW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.945101    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.97359    **DATE COLLECTED:** 0 / 0 / 1917  
**SURFACE ELEVATION (FT.):** 569.0    **LOGGED (FT.):** 213.0    **LOG TYPE:**  
**SOURCE:** HUNT R W 00C8    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
362.0	CARBONDALE	HERRIN	COAL	5.0	207.0	

MAPID: 11900057000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 13 QUARTERS/FOOTAGES: SW NW SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.945101 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.97359 DATE COLLECTED: 0 / 0 / 1917

SURFACE ELEVATION (FT.): 569.0 LOGGED (FT.): 213.0 LOG TYPE: Drillers Log

SOURCE: R.W. HUNT & CO. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
569.0			CLAY	35.0	0.0
534.0			SAND	5.0	35.0
529.0			SAND	33.0	40.0
496.0			CALCAREOUS SHALE	44.0	73.0
452.0			SANDSTONE	4.0	117.0
448.0			GRAY SHALE	17.0	121.0
431.0			COAL	0.3	138.0
430.7			UNDERCLAY	1.8	138.3
429.0			CALCAREOUS SHALE	7.0	140.0
422.0			SANDY SHALE	17.0	147.0
405.0			SHALE	3.0	164.0
402.0			CALCAREOUS SHALE	2.0	167.0
400.0	MODESTO	PIASA	LIMESTONE	4.0	169.0
396.0	MODESTO		CALCAREOUS SHALE	12.5	173.0
383.5	CARBONDALE	DANVILLE	COAL	1.5	185.5
382.0	CARBONDALE		GRAY SHALE	3.0	187.0
379.0	CARBONDALE	BRERETON	LIMESTONE	16.3	190.0
362.7	CARBONDALE		GRAY SHALE	0.8	206.3
361.8	CARBONDALE	HERRIN	COAL	5.0	207.2
356.8			UNDERCLAY	0.8	212.2

MAPID: 11924003000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 13 QUARTERS/FOOTAGES: 2590' N line, 940' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.942379 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.971546 DATE COLLECTED: 5 / 10 / 1979

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 220.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-79-13-22C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.0			UNCONSOLIDATED	115.0	0.0	
465.0	MODESTO		GRAY SHALE	15.0	115.0	
450.0	MODESTO		COAL	1.0	130.0	
449.0	MODESTO		GRAY SHALE	6.0	131.0	
443.0	MODESTO		BLACK SHALE	1.0	137.0	
442.0	MODESTO		GRAY SHALE	27.0	138.0	
415.0	MODESTO	PIASA	LIMESTONE	4.0	165.0	
411.0	MODESTO		GRAY SHALE	1.5	169.0	
409.5	MODESTO		BLACK SHALE	1.0	170.5	
408.5	MODESTO		GRAY SHALE	9.5	171.5	
399.0	CARBONDALE	DANVILLE	COAL	2.0	181.0	
397.0	CARBONDALE		GRAY SHALE	4.0	183.0	
393.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.8	187.0	
390.2	CARBONDALE		GRAY SHALE	1.7	189.8	
388.5	CARBONDALE	BRERETON	LIMESTONE	3.5	191.5	
385.0	CARBONDALE		GRAY SHALE	0.6	195.0	
384.4	CARBONDALE	ANNA	BLACK SHALE	2.6	195.6	
381.8	CARBONDALE	HERRIN	COAL	5.8	198.2	
376.0	CARBONDALE		SHALE & CLAYSTONE	0.2	204.0	
375.8	CARBONDALE		CORE LOSS	0.8	204.2	
375.0	CARBONDALE		GRAY SHALE	2.0	205.0	
373.0	CARBONDALE		LIMESTONE	5.0	207.0	
368.0	CARBONDALE		GRAY SHALE	8.0	212.0	

MAPID: 11924147000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 13 QUARTERS/FOOTAGES: 250' S line, 1000' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.93057 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.963877 DATE COLLECTED: 5 / 8 / 1975

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 222.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-7 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
575.0			UNCONSOLIDATED	49.0	0.0	
526.0	MODESTO		GRAY SHALE	85.5	49.0	
440.5	MODESTO		LIMESTONE	0.5	134.5	
440.0	MODESTO		GRAY SHALE	6.0	135.0	
434.0	MODESTO		BLACK SHALE	2.0	141.0	
432.0	MODESTO		GRAY SHALE	18.0	143.0	
414.0	MODESTO		SHALE	6.0	161.0	
408.0	MODESTO	PIASA	LIMESTONE	3.5	167.0	
404.5	MODESTO		SHALE	13.5	170.5	
391.0	CARBONDALE		GRAY SHALE	10.0	184.0	
381.0	CARBONDALE		GRAY SHALE	5.0	194.0	
376.0	CARBONDALE	BRERETON	LIMESTONE	4.0	199.0	
372.0	CARBONDALE		SHALE	0.8	203.0	
371.2	CARBONDALE	HERRIN	COAL	6.0	203.8	
365.2	CARBONDALE		UNDERCLAY	3.2	209.8	
362.0	CARBONDALE		LIMESTONE	2.0	213.0	
360.0	CARBONDALE		GRAY SHALE	7.0	215.0	



MAPID: 11924146000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 14 QUARTERS/FOOTAGES: 1775' S line, 2600' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.955263 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.968871 DATE COLLECTED: 5 / 13 / 1975

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 202.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-20 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.0			UNCONSOLIDATED	158.0	0.0	
432.0	MODESTO		SHALE	14.0	158.0	
418.0	CARBONDALE	DANVILLE	COAL	1.0	172.0	
417.0	CARBONDALE		UNDERCLAY	1.5	173.0	
415.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	174.5	
408.0	CARBONDALE		SHALE	3.5	182.0	
404.5	CARBONDALE	BRERETON	LIMESTONE	5.5	185.5	
399.0	CARBONDALE	ANNA	BLACK SHALE	0.4	191.0	
398.6	CARBONDALE	HERRIN	COAL	4.6	191.4	
394.0	CARBONDALE		UNDERCLAY	2.5	196.0	
391.5	CARBONDALE		GRAY SHALE	3.5	198.5	

MAPID: 11900257000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 15 QUARTERS/FOOTAGES: 2720' S line, 1660' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.970283 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.972155 DATE COLLECTED: 0 / 0 / 1938

SURFACE ELEVATION (FT.): 588.0 LOGGED (FT.): 1980.0 LOG TYPE:

SOURCE: SPIVEY M WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
403.0	CARBONDALE	HERRIN	COAL	6.0	185.0	

MAPID: 11924148000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 15 QUARTERS/FOOTAGES: 2300' N line, 2275' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.974408 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.973455 DATE COLLECTED: 5 / 14 / 1975

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 190.7 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-23 AND NDI-23C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
590.0			UNCONSOLIDATED	83.0	0.0
507.0	MODESTO		SHALE	13.0	83.0
494.0	MODESTO		SHALE	15.0	96.0
479.0	MODESTO		GRAY SHALE	16.0	111.0
463.0	MODESTO		BLACK SHALE	4.0	127.0
459.0	MODESTO		GRAY SHALE	23.0	131.0
436.0	MODESTO	PIASA	LIMESTONE	4.0	154.0
432.0	MODESTO		GRAY SHALE	12.0	158.0
420.0	MODESTO		BLACK SHALE	0.7	170.0
419.3	CARBONDALE	DANVILLE	COAL	1.3	170.7
418.1	CARBONDALE		GRAY SHALE	4.3	171.9
413.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	176.2
409.7	CARBONDALE		SHALE	1.1	180.3
408.6	CARBONDALE	BRERETON	FOSSILIFEROUS LIMESTONE	0.7	181.4
407.9	CARBONDALE		SHALE	0.4	182.1
407.5	CARBONDALE		SHALE	0.6	182.5
406.9	CARBONDALE	HERRIN	COAL	4.6	183.1
402.3	CARBONDALE		UNDERCLAY	0.9	187.7
401.4	CARBONDALE		LIMESTONE	0.7	188.6
400.7	CARBONDALE		UNDERCLAY	1.1	189.3

MAPID: 11900058000C    VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON    TWP/RNG: 6N 8W    SECTION: 16    QUARTERS/FOOTAGES: SW SE NW

QUADRANGLE: PRAIRIETOWN    LONGITUDE: -89.995881    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 38.974183    DATE COLLECTED: 0 / 0 / 1906

SURFACE ELEVATION (FT.): 573.3    LOGGED (FT.): 322.0    LOG TYPE: Drillers Log

SOURCE: A.T. BIVENS    4    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
573.3			CLAY	10.0	0.0	
563.3			CLAY	11.0	10.0	
552.3			SAND	42.0	21.0	
510.3			UNDERCLAY	20.0	63.0	
490.3			SANDY SHALE	94.0	83.0	
396.3			SANDY SHALE	19.0	177.0	
377.3			SHALE	10.0	196.0	
367.3			CALCAREOUS SHALE	12.0	206.0	
355.3			UNDERCLAY	5.0	218.0	
350.3			CALCAREOUS SHALE	6.3	223.0	
344.0			COAL	1.3	229.3	
342.6			SANDSTONE	35.3	230.7	
307.3			CALCAREOUS SHALE	6.5	266.0	
300.8			LIMESTONE	0.5	272.5	
300.3			BLACK SHALE	2.2	273.0	
298.1			COAL	2.5	275.2	
295.6			UNDERCLAY	4.3	277.7	
291.3			LIMESTONE	3.6	282.0	
287.7			CALCAREOUS SHALE	8.4	285.6	
279.3			CALCAREOUS SHALE	13.0	294.0	
266.3			DARK SHALE	6.2	307.0	
260.1			COAL	2.2	313.2	
258.0			SANDY SHALE	1.7	315.3	
256.3			DARK SHALE	1.6	317.0	
254.7			BLACK SHALE	0.6	318.6	
254.1			COAL	0.3	319.2	
253.8			UNDERCLAY	2.5	319.5	

MAPID: 11924149000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 16 QUARTERS/FOOTAGES: 1332' N line, 2598' W line  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.99278 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.976755 DATE COLLECTED: 9 / 28 / 1977  
 SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 200.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-77-3 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.0			UNCONSOLIDATED	165.0	0.0	
425.0	CARBONDALE	BRERETON	LIMESTONE	4.0	165.0	
421.0	CARBONDALE	ANNA	BLACK SHALE	1.0	169.0	
420.0	CARBONDALE	HERRIN	COAL	4.0	170.0	
416.0	CARBONDALE		UNDERCLAY	5.5	174.0	
410.5	CARBONDALE		LIMESTONE	1.5	179.5	
409.0	CARBONDALE		GRAY SHALE	15.0	181.0	
394.0	CARBONDALE		CALCAREOUS SHALE	4.0	196.0	

MAPID: 11924150000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 17 QUARTERS/FOOTAGES: 2463' S line, 332' E line  
 QUADRANGLE: BETHALTO LONGITUDE: -90.00317 GEOLOGIST: SROKA  
 CONFIDENTIAL: N LATITUDE: 38.973207 DATE COLLECTED: 9 / 28 / 1977  
 SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 220.0 LOG TYPE: Multiple log types  
 SOURCE: MOBIL OIL NDI-77-10 WELL TYPE: Coal Test  
 COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.0			UNCONSOLIDATED	187.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
393.0	CARBONDALE		GRAY SHALE	33.0	187.0	

MAPID: 11990221000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 18 QUARTERS/FOOTAGES: 350' N line, 100' W line of SE SW SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.027842 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.967996 DATE COLLECTED: 4 / 23 / 1958  
 SURFACE ELEVATION (FT.): 570.0 LOGGED (FT.): 100.0 LOG TYPE: Drillers Log  
 SOURCE: CC DRILLING CO. 12 WELL TYPE: Coal Test  
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.0	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	AND YELLOW CLAY
554.0	PLEISTOCENE		UNCONSOLIDATED	84.0	16.0	AND GRAY CLAY

**MAPID:** 11900454000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 19    **QUARTERS/FOOTAGES:** 0' S line, 2640' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.030046    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.95254    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 510.0    **LOGGED (FT.):** 52.0    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
467.5	CARBONDALE	BRERETON	LIMESTONE	5.0	42.5
462.5	CARBONDALE	ANNA	BLACK SHALE	1.5	47.5
461.0	CARBONDALE	HERRIN	COAL	3.0	49.0

**MAPID:** 11924151000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 21    **QUARTERS/FOOTAGES:** 1500' N line, 420' W line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.000574    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.962137    **DATE COLLECTED:** 5 / 15 / 1975  
**SURFACE ELEVATION (FT.):** 560.0    **LOGGED (FT.):** 192.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL NDI-26    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.0			UNCONSOLIDATED	192.0	0.0
-	CARBONDALE	HERRIN	COAL	0.0	

**MAPID:** 11924152000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 21    **QUARTERS/FOOTAGES:** 610' S line, 2120' E line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.990344    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.952926    **DATE COLLECTED:** 9 / 29 / 1977  
**SURFACE ELEVATION (FT.):** 515.0    **LOGGED (FT.):** 160.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL NDI-77-9    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
515.0			UNCONSOLIDATED	124.0	0.0
-	CARBONDALE	HERRIN	COAL	0.0	
391.0	CARBONDALE		SHALY LIMESTONE	4.0	124.0
387.0	CARBONDALE		GRAY SHALE	10.0	128.0
377.0	CARBONDALE		BLACK SHALE	1.0	138.0
376.0	CARBONDALE		GRAY SHALE	5.7	139.0
370.3	CARBONDALE		SHALE	4.3	144.7
366.0	CARBONDALE		GRAY SHALE	11.0	149.0

MAPID: 11900053000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 22 QUARTERS/FOOTAGES: NW NE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.967841 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.956398 DATE COLLECTED:

SURFACE ELEVATION (FT.): 576.1 LOGGED (FT.): 517.0 LOG TYPE:

SOURCE: DORSEY WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
406.1	CARBONDALE	HERRIN	COAL	4.0	170.0	

MAPID: 11900053000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 22 QUARTERS/FOOTAGES: NW NE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.967841 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.956398 DATE COLLECTED:

SURFACE ELEVATION (FT.): 576.0 LOGGED (FT.): 174.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
431.0	MODESTO	PIASA	LIMESTONE	6.0	145.0	
425.0	MODESTO		BLACK SHALE	10.0	151.0	
415.0	CARBONDALE	DANVILLE	COAL	2.0	161.0	
413.0	CARBONDALE		CLAYSTONE	2.0	163.0	
411.0	CARBONDALE	BRERETON	LIMESTONE	5.0	165.0	
406.0	CARBONDALE	HERRIN	COAL	4.0	170.0	

MAPID: 11923624000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 23 QUARTERS/FOOTAGES: 875' N line, 775' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.948535 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.961281 DATE COLLECTED: 6 / 15 / 1978

