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Status Report

ILLINOIS STATE GEOLOGICAL SURVEY
PRAIRIE RESEARCH INSTITUTE

Total Records: 824

Top 3 County Records		Top 3 Log Type Records		Top 3 Coal Records		Top 3 Member Records	
Christian	824	Drillers Log	468	HERRIN	691	HERRIN COAL	691
		Electric Log	201	DANVILLE	167	ANNA BLACK SHALE	232
		Survey Core Study	97	CHAPEL	37	BRERETON LIMESTONE	213

Data Summary

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

Depth and Thickness measurements in feet

Member	Lithology	Avg. Depth	Min. Depth	Max. Depth	Avg. Thk	Min. Thk	Max. Thk
SURVANT - UPPER		**573.9**	532.8	615.0	**2.1**	2.0	2.2
SURVANT - LOWER		**587.2**	548.7	625.6	**1.8**	1.6	2.0
MILLERSVILLE	LIMESTONE	**94.3**	44.0	149.0	**27.9**	4.0	40.0
CARTHAGE	LIMESTONE	**153.7**	19.0	404.0	**10.7**	2.0	33.0
NEW HAVEN	COAL	**199.9**	196.6	203.1	**0.1**	0.1	0.2
MACOUPIN	LIMESTONE	**189.5**	120.0	255.6	**9.5**	1.0	28.6
WOMAC	COAL	**272.5**	272.5	272.5	**1.0**	1.0	1.0
CARLINVILLE	LIMESTONE	**188.1**	143.5	259.8	**2.2**	1.0	3.0
CHAPEL	COAL	**312.3**	182.0	591.0	**1.0**	0.3	1.5
TRIVOLI	SANDSTONE	**340.5**	320.0	377.0	**27.4**	14.2	49.1
WEST FRANKLIN	LIMESTONE	**517.3**	368.0	666.5	**6.5**	0.5	12.5
ROCK BRANCH	COAL	**438.9**	438.9	438.9	**0.2**	0.2	0.2
PIASA	LIMESTONE	**387.1**	200.0	720.0	**4.2**	0.3	20.0
DANVILLE	COAL	**453.3**	199.9	743.3	**1.8**	0.1	7.6
GALUM	LIMESTONE	**408.4**	266.8	684.8	**2.0**	0.2	5.5
ALLENBY	COAL	**461.1**	278.0	690.0	**1.1**	0.2	4.0
BANKSTON FORK	LIMESTONE	**423.3**	224.0	752.6	**5.0**	0.2	19.1
ANVIL ROCK	SANDSTONE	**399.0**	232.8	595.9	**5.7**	0.8	63.9
LAWSON	SHALE	**413.7**	227.0	762.8	**9.0**	1.4	50.0
CONANT	LIMESTONE	**415.8**	303.2	687.4	**0.7**	0.2	1.7
JAMESTOWN	COAL	**475.3**	343.0	722.6	**0.8**	0.3	1.8
BRERETON	LIMESTONE	**416.1**	230.0	765.8	**5.4**	0.2	26.0
ANNA	SHALE	**438.2**	237.5	773.7	**2.4**	0.1	11.0
ENERGY	SHALE	**424.8**	260.0	605.0	**65.3**	3.0	200.0
HERRIN	COAL	**433.9**	21.0	779.0	**6.7**	1.0	24.3
HIGGINSVILLE	LIMESTONE	**504.5**	504.5	504.5	**2.7**	2.7	2.7
ST. DAVID	LIMESTONE	**493.3**	493.3	493.3	**1.5**	1.5	1.5
TURNER MINE	SHALE	**471.1**	333.0	654.0	**4.3**	2.0	9.0
SPRINGFIELD	COAL	**449.3**	296.0	799.0	**3.6**	0.2	6.0
HANOVER	LIMESTONE	**618.0**	618.0	618.0	**3.0**	3.0	3.0

EXCELLO	SHALE	**567.4**	430.7	802.5	**5.1**	0.2	8.8
HOUCHIN CREEK	COAL	**529.2**	341.0	830.0	**1.7**	0.2	2.7
SURVANT	COAL	**647.9**	465.0	800.0	**1.5**	1.0	2.0
LOWELL	COAL	**596.0**	596.0	596.0	**1.0**	1.0	1.0
MECCA QUARRY	SHALE	**706.2**	529.5	857.0	**2.6**	1.5	5.0
COLCHESTER	COAL	**613.6**	411.0	950.0	**2.1**	1.0	4.8
SEELYVILLE	COAL	**647.3**	540.7	704.8	**2.9**	2.3	3.5
DAVIS	COAL	**718.2**	718.2	718.2	**3.6**	3.6	3.6
SEAHORNE LS	LIMESTONE	**900.5**	900.5	900.5	**0.2**	0.2	0.2
WISE RIDGE	COAL	**915.7**	915.7	915.7	**0.4**	0.4	0.4
MT. RORAH	COAL	**959.8**	959.8	959.8	**2.2**	2.2	2.2
MURPHYSBORO	COAL	**803.7**	803.7	803.7	**19.3**	19.3	19.3
ASSUMPTION	COAL	**919.2**	859.2	979.2	**3.0**	2.4	3.5
				Net Coal	**54.0**		

Coal Logs

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

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

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

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

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

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

MAPID: 02100807000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: PANA **LONGITUDE:** -89.051211 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.434511 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 680.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
45.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	610.0	
40.0	MODESTO		SHALE	30.0	615.0	
10.0	CARBONDALE	DANVILLE	COAL	1.0	645.0	
9.0	CARBONDALE		SHALE	7.0	646.0	
2.0	CARBONDALE	ALLENBY	BONE COAL	1.0	653.0	
1.0	CARBONDALE		CALCAREOUS SHALE	1.0	654.0	
0.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	655.0	
-7.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	6.0	662.0	
-13.0	CARBONDALE	ANNA	BLACK SHALE	6.0	668.0	
-19.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	6.0	674.0	

MAPID: 02102150000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 3 **QUARTERS/FOOTAGES:** 990' N line, 2310' E line

QUADRANGLE: PANA **LONGITUDE:** -89.069988 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.432834 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 676.0 **LOGGED (FT.):** 713.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
29.0	MODESTO	PIASA	LIMESTONE	4.0	647.0	
25.0	MODESTO		SHALE	29.0	651.0	
-4.0	CARBONDALE	DANVILLE	COAL	2.0	680.0	
-6.0	CARBONDALE		SHALE	8.0	682.0	
-14.0	CARBONDALE	ALLENBY	BONE COAL	1.0	690.0	
-15.0	CARBONDALE		CALCAREOUS SHALE	2.0	691.0	
-17.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	693.0	UPPER BENCH
-21.0	CARBONDALE	BANKSTON FORK	SHALE	3.0	697.0	SHALE PARTING
-24.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	700.0	LOWER BENCH
-27.0	CARBONDALE	ANNA	BLACK SHALE	6.0	703.0	
-30.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	7.0	706.0	

MAPID: 02123335000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 16 **QUARTERS/FOOTAGES:** 125' S line, 1375' E line of SE SW SE

QUADRANGLE: PANA **LONGITUDE:** -89.091034 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.391301 **DATE COLLECTED:** 0 / 0 / 1944

SURFACE ELEVATION (FT.): 690.0 **LOGGED (FT.):** 728.0 **LOG TYPE:** Other Core Study

SOURCE: PANA COAL CO. **WELL TYPE:** Plugged and/or Abandoned

COMMENT: DATE AND TOTDEPTH UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
690.0			UNCLASSIFIED	721.0	0.0	ONLY LOGGED COAL
-31.0	CARBONDALE	HERRIN	COAL	7.0	721.0	

MAPID: 02100867000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 17 **QUARTERS/FOOTAGES:** 2190' N line, 1610' W line

QUADRANGLE: PANA **LONGITUDE:** -89.112736 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.400198 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 716.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
18.0	MODESTO		SHALE	20.0	659.0	
-2.0	CARBONDALE	DANVILLE	COAL	1.0	679.0	
-3.0	CARBONDALE		SHALE	10.0	680.0	
-13.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	690.0	
-16.0	CARBONDALE	LAWSON	CLAYSTONE	3.0	693.0	
-19.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	7.0	696.0	
-26.0	CARBONDALE	ANNA	BLACK SHALE	7.0	703.0	
-33.0	CARBONDALE	HERRIN	COAL	6.0	710.0	

MAPID: 02100809000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 19 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: OWANECO **LONGITUDE:** -89.131012 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.385505 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 744.0 **LOGGED (FT.):** 780.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
24.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	720.0	
16.0	MODESTO		SHALE	15.0	728.0	
1.0	CARBONDALE	DANVILLE	COAL	3.0	743.0	
-2.0	CARBONDALE	LAWSON	SHALE	8.0	746.0	
-10.0	CARBONDALE	LAWSON	BLACK SHALE	2.0	754.0	
-12.0	CARBONDALE	LAWSON	SHALE	4.0	756.0	
-16.0	CARBONDALE	BRERETON	LIMESTONE	6.0	760.0	
-22.0	CARBONDALE	ANNA	BLACK SHALE	6.0	766.0	
-28.0	CARBONDALE	HERRIN	COAL	8.0	772.0	

MAPID: 02100068000C **VERSION:** 1 **PROJECT:** NCRDS87

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 21 **QUARTERS/FOOTAGES:** 990' N line, 990' E line

QUADRANGLE: PANA **LONGITUDE:** -89.085095 **GEOLOGIST:** WEIBEL

CONFIDENTIAL: N **LATITUDE:** 39.387943 **DATE COLLECTED:** 0 / 0 / 1888

SURFACE ELEVATION (FT.): 697.7 **LOGGED (FT.):** 722.3 **LOG TYPE:** Drillers Log