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 220.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL ND-78-10 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
590.0			UNCONSOLIDATED	134.0	0.0
456.0	MODESTO		SHALE	4.0	134.0
452.0	MODESTO		SANDSTONE/LIMESTONE	5.0	138.0
447.0	MODESTO		GRAY SHALE	11.0	143.0
436.0	MODESTO		SHALE	4.0	154.0
432.0	MODESTO		GRAY SHALE	5.0	158.0
427.0	MODESTO	PIASA	LIMESTONE	3.0	163.0
424.0	MODESTO		SHALE	4.0	166.0
420.0	MODESTO		GRAY SHALE	8.5	170.0
411.5	CARBONDALE	DANVILLE	COAL	2.0	178.5
409.5	CARBONDALE		GRAY SHALE	4.5	180.5
405.0	CARBONDALE	BRERETON	SHALY LIMESTONE	8.0	185.0
397.0	CARBONDALE		SHALE	3.4	193.0
393.6	CARBONDALE		BLACK SHALE	0.3	196.4
393.3	CARBONDALE	HERRIN	COAL	4.9	196.7
388.4	CARBONDALE		UNDERCLAY	1.3	201.6
387.2	CARBONDALE		UNDERCLAY	1.5	202.8
385.7	CARBONDALE		SHALE	11.4	204.3
374.3	CARBONDALE		LIMESTONE	1.0	215.7
373.3	CARBONDALE		GRAY SHALE	3.3	216.7

MAPID: 11924153000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 23 QUARTERS/FOOTAGES: 2520' N line, 1550' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.958943 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.957171 DATE COLLECTED: 9 / 29 / 1977

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 210.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-4 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.0			UNCONSOLIDATED	167.0	0.0	
423.0	CARBONDALE	DANVILLE	COAL	1.0	167.0	
422.0	CARBONDALE		GRAY SHALE	3.0	168.0	
419.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	3.5	171.0	
415.5	CARBONDALE		SHALE	1.5	174.5	
414.0	CARBONDALE	BRERETON	LIMESTONE	6.5	176.0	
407.5	CARBONDALE	ANNA	BLACK SHALE	2.5	182.5	
405.0	CARBONDALE	HERRIN	COAL	4.0	185.0	
401.0	CARBONDALE		UNDERCLAY	4.0	189.0	
397.0	CARBONDALE		SHALY LIMESTONE	4.0	193.0	
393.0	CARBONDALE		SHALE	1.0	197.0	
392.0	CARBONDALE		LIMESTONE W/ SHALE	6.8	198.0	
385.2	CARBONDALE		LIMESTONE	1.2	204.8	
384.0	CARBONDALE		SHALE	4.0	206.0	



MAPID: 11924154000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 23 QUARTERS/FOOTAGES: 1239' S line, 1374' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.950726 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.952802 DATE COLLECTED: 9 / 29 / 1977

SURFACE ELEVATION (FT.): 575.0 LOGGED (FT.): 200.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-5 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
575.0			UNCONSOLIDATED	128.0	0.0	
447.0	MODESTO		LIMESTONE	9.0	128.0	
438.0	MODESTO		GRAY SHALE	2.0	137.0	
436.0	MODESTO	PIASA	LIMESTONE	3.0	139.0	
433.0	MODESTO		BLACK SHALE	3.0	142.0	
430.0	MODESTO		GRAY SHALE	9.0	145.0	
421.0	CARBONDALE	DANVILLE	COAL	1.5	154.0	
419.5	CARBONDALE		GRAY SHALE	3.0	155.5	
416.5	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	4.5	158.5	
412.0	CARBONDALE		GRAY SHALE	1.5	163.0	
410.5	CARBONDALE	BRERETON	LIMESTONE	6.5	164.5	
404.0	CARBONDALE	ANNA	BLACK SHALE	2.0	171.0	
402.0	CARBONDALE	HERRIN	COAL	5.0	173.0	
397.0	CARBONDALE		UNDERCLAY	2.5	178.0	
394.5	CARBONDALE		SHALY LIMESTONE	5.0	180.5	
389.5	CARBONDALE	TURNER MINE	SHALE	1.5	185.5	
388.0	CARBONDALE		GRAY SHALE	5.0	187.0	
383.0	CARBONDALE		LIMESTONE	1.0	192.0	
382.0	CARBONDALE		GRAY SHALE	3.4	193.0	
378.6	CARBONDALE		GRAY SHALE	3.6	196.4	

MAPID: 11900412000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 24 QUARTERS/FOOTAGES: 2555' S line, 1790' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.933441 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.9558 DATE COLLECTED:

SURFACE ELEVATION (FT.): 535.1 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: MEYER F WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
385.1	CARBONDALE	HERRIN	COAL	6.0	150.0	

MAPID: 11924155000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 25 QUARTERS/FOOTAGES: 1575' N line, 1950' E line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.934104 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.944426 DATE COLLECTED: 5 / 6 / 1975

SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 139.5 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI14 AND NDI-14C WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0			UNCONSOLIDATED	89.0	0.0	
441.0	MODESTO	PIASA	LIMESTONE	2.0	89.0	
439.0	MODESTO		GRAY SHALE	16.0	91.0	
423.0	CARBONDALE	DANVILLE	COAL	2.0	107.0	
421.0	CARBONDALE		GRAY SHALE	0.7	109.0	
420.3	CARBONDALE		LIMESTONE	0.3	109.7	
420.0	CARBONDALE		GRAY SHALE	3.9	110.0	
416.1	CARBONDALE	BANKSTON FORK	LIMESTONE	1.9	113.9	UNCERTAIN CORRELATION
414.2	CARBONDALE		CORE LOSS	1.2	115.8	
413.0	CARBONDALE	BRERETON	LIMESTONE	2.4	117.0	
410.6	CARBONDALE	BRERETON	FOSSILIFEROUS LIMESTONE	1.3	119.4	
409.3	CARBONDALE		SHALE	1.2	120.7	
408.1	CARBONDALE		SHALE	1.8	121.9	
406.4	CARBONDALE	ANNA	BLACK SHALE	1.0	123.6	
405.4	CARBONDALE	HERRIN	COAL	4.8	124.6	
400.6	CARBONDALE		UNDERCLAY	1.3	129.4	
399.3	CARBONDALE		LIMESTONE	1.6	130.7	
397.7	CARBONDALE		SHALE	0.5	132.3	
397.3	CARBONDALE		LIMESTONE	1.0	132.7	
396.3	CARBONDALE		CORE LOSS	1.3	133.7	
395.0	CARBONDALE		SHALE	4.5	135.0	

MAPID: 11924156000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 25 QUARTERS/FOOTAGES: 600' S line, 1650' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.940112 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.936135 DATE COLLECTED: 9 / 30 / 1977

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 160.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-7 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
525.0			UNCONSOLIDATED	103.0	0.0
422.0	CARBONDALE		GRAY SHALE	5.0	103.0
417.0	CARBONDALE	BRERETON	LIMESTONE	3.5	108.0
413.5	CARBONDALE	ANNA	SHALE	4.5	111.5
409.0	CARBONDALE	HERRIN	COAL	6.0	116.0
403.0	CARBONDALE		UNDERCLAY	2.0	122.0
401.0	CARBONDALE		SHALY LIMESTONE	4.5	124.0
396.5	CARBONDALE		GRAY SHALE	8.5	128.5
388.0	CARBONDALE		GRAY SHALE	4.0	137.0
384.0	CARBONDALE		LIMESTONE	1.0	141.0
383.0	CARBONDALE		SHALE	6.0	142.0
377.0	CARBONDALE		GRAY SHALE	10.0	148.0
367.0	CARBONDALE		SANDSTONE	2.0	158.0

MAPID: 11924157000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 26 QUARTERS/FOOTAGES: 2571' N line, 2271' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.956444 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.942496 DATE COLLECTED: 9 / 30 / 1977

SURFACE ELEVATION (FT.): 565.0 LOGGED (FT.): 220.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-77-8 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
565.0			UNCONSOLIDATED	187.0	0.0
-	CARBONDALE	HERRIN	COAL	0.0	
377.5	CARBONDALE		LIMESTONE	0.5	187.5
377.5	CARBONDALE		GRAY SHALE	32.5	187.5

**MAPID:** 11924158000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 27    **QUARTERS/FOOTAGES:** 2000' S line, 500' E line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.966275    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.940776    **DATE COLLECTED:** 5 / 6 / 1975  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 234.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL NDI-16    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
575.0			UNCONSOLIDATED	217.0	0.0	
-	CARBONDALE	HERRIN	COAL	0.0		
358.0	CARBONDALE		SILTY SHALE	17.0	217.0	

**MAPID:** 11990112000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SW SW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.99743    **GEOLOGIST:** LAWSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.936859    **DATE COLLECTED:** 6 / 14 / 1962  
**SURFACE ELEVATION (FT.):** 551.4    **LOGGED (FT.):** 119.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    F219    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
551.4	PLEISTOCENE		UNCONSOLIDATED	106.0	0.0	
445.4	MODESTO		ROCK	7.0	106.0	
438.4	CARBONDALE	HERRIN	COAL	4.4	113.0	
434.0	CARBONDALE		ROCK	1.6	117.4	

**MAPID:** 11990114000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SW SE  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.988074    **GEOLOGIST:** LAWSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.936432    **DATE COLLECTED:** 6 / 15 / 1962  
**SURFACE ELEVATION (FT.):** 546.4    **LOGGED (FT.):** 118.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    F223    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
546.4	PLEISTOCENE		UNCONSOLIDATED	102.0	0.0	
444.4	CARBONDALE	DANVILLE	COAL	2.3	102.0	TOP ERODED
442.1	CARBONDALE		ROCK	13.7	104.3	

**MAPID:** 11990119000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 1' N line, 611' E line of SE SW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.994846    **GEOLOGIST:** LAWSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.940409    **DATE COLLECTED:** 6 / 11 / 1962  
**SURFACE ELEVATION (FT.):** 515.3    **LOGGED (FT.):** 77.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    F270    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.3	PLEISTOCENE		UNCONSOLIDATED	72.0	0.0	
443.3	CARBONDALE		COAL	2.8	72.0	TOP ERODED
440.5	CARBONDALE		ROCK	2.2	74.8	

**MAPID:** 11990121000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 210' N line, 1' E line of SE SE  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.983297    **GEOLOGIST:** LAWSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.939315    **DATE COLLECTED:** 6 / 15 / 1962  
**SURFACE ELEVATION (FT.):** 551.2    **LOGGED (FT.):** 121.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    F275    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
551.2	PLEISTOCENE		UNCONSOLIDATED	110.0	0.0	
441.2	MODESTO		ROCK	5.0	110.0	
436.2	CARBONDALE	HERRIN	COAL	4.3	115.0	
431.9	CARBONDALE		ROCK	1.7	119.3	

**MAPID:** 11990276000C    **VERSION:** 1    **PROJECT:** NCRDS02  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 28    **QUARTERS/FOOTAGES:** 1' N line, 94' W line of SE SW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.997063    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.940508    **DATE COLLECTED:** 6 / 12 / 1962  
**SURFACE ELEVATION (FT.):** 518.8    **LOGGED (FT.):** 94.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    F269    **WELL TYPE:** Coal Test  
**COMMENT:** BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
518.8	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
512.8	PLEISTOCENE		CLAY	8.0	6.0	
504.8	PLEISTOCENE		CLAY	62.0	14.0	
442.8	SHELBURN		MICACEOUS SHALE	3.0	76.0	
439.8	SHELBURN	BRERETON	LIMESTONE	10.0	79.0	
429.8	CARBONDALE		SHALE	1.0	89.0	SOFT
428.8	CARBONDALE	HERRIN	COAL	2.3	90.0	GOOD
426.5	CARBONDALE		UNDERCLAY	1.8	92.3	

MAPID: 11990277000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 28 QUARTERS/FOOTAGES: 50' N line, 20' E line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.988056 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.939972 DATE COLLECTED: 6 / 15 / 1962

SURFACE ELEVATION (FT.): 521.4 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F273 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
521.4	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
515.4	PLEISTOCENE		CLAY	9.0	6.0	
506.4	PLEISTOCENE		CLAY	75.0	15.0	
431.4	CARBONDALE		SANDY SHALE	13.0	90.0	
418.4	CARBONDALE		LIMESTONE	1.0	103.0	
417.4	CARBONDALE		SHALE	4.0	104.0	SOFT

MAPID: 11990281000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 28 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997365 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.9442 DATE COLLECTED: 6 / 12 / 1962

SURFACE ELEVATION (FT.): 547.5 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F319 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
547.5	PLEISTOCENE		UNCONSOLIDATED	19.0	0.0	
528.5	PLEISTOCENE		CLAY	21.0	19.0	
507.5	PLEISTOCENE		CLAY	71.0	40.0	
436.5	SHELBURN	BRERETON	LIMESTONE	9.0	111.0	SOFT
427.5	SHELBURN		SHALE	2.0	120.0	SOFT
425.5	CARBONDALE	HERRIN	COAL	4.0	122.0	FIAR
421.5	CARBONDALE		UNDERCLAY	1.0	126.0	

MAPID: 11990282000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 28 QUARTERS/FOOTAGES: 1' N line, 900' W line of NE SW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.994179 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.944054 DATE COLLECTED: 6 / 11 / 1962  
 SURFACE ELEVATION (FT.): 514.5 LOGGED (FT.): 91.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F320 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.5	PLEISTOCENE		UNCONSOLIDATED	19.0	0.0	
495.5	PLEISTOCENE		CLAY	24.0	19.0	
471.5	PLEISTOCENE		CLAY	43.0	43.0	
428.5	CARBONDALE	HERRIN	COAL	3.3	86.0	NO GOOD; TOP ERODED
425.2	CARBONDALE		UNDERCLAY	1.7	89.3	

MAPID: 11990288000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 28 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997296 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.951533 DATE COLLECTED: 6 / 12 / 1962  
 SURFACE ELEVATION (FT.): 559.3 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F411 WELL TYPE: Coal Test  
 COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
559.3	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
545.3	PLEISTOCENE		CLAY	12.0	14.0	
533.3	PLEISTOCENE		CLAY	93.0	26.0	
440.3			SANDY SHALE	29.0	119.0	

MAPID: 11990291000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 28 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.99733 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.947869 DATE COLLECTED: 6 / 13 / 1962

SURFACE ELEVATION (FT.): 558.3 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F369 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
558.3	PLEISTOCENE		UNCONSOLIDATED	21.0	0.0	
537.3	PLEISTOCENE		CLAY	18.0	21.0	
519.3	PLEISTOCENE		CLAY	82.0	39.0	
437.3	SHELBURN		SHALE	15.0	121.0	SOFT
422.3	SHELBURN	BRERETON	LIMESTONE	3.0	136.0	SOFT
419.3	SHELBURN		SHALE	2.0	139.0	SOFT
417.3	CARBONDALE	HERRIN	COAL	1.8	141.0	GOOD
415.5	CARBONDALE		UNDERCLAY	1.0	142.8	
414.5	CARBONDALE		SHALE	3.2	143.8	WHITE

MAPID: 11990292000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 28 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.002085 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.951733 DATE COLLECTED: 6 / 12 / 1962

SURFACE ELEVATION (FT.): 565.7 LOGGED (FT.): 145.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F417 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
565.7	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
556.7	PLEISTOCENE		CLAY	14.0	9.0	
542.7	PLEISTOCENE		SAND & GRAVEL	105.0	23.0	
437.7	SHELBURN		SHALE	11.0	128.0	
426.7	CARBONDALE	HERRIN	COAL	4.7	139.0	GOOD
422.0	CARBONDALE		UNDERCLAY	1.3	143.7	



MAPID: 11990293000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 28 QUARTERS/FOOTAGES: 20' N line, 30' E line of NW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997398 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.951486 DATE COLLECTED: 6 / 11 / 1962