SOURCE: PENWELL COAL MINING CO. **WELL TYPE:** Diamond Drill

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
697.7			UNCONSOLIDATED	119.0	0.0	
578.7	MATTOON		UNDERCLAY	8.3	119.0	
570.4	MATTOON		LIMESTONE	3.1	127.3	
567.3	MATTOON		SHALE	11.0	130.4	
556.3	BOND	MILLERSVILLE	LIMESTONE	16.9	141.4	
539.4	BOND		SHALE	1.3	158.3	
538.0	BOND		LIMESTONE	12.5	159.7	
525.5	BOND		SHALE	2.8	172.2	
522.7	BOND		SHALE & SANDSTONE	43.5	175.0	
479.2	BOND		UNCLASSIFIED	18.0	218.5	
461.2	BOND		SHALE	14.8	236.5	
446.4	BOND		COAL	0.5	251.3	
445.9	BOND		BLACK SHALE	0.8	251.8	
445.2	BOND		SHALE	46.7	252.5	
398.5	BOND		COAL	0.9	299.2	
397.6	BOND		UNDERCLAY	4.4	300.1	
393.2	BOND		SHALE	85.5	304.5	
307.7	BOND	CARTHAGE	LIMESTONE	9.7	390.0	
298.0	MODESTO		SHALE	1.8	399.7	
296.2	MODESTO		BLACK SHALE	3.3	401.5	
292.9	MODESTO		UNDERCLAY	2.0	404.8	
290.9	MODESTO		SANDSTONE	3.7	406.8	
287.2	MODESTO		UNCLASSIFIED	22.2	410.5	
265.0	MODESTO		SHALE	29.5	432.7	
235.5	MODESTO		BLACK SHALE	4.6	462.2	
230.9	MODESTO		COAL	0.7	466.8	
230.3	MODESTO		UNDERCLAY	11.1	467.4	
219.2	MODESTO		SANDSTONE	13.0	478.5	
206.2	MODESTO		SHALE	69.4	491.5	
136.8	MODESTO	CHAPEL	COAL	1.1	560.9	
135.7	MODESTO		UNDERCLAY	0.5	562.0	
135.2	MODESTO		SHALE	88.5	562.5	
46.7	MODESTO		COAL	0.5	651.0	
46.2	MODESTO		SHALE	15.0	651.5	
31.2	MODESTO	WEST FRANKLIN	LIMESTONE	0.5	666.5	UNCERTAIN CORRELATION
30.7	MODESTO		BLACK SHALE	4.0	667.0	
26.7	MODESTO		SANDSTONE	7.3	671.0	
19.4	MODESTO		UNCLASSIFIED	4.8	678.3	
14.7	CARBONDALE	DANVILLE	COAL	2.7	683.0	

12.0	CARBONDALE		SHALE	3.0	685.7
9.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	688.7
5.5	CARBONDALE		SHALE	5.2	692.2
0.4	CARBONDALE	BRERETON	LIMESTONE	12.0	697.3
-11.6	CARBONDALE	ANNA	BLACK SHALE	4.9	709.3
-16.6	CARBONDALE	HERRIN	COAL	7.3	714.3
-23.8	CARBONDALE		SHALE	0.3	721.5
-24.1	CARBONDALE		UNDERCLAY	0.5	721.8

MAPID: 02100068000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 21 **QUARTERS/FOOTAGES:** 990' N line, 990' E line

QUADRANGLE: PANA **LONGITUDE:** -89.085095 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.387943 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 698.0 **LOGGED (FT.):** 721.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
28.3	MODESTO		CALCAREOUS SANDSTONE	13.0	669.7	
15.3	CARBONDALE	DANVILLE	COAL	2.7	682.7	
12.6	CARBONDALE		CLAYSTONE & SHALE	3.0	685.4	
9.6	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.5	688.4	
6.1	CARBONDALE	LAWSON	DARK GRAY SHALE	5.2	691.9	
0.9	CARBONDALE	BRERETON	LIMESTONE	12.0	697.1	
-11.1	CARBONDALE	ANNA	BLACK SHALE	4.9	709.1	
-16.0	CARBONDALE	HERRIN	COAL	7.3	714.0	

MAPID: 02100068000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 21 **QUARTERS/FOOTAGES:** 990' N line, 990' E line

QUADRANGLE: PANA **LONGITUDE:** -89.085095 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.387943 **DATE COLLECTED:** 0 / 0 / 1888

SURFACE ELEVATION (FT.): 697.7 **LOGGED (FT.):** 722.3 **LOG TYPE:** Drillers Log

SOURCE: PENWELL COAL MINING CO. **WELL TYPE:** Diamond Drill

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
697.7	PLEISTOCENE		CLAY	11.0	0.0	
686.7	PLEISTOCENE		HARD PAN	2.0	11.0	
684.7	PLEISTOCENE		CLAY	2.0	13.0	
682.7	PLEISTOCENE		SAND & GRAVEL	12.0	15.0	
670.7	PLEISTOCENE		CLAY	18.0	27.0	
652.7	PLEISTOCENE		UNCLASSIFIED	3.5	45.0	FOREST BED, SEMI-DECAYED LOGS, ETC.
649.2	PLEISTOCENE		CLAY	57.0	48.5	
592.2	PLEISTOCENE		UNCLASSIFIED	13.5	105.5	FOREST BED
578.7	MATTOON		CLAYSTONE	8.3	119.0	
570.4	MATTOON		LIMESTONE	3.1	127.3	
567.3	MATTOON		ARGILACEOUS SHALE	2.8	130.4	BLUE, WITH LS NODULES
564.4	MATTOON		ARGILACEOUS SHALE	0.8	133.3	RED
563.7	MATTOON		ARGILACEOUS SHALE	7.5	134.0	
556.2	BOND	MILLERSVILLE	LIMESTONE	16.8	141.5	BLUE AND GRAY
539.4	BOND		ARGILACEOUS SHALE	1.3	158.3	DARK
538.0	BOND		GRAY LIMESTONE	12.5	159.7	
525.5	BOND		SANDY SHALE	2.8	172.2	
522.7	BOND		SANDSTONE/SHALE	43.5	175.0	
479.2	BOND		SANDSTONE & CONGLOMERATE	18.0	218.5	FINE GRAVEL
461.2	BOND		GRAY SHALE	14.8	236.5	BLUISH-GRAY
446.4	BOND		COAL	0.5	251.3	
445.9	BOND		GRAY & BLACK SHALE	0.8	251.8	
445.2	BOND		ARGILACEOUS SHALE	4.2	252.5	PEBBLY
441.0	BOND		ARGILACEOUS SHALE	11.3	256.7	
429.7	BOND		BROWN SHALE	8.0	268.0	CHOCOLATE
421.7	BOND		ARGILACEOUS SHALE	19.2	276.0	BLUISH
402.5	BOND		BLUE SHALE	3.3	295.2	
399.3	BOND		CALCAREOUS SHALE	0.8	298.4	WITH FOSSILS
398.5	BOND		COAL	0.9	299.2	
397.6	BOND		UNDERCLAY	4.4	300.1	PEBBLY
393.2	BOND		ARGILACEOUS SHALE	10.5	304.5	GREENISH
382.7	BOND		SHALE & SANDSTONE	48.5	315.0	SANDY SH
334.2	BOND		ARGILACEOUS SHALE	3.0	363.5	
331.2	BOND		FOSSILIFEROUS SHALE	3.8	366.5	
327.4	BOND		SANDY SHALE	15.9	370.3	
311.4	BOND		ARGILACEOUS SHALE	3.1	386.3	BLUE
308.4	BOND		FOSSILIFEROUS SHALE	0.7	389.3	
307.7	BOND	CARTHAGE	GRAY LIMESTONE	9.7	390.0	

298.0	MODESTO		ARGILACEOUS SHALE	1.8	399.7	BLUE
296.2	MODESTO		BLACK SHALE	3.3	401.5	LOG ALSO SAYS ' (COAL NO. 9) '
292.9	MODESTO		UNDERCLAY	2.0	404.8	
290.9	MODESTO		SANDSTONE	3.7	406.8	
287.2	MODESTO		LIMESTONE W/ SHALE	22.2	410.5	SANDY
265.0	MODESTO		ARGILACEOUS SHALE	28.7	432.7	BLUE
236.4	MODESTO		FOSSILIFEROUS SHALE	0.8	461.3	
235.5	MODESTO		BLACK SHALE	4.6	462.2	
230.9	MODESTO		COAL	0.7	466.8	
230.3	MODESTO		UNDERCLAY & LIMESTONE	11.1	467.4	LS IS NODULAR
219.2	MODESTO		LIMESTONE	13.0	478.5	
206.2	MODESTO		SANDY SHALE	66.7	491.5	THICKNESS GIVEN AS 6.67 IN LOG
139.5	MODESTO		ARGILACEOUS SHALE	2.3	558.2	
137.3	MODESTO		FOSSILIFEROUS SHALE	0.5	560.4	
136.8	MODESTO	CHAPEL	COAL	1.1	560.9	
135.7	MODESTO		UNDERCLAY	0.5	562.0	
135.2	MODESTO		DARK SHALE	1.0	562.5	
134.2	MODESTO		SHALE & SANDSTONE	87.5	563.5	'SH, SANDY AND SS, POTSDAM'<-POTTSVILLE?
46.7	MODESTO		COAL	0.5	651.0	
46.2	MODESTO		ARGILACEOUS SHALE	15.0	651.5	DARK
31.2	MODESTO		ARGILLACEOUS LIMESTONE	0.5	666.5	
30.7	MODESTO		CARBONACEOUS SHALE	4.0	667.0	
26.7	MODESTO		CALCAREOUS SANDSTONE	7.3	671.0	
19.4	MODESTO		ROCK	4.8	678.3	
14.7	CARBONDALE	DANVILLE	COAL	2.7	683.0	
12.0	CARBONDALE		ARGILACEOUS SHALE	3.0	685.7	HARD
9.0	CARBONDALE		ARGILLACEOUS LIMESTONE	3.5	688.7	
5.5	CARBONDALE		DARK SHALE	5.2	692.2	
0.4	CARBONDALE		BLUE LIMESTONE	12.0	697.3	BLUE AND GRAY
-11.6	CARBONDALE		BLACK SHALE	4.0	709.3	
-15.6	CARBONDALE		CONCRETION	0.8	713.3	SEPTARIA
-16.5	CARBONDALE	ANNA	BLACK SHALE	0.1	714.2	
-16.6	CARBONDALE	HERRIN	COAL	7.3	714.3	
-23.8	CARBONDALE		ARGILACEOUS SHALE	0.3	721.5	
-24.1	CARBONDALE		UNDERCLAY	0.5	721.8	