SURFACE ELEVATION (FT.): 548.4 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F419 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
548.4	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
540.4	PLEISTOCENE		CLAY	11.0	8.0	
529.4	PLEISTOCENE		SAND & GRAVEL	116.0	19.0	
413.4			MICACEOUS SHALE	13.0	135.0	SOFT]

MAPID: 11924159000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 2600' S line, 1290' E line

QUADRANGLE: BETHALTO LONGITUDE: -90.006657 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.944423 DATE COLLECTED: 5 / 15 / 1975

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 142.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-25 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.0			UNCONSOLIDATED	113.0	0.0	
447.0	CARBONDALE	BRERETON	LIMESTONE	4.5	113.0	
442.5	CARBONDALE	ANNA	BLACK SHALE	3.9	117.5	
438.6	CARBONDALE	HERRIN	COAL	3.6	121.4	
435.0	CARBONDALE		SHALE	5.0	125.0	
430.0	CARBONDALE		LIMESTONE	1.5	130.0	
428.5	CARBONDALE		GRAY SHALE	10.5	131.5	

MAPID: 11990122000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW

QUADRANGLE: BETHALTO LONGITUDE: -90.02075 GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.945183 DATE COLLECTED: 6 / 14 / 1962

SURFACE ELEVATION (FT.): 544.8 LOGGED (FT.): 90.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F309 WELL TYPE: Coal Test

COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
544.8	PLEISTOCENE		UNCONSOLIDATED	75.0	0.0	
469.8			ROCK	12.0	75.0	
457.8	CARBONDALE	HERRIN	COAL	1.4	87.0	
456.4	CARBONDALE		ROCK	1.6	88.4	

MAPID: 11990272000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW SE

QUADRANGLE: BETHALTO LONGITUDE: -90.006782 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.937255 DATE COLLECTED: 6 / 8 / 1962

SURFACE ELEVATION (FT.): 549.6 LOGGED (FT.): 112.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F215 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.6	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
540.6	PLEISTOCENE		CLAY	27.0	9.0	
513.6	PLEISTOCENE		SAND & GRAVEL	58.0	36.0	
455.6	SHELBURN		SANDY SHALE	4.0	94.0	
451.6	SHELBURN		LIMESTONE	1.0	98.0	
450.6	SHELBURN		SANDY SHALE	3.0	99.0	
447.6	SHELBURN		LIMESTONE	1.0	102.0	
446.6	SHELBURN		SANDY SHALE	2.0	103.0	
444.6	SHELBURN		LIMESTONE	1.5	105.0	
443.1	SHELBURN		SANDY SHALE	1.5	106.5	
441.6	CARBONDALE	HERRIN	COAL	3.0	108.0	GOOD
438.6	CARBONDALE		UNDERCLAY	1.0	111.0	

MAPID: 11990273000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE

QUADRANGLE: BETHALTO LONGITUDE: -90.002108 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.937074 DATE COLLECTED: 6 / 8 / 1962

SURFACE ELEVATION (FT.): 550.6 LOGGED (FT.): 111.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F217 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
550.6	PLEISTOCENE		UNCONSOLIDATED	19.0	0.0	
531.6	PLEISTOCENE		CLAY	26.0	19.0	
505.6	PLEISTOCENE		CLAY	46.0	45.0	
459.6	SHELBURN		LIMESTONE	2.0	91.0	
457.6	SHELBURN		SHALE	2.0	93.0	WHITE
455.6	SHELBURN		LIMESTONE	11.0	95.0	
444.6	CARBONDALE	HERRIN	COAL	3.8	106.0	GOOD
440.8	CARBONDALE		UNDERCLAY	1.2	109.8	

MAPID: 11990274000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.011441 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.941111 DATE COLLECTED: 8 / 20 / 1962  
 SURFACE ELEVATION (FT.): 548.9 LOGGED (FT.): 106.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F263 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
548.9	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
537.9	PLEISTOCENE		CLAY	18.0	11.0	
519.9	PLEISTOCENE		SAND & GRAVEL	68.0	29.0	
451.9	SHELBURN	BRERETON	LIMESTONE	2.0	97.0	
449.9	CARBONDALE		SHALE	2.0	99.0	SOFT
447.9	CARBONDALE	HERRIN	COAL	3.3	101.0	
444.6	CARBONDALE		UNDERCLAY	1.7	104.3	

MAPID: 11990275000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.006773 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.940924 DATE COLLECTED: 6 / 8 / 1962  
 SURFACE ELEVATION (FT.): 550.6 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F265 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
550.6	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
539.6	PLEISTOCENE		CLAY	11.0	11.0	
528.6	PLEISTOCENE		SAND & GRAVEL	104.0	22.0	
424.6	CARBONDALE		MICACEOUS SHALE	22.0	126.0	

MAPID: 11990278000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.011428 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.944794 DATE COLLECTED: 8 / 21 / 1962  
 SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 120.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F313 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
556.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
545.0	PLEISTOCENE		CLAY	9.0	11.0	
536.0	PLEISTOCENE		CLAY	78.0	20.0	
458.0	SHELBURN		SHALE	10.0	98.0	
448.0	SHELBURN	BRERETON	LIMESTONE	6.0	108.0	
442.0	SHELBURN		SHALE	1.0	114.0	SOFT
441.0	CARBONDALE	HERRIN	COAL	3.4	115.0	GOOD
437.6	CARBONDALE		UNDERCLAY	1.6	118.4	

MAPID: 11990279000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.006764 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.944596 DATE COLLECTED: 6 / 11 / 1962  
 SURFACE ELEVATION (FT.): 555.1 LOGGED (FT.): 123.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F315 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
555.1	PLEISTOCENE		UNCONSOLIDATED	19.0	0.0	
536.1	PLEISTOCENE		CLAY	22.0	19.0	
514.1	PLEISTOCENE		CLAY	69.0	41.0	
445.1	SHELBURN		LIMESTONE	3.0	110.0	
442.1	SHELBURN		SHALE	4.0	113.0	SOFT
438.1	CARBONDALE	HERRIN	COAL	4.8	117.0	FAIR
433.3	CARBONDALE		UNDERCLAY	1.2	121.8	

MAPID: 1199028000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.0021 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.944406 DATE COLLECTED: 6 / 11 / 1962

SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 130.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F317 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
556.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
548.0	PLEISTOCENE		CLAY	13.0	8.0	
535.0	PLEISTOCENE		CLAY	95.0	21.0	
440.0	SHELBURN		MICACEOUS SHALE	5.0	116.0	HARD
435.0	SHELBURN		MICACEOUS SHALE	3.0	121.0	SOFT
432.0	CARBONDALE	HERRIN	COAL	4.2	124.0	
427.8	CARBONDALE		UNDERCLAY	0.5	128.2	
427.3	CARBONDALE		SANDY SHALE	1.3	128.7	

MAPID: 11990283000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.020731 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.94888 DATE COLLECTED: 6 / 14 / 1962

SURFACE ELEVATION (FT.): 543.2 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F359 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
543.2	PLEISTOCENE		UNCONSOLIDATED	21.0	0.0	
522.2	PLEISTOCENE		CLAY	12.0	21.0	
510.2	PLEISTOCENE		CLAY	81.0	33.0	
429.2			LIMESTONE	1.5	114.0	HARD
427.7			SHALE	2.5	115.5	HARD, WHITE
425.2			SHALE	9.0	118.0	VERY HARD, WHITE

MAPID: 11990284000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' S line, 1' E line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.016077 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.948682 DATE COLLECTED: 6 / 13 / 1962

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 110.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F361 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
553.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
546.0	PLEISTOCENE		CLAY	19.0	7.0	
527.0	PLEISTOCENE		CLAY	69.0	26.0	
458.0	SHELBURN		MICACEOUS SHALE	2.0	95.0	SOFT
456.0	SHELBURN		LIMESTONE	4.0	97.0	HARD
452.0	SHELBURN		SHALE	4.0	101.0	SOFT
448.0	CARBONDALE	HERRIN	COAL	4.3	105.0	GOOD
443.7	CARBONDALE		UNDERCLAY	0.7	109.3	

MAPID: 11990285000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' S line, 330' E line of NE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.003257 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.948126 DATE COLLECTED: 6 / 14 / 1962

SURFACE ELEVATION (FT.): 549.7 LOGGED (FT.): 107.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F362B WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.7	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
540.7	PLEISTOCENE		CLAY	10.0	9.0	
530.7	PLEISTOCENE		CLAY	73.0	19.0	
457.7	SHELBURN		MICACEOUS SHALE	2.0	92.0	SOFT
455.7	SHELBURN		MICACEOUS SHALE	2.0	94.0	HARD
453.7	SHELBURN	BRERETON	LIMESTONE	4.0	96.0	HARD
449.7	SHELBURN		MICACEOUS SHALE	1.0	100.0	
448.7	CARBONDALE	ANNA	DARK SHALE	1.0	101.0	DARK
447.7	CARBONDALE	HERRIN	COAL	4.3	102.0	GOOD
443.4	CARBONDALE		UNDERCLAY	0.8	106.3	

MAPID: 11990286000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' S line, 1' W line of NE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.006748 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.948276 DATE COLLECTED: 6 / 13 / 1962

SURFACE ELEVATION (FT.): 560.5 LOGGED (FT.): 116.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F365 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.5	PLEISTOCENE		UNCONSOLIDATED	21.0	0.0	
539.5	PLEISTOCENE		CLAY	19.0	21.0	
520.5	PLEISTOCENE		CLAY	72.0	40.0	
448.5	CARBONDALE	HERRIN	COAL	2.5	112.0	GOOD: TOP ERODED
446.0	CARBONDALE		UNDERCLAY	1.5	114.5	

MAPID: 11990287000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 60' S line, 1' E line of NE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.002095 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.948236 DATE COLLECTED: 6 / 13 / 1962

SURFACE ELEVATION (FT.): 558.7 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F367 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
558.7	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
549.7	PLEISTOCENE		CLAY	14.0	9.0	
535.7	PLEISTOCENE		CLAY	93.0	23.0	
442.7	SHELBURN		MICACEOUS SHALE	9.0	116.0	SOFT
433.7	SHELBURN		MICACEOUS SHALE	6.0	125.0	HARD
427.7	SHELBURN	BRERETON	LIMESTONE	3.0	131.0	HARD
424.7	SHELBURN		SHALE	1.0	134.0	SOFT
423.7	CARBONDALE	HERRIN	COAL	2.3	135.0	GOOD
421.4	CARBONDALE		UNDERCLAY	0.8	137.3	

MAPID: 11990289000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW

QUADRANGLE: BETHALTO LONGITUDE: -90.011404 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.952157 DATE COLLECTED: 6 / 13 / 1962

SURFACE ELEVATION (FT.): 557.0 LOGGED (FT.): 103.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F413 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
557.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
552.0	PLEISTOCENE		CLAY	14.0	5.0	
538.0	PLEISTOCENE		SAND & GRAVEL	79.0	19.0	
459.0	CARBONDALE		SHALE	1.0	98.0	SOFT
458.0	CARBONDALE	HERRIN	COAL	1.0	99.0	GOOD
457.0	CARBONDALE	HERRIN	COAL	0.5	100.0	SOFT
456.5	CARBONDALE		UNDERCLAY	0.5	100.5	
456.0	CARBONDALE		MICACEOUS SHALE	2.0	101.0	

MAPID: 11990290000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' W line of NE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.006739 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.951945 DATE COLLECTED: 6 / 12 / 1962

SURFACE ELEVATION (FT.): 561.8 LOGGED (FT.): 117.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F415 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
561.8	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
550.8	PLEISTOCENE		CLAY	19.0	11.0	
531.8	PLEISTOCENE		CLAY	41.0	30.0	
490.8	PLEISTOCENE		SAND & GRAVEL	16.0	71.0	
474.8	PLEISTOCENE		CLAY	20.0	87.0	
454.8	SHELBURN		SOFT SHALE	6.0	107.0	
448.8	CARBONDALE	HERRIN	COAL	2.8	113.0	GOOD
446.0	CARBONDALE		UNDERCLAY	1.2	115.8	



**MAPID:** 11900144000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 30    **QUARTERS/FOOTAGES:** 1550' S line, 4850' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.037913    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.942259    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 496.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:**    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
446.0	CARBONDALE	HERRIN	COAL	-	50.0

**MAPID:** 11900449000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 30    **QUARTERS/FOOTAGES:** 1900' N line, 2600' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.029933    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.947295    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 540.0    **LOGGED (FT.):** 92.8    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
487.5	CARBONDALE	DANVILLE	BONE COAL	0.5	52.5
487.0	CARBONDALE		CLAYSTONE	1.0	53.0
486.0	CARBONDALE	LAWSON	GRAY SHALE	23.0	54.0
463.0	CARBONDALE	BRERETON	LIMESTONE	7.0	77.0
456.0	CARBONDALE	ANNA	GRAY SHALE	3.0	84.0
453.0	CARBONDALE	HERRIN	COAL	5.8	87.0

**MAPID:** 11900014000C    **VERSION:** 2    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 31    **QUARTERS/FOOTAGES:** NE NE SW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.032156    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.929809    **DATE COLLECTED:** 0 / 0 / 1929  
**SURFACE ELEVATION (FT.):** 536.5    **LOGGED (FT.):** 73.0    **LOG TYPE:**  
**SOURCE:** TRUAX-TRAER    0011    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
467.5	CARBONDALE	HERRIN	COAL	3.0	69.0

MAPID: 11900014000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 31 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.032156 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.929809 DATE COLLECTED: 4 / 0 / 1929

SURFACE ELEVATION (FT.): 536.5 LOGGED (FT.): 72.5 LOG TYPE: Drillers Log

SOURCE: TRUAX-TRAER COAL CO. 11 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
536.5			SANDY CLAY	25.0	0.0	
511.5			SAND	3.0	25.0	
508.5			CLAY	31.0	28.0	GY CLY; GY
477.5			LIMESTONE	5.0	59.0	
472.5			DARK GRAY SHALE	4.5	64.0	
468.0	CARBONDALE	HERRIN	COAL	3.0	68.5	
465.0			UNDERCLAY	1.0	71.5	

MAPID: 11900164000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 31 QUARTERS/FOOTAGES: 3160' S line, 4850' E line

QUADRANGLE: BETHALTO LONGITUDE: -90.038004 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.932444 DATE COLLECTED:

SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: TOBIAS WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
460.0	CARBONDALE	HERRIN	COAL	-	25.0	

MAPID: 11900165000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 31 QUARTERS/FOOTAGES: 1055' S line, 2615' E line

QUADRANGLE: BETHALTO LONGITUDE: -90.030186 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.92634 DATE COLLECTED:

SURFACE ELEVATION (FT.): 508.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: WILKENNING WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
454.0	CARBONDALE	HERRIN	COAL	5.0	54.0	

**MAPID:** 11900183000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 31    **QUARTERS/FOOTAGES:** 450' S line, 150' W line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.040288    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.925051    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 505.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** YAGERGREEN    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
475.0	CARBONDALE	HERRIN	COAL	4.5	30.0	

**MAPID:** 11900184000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 31    **QUARTERS/FOOTAGES:** 955' S line, 2420' W line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.032284    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.926143    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 521.2    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LARGENT WM    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
461.2	CARBONDALE	HERRIN	COAL	5.0	60.0	

**MAPID:** 11900231000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 31    **QUARTERS/FOOTAGES:** NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.02588    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.934205    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** STEIRS CON    **WELL TYPE:** Strip Mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
462.0	CARBONDALE	HERRIN	COAL	4.8	18.0	

**MAPID:** 11900400000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 31    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.030908    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.930682    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** OLD BEN COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
457.0	CARBONDALE	HERRIN	COAL	-	63.0	

MAPID: 11900474000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 31 QUARTERS/FOOTAGES: 1320' N line, 0' E line

QUADRANGLE: BETHALTO LONGITUDE: -90.020842 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.934154 DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 82.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
482.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	55.5
480.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	15.0	58.0
465.0	CARBONDALE	BRERETON	LIMESTONE	4.5	73.0
460.5	CARBONDALE	ANNA	GRAY SHALE	1.5	77.5
459.0	CARBONDALE	HERRIN	COAL	3.5	79.0

MAPID: 11900185000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1800' S line, 500' W line

QUADRANGLE: BETHALTO LONGITUDE: -90.019157 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.927985 DATE COLLECTED:

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: MORO CM WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
460.0	CARBONDALE	HERRIN	COAL	5.0	72.0

MAPID: 11990101000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 825' W line of SE NW

QUADRANGLE: BETHALTO LONGITUDE: -90.013258 GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.933826 DATE COLLECTED: 8 / 21 / 1962

SURFACE ELEVATION (FT.): 545.3 LOGGED (FT.): 107.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F162N WELL TYPE: Coal Test

COMMENT: BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
545.3	PLEISTOCENE		UNCONSOLIDATED	71.0	0.0
474.3	MODESTO		ROCK	4.0	71.0
470.3	MODESTO		COAL	1.0	75.0
469.3	MODESTO		ROCK	15.0	76.0
454.3	CARBONDALE	DANVILLE	COAL	2.0	91.0
452.3	CARBONDALE		ROCK	9.0	93.0
443.3	CARBONDALE	HERRIN	COAL	3.9	102.0
439.4	CARBONDALE		ROCK	1.1	105.9

MAPID: 11990246000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW

QUADRANGLE: BETHALTO LONGITUDE: -90.020984 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.923085 DATE COLLECTED: 8 / 16 / 1962

SURFACE ELEVATION (FT.): 530.6 LOGGED (FT.): 92.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F9 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.6	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
519.6	PLEISTOCENE		CLAY	14.0	11.0	
505.6	PLEISTOCENE		CLAY	31.0	25.0	
474.6	SHELBURN	DANVILLE	COAL	1.5	56.0	SOFT; TOP ERODED
473.1	SHELBURN		SHALE	1.5	57.5	SOFT
471.6	SHELBURN		SANDY SHALE	2.0	59.0	
469.6	SHELBURN		LIMESTONE	4.0	61.0	
465.6	SHELBURN		SHALE	5.0	65.0	SOFT
460.6	CARBONDALE	HERRIN	COAL	3.7	70.0	GOOD
456.9	CARBONDALE		UNDERCLAY	1.3	73.7	
455.6	CARBONDALE		SHALE	17.0	75.0	SOFT

MAPID: 11990247000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' S line, 90' W line of SE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.016013 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.922908 DATE COLLECTED: 8 / 16 / 1962

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F11 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
531.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
524.0	PLEISTOCENE		CLAY	13.0	7.0	
511.0	PLEISTOCENE		CLAY	67.0	20.0	
444.0			ROCK	0.5	87.0	HARD
443.5			SHALE	6.5	87.5	SOFT
437.0			SHALE	14.0	94.0	

MAPID: 11990250000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' S line, 90' W line of NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.015959 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.926583 DATE COLLECTED: 8 / 16 / 1962

SURFACE ELEVATION (FT.): 535.4 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F61 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
535.4	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
526.4	PLEISTOCENE		CLAY	15.0	9.0	
511.4	PLEISTOCENE		CLAY	94.0	24.0	

MAPID: 11990251000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' S line, 330' E line of NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.012781 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.926468 DATE COLLECTED: 8 / 16 / 1962

SURFACE ELEVATION (FT.): 536.5 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F62B WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
536.5	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
523.5	PLEISTOCENE		CLAY	12.0	13.0	
511.5	PLEISTOCENE		CLAY	59.0	25.0	
452.5	SHELBURN		LIMESTONE	3.0	84.0	HARD
449.5	SHELBURN		SHALE	4.0	87.0	
445.5	CARBONDALE	HERRIN	COAL	2.0	91.0	SOFT
443.5	CARBONDALE	HERRIN	COAL	2.5	93.0	FAIR
441.0	CARBONDALE		UNDERCLAY	1.5	95.5	

MAPID: 11990252000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' W line of SE SE

QUADRANGLE: BETHALTO LONGITUDE: -90.006951 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.926247 DATE COLLECTED: 6 / 21 / 1962

SURFACE ELEVATION (FT.): 537.7 LOGGED (FT.): 102.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F65 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
537.7	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
526.7	PLEISTOCENE		CLAY	13.0	11.0	
513.7	PLEISTOCENE		CLAY	55.0	24.0	
458.7	SHELBURN	DANVILLE	COAL	1.0	79.0	FAIR; TOP ERODED
457.7	SHELBURN		UNDERCLAY	1.0	80.0	
456.7	SHELBURN		SHALE	10.0	81.0	SOFT
446.7	SHELBURN		MICACEOUS SHALE	7.0	91.0	HARD
439.7	SHELBURN		SHALE	1.0	98.0	SOFT
438.7	CARBONDALE	HERRIN	COAL	2.5	99.0	GOOD
436.2	CARBONDALE		UNDERCLAY	0.5	101.5	

MAPID: 11990253000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW SW

QUADRANGLE: BETHALTO LONGITUDE: -90.020936 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.92676 DATE COLLECTED: 8 / 16 / 1962

SURFACE ELEVATION (FT.): 533.7 LOGGED (FT.): 89.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F59 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
533.7	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
521.7	PLEISTOCENE		CLAY	18.0	12.0	
503.7	PLEISTOCENE		CLAY	35.0	30.0	
468.7	SHELBURN		SHALE	2.0	65.0	SOFT
466.7	SHELBURN	DANVILLE	COAL	1.0	67.0	GOOD
465.7	SHELBURN		SHALE	8.0	68.0	SOFT
457.7	SHELBURN		SANDY SHALE	10.0	76.0	HARD
447.7	CARBONDALE		COAL	1.8	86.0	
445.9	CARBONDALE		UNDERCLAY	1.2	87.8	

MAPID: 11990256000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 600' W line of NW SW

QUADRANGLE: BETHALTO LONGITUDE: -90.018772 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.930358 DATE COLLECTED: 6 / 21 / 1962

SURFACE ELEVATION (FT.): 533.8 LOGGED (FT.): 96.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F110 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
533.8	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
526.8	PLEISTOCENE		CLAY	12.0	7.0	
514.8	PLEISTOCENE		CLAY	42.0	19.0	
472.8	SHELBURN		SHALE	13.0	61.0	SOFT
459.8	SHELBURN	DANVILLE	COAL	2.3	74.0	GOOD
457.5	SHELBURN		UNDERCLAY	2.7	76.3	
454.8	SHELBURN		SHALE	3.0	79.0	SOFT
451.8	SHELBURN		LIMESTONE	4.0	82.0	
447.8	SHELBURN		SHALE	2.0	86.0	SOFO
445.8	SHELBURN	BRERETON	LIMESTONE	1.0	88.0	
444.8	SHELBURN		SANDY SHALE	3.0	89.0	
441.8	CARBONDALE	HERRIN	COAL	3.4	92.0	GOOD
438.4	CARBONDALE		UNDERCLAY	0.6	95.4	

MAPID: 11990257000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.011566 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.930089 DATE COLLECTED: 6 / 21 / 1962

SURFACE ELEVATION (FT.): 541.9 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F113 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
541.9	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
535.9	PLEISTOCENE		CLAY	15.0	6.0	
520.9	PLEISTOCENE		CLAY	54.0	21.0	
466.9	SHELBURN		SHALE	2.0	75.0	SOFT
464.9	SHELBURN	DANVILLE	COAL	2.2	77.0	GOOD
462.7	SHELBURN		UNDERCLAY	0.8	79.2	
461.9	SHELBURN		MICACEOUS SHALE	4.0	80.0	SOFT
457.9	SHELBURN		SANDY SHALE	3.0	84.0	
454.9	SHELBURN	BRERETON	LIMESTONE	4.0	87.0	
450.9	CARBONDALE		SHALE	2.0	91.0	SOFT
448.9	CARBONDALE	HERRIN	COAL	3.9	93.0	GOOD
445.0	CARBONDALE		UNDERCLAY	0.5	96.9	
444.5	CARBONDALE		SANDY SHALE	0.6	97.4	



MAPID: 11990258000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SE

QUADRANGLE: BETHALTO LONGITUDE: -90.0069 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.929914 DATE COLLECTED: 6 / 21 / 1962

SURFACE ELEVATION (FT.): 537.6 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F115 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
537.6	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
528.6	PLEISTOCENE		CLAY	13.0	9.0	
515.6	PLEISTOCENE		SAND & GRAVEL	49.0	22.0	
466.6	SHELBURN		SHALE	6.0	71.0	SOFT
460.6	SHELBURN	DANVILLE	COAL	1.4	77.0	GOOD
459.2	SHELBURN		UNDERCLAY	0.6	78.4	
458.6	SHELBURN		SANDY SHALE	8.0	79.0	HARD
450.6	SHELBURN	BRERETON	LIMESTONE	6.0	87.0	
444.6	CARBONDALE		SHALE	1.0	93.0	SOFT
443.6	CARBONDALE	HERRIN	COAL	2.8	94.0	GOOD
440.8	CARBONDALE		UNDERCLAY	1.2	96.8	

MAPID: 11990259000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE

QUADRANGLE: BETHALTO LONGITUDE: -90.002236 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.929741 DATE COLLECTED: 6 / 21 / 1962

SURFACE ELEVATION (FT.): 537.5 LOGGED (FT.): 107.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F117 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
537.5	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
523.5	PLEISTOCENE		CLAY	12.0	14.0	
511.5	PLEISTOCENE		CLAY	61.0	26.0	
450.5	SHELBURN		SHALE	3.0	87.0	WHITE
447.5	SHELBURN	BRERETON	LIMESTONE	11.0	90.0	HARD
436.5	CARBONDALE		SHALE	1.0	101.0	SOFT
435.5	CARBONDALE	HERRIN	COAL	3.5	102.0	GOOD
432.0	CARBONDALE		UNDERCLAY	1.5	105.5	

MAPID: 11990264000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' S line, 115' W line of NE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.006431 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.933571 DATE COLLECTED: 6 / 14 / 1962

SURFACE ELEVATION (FT.): 538.5 LOGGED (FT.): 92.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F165 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
538.5	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
533.5	PLEISTOCENE		CLAY	11.0	5.0	
522.5	PLEISTOCENE		SAND & GRAVEL	61.0	16.0	
461.5	SHELBURN		SHALE	1.0	77.0	SOFT
460.5	SHELBURN	BRERETON	LIMESTONE	7.0	78.0	
453.5	CARBONDALE		SHALE	1.0	85.0	SOFT
452.5	CARBONDALE	HERRIN	COAL	4.3	86.0	GOOD
448.2	CARBONDALE		UNDERCLAY	0.3	90.3	
447.8	CARBONDALE		SHALE	1.3	90.7	

MAPID: 11990265000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.002174 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.933404 DATE COLLECTED: 6 / 21 / 1962

SURFACE ELEVATION (FT.): 548.1 LOGGED (FT.): 95.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F167 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
548.1	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	
532.1	PLEISTOCENE		CLAY	13.0	16.0	
519.1	PLEISTOCENE		CLAY	47.0	29.0	
472.1	SHELBURN		SHALE	2.0	76.0	WHITE, HARD
470.1	SHELBURN		SHALE	13.0	78.0	WHITE, SOFT
457.1	CARBONDALE	HERRIN	COAL	2.5	91.0	GOOD
454.6	CARBONDALE		UNDERCLAY	1.5	93.5	

MAPID: 1199027000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.016124 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.937612 DATE COLLECTED: 8 / 17 / 1962

SURFACE ELEVATION (FT.): 541.6 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F211 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
541.6	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
530.6	PLEISTOCENE		CLAY	8.0	11.0	
522.6	PLEISTOCENE		SAND & GRAVEL	109.0	19.0	

MAPID: 11990271000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW

QUADRANGLE: BETHALTO LONGITUDE: -90.011453 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.937431 DATE COLLECTED: 8 / 17 / 1962

SURFACE ELEVATION (FT.): 549.3 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F213 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.3	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
540.3	PLEISTOCENE		CLAY	13.0	9.0	
527.3	PLEISTOCENE		SAND & GRAVEL	60.0	22.0	
467.3	SHELBURN		SHALE	3.0	82.0	SOFT
464.3	CARBONDALE		SANDY SHALE	17.0	85.0	HARD
447.3	CARBONDALE	HERRIN	COAL	4.4	102.0	
442.9	CARBONDALE		UNDERCLAY	1.6	106.4	

**MAPID:** 1192416000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 33    **QUARTERS/FOOTAGES:** 2050' S line, 2500' E line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.99199    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.927653    **DATE COLLECTED:** 5 / 14 / 1975  
**SURFACE ELEVATION (FT.):** 530.0    **LOGGED (FT.):** 122.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL NDI-22    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
530.0			UNCONSOLIDATED	97.0	0.0
433.0	CARBONDALE		GRAY SHALE	7.5	97.0
425.5	CARBONDALE	HERRIN	COAL	4.0	104.5
421.5	CARBONDALE		UNDERCLAY	2.5	108.5
419.0	CARBONDALE		SHALY LIMESTONE	4.0	111.0
415.0	CARBONDALE		GRAY SHALE	7.0	115.0

**MAPID:** 11990113000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 33    **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NE NW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.992752    **GEOLOGIST:** LAWSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.936642    **DATE COLLECTED:** 6 / 7 / 1962  
**SURFACE ELEVATION (FT.):** 505.6    **LOGGED (FT.):** 80.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    F221    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
505.6	PLEISTOCENE		UNCONSOLIDATED	62.0	0.0
443.6	MODESTO		ROCK	13.0	62.0
430.6	CARBONDALE	HERRIN	COAL	3.5	75.0
427.1	CARBONDALE		ROCK	1.5	78.5

**MAPID:** 11990115000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 33    **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NE NE  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.983396    **GEOLOGIST:** LAWSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.936214    **DATE COLLECTED:** 6 / 7 / 1962  
**SURFACE ELEVATION (FT.):** 548.8    **LOGGED (FT.):** 114.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    F225    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
548.8	PLEISTOCENE		UNCONSOLIDATED	100.0	0.0
448.8	MODESTO		ROCK	8.0	100.0
440.8	CARBONDALE	HERRIN	COAL	4.2	108.0
436.6	CARBONDALE		ROCK	1.8	112.2