MAPID: 02100090000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 21 **QUARTERS/FOOTAGES:**

QUADRANGLE: PANA **LONGITUDE:** -89.090868 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.38366 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 410.0 **LOG TYPE:** Drillers Log

SOURCE: PANA BORING **WELL TYPE:** Coal Test

COMMENT: DATE,LOCATION,ELEVATION,TWP,RG UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	PLEISTOCENE		SOIL	13.0	0.0	AND DRIFT CLAY
-	PLEISTOCENE		SAND	16.0	13.0	
-	PLEISTOCENE		HARD PAN	61.0	29.0	
-	PLEISTOCENE		SAND & GRAVEL	1.0	90.0	
-	BOND		ROCK	6.0	91.0	
-	BOND		SHALE	7.0	97.0	
-	BOND		SHALE	6.0	104.0	
-	BOND		BLACK SHALE	2.0	110.0	
-	BOND		COAL	1.0	112.0	
-	BOND		UNDERCLAY/SHALE	5.0	113.0	FIRECLAY AND CLAY SHALE
-	BOND		SANDSTONE	12.0	118.0	
-	BOND		UNDERCLAY	2.0	130.0	
-	BOND		SANDSTONE	38.0	132.0	
-	BOND		SHALE	73.0	170.0	
-	BOND		BLACK SHALE	3.0	243.0	
-	BOND		COAL	2.0	246.0	
-	BOND		BLACK SHALE	1.0	248.0	
-	BOND		SHALE	9.0	249.0	
-	BOND		BLUE SHALE	3.0	258.0	
-	BOND		ARGILACEOUS SHALE	7.0	261.0	
-	BOND		ARGILACEOUS SHALE	15.0	268.0	
-	BOND		SHALE	5.0	283.0	
-	BOND		UNCLASSIFIED	4.0	288.0	NOT REPORTED
-	BOND		BLACK SHALE	5.0	292.0	
-	BOND		DARK SHALE	2.0	297.0	WITH NODULES
-	BOND		SHALE	28.0	299.0	
-	BOND		BLUE SHALE	10.0	327.0	
-	BOND		SHALE	26.0	337.0	
-	BOND		DARK SHALE	1.0	363.0	
-	BOND		GRAY SHALE	19.0	364.0	
-	BOND		DARK SHALE	2.0	383.0	
-	BOND	CARTHAGE	LIMESTONE	14.0	385.0	
-	MODESTO		GRAY SHALE	0.0	399.0	
-	MODESTO		BLACK SHALE & COAL	2.0	399.0	COAL IS #9
-	MODESTO		GRAY SHALE	4.0	401.0	THICKNESS GIVEN AS 3.07 IN LOG
-	MODESTO		BLUE LIMESTONE	3.0	405.0	
-	MODESTO		SANDSTONE	2.0	408.0	

MAPID: 02124643000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 23 **QUARTERS/FOOTAGES:** SE SE NW
QUADRANGLE: PANA **LONGITUDE:** -89.054877 **GEOLOGIST:** E.PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.383658 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 737.2 **LOG TYPE:** Company map
SOURCE: CARTER OIL 4A-686 **WELL TYPE:** Coal Test
COMMENT: LOCATION,DATA FROM HERRICK A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.2	730.0	

MAPID: 02100417000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 24 **QUARTERS/FOOTAGES:** 12' S line, 501' E line of SE SW
QUADRANGLE: PANA **LONGITUDE:** -89.036712 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.375206 **DATE COLLECTED:** 0 / 0 / 1955
SURFACE ELEVATION (FT.): 669.4 **LOGGED (FT.):** 736.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 255 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-63.6	CARBONDALE	DANVILLE	COAL	3.0	733.0	
-95.4	CARBONDALE	HERRIN	COAL	7.5	764.8	

MAPID: 02100907000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 24 **QUARTERS/FOOTAGES:** 162' N line, 12' E line
QUADRANGLE: PANA **LONGITUDE:** -89.025745 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.389298 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 786.7 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 262 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-56.3	MODESTO		SHALE	12.0	731.3	
-68.3	CARBONDALE	DANVILLE	COAL	3.8	743.3	
-72.1	CARBONDALE		CLAYSTONE	1.5	747.1	
-73.6	CARBONDALE		SANDSTONE	4.0	748.6	
-77.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	5.5	752.6	UPPER BENCH
-83.1	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.3	758.1	SHALE PARTING
-83.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.4	758.4	LOWER BENCH
-87.8	CARBONDALE	LAWSON	BLACK SHALE	3.1	762.8	
-90.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.8	765.8	
-98.7	CARBONDALE	ANNA	BLACK SHALE	5.3	773.7	
-104.0	CARBONDALE	HERRIN	COAL	7.7	779.0	