MAPID: 11990248000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW SE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.987832 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.921826 DATE COLLECTED: 5 / 30 / 1962  
 SURFACE ELEVATION (FT.): 536.4 LOGGED (FT.): 116.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F23 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
536.4	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
524.4	PLEISTOCENE		CLAY	18.0	12.0	
506.4	PLEISTOCENE		CLAY	68.0	30.0	
438.4	SHELBURN	BRERETON	LIMESTONE	6.0	98.0	
432.4	CARBONDALE		SHALE	3.0	104.0	
429.4	CARBONDALE	HERRIN	COAL	3.8	107.0	GOOD
425.6	CARBONDALE		UNDERCLAY	3.2	110.8	
422.4	CARBONDALE		LIMESTONE	2.0	114.0	

MAPID: 11990249000C VERSION: 1

PROJECT: NCRS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.982989 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.921631 DATE COLLECTED: 5 / 30 / 1962  
 SURFACE ELEVATION (FT.): 529.7 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F25 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
529.7	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
518.7	PLEISTOCENE		CLAY	12.0	11.0	
506.7	PLEISTOCENE		CLAY	67.0	23.0	
439.7	SHELBURN	BRERETON	LIMESTONE	4.0	90.0	HARD
435.7	CARBONDALE		SHALE	3.0	94.0	SOFT
432.7	CARBONDALE	HERRIN	COAL	1.7	97.0	SOFT, NO LOAD
431.0	CARBONDALE	HERRIN	COAL	3.7	98.7	GOOD
427.4	CARBONDALE		UNDERCLAY	2.7	102.3	
424.7	CARBONDALE		MICACEOUS SHALE	1.0	105.0	HARD
423.7	CARBONDALE		LIMESTONE	3.0	106.0	
420.7	CARBONDALE		MICACEOUS SHALE	38.0	109.0	

MAPID: 11990254000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 1' W line of SE SE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.987885 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.925473 DATE COLLECTED: 5 / 31 / 1962  
 SURFACE ELEVATION (FT.): 496.6 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F73 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
496.6	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	
480.6	PLEISTOCENE		CLAY	14.0	16.0	
466.6	PLEISTOCENE		CLAY	34.0	30.0	
432.6	SHELBURN	DANVILLE	COAL W/ BLACK SHALE	0.7	64.0	TOP ERODED
431.9	SHELBURN		LIMESTONE	3.3	64.7	
428.6	SHELBURN		SHALE	3.0	68.0	SOFT
425.6	SHELBURN		LIMESTONE	2.0	71.0	
423.6	SHELBURN		SHALE	25.0	73.0	
398.6	SHELBURN		SHALE	9.0	98.0	HARD
389.6	SHELBURN		ROCK	3.0	107.0	HARD
386.6	SHELBURN		SHALE	38.0	110.0	HARD

MAPID: 11990255000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE SE  
 QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.983088 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.925272 DATE COLLECTED: 5 / 31 / 1962  
 SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 187.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE F75 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
540.0	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
525.0	PLEISTOCENE		CLAY	14.0	15.0	
511.0	PLEISTOCENE		CLAY	97.0	29.0	
414.0	CARBONDALE		SANDY SHALE	61.0	126.0	

MAPID: 1199026000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992712 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.929329 DATE COLLECTED: 6 / 4 / 1962

SURFACE ELEVATION (FT.): 519.4 LOGGED (FT.): 91.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F119 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
519.4	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
510.4	PLEISTOCENE		CLAY	19.0	9.0	
491.4	PLEISTOCENE		CLAY	47.0	28.0	
444.4	SHELBURN		MICACEOUS SHALE	3.0	75.0	SOFT
441.4	SHELBURN		LIMESTONE	5.0	78.0	HARD
436.4	SHELBURN		MICACEOUS SHALE	3.0	83.0	SOFT
433.4	CARBONDALE	HERRIN	COAL	3.7	86.0	GOOD
429.7	CARBONDALE		UNDERCLAY	1.3	89.7	

MAPID: 11990261000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 50' E line of NE SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.992885 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.929336 DATE COLLECTED: 6 / 1 / 1962

SURFACE ELEVATION (FT.): 499.0 LOGGED (FT.): 100.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F121 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
499.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
490.0	PLEISTOCENE		CLAY	11.0	9.0	
479.0	PLEISTOCENE		CLAY	39.0	20.0	
440.0	SHELBURN		MICACEOUS SHALE	3.0	59.0	SOFT
437.0	SHELBURN		LIMESTONE	5.0	62.0	HARD
432.0	SHELBURN		MICACEOUS SHALE	3.0	67.0	SOFT
429.0	CARBONDALE	HERRIN	COAL	3.8	70.0	GOOD
425.2	CARBONDALE		UNDERCLAY	1.3	73.8	
424.0	CARBONDALE		MICACEOUS SHALE	5.0	75.0	
419.0	CARBONDALE		LIMESTONE	1.0	80.0	
418.0	CARBONDALE		MICACEOUS SHALE	17.0	81.0	SOFT
401.0	CARBONDALE		LIMESTONE	2.0	98.0	HARD

MAPID: 11990262000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.987953 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.929125 DATE COLLECTED: 6 / 1 / 1962

SURFACE ELEVATION (FT.): 537.4 LOGGED (FT.): 114.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F123 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
537.4	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	
521.4	PLEISTOCENE		CLAY	18.0	16.0	
503.4	PLEISTOCENE		CLAY	69.0	34.0	
434.4	SHELBURN	BRERETON	LIMESTONE	2.0	103.0	
432.4	CARBONDALE		SHALE	3.0	105.0	SOFT
429.4	CARBONDALE	HERRIN	COAL	4.2	108.0	FAIR
425.2	CARBONDALE		UNDERCLAY	1.8	112.2	

MAPID: 11990266000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.997454 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.933196 DATE COLLECTED: 6 / 16 / 1962

SURFACE ELEVATION (FT.): 545.6 LOGGED (FT.): 113.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F169 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
545.6	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
534.6	PLEISTOCENE		CLAY	21.0	11.0	
513.6	PLEISTOCENE		CLAY	66.0	32.0	
447.6	SHELBURN		LIMESTONE	1.0	98.0	HARD
446.6	SHELBURN		SHALE	2.0	99.0	SOFT
444.6	SHELBURN	BRERETON	LIMESTONE	7.0	101.0	HARD
437.6	CARBONDALE		SHALE	1.0	108.0	SOFT
436.6	CARBONDALE	HERRIN	COAL	3.3	109.0	GOOD
433.3	CARBONDALE		UNDERCLAY	0.7	112.3	



MAPID: 11990267000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 150' W line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.9922 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.932961 DATE COLLECTED: 6 / 4 / 1962

SURFACE ELEVATION (FT.): 540.8 LOGGED (FT.): 119.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F171 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
540.8	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
532.8	PLEISTOCENE		CLAY	15.0	8.0	
517.8	PLEISTOCENE		CLAY	83.0	23.0	
434.8	SHELBURN	BRERETON	LIMESTONE	6.0	106.0	
428.8	SHELBURN		MICACEOUS SHALE	2.0	112.0	SOFT
426.8	CARBONDALE	HERRIN	COAL	3.6	114.0	SOFT, WILL NOT LOAD
423.2	CARBONDALE		UNDERCLAY	1.4	117.6	

MAPID: 11990268000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.988013 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.932775 DATE COLLECTED: 6 / 5 / 1962

SURFACE ELEVATION (FT.): 545.7 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F173 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
545.7	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
536.7	PLEISTOCENE		CLAY	15.0	9.0	
521.7	PLEISTOCENE		CLAY	79.0	24.0	
442.7	SHELBURN	DANVILLE	COAL	1.0	103.0	SOFT; TOP ERODED
441.7	SHELBURN		MICACEOUS SHALE	2.0	104.0	SOFT
439.7	SHELBURN		LIMESTONE	2.0	106.0	HARD
437.7	SHELBURN		MICACEOUS SHALE	2.0	108.0	SOFT
435.7	SHELBURN		LIMESTONE	11.0	110.0	
424.7	SHELBURN		SHALE	1.0	121.0	SOFT
423.7	CARBONDALE	HERRIN	COAL	2.5	122.0	GOOD
421.2	CARBONDALE	HERRIN	COAL	0.8	124.5	SOFT
420.4	CARBONDALE		UNDERCLAY	1.7	125.3	

MAPID: 11990269000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 33 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.983293 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.932565 DATE COLLECTED: 6 / 4 / 1962

SURFACE ELEVATION (FT.): 547.4 LOGGED (FT.): 126.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F175 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
547.4	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
533.4	PLEISTOCENE		CLAY	16.0	14.0	
517.4	PLEISTOCENE		CLAY	80.0	30.0	
437.4	SHELBURN		LIMESTONE	10.0	110.0	
427.4	CARBONDALE		SHALE	2.0	120.0	SOFT
425.4	CARBONDALE	HERRIN	COAL	2.8	122.0	GOOD
422.6	CARBONDALE		UNDERCLAY	1.2	124.8	

MAPID: 11924161000C VERSION: 1

PROJECT: NCRDS89

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 950' N line, 1600' W line

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.977657 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 38.933273 DATE COLLECTED: 5 / 5 / 1975

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 142.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL NDI-12 WELL TYPE: Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
550.0			UNCONSOLIDATED	105.0	0.0	
445.0	CARBONDALE	BRERETON	LIMESTONE	1.0	105.0	
444.0	CARBONDALE		SHALE	5.0	106.0	
439.0	CARBONDALE	HERRIN	COAL	4.5	111.0	
434.5	CARBONDALE		UNDERCLAY	2.5	115.5	
432.0	CARBONDALE		LIMESTONE	6.0	118.0	
426.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	124.0	
424.0	CARBONDALE		GRAY SHALE	16.0	126.0	

MAPID: 11990263000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.983183 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.928919 DATE COLLECTED: 6 / 5 / 1962

SURFACE ELEVATION (FT.): 521.8 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE F125 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
521.8	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	
505.8	PLEISTOCENE		CLAY	22.0	16.0	
483.8	PLEISTOCENE		CLAY	2.0	38.0	
481.8	PLEISTOCENE		BOULDER	1.0	40.0	
480.8	PLEISTOCENE		CLAY	54.0	41.0	
426.8	CARBONDALE		LIMESTONE	1.0	95.0	
425.8	CARBONDALE		SHALE	31.0	96.0	WHITE

MAPID: 11990294000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.978464 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.921454 DATE COLLECTED: 6 / 5 / 1962

SURFACE ELEVATION (FT.): 535.4 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G3 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
535.4	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
524.4	PLEISTOCENE		CLAY	14.0	11.0	
510.4	PLEISTOCENE		CLAY	70.0	25.0	
440.4	SHELBURN		SHALE	12.0	95.0	SOFT
428.4	SHELBURN		LIMESTONE	4.0	107.0	
424.4	CARBONDALE		SHALE	2.0	111.0	SOFT
422.4	CARBONDALE	HERRIN	COAL	3.4	113.0	GOOD
419.0	CARBONDALE		UNDERCLAY	1.6	116.4	

MAPID: 11990295000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.973932 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.921276 DATE COLLECTED: 6 / 6 / 1962

SURFACE ELEVATION (FT.): 543.6 LOGGED (FT.): 121.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G5 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
543.6	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
536.6	PLEISTOCENE		CLAY	17.0	7.0	
519.6	PLEISTOCENE		CLAY	80.0	24.0	
439.6	SHELBURN		SHALE	3.0	104.0	SOFT
436.6	SHELBURN		LIMESTONE	4.0	107.0	HARD
432.6	SHELBURN		SHALE	5.0	111.0	SOFT
427.6	CARBONDALE	HERRIN	COAL	4.0	116.0	GOOD
423.6	CARBONDALE		UNDERCLAY	1.0	120.0	

MAPID: 11990296000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' S line, 1' W line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.969411 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.921101 DATE COLLECTED: 6 / 6 / 1962

SURFACE ELEVATION (FT.): 547.7 LOGGED (FT.): 119.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G7 WELL TYPE: Coal Test

COMMENT: VERMONT AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
547.7	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
534.7	PLEISTOCENE		CLAY	16.0	13.0	
518.7	PLEISTOCENE		SAND & GRAVEL	76.0	29.0	
442.7	SHELBURN	BRERETON	LIMESTONE	7.0	105.0	
435.7	SHELBURN		SHALE	2.0	112.0	SOFT
433.7	CARBONDALE	HERRIN	COAL	3.8	114.0	GOOD
429.9	CARBONDALE		UNDERCLAY	1.3	117.8	

MAPID: 11990297000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.964893 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.920926 DATE COLLECTED: 6 / 6 / 1962

SURFACE ELEVATION (FT.): 497.2 LOGGED (FT.): 74.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G9 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
497.2	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
492.2	PLEISTOCENE		CLAY	14.0	5.0	
478.2	PLEISTOCENE		CLAY	42.0	19.0	
436.2	SHELBURN		LIMESTONE	4.0	61.0	
432.2	SHELBURN		SHALE	3.0	65.0	SOFT
429.2	CARBONDALE	HERRIN	COAL	2.4	68.0	GOOD
426.8	CARBONDALE	HERRIN	COAL	0.3	70.4	SOFT
426.4	CARBONDALE	HERRIN	COAL	0.5	70.8	GOOD
425.9	CARBONDALE		UNDERCLAY	0.5	71.3	
425.4	CARBONDALE		MICACEOUS SHALE	2.3	71.8	

MAPID: 11990298000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' S line, 1' W line of NW SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.973949 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.924882 DATE COLLECTED: 6 / 6 / 1962

SURFACE ELEVATION (FT.): 535.9 LOGGED (FT.): 113.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G55 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
535.9	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
517.9	PLEISTOCENE		CLAY	19.0	18.0	
498.9	PLEISTOCENE		CLAY	59.0	37.0	
439.9	SHELBURN		LIMESTONE	6.0	96.0	
433.9	SHELBURN		SHALE	7.0	102.0	
426.9	CARBONDALE	HERRIN	COAL	3.0	109.0	
423.9	CARBONDALE		UNDERCLAY	1.0	112.0	

MAPID: 11990299000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE SE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.964828 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.92448 DATE COLLECTED: 6 / 6 / 1962

SURFACE ELEVATION (FT.): 499.1 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G59 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
499.1	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
493.1	PLEISTOCENE		CLAY	15.0	6.0	
478.1	PLEISTOCENE		SAND & GRAVEL	26.0	21.0	
452.1	PLEISTOCENE		CLAY	42.0	47.0	
410.1			SHALE	9.0	89.0	WHITE

MAPID: 11990300000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SW

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.978584 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.9287 DATE COLLECTED: 6 / 7 / 1962

SURFACE ELEVATION (FT.): 534.1 LOGGED (FT.): 137.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G103 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
534.1	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
523.1	PLEISTOCENE		CLAY	16.0	11.0	
507.1	PLEISTOCENE		CLAY	99.0	27.0	
408.1			MICACEOUS SHALE	11.0	126.0	

MAPID: 11990301000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 8W SECTION: 34 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NE

QUADRANGLE: PRAIRIETOWN LONGITUDE: -89.973966 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.928484 DATE COLLECTED: 6 / 6 / 1962

SURFACE ELEVATION (FT.): 548.8 LOGGED (FT.): 147.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE G105 WELL TYPE: Coal Test

COMMENT: BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
548.8	PLEISTOCENE		UNCONSOLIDATED	22.0	0.0	
526.8	PLEISTOCENE		CLAY	19.0	22.0	
507.8	PLEISTOCENE		CLAY	100.0	41.0	
407.8			SHALE	6.0	141.0	WHITEW

**MAPID:** 11990302000C    **VERSION:** 1    **PROJECT:** NCRDS02  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 1' S line, 1' E line of NW NW  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.978644    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.93233    **DATE COLLECTED:** 6 / 7 / 1962  
**SURFACE ELEVATION (FT.):** 551.7    **LOGGED (FT.):** 145.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE    G153    **WELL TYPE:** Coal Test  
**COMMENT:** BETHALTO AREA BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
551.7	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0
540.7	PLEISTOCENE		CLAY	16.0	11.0
524.7	PLEISTOCENE		SAND & GRAVEL	102.0	27.0
422.7			SANDY SHALE	1.0	129.0
421.7			LIMESTONE	1.0	130.0
420.7			SANDY SHALE	5.0	131.0
415.7			LIMESTONE	2.0	136.0
413.7			SANDY SHALE	7.0	138.0

**MAPID:** 11924162000C    **VERSION:** 1    **PROJECT:** NCRDS89  
**COUNTY:** MADISON    **TWP/RNG:** 6N 8W    **SECTION:** 35    **QUARTERS/FOOTAGES:** 1650' S line, 1400' E line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -89.95097    **GEOLOGIST:** SROKA  
**CONFIDENTIAL:** N    **LATITUDE:** 38.925014    **DATE COLLECTED:** 5 / 5 / 1975  
**SURFACE ELEVATION (FT.):** 525.0    **LOGGED (FT.):** 182.0    **LOG TYPE:** Multiple log types  
**SOURCE:** MOBIL OIL NDI-13    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
525.0			UNCONSOLIDATED	170.0	0.0
-	CARBONDALE	HERRIN	COAL	0.0	
355.0	CARBONDALE		SILTY SHALE	12.0	170.0

**MAPID:** 11900254000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 2    **QUARTERS/FOOTAGES:** 100' S line, 2025' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.067292    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.9966    **DATE COLLECTED:** 0 / 0 / 1936  
**SURFACE ELEVATION (FT.):** 575.4    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SEVEN HILLS CC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
483.4	CARBONDALE	HERRIN	COAL	4.0	92.0

**MAPID:** 11900900000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 8    **QUARTERS/FOOTAGES:** 962' S line, 2611' E line  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.126762    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.983712    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 584.0    **LOGGED (FT.):** 63.9    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    11    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
523.7	CARBONDALE	ANNA	BLACK SHALE	0.8	60.3
523.0	CARBONDALE	HERRIN	COAL	2.9	61.0

**MAPID:** 11900186000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 500' N line, 550' W line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.115337    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.994277    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 585.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HARMON    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
550.0	CARBONDALE	HERRIN	COAL	4.5	35.0

**MAPID:** 11900187000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 9    **QUARTERS/FOOTAGES:** SE SW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.110543    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.983188    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 550.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SAWYER    **WELL TYPE:** Strip Mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
540.0	CARBONDALE	HERRIN	COAL	5.5	10.0



**MAPID:** 11900891000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 9    **QUARTERS/FOOTAGES:** 34' S line, 27' E line of NW NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.112761    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 38.992187    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 532.8    **LOGGED (FT.):** 54.6    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    3    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
495.4	CARBONDALE	HERRIN	COAL	3.8	37.4

**MAPID:** 11900902000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 10    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.08906    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.988914    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 580.0    **LOGGED (FT.):** 103.8    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    13    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
518.0	MODESTO	PIASA	LIMESTONE	2.5	62.0
515.5	MODESTO		SHALE	15.0	64.5
500.5	CARBONDALE	DANVILLE	COAL	1.9	79.5
498.6	CARBONDALE		CLAYSTONE	2.1	81.4
496.5	CARBONDALE	BANKSTON FORK	LIMESTONE	10.3	83.5
486.2	CARBONDALE	LAWSON	GRAY SHALE	6.9	93.8
479.0	CARBONDALE	HERRIN	COAL	2.8	101.0

**MAPID:** 11900188000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 11    **QUARTERS/FOOTAGES:** 2450' S line, 500' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.061903    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.988371    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HAUSMN HER    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
515.0	CARBONDALE	HERRIN	COAL	4.0	60.0

MAPID: 11900903000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 11 QUARTERS/FOOTAGES:

QUADRANGLE: BETHALTO LONGITUDE: -90.069751

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.989054

DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 31.2

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 14

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
493.8	CARBONDALE	BANKSTON FORK	LIMESTONE	6.8	21.2
487.0	CARBONDALE	HERRIN	COAL	3.2	28.0

MAPID: 11990212000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW SE

QUADRANGLE: BETHALTO LONGITUDE: -90.064967

GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.985322

DATE COLLECTED: 9 / 18 / 1959

SURFACE ELEVATION (FT.): 573.9 LOGGED (FT.): 98.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D265

WELL TYPE: Coal Test

COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
573.9	PLEISTOCENE		UNCONSOLIDATED	60.0	0.0
513.9	MODESTO		ROCK	10.0	60.0
503.9	CARBONDALE	DANVILLE	COAL	2.0	70.0
501.9	CARBONDALE		ROCK	18.0	72.0
483.9	CARBONDALE	HERRIN	COAL	2.3	90.0
481.6	CARBONDALE		ROCK	5.7	92.3

MAPID: 11900968000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1300' N line, 300' W line of NW

QUADRANGLE: BETHALTO LONGITUDE: -90.059072

GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 38.992703

DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 34.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES 8

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
489.2	CARBONDALE	HERRIN	COAL	4.1	26.8

MAPID: 11901105000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1702' N line, 2619' W line

QUADRANGLE: BETHALTO LONGITUDE: -90.050869 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.991919 DATE COLLECTED:

SURFACE ELEVATION (FT.): 584.0 LOGGED (FT.): 92.6 LOG TYPE: Survey Core Study

SOURCE: MIDLAND ELECTRIC COAL CO. 118 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
510.7	CARBONDALE	DANVILLE	COAL	1.1	73.3
509.6	CARBONDALE		CLAYSTONE	0.4	74.4
509.2	CARBONDALE		GRAY SHALE	6.4	74.8
502.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.1	81.2
497.7	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.7	86.3
494.0	CARBONDALE	HERRIN	COAL	2.6	90.0

MAPID: 11990209000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 1' E line of SE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.050833 GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.982723 DATE COLLECTED: 9 / 10 / 1959

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 107.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D221C WELL TYPE: Coal Test

COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
500.0	PLEISTOCENE		UNCONSOLIDATED	27.0	0.0
473.0	CARBONDALE		ROCK	66.0	27.0
407.0	CARBONDALE	COLCHESTER	COAL	0.5	93.0
406.5	CARBONDALE		ROCK	13.5	93.5

MAPID: 11990217000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NW

QUADRANGLE: BETHALTO LONGITUDE: -90.050951 GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.992913 DATE COLLECTED: 9 / 9 / 1959

SURFACE ELEVATION (FT.): 582.8 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D371 WELL TYPE: Coal Test

COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
582.8	PLEISTOCENE		UNCONSOLIDATED	67.0	0.0
515.8	MODESTO		ROCK	6.0	67.0
509.8	CARBONDALE	DANVILLE	COAL	3.0	73.0
506.8	CARBONDALE		ROCK	16.0	76.0
490.8	CARBONDALE	HERRIN	COAL	3.0	92.0
487.8	CARBONDALE		ROCK	2.0	95.0

MAPID: 11990220000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 100' N line, 100' E line of NW NE

QUADRANGLE: BETHALTO LONGITUDE: -90.046769 GEOLOGIST: LAWSON

CONFIDENTIAL: N LATITUDE: 38.996507 DATE COLLECTED: 9 / 14 / 1959

SURFACE ELEVATION (FT.): 576.2 LOGGED (FT.): 99.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D397GA WELL TYPE: Coal Test

COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
576.2	PLEISTOCENE		UNCONSOLIDATED	70.0	0.0
506.2	MODESTO		ROCK	7.0	70.0
499.2	CARBONDALE	DANVILLE	COAL	4.0	77.0
495.2	CARBONDALE		ROCK	12.5	81.0
482.7	CARBONDALE	HERRIN	COAL	4.5	93.5
478.2	CARBONDALE		ROCK	1.0	98.0

MAPID: 11990232000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 310' S line, 420' W line of SW SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.058648 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.982471 DATE COLLECTED: 9 / 18 / 1959  
 SURFACE ELEVATION (FT.): 505.7 LOGGED (FT.): 47.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D217LB WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.7	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
497.7	SHELBURN		GRAY SHALE	3.0	8.0	
494.7	SHELBURN	BRERETON	LIMESTONE	5.8	11.0	
488.9	CARBONDALE		SHALE	0.5	16.8	
488.4	CARBONDALE	HERRIN	COAL	3.3	17.3	FAIR
485.0	CARBONDALE		UNDERCLAY	3.0	20.7	
482.0	CARBONDALE		SANDY SHALE	22.3	23.7	
459.7	CARBONDALE		LIMESTONE	1.0	46.0	

MAPID: 11990233000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.046168 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.981934 DATE COLLECTED: 9 / 14 / 1959  
 SURFACE ELEVATION (FT.): 498.2 LOGGED (FT.): 87.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D223 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
498.2	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
491.2	PLEISTOCENE		SAND & GRAVEL	20.9	7.0	
470.3	CARBONDALE		LIMESTONE	1.6	27.9	
468.7	CARBONDALE		GRAY SHALE	9.8	29.5	
458.9	CARBONDALE		SANDY SHALE	0.8	39.3	
458.2	CARBONDALE		SHALE	6.7	40.0	BLUE
451.5	CARBONDALE		SHALE	3.0	46.7	WHITE, SPOT
448.5	CARBONDALE		SANDSTONE	1.2	49.7	BLUE
447.4	CARBONDALE		GRAY SHALE	36.2	50.8	

MAPID: 11990234000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 100' N line, 1' E line of SE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.050863 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.985238 DATE COLLECTED: 9 / 10 / 1959

SURFACE ELEVATION (FT.): 540.3 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE C246DC WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
540.3	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
525.3	PLEISTOCENE		CLAY & GRAVEL	12.0	15.0	
513.3	PLEISTOCENE		BOULDER	1.0	27.0	
512.3	PLEISTOCENE		CLAY	15.0	28.0	
497.3	SHELBURN		LIMESTONE	1.0	43.0	HARD
496.3	SHELBURN		GRAY SHALE	8.0	44.0	HARD
488.3	SHELBURN		LIMESTONE	4.5	52.0	HARD
483.8	SHELBURN		GRAY SHALE	10.0	56.5	
473.8	CARBONDALE	HERRIN	COAL	3.5	66.5	
470.3	CARBONDALE		UNDERCLAY	3.0	70.0	
467.3	CARBONDALE		LIMESTONE	2.0	73.0	HARD
465.3	CARBONDALE		SANDY SHALE	2.0	75.0	HARD
463.3	CARBONDALE		GRAY SHALE	10.0	77.0	HARD
453.3	CARBONDALE		SANDSTONE	6.0	87.0	HARD
447.3	CARBONDALE		GRAY SHALE	2.0	93.0	
445.3	CARBONDALE		SANDSTONE	3.0	95.0	HARD

MAPID: 11990235000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW SE

QUADRANGLE: BETHALTO LONGITUDE: -90.046229 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.985644 DATE COLLECTED: 9 / 11 / 1959

SURFACE ELEVATION (FT.): 566.3 LOGGED (FT.): 77.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D273 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
566.3	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
554.3	PLEISTOCENE		CLAY	15.0	12.0	
539.3	PLEISTOCENE		CLAY	40.0	27.0	
499.3	PLEISTOCENE		SAND & GRAVEL	10.0	67.0	

MAPID: 11990236000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.050908 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.989211 DATE COLLECTED: 9 / 9 / 1959  
 SURFACE ELEVATION (FT.): 579.1 LOGGED (FT.): 67.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D321 WELL TYPE: Coal Test  
 COMMENT: BOX 43 CAVED IN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
579.1	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
569.1	PLEISTOCENE		CLAY	51.0	10.0
518.1	PLEISTOCENE		GRAVEL	6.0	61.0

MAPID: 11990237000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.046293 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.989362 DATE COLLECTED: 9 / 14 / 1959  
 SURFACE ELEVATION (FT.): 576.2 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D323 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
576.2	PLEISTOCENE		UNCONSOLIDATED	17.0	0.0
559.2	PLEISTOCENE		CLAY & GRAVEL	12.0	17.0
547.2	PLEISTOCENE		CLAY	25.0	29.0
522.2	PLEISTOCENE		SAND & GRAVEL	36.0	54.0
486.2	CARBONDALE		LIMESTONE	8.0	90.0 HARD

MAPID: 11990238000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 100' E line of SW NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.055892 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.992732 DATE COLLECTED: 9 / 9 / 1959  
 SURFACE ELEVATION (FT.): 552.9 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D369 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
552.9	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0
540.9	PLEISTOCENE		SAND/CLAY	25.0	12.0
515.9	PLEISTOCENE		CLAY	43.0	37.0
472.9	CARBONDALE		SANDY SHALE	14.0	80.0
458.9	CARBONDALE		LIMESTONE	4.0	94.0

MAPID: 11990239000C VERSION: 1

PROJECT:

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of SW NE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.046357 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.993078 DATE COLLECTED: 9 / 11 / 1959  
 SURFACE ELEVATION (FT.): 537.0 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D373 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
537.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
532.0	PLEISTOCENE		SAND & GRAVEL	10.0	5.0	
522.0	PLEISTOCENE		CLAY	36.0	15.0	
486.0	CARBONDALE		LIMESTONE	0.3	51.0	HARD
485.7	CARBONDALE		SANDY SHALE	32.7	51.3	SOFT
453.0	CARBONDALE		SANDSTONE	3.0	84.0	
450.0	CARBONDALE		SANDY SHALE	11.0	87.0	

MAPID: 11990240000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NW  
 QUADRANGLE: BETHALTO LONGITUDE: -90.050951 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.992913 DATE COLLECTED: 9 / 21 / 1959  
 SURFACE ELEVATION (FT.): 514.7 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D375 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.7	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
508.7	PLEISTOCENE		CLAY	84.0	6.0	
424.7	CARBONDALE		GRAY SHALE	7.0	90.0	

MAPID: 11990241000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.041851 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.996978 DATE COLLECTED: 9 / 21 / 1959  
 SURFACE ELEVATION (FT.): 581.1 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D425 WELL TYPE: Coal Test  
 COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
581.1	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
571.1	PLEISTOCENE		CLAY & GRAVEL	15.0	10.0	
556.1	PLEISTOCENE		CLAY	73.0	25.0	



**MAPID:** 11900166000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 13    **QUARTERS/FOOTAGES:** 2850' S line, 825' W line  
**QUADRANGLE:** PRAIRIETOWN    **LONGITUDE:** -90.057183    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.975187    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 519.3    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** RINK E H    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
448.3	CARBONDALE	HERRIN	COAL	3.0	71.0