MAPID: 02122794000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 660' W line of NE SW
QUADRANGLE: OCONEE **LONGITUDE:** -89.037229 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.365229 **DATE COLLECTED:** 7 / 0 / 1974
SURFACE ELEVATION (FT.): 665.0 **LOGGED (FT.):** 950.0 **LOG TYPE:** Electric Log
SOURCE: FRANK'S PETROLEUM **WELL TYPE:**
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-79.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	744.0	
-105.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	770.0	THIN
-165.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	830.0	
-285.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	0.0	950.0	

MAPID: 02100046000C **VERSION:** 1 **PROJECT:** DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 27 **QUARTERS/FOOTAGES:** NE SE SW
QUADRANGLE: OCONEE **LONGITUDE:** -89.073603 **GEOLOGIST:** E PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.364133 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** **LOG TYPE:**
SOURCE: DERING COAL CO. A-8 **WELL TYPE:** Coal Test
COMMENT: 1908 MAP,DERING CC; ISGS COAL SEC 9-76

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-			UNKNOWN	-		
-54.0	CARBONDALE	HERRIN	COAL	6.0	720.0	
-			UNKNOWN	-		
-133.0	CARBONDALE	SPRINGFIELD	COAL	5.5	799.0	

MAPID: 02100031000C **VERSION:** 1 **PROJECT:** CONTROL

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW
QUADRANGLE: OCONEE **LONGITUDE:** -89.09224 **GEOLOGIST:** HINES
CONFIDENTIAL: N **LATITUDE:** 39.362853 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 1722.0 **LOG TYPE:** Survey Sample Study
SOURCE: LEE, ROY TRUSTEE **WELL TYPE:** Oil and Gas Test
COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-			NO RECORD	0.0	0.0	

MAPID: 02100179000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 1411' S line, 2390' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.091818 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.365825 **DATE COLLECTED:** 6 / 0 / 1947
SURFACE ELEVATION (FT.): 675.5 **LOGGED (FT.):** 679.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 60 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-0.8	CARBONDALE	DANVILLE	COAL	2.8	676.3	
-27.8	CARBONDALE	HERRIN	COAL	8.7	703.3	

MAPID: 02100179000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 1411' S line, 2390' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.091818 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.365825 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 711.7 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 60 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
24.6	MODESTO	PIASA	NODULAR LIMESTONE	9.1	650.4	
15.5	MODESTO		SHALE & SILTSTONE	16.3	659.5	
-0.8	CARBONDALE	DANVILLE	COAL	2.8	675.8	
-3.7	CARBONDALE		CLAYSTONE	1.4	678.7	
-5.1	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.6	680.1	
-7.7	CARBONDALE		MOTTLED SHALE	2.3	682.7	
-9.9	CARBONDALE	ALLENBY	BLACK SHALE	3.3	684.9	
-13.2	CARBONDALE		MOTTLED SHALE	0.7	688.2	
-13.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.9	688.8	UPPER BENCH
-15.7	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.7	690.7	SHALE PARTING
-16.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.0	691.4	LOWER BENCH
-17.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.9	692.4	
-20.3	CARBONDALE	LAWSON	LIMESTONE	0.6	695.3	
-20.9	CARBONDALE	LAWSON	MOTTLED SHALE	1.8	695.9	
-22.7	CARBONDALE	LAWSON	GRAY SHALE	0.2	697.7	
-22.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.8	697.8	
-24.6	CARBONDALE	ANNA	BLACK SHALE	3.4	699.6	
-28.0	CARBONDALE	HERRIN	COAL	8.7	703.0	

MAPID: 02100180000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 736' S line, 2390' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.091839 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.363961 **DATE COLLECTED:** 7 / 0 / 1947
SURFACE ELEVATION (FT.): 673.8 **LOGGED (FT.):** 683.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 62 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-6.5	CARBONDALE	DANVILLE	COAL	3.5	680.3	
-34.4	CARBONDALE	HERRIN	COAL	8.5	708.2	

MAPID: 02100180000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 736' S line, 2390' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.091839 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.363961 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 674.0 **LOGGED (FT.):** 716.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 62 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
21.0	MODESTO	PIASA	NODULAR LIMESTONE	9.4	653.0	
11.6	MODESTO		DARK GRAY SHALE	18.1	662.4	
-6.5	CARBONDALE	DANVILLE	COAL	3.6	680.5	
-10.1	CARBONDALE		CLAYSTONE	0.7	684.1	
-10.8	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	2.5	684.8	
-13.3	CARBONDALE		CALCAREOUS SHALE	1.8	687.3	
-15.0	CARBONDALE	ALLENBY	BLACK SHALE	3.3	689.0	
-18.3	CARBONDALE		CALCAREOUS SHALE	4.2	692.3	
-22.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.3	696.5	UPPER BENCH
-22.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	696.8	SHALE PARTING
-25.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.9	699.8	LOWER BENCH
-26.8	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	2.0	700.8	
-28.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.9	702.8	
-30.7	CARBONDALE	ANNA	BLACK SHALE	4.0	704.7	
-34.0	CARBONDALE	HERRIN	COAL	8.5	708.0	

MAPID: 02100617000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 835' S line, 830' W line of NE SW
QUADRANGLE: OCONEE **LONGITUDE:** -89.092706 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.367882 **DATE COLLECTED:** 6 / 24 / 1949
SURFACE ELEVATION (FT.): 675.8 **LOGGED (FT.):** 703.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 94 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-19.0	CARBONDALE	HERRIN	COAL	8.2	694.8	

MAPID: 02100640000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' N line, 20' E line of SW SE
QUADRANGLE: OCONEE **LONGITUDE:** -89.086488 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.364461 **DATE COLLECTED:** 7 / 9 / 1949
SURFACE ELEVATION (FT.): 669.7 **LOGGED (FT.):** 672.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 97 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
0.3	CARBONDALE	DANVILLE	COAL	3.4	669.4	
-29.6	CARBONDALE	HERRIN	COAL	7.6	699.3	

MAPID: 02100641000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 1005' S line, 1115' E line of SE SW
QUADRANGLE: OCONEE **LONGITUDE:** -89.095017 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.364806 **DATE COLLECTED:** 7 / 13 / 1949
SURFACE ELEVATION (FT.): 676.7 **LOGGED (FT.):** 707.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 98 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-22.6	CARBONDALE	HERRIN	COAL	8.4	699.3	

MAPID: 02100182000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 29 **QUARTERS/FOOTAGES:** 0' S line, 2460' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.110375 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.362523 **DATE COLLECTED:** 6 / 0 / 1950
SURFACE ELEVATION (FT.): 676.8 **LOGGED (FT.):** 667.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 109 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
12.2	CARBONDALE	DANVILLE	COAL	3.1	664.6	
-17.1	CARBONDALE	HERRIN	COAL	8.2	693.9	

MAPID: 02100182000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 29 **QUARTERS/FOOTAGES:** 0' S line, 2460' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.110375 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.362523 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 702.2 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 109 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
30.0	MODESTO	PIASA	CALCAREOUS SHALE	1.8	647.0	
28.2	MODESTO		CLAYSTONE & SHALE	17.4	648.8	
10.8	CARBONDALE	DANVILLE	COAL	3.0	666.2	
7.8	CARBONDALE		CLAYSTONE	2.3	669.2	
5.5	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.1	671.5	
4.4	CARBONDALE		MOTTLED SHALE	3.3	672.6	
1.1	CARBONDALE	ALLENBY	BLACK SHALE	1.9	675.9	
-0.8	CARBONDALE		MOTTLED SHALE	4.5	677.8	
-5.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.2	682.3	UPPER BENCH
-7.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	0.3	684.5	SHALE PARTING
-7.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.3	684.7	LOWER BENCH
-9.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.4	686.0	
-10.4	CARBONDALE	CONANT	CALCAREOUS SHALE	0.3	687.4	
-10.7	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	687.7	
-11.0	CARBONDALE		DARK GRAY SHALE	0.3	688.0	
-11.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.5	688.3	
-11.8	CARBONDALE	ANNA	BLACK SHALE	6.3	688.8	
-17.0	CARBONDALE	HERRIN	COAL	8.2	694.0	

MAPID: 02100611000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 31 **QUARTERS/FOOTAGES:** 30' S line, 660' E line of SW NE

QUADRANGLE: OHLMAN **LONGITUDE:** -89.126494 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.355846 **DATE COLLECTED:** 0 / 0 / 1954

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 629.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 253J **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	DANVILLE	COAL	3.0	626.0	
-	CARBONDALE	HERRIN	COAL	8.0	674.0	

MAPID: 02100181000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 33 **QUARTERS/FOOTAGES:** 10' N line, 2250' W line

QUADRANGLE: OCONEE **LONGITUDE:** -89.092359 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.361918 **DATE COLLECTED:** 6 / 7 / 1947

SURFACE ELEVATION (FT.): 671.8 **LOGGED (FT.):** 712.7 **LOG TYPE:** Other Core Study

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
671.8	PLEISTOCENE		UNCLASSIFIED	41.0	0.0	LOG STATES NO CORE
630.8	MATTOON		GRAY SHALE	6.8	41.0	
624.0	MATTOON		SILTSTONE	7.4	47.8	
616.5	MATTOON		UNCLASSIFIED	1.8	55.3	INTERVAL ADDED TO MATCH WITH MARKER
614.8	MATTOON		GRAY SHALE	6.9	57.0	
607.9	MATTOON		SHALE & SILTSTONE	12.0	63.9	GRAY SH & GRAY ST INTERBEDDED
595.9	MATTOON		GRAY SHALE	0.3	75.9	
595.5	MATTOON		UNCLASSIFIED	0.8	76.3	INTERVAL ADDED TO MATCH WITH MARKER
594.8	MATTOON		GRAY SHALE	12.7	77.0	
582.1	MATTOON		LIMESTONE	1.2	89.7	ARG,FOSSILIF,CARB
581.0	MATTOON		COAL	1.2	90.8	
579.8	MATTOON		UNDERCLAY	5.0	92.0	
574.8	MATTOON		ARGILACEOUS SHALE	12.8	97.0	POSSIBLE CORE LOSS
562.0	BOND	MILLERSVILLE	NODULAR LIMESTONE	21.7	109.8	
540.4	BOND		DARK GRAY SHALE	0.4	131.4	HD, FOSSILIF
540.0	BOND		LIMESTONE W/ SHALE	0.2	131.8	INTERBEDDED, SH IS DK GY
539.8	BOND		LIMESTONE	13.2	132.0	
526.5	BOND		UNCLASSIFIED	0.4	145.3	INTERVAL ADDED TO MATCH WITH MARKER
526.1	BOND		DARK GRAY SHALE	0.3	145.7	FOSSILIF,CALC,SILTY
525.8	BOND		GRAY SANDSTONE	0.7	146.0	
525.1	BOND		GRAY SHALE	0.2	146.7	
525.0	BOND		GRAY SILTSTONE	0.6	146.8	W/ FINELY INTERLAMINATED CARB SH
524.4	BOND		DARK GRAY SHALE	0.0	147.4	CALC
524.4	BOND		SILTSTONE	0.6	147.4	(OR FINE SS) W/INTERLAMINATED SH
523.7	BOND		SILTSTONE	1.8	148.1	OR FINE SS, AS ABOVE, CALCAREOUS
521.9	BOND		UNCLASSIFIED	0.1	149.9	INTERVAL ADDED TO MATCH WITH MARKER
521.8	BOND		GRAY SILTSTONE	5.0	150.0	OR FINE SS
516.8	BOND		DARK GRAY SHALE	1.6	155.0	CARB,PLANT FRAGS
515.2	BOND		GRAY SANDSTONE	0.6	156.6	
514.5	BOND		GRAY SHALE	0.8	157.3	
513.8	BOND		SILTSTONE	2.0	158.0	(OR FINE SS) LT GY, MICACEOUS
511.8	BOND		UNCLASSIFIED	0.0	160.0	INTERVAL ADDED TO MATCH WITH MARKER
511.8	BOND		GRAY SHALE	4.2	160.0	
507.6	BOND		SILTSTONE & SHALE	0.8	164.2	LGY CARB ST INTERBEDDED W/ GY SH
506.8	BOND		GRAY SHALE	0.3	165.0	
506.6	BOND		SHALE & SILTSTONE	4.7	165.2	GY SH WITH LT GY ST
501.9	BOND		UNCLASSIFIED	0.1	169.9	INTERVAL ADDED TO MATCH WITH MARKER

501.8	BOND	GRAY SILTSTONE	0.3	170.0	
501.5	BOND	GRAY SHALE	3.0	170.3	
498.5	BOND	SHALE & SILTSTONE	1.0	173.3	DGY SH AND LGY ST INTERBEDDED
497.5	BOND	GRAY SILTSTONE	3.8	174.3	MICAC,SHALY,MASSIVE,CARB
493.6	BOND	GRAY SHALE	1.8	178.2	MASSIVE, CARB FRAGMENTS
491.8	BOND	UNCLASSIFIED	0.0	180.0	INTERVAL ADDED TO MATCH WITH MARKER
491.8	BOND	GRAY SHALE	3.8	180.0	
488.0	BOND	GRAY SILTSTONE	0.1	183.8	
487.9	BOND	GRAY SHALE	1.7	183.9	MICACEOUS
486.2	BOND	GRAY SILTSTONE	2.2	185.6	
484.0	BOND	GRAY SHALE	2.2	187.8	
481.9	BOND	UNCLASSIFIED	0.1	189.9	INTERVAL ADDED TO MATCH WITH MARKER
481.8	BOND	GRAY SILTSTONE	0.7	190.0	
481.1	BOND	GRAY SHALE	3.3	190.7	
477.8	BOND	GRAY SILTSTONE	0.3	194.0	
477.4	BOND	GRAY SHALE	5.6	194.4	
471.8	BOND	GRAY SHALE	1.0	200.0	
470.8	BOND	GRAY SILTSTONE	1.7	201.0	
469.1	BOND	GRAY SHALE	0.2	202.7	
469.0	BOND	GRAY SILTSTONE	2.7	202.8	
466.3	BOND	GRAY SHALE	2.5	205.5	
463.8	BOND	SILTSTONE	1.7	208.0	TYPICAL
462.1	BOND	GRAY SHALE	0.3	209.7	
461.8	BOND	SILTSTONE	1.4	210.0	MICACEOUS
460.4	BOND	GRAY SHALE	0.5	211.4	
459.9	BOND	SILTSTONE	1.2	211.9	
458.7	BOND	DARK GRAY SHALE	0.8	213.1	
457.9	BOND	GRAY SILTSTONE	0.5	213.9	
457.3	BOND	GRAY SHALE	0.0	214.5	
457.3	BOND	UNCLASSIFIED	1.8	214.5	CORE LOSS- WASHED OUT
455.5	BOND	GRAY SILTSTONE	0.3	216.3	
455.2	BOND	GRAY