**MAPID:** 11901106000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 13    **QUARTERS/FOOTAGES:** NW NE SE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.044819    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.973892    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 492.0    **LOGGED (FT.):** 53.8    **LOG TYPE:** Survey Core Study  
**SOURCE:** MIDLAND ELECTRIC COAL CO. 188    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
465.3	MODESTO		GRAY SHALE	5.9	26.7
459.4	CARBONDALE	DANVILLE	COAL	2.6	32.6
456.8	CARBONDALE		GRAY SHALE	1.5	35.2
455.3	CARBONDALE		LIMESTONE W/ SHALE	3.4	36.7
451.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	40.1
449.0	CARBONDALE	LAWSON	GRAY SHALE	2.4	43.0
446.6	CARBONDALE	ANNA	DARK GRAY SHALE	3.6	45.4
443.0	CARBONDALE	HERRIN	COAL	4.8	49.0

MAPID: 11990202000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW

QUADRANGLE: BETHALTO

LONGITUDE: -90.060095

GEOLOGIST: LAWSON

CONFIDENTIAL: N

LATITUDE: 38.974408

DATE COLLECTED: 9 / 16 / 1959

SURFACE ELEVATION (FT.): 524.5

LOGGED (FT.): 64.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D117

WELL TYPE: Coal Test

COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
524.5	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0
506.5	MODESTO		ROCK	15.0	18.0
491.5	MODESTO		COAL	0.4	33.0
491.1	MODESTO		ROCK	9.6	33.4
481.5	CARBONDALE	DANVILLE	COAL	2.1	43.0
479.4	CARBONDALE		ROCK	13.4	45.1
466.0	CARBONDALE	HERRIN	COAL	3.9	58.5
462.1	CARBONDALE		ROCK	1.6	62.4

MAPID: 11990242000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' W line of SW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.060112 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.977991 DATE COLLECTED: 9 / 15 / 1959

SURFACE ELEVATION (FT.): 570.4 LOGGED (FT.): 97.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D167 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.4	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
563.4	PLEISTOCENE		CLAY	8.0	7.0	
555.4	PLEISTOCENE		SAND & GRAVEL	5.0	15.0	
550.4	PLEISTOCENE		CLAY	34.9	20.0	
515.5	SHELBURN		LIMESTONE	3.7	54.9	
511.8	SHELBURN		GRAY SHALE	5.8	58.6	
506.1	SHELBURN		COAL	0.3	64.3	RIDER
505.7	SHELBURN		UNDERCLAY	1.3	64.7	
504.4	SHELBURN		GRAY SHALE	3.8	66.0	
500.6			COAL	2.8	69.8	FAIR
497.8			UNDERCLAY	1.4	72.6	
496.4			GRAY SHALE	1.0	74.0	
495.4			COAL	1.5	75.0	FAIR
493.9			UNDERCLAY	1.5	76.5	
492.4			SANDSTONE	1.2	78.0	
491.2			GRAY SHALE	5.3	79.2	
485.9			COAL	3.2	84.5	
482.7			UNDERCLAY	2.3	87.7	
480.4			LIMESTONE	2.0	90.0	
478.4			GRAY SHALE	5.0	92.0	

MAPID: 11990243000C    VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON    TWP/RNG: 6N 9W    SECTION: 13    QUARTERS/FOOTAGES: 330' S line, 1' E line of NW NW

QUADRANGLE: BETHALTO    LONGITUDE: -90.055455    GEOLOGIST: STRAAYER

CONFIDENTIAL: N    LATITUDE: 38.979021    DATE COLLECTED: 9 / 16 / 1959

SURFACE ELEVATION (FT.): 560.9    LOGGED (FT.): 98.0    LOG TYPE: Drillers Log

SOURCE: AYRSHIRE    D169C    WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
560.9	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0
549.9	PLEISTOCENE		CLAY & GRAVEL	15.0	11.0
534.9	PLEISTOCENE		CLAY	10.0	26.0
524.9	PLEISTOCENE		CLAY	30.0	36.0
494.9	SHELBURN		GRAY SHALE	4.0	66.0
490.9	SHELBURN		LIMESTONE	1.0	70.0
489.9	SHELBURN		SHALE	2.0	71.0
487.9	SHELBURN	DANVILLE	COAL	2.8	73.0
485.1	SHELBURN		UNDERCLAY	2.3	75.8
482.9	SHELBURN		LIMESTONE	3.0	78.0
479.9	SHELBURN		SHALE	1.0	81.0
478.9	SHELBURN		LIMESTONE	4.0	82.0
474.9	SHELBURN		SHALE	1.5	86.0
473.4	SHELBURN		LIMESTONE	6.0	87.5
467.4	CARBONDALE		SHALE	0.5	93.5
466.9	CARBONDALE	HERRIN	COAL	3.0	94.0
463.9	CARBONDALE		UNDERCLAY	1.0	97.0

MAPID: 11990244000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.06013 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.981575 DATE COLLECTED: 9 / 28 / 1959

SURFACE ELEVATION (FT.): 572.8 LOGGED (FT.): 96.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D217 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
572.8	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
561.8	PLEISTOCENE		CLAY & GRAVEL	20.0	11.0	
541.8	PLEISTOCENE		CLAY	30.0	31.0	
511.8	SHELBURN		SANDY SHALE	10.0	61.0	
501.8	SHELBURN	DANVILLE	COAL	2.2	71.0	FAIR
499.6	SHELBURN		UNDERCLAY	1.8	73.2	
497.8	SHELBURN		LIMESTONE	4.0	75.0	
493.8	SHELBURN		LIMESTONE	4.0	79.0	
489.8	SHELBURN		LIMESTONE	8.0	83.0	HARD
481.8	CARBONDALE	ANNA	DARK SHALE	1.0	91.0	
480.8	CARBONDALE	HERRIN	COAL	2.3	92.0	FAIR
478.5	CARBONDALE		UNDERCLAY	1.8	94.3	

MAPID: 11990245000C VERSION: 1

PROJECT: NCRDS02

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NW

QUADRANGLE: BETHALTO LONGITUDE: -90.05548 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.981691 DATE COLLECTED: 9 / 5 / 1959

SURFACE ELEVATION (FT.): 549.1 LOGGED (FT.): 92.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE D219 WELL TYPE: Coal Test

COMMENT: BOX 43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.1	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
534.1	PLEISTOCENE		CLAY	33.0	15.0	
501.1	PLEISTOCENE		SAND & GRAVEL	14.0	48.0	
487.1	SHELBURN		SANDY SHALE	7.7	62.0	
479.4	SHELBURN	DANVILLE	COAL	2.3	69.7	FAIR
477.2	SHELBURN		UNDERCLAY	2.1	71.9	
475.1	SHELBURN		GRAY SHALE	4.0	74.0	HARD
471.1	SHELBURN		LIMESTONE	3.0	78.0	HARD
468.1	SHELBURN		SHALE	4.0	81.0	HARD
464.1	CARBONDALE	HERRIN	COAL	4.0	85.0	GOOD
460.1	CARBONDALE		UNDERCLAY	3.0	89.0	

**MAPID:** 11990395000C    **VERSION:** 1    **PROJECT:** NCRDS02  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 13    **QUARTERS/FOOTAGES:** 330' S line, 660' E line of NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.053058    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.975496    **DATE COLLECTED:** 4 / 23 / 1958  
**SURFACE ELEVATION (FT.):** 560.0    **LOGGED (FT.):** 87.0    **LOG TYPE:** Drillers Log  
**SOURCE:** CC DRILLING CO.    16    **WELL TYPE:** Coal Test  
**COMMENT:** BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.0	PLEISTOCENE		UNCONSOLIDATED	26.0	0.0	AND YELLOW CLAY
534.0	PLEISTOCENE		UNCONSOLIDATED	37.0	26.0	AND GRAY CLAY
497.0	PLEISTOCENE		GRAVEL	10.5	63.0	
486.5	SHELBURN		SHALE	6.8	73.5	
479.7	CARBONDALE	HERRIN	COAL	3.5	80.3	
476.2	CARBONDALE		GRAY SHALE	3.3	83.8	

**MAPID:** 11900190000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 14    **QUARTERS/FOOTAGES:** 750' S line, 1500' W line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.074156    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.969616    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 580.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** CHALLNWITH    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.0	CARBONDALE	HERRIN	COAL	4.0	75.0	

**MAPID:** 11900191000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 14    **QUARTERS/FOOTAGES:** 100' S line, 700' W line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.076975    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.967882    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 580.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** MCCREA    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
511.0	CARBONDALE	HERRIN	COAL	3.0	69.0	

**MAPID:** 11900248000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 14    **QUARTERS/FOOTAGES:** 1400' S line, 4800' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.077061    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.971473    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 568.4    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SYCAMORECC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
532.4	CARBONDALE	HERRIN	COAL	3.2	36.0	

**MAPID:** 11900249000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 14    **QUARTERS/FOOTAGES:** 900' S line, 2150' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.06768    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.969893    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 587.7    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HENKHAUSCC    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
527.7	CARBONDALE	HERRIN	COAL	4.5	60.0	

**MAPID:** 11900401000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 14    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.069794    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.974607    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 535.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** RINK BROS    **WELL TYPE:** Underground mine  
**COMMENT:** LOCATION AND SURFACE ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
463.0	CARBONDALE	HERRIN	COAL	4.5	72.0	

MAPID: 11990205000C VERSION: 1

PROJECT: AVAIL

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW NE  
 QUADRANGLE: BETHALTO LONGITUDE: -90.064987 GEOLOGIST: LAWSON  
 CONFIDENTIAL: N LATITUDE: 38.981664 DATE COLLECTED: 9 / 15 / 1959  
 SURFACE ELEVATION (FT.): 577.9 LOGGED (FT.): 95.0 LOG TYPE: Drillers Log  
 SOURCE: AYRSHIRE D215 WELL TYPE: Coal Test  
 COMMENT: FOSTERBURG BOX43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
577.9	PLEISTOCENE		UNCONSOLIDATED	58.0	0.0
519.9	MODESTO		ROCK	8.0	58.0
511.9	CARBONDALE	DANVILLE	COAL	3.0	66.0
508.9	CARBONDALE		ROCK	19.0	69.0
489.9	CARBONDALE	HERRIN	COAL	2.7	88.0
487.2	CARBONDALE		ROCK	4.3	90.7

MAPID: 11900192000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 15 QUARTERS/FOOTAGES: 250' S line, 275' E line  
 QUADRANGLE: BETHALTO LONGITUDE: -90.080427 GEOLOGIST: J.N. PAYNE  
 CONFIDENTIAL: N LATITUDE: 38.968323 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 559.2 LOGGED (FT.): 0.0 LOG TYPE:  
 SOURCE: MUESSELMCC WELL TYPE: Underground mine  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
529.2	CARBONDALE	HERRIN	COAL	2.5	30.0

MAPID: 11900890000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 16 QUARTERS/FOOTAGES:  
 QUADRANGLE: BETHALTO LONGITUDE: -90.108383 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.974218 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 497.0 LOGGED (FT.): 72.1 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 2 WELL TYPE: Coal Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
429.2	CARBONDALE		BLACK SHALE	2.3	67.8
427.0	CARBONDALE		COAL	2.1	70.0



**MAPID:** 11900013000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 23    **QUARTERS/FOOTAGES:** SW NE NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.073421    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.964797    **DATE COLLECTED:** 0 / 0 / 1933  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 300.0    **LOG TYPE:**  
**SOURCE:** CLP GRV CC0001    **WELL TYPE:** Coal Test  
**COMMENT:** SURFACE ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
504.0	CARBONDALE	HERRIN	COAL	4.0	66.0	

**MAPID:** 11900013000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 23    **QUARTERS/FOOTAGES:** SW NE NW  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.073421    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.964797    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 570.0    **LOGGED (FT.):** 69.0    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
537.0	MODESTO	PIASA	LIMESTONE	3.0	33.0	
534.0	MODESTO		SHALE	16.0	36.0	
518.0	CARBONDALE	DANVILLE	COAL	2.0	52.0	
516.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.0	54.0	
512.0	CARBONDALE	BRERETON	LIMESTONE	4.0	58.0	
508.0	CARBONDALE	ANNA	GRAY SHALE	4.0	62.0	
504.0	CARBONDALE	HERRIN	COAL	3.0	66.0	

**MAPID:** 11900167000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 23    **QUARTERS/FOOTAGES:** 375' N line, 4150' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.074747    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.966524    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 576.8    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** CULP GROVE    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
513.8	CARBONDALE	HERRIN	COAL	4.0	63.0	

**MAPID:** 11900193000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 23    **QUARTERS/FOOTAGES:** 1700' N line, 1350' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.064892    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.962657    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** BAUER H    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
504.0	CARBONDALE	HERRIN	COAL	3.7	16.0	

**MAPID:** 11900194000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 23    **QUARTERS/FOOTAGES:** 1900' S line, 2700' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.069722    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.958206    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 560.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** GOLIKE H    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0	CARBONDALE	HERRIN	COAL	3.0	60.0	

**MAPID:** 11900195000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 23    **QUARTERS/FOOTAGES:** 350' N line, 2650' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.069445    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.966481    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HILL CHALL    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.0	CARBONDALE	HERRIN	COAL	3.3	70.0	

MAPID: 11900961000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 24 QUARTERS/FOOTAGES: 150' N line, 100' W line

QUADRANGLE: BETHALTO LONGITUDE: -90.059716 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.96684 DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 68.1 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES 9 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
467.8	MODESTO		GRAY SHALE	0.5	47.2
467.3	CARBONDALE		BLACK SHALE	0.5	47.7
466.8	CARBONDALE		GRAY SHALE	2.5	48.2
464.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	50.7
461.7	CARBONDALE	LAWSON	GRAY SHALE	2.8	53.3
458.8	CARBONDALE	LAWSON	BLACK SHALE	1.0	56.2
457.8	CARBONDALE	LAWSON	GRAY SHALE	8.8	57.2
449.0	CARBONDALE	HERRIN	COAL	2.1	66.0

MAPID: 11900060000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 25 QUARTERS/FOOTAGES:

QUADRANGLE: BETHALTO LONGITUDE: -90.050631 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.945833 DATE COLLECTED: 0 / 0 / 1929

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 74.0 LOG TYPE:

SOURCE: TRUAX-TRAER 0012 WELL TYPE: Coal Test

COMMENT:

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

MAPID: 11900196000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 26 QUARTERS/FOOTAGES: 3300' S line, 4100' E line

QUADRANGLE: BETHALTO LONGITUDE: -90.074719 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.947414 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.6 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: DRAPJOHNCC WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
472.6	CARBONDALE	HERRIN	COAL	4.0	26.0

**MAPID:** 11900364000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 26    **QUARTERS/FOOTAGES:** 575' S line, 990' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.063704    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.939972    **DATE COLLECTED:** 0 / 0 / 1931  
**SURFACE ELEVATION (FT.):** 545.0    **LOGGED (FT.):** 180.0    **LOG TYPE:**  
**SOURCE:** PAINTER    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900284000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE/c NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.084449    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.949221    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 540.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HENKHAUS    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
480.0	CARBONDALE	HERRIN	COAL	4.5	60.0	

**MAPID:** 11900285000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.082025    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.951083    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 560.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** HILL BROS    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
520.0	CARBONDALE	HERRIN	COAL	4.5	40.0	

**MAPID:** 11900286000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.082025    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.951083    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 560.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SCHRAMM F    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
540.0	CARBONDALE	HERRIN	COAL	4.0	20.0	

**MAPID:** 11900287000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.082025    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.951083    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 560.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** FRANKFORD    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.0	CARBONDALE	HERRIN	COAL	3.0	30.0	

**MAPID:** 11900288000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.082025    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.951083    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 565.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** TICHNEAL W    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.0	CARBONDALE	HERRIN	COAL	4.5	42.0	

**MAPID:** 11900289000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 30    **QUARTERS/FOOTAGES:** SW SE  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.144761    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.939141    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LOCAL STRIP    **WELL TYPE:** Strip Mine  
**COMMENT:**

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

**MAPID:** 11900290000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 30    **QUARTERS/FOOTAGES:** 400' S line, 2075' E line  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.144804    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.938439    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 545.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** LOCAL MINE    **WELL TYPE:** Underground mine  
**COMMENT:**

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

**MAPID:** 11900291000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 30    **QUARTERS/FOOTAGES:** 1075' S line, 2850' E line  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.147525    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.940263    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 520.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** RICE T    **WELL TYPE:** Underground mine  
**COMMENT:**

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

**MAPID:** 11900292000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 30    **QUARTERS/FOOTAGES:** 900' S line, 1950' W line  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.150033    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.939744    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 515.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** RICE T    **WELL TYPE:** Underground mine  
**COMMENT:**

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

**MAPID:** 11900293000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 30    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.147157    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.944508    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** KOGELMITCH 2    **WELL TYPE:** Underground mine  
**COMMENT:**

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

**MAPID:** 11900294000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 30    **QUARTERS/FOOTAGES:** SE NW SW  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.153265    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.941697    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** SIMS THEO    **WELL TYPE:** Underground mine  
**COMMENT:**

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

**MAPID:** 11900295000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 31    **QUARTERS/FOOTAGES:** SE SW NW  
**QUADRANGLE:** ALTON    **LONGITUDE:** -90.153259    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.930764    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 540.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** MISEGADES    **WELL TYPE:** Underground mine  
**COMMENT:**

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

**MAPID:** 11900365000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 34    **QUARTERS/FOOTAGES:** 3010' S line, 3815' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.092968    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.931733    **DATE COLLECTED:** 0 / 0 / 1931  
**SURFACE ELEVATION (FT.):** 520.3    **LOGGED (FT.):** 75.0    **LOG TYPE:**  
**SOURCE:** PAINTER    **WELL TYPE:** Oil and Gas Test  
**COMMENT:**

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

**MAPID:** 11900068000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 36    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.042039    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.924759    **DATE COLLECTED:** 0 / 0 / 1929  
**SURFACE ELEVATION (FT.):** 488.9    **LOGGED (FT.):** 60.0    **LOG TYPE:**  
**SOURCE:** TRUAX-TRAER    0001    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
428.9	CARBONDALE	HERRIN	COAL	-	60.0	

**MAPID:** 11900168000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 36    **QUARTERS/FOOTAGES:** 1760' S line, 990' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.04438    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.928696    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 475.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** VAN DUKER    **WELL TYPE:** Underground mine  
**COMMENT:**

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

**MAPID:** 11900169000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 36    **QUARTERS/FOOTAGES:** 400' S line, 3025' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.051508    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.924957    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** KOCH    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
482.0	CARBONDALE	HERRIN	COAL	-	18.0

**MAPID:** 11900170000C    **VERSION:** 1    **PROJECT:** CIRC 71  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 36    **QUARTERS/FOOTAGES:** 130' S line, 3700' E line  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.053881    **GEOLOGIST:** J.N. PAYNE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.924217    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 505.0    **LOGGED (FT.):** 0.0    **LOG TYPE:**  
**SOURCE:** KOCH    **WELL TYPE:** Underground mine  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
479.0	CARBONDALE	HERRIN	COAL	-	26.0

**MAPID:** 11900221000C    **VERSION:** 1    **PROJECT:** NCRDS94  
**COUNTY:** MADISON    **TWP/RNG:** 6N 9W    **SECTION:** 36    **QUARTERS/FOOTAGES:** NE SW NE  
**QUADRANGLE:** BETHALTO    **LONGITUDE:** -90.047008    **GEOLOGIST:** HOKE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.933992    **DATE COLLECTED:** 0 / 0 / 1933  
**SURFACE ELEVATION (FT.):** 521.6    **LOGGED (FT.):** 61.3    **LOG TYPE:** Drillers Log  
**SOURCE:** MINDEN COAL CO.    3    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
521.6			SANDY CLAY	10.0	0.0
511.6			SAND	31.0	10.0
480.6			SANDSTONE	4.5	41.0
476.1			LIMESTONE	8.8	45.5
467.3			CALCAREOUS SHALE	0.8	54.3
466.4	CARBONDALE	HERRIN	COAL	5.2	55.2
461.3			UNDERCLAY	1.0	60.3



MAPID: 11900222000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 36 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.044573 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.932162 DATE COLLECTED:

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 60.7 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
479.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.3	46.0
477.7	CARBONDALE	LAWSON	GRAY SHALE	2.5	47.3
475.2	CARBONDALE	BRERETON	LIMESTONE	1.0	49.8
474.2	CARBONDALE	ANNA	GRAY SHALE	4.3	50.8
470.0	CARBONDALE	HERRIN	COAL	5.7	55.0

MAPID: 11900222000C VERSION: 3

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 36 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: BETHALTO LONGITUDE: -90.044573 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.932162 DATE COLLECTED: 0 / 0 / 1933

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 61.7 LOG TYPE: Drillers Log

SOURCE: MINDEN COAL CO. 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
525.0			SANDY CLAY	28.0	0.0
497.0			SAND	15.0	28.0
482.0			LIMESTONE	1.3	43.0
480.7			GRAY SHALE	2.5	44.3
478.2			LIMESTONE	4.0	46.8
474.2			CALCAREOUS SHALE	4.3	50.8
470.0	CARBONDALE	HERRIN	COAL	5.7	55.0
464.3			UNDERCLAY	1.0	60.7

MAPID: 11900223000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 36 QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: BETHALTO LONGITUDE: -90.051839 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.928442 DATE COLLECTED: 0 / 0 / 1933

SURFACE ELEVATION (FT.): 514.7 LOGGED (FT.): 52.8 LOG TYPE: Drillers Log

SOURCE: MINDEN COAL CO. 1 WELL TYPE: Coal Test

COMMENT: DEPTH-TDEPTH OK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.7			SANDY CLAY	22.5	0.0	
492.2			SAND	10.5	22.5	
481.7			CLAY	7.5	33.0	
474.2	CARBONDALE	BRERETON	LIMESTONE	7.8	40.5	
466.4	CARBONDALE	ANNA	BLACK SHALE	0.5	48.3	
465.9	CARBONDALE	HERRIN	COAL	2.1	48.8	
463.9			UNDERCLAY	1.0	50.8	

MAPID: 11900243000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 36 QUARTERS/FOOTAGES: 1500' S line, 1900' E line

QUADRANGLE: BETHALTO LONGITUDE: -90.047584 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.927985 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.7 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: SCHOENOWEIS WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
456.7	CARBONDALE	HERRIN	COAL	4.5	42.0	

MAPID: 11900244000C VERSION: 1

PROJECT: CIRC 71

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 36 QUARTERS/FOOTAGES: 1800' S line, 1600' E line

QUADRANGLE: BETHALTO LONGITUDE: -90.046541 GEOLOGIST: J.N. PAYNE

CONFIDENTIAL: N LATITUDE: 38.92881 DATE COLLECTED:

SURFACE ELEVATION (FT.): 496.7 LOGGED (FT.): 0.0 LOG TYPE:

SOURCE: PANAMA CC WELL TYPE: Underground mine

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.7	CARBONDALE	HERRIN	COAL	5.7	46.0	

MAPID: 11900458000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 9W SECTION: 36 QUARTERS/FOOTAGES: SE SE NW NE

QUADRANGLE: BETHALTO LONGITUDE: -90.046418 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.935381 DATE COLLECTED: 8 / 31 / 1944

SURFACE ELEVATION (FT.): 523.0 LOGGED (FT.): 69.5 LOG TYPE: Drillers Log

SOURCE: MIDWEST RADIANT 24 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
523.0			UNCONSOLIDATED	25.0	0.0
498.0			SAND	6.0	25.0
492.0			GRAY SHALE	15.0	31.0
477.0	CARBONDALE	BRERETON	LIMESTONE	14.0	46.0
463.0	CARBONDALE	ANNA	BLACK SHALE	2.5	60.0
460.5	CARBONDALE	HERRIN	COAL	6.3	62.5
454.2			UNDERCLAY	0.7	68.8

MAPID: 11900946000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 10W SECTION: 35 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: ALTON LONGITUDE: -90.192437 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.930093 DATE COLLECTED: 5 / 11 / 1926

SURFACE ELEVATION (FT.): 530.2 LOGGED (FT.): 47.4 LOG TYPE: Drillers Log

SOURCE: E.J. LONGYEAR EXPLORATION CO. 5 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
530.2			CLAY	2.0	0.0
528.2			SAND	2.0	2.0
526.2	CARBONDALE	COLCHESTER	COAL	0.5	4.0
525.7			UNDERCLAY	3.5	4.5
522.2			LIMESTONE	2.7	8.0
519.5			CALCAREOUS SHALE	22.0	10.7
497.5			CALCAREOUS SHALE	7.1	32.7
490.4			CALCAREOUS SHALE	5.2	39.8
485.3			LIMESTONE	2.5	44.9

MAPID: 11900947000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 10W SECTION: 35 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: ALTON LONGITUDE: -90.177679 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.924827 DATE COLLECTED: 5 / 7 / 1926

SURFACE ELEVATION (FT.): 637.5 LOGGED (FT.): 146.8 LOG TYPE: Drillers Log

SOURCE: E.J. LONGYEAR EXPLORATION CO. 4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
637.5			CLAY	22.0	0.0
615.5			SAND	3.0	22.0
612.5			SANDY CLAY	6.0	25.0
606.5			SHALE	24.3	31.0
582.2			UNDERCLAY	3.0	55.3
579.2			CALCAREOUS SHALE	12.1	58.3
567.2	CARBONDALE	COLCHESTER	COAL	0.1	70.3
567.1			SANDY SHALE	9.0	70.4
558.1			CALCAREOUS SHALE	1.2	79.4
556.9			SANDY SHALE	12.1	80.6
544.8			CALCAREOUS SHALE	12.8	92.7
532.1			COAL	2.3	105.4
529.7			UNDERCLAY	3.2	107.8
526.6			SHALE	4.1	110.9
522.5			CALCAREOUS SHALE	18.6	115.0
503.9			CALCAREOUS SHALE	3.0	133.6
500.9			CALCAREOUS SHALE	9.0	136.6
491.9			LIMESTONE	1.3	145.6

MAPID: 11900948000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 10W SECTION: 35 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: ALTON LONGITUDE: -90.177665 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.92666 DATE COLLECTED: 4 / 30 / 1926

SURFACE ELEVATION (FT.): 637.7 LOGGED (FT.): 146.9 LOG TYPE: Drillers Log

SOURCE: E.J. LONGYEAR EXPLORATION CO. 3 WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.7			CLAY	28.0	0.0	
609.7			CLAY	2.0	28.0	
607.7			CALCAREOUS SHALE	44.5	30.0	
563.2			CALCAREOUS SHALE	7.2	74.5	CALC SH W/ SH BANDS
556.0			CALCAREOUS SHALE	14.0	81.7	
542.0			SANDY SHALE	5.4	95.7	
536.6			CALCAREOUS SHALE	7.0	101.1	
529.6			COAL	2.3	108.1	
527.3			UNDERCLAY	2.6	110.4	
524.7			LIMESTONE	5.8	113.0	
518.9			UNDERCLAY	11.8	118.8	
507.1			COAL	0.8	130.6	
506.4			SANDSTONE	7.2	131.3	
499.2			SANDSTONE	8.4	138.5	

MAPID: 11900950000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 10W SECTION: 35 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: ALTON LONGITUDE: -90.187507 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.93017 DATE COLLECTED:

SURFACE ELEVATION (FT.): 534.4 LOGGED (FT.): 41.6 LOG TYPE: Drillers Log

SOURCE: E.J. LONGYEAR EXPLORATION CO. 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
534.4	CARBONDALE	COLCHESTER	COAL	2.5	0.0	
531.9			UNDERCLAY	3.5	2.5	
528.4			UNDERCLAY	2.4	6.0	
526.0			LIMESTONE	4.9	8.4	
521.1			CALCAREOUS SHALE	18.8	13.3	
502.2			SANDY SHALE	3.8	32.2	
498.4			LIMESTONE	2.0	36.0	
496.4			SHALE	2.0	38.0	
494.4			LIMESTONE	1.6	40.0	

MAPID: 11900945000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 10W SECTION: 36 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: ALTON LONGITUDE: -90.173963 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.931306 DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.9 LOGGED (FT.): 60.8 LOG TYPE: Drillers Log

SOURCE: E.J. LONGYEAR EXPLORATION CO. 6 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
524.9			SANDY CLAY	10.0	0.0
514.9			CLAY	3.8	10.0
511.1			LIMESTONE	1.0	13.8
510.1			CALCAREOUS SHALE	8.9	14.8
501.2			CALCAREOUS SHALE	3.0	23.7
498.2	CARBONDALE	COLCHESTER	COAL	0.1	26.7
498.1			SHALE	3.2	26.8
495.0			CALCAREOUS SHALE	18.1	29.9
476.9			CALCAREOUS SHALE	10.2	48.0
466.7			LIMESTONE	2.6	58.2

MAPID: 11900949000C VERSION: 1

PROJECT: NCRDS94

COUNTY: MADISON TWP/RNG: 6N 10W SECTION: 36 QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: ALTON LONGITUDE: -90.160533 GEOLOGIST: HOKE

CONFIDENTIAL: N LATITUDE: 38.926958 DATE COLLECTED:

SURFACE ELEVATION (FT.): 630.4 LOGGED (FT.): 175.8 LOG TYPE: Drillers Log

SOURCE: E.J. LONGYEAR EXPLORATION 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.4			CLAY	28.0	0.0	
602.4			SAND	3.0	28.0	
599.4			CLAY	9.0	31.0	
590.4			CLAY	21.0	40.0	
569.4			CALCAREOUS SHALE	2.7	61.0	
566.7			UNDERCLAY	7.8	63.7	
559.0			CALCAREOUS SHALE	6.8	71.4	
552.1			COAL	0.2	78.3	
552.0			SANDY SHALE	15.8	78.4	
536.1			CALCAREOUS SHALE	22.0	94.3	
514.1			COAL	2.3	116.3	
511.9			UNDERCLAY	1.9	118.5	
510.0			CALCAREOUS SHALE	2.5	120.4	
507.5			LIMESTONE	3.2	122.9	
504.3			CALCAREOUS SHALE	13.1	126.1	
491.2			COAL	0.4	139.2	
490.8			SHALE	2.7	139.6	
488.1			CALCAREOUS SHALE	4.8	142.3	
483.4			CALCAREOUS SHALE	8.6	147.0	
474.8			CALCAREOUS SHALE	17.4	155.6	
457.4			CONGLOMERATE	1.5	173.0	
455.9			LIMESTONE	1.3	174.5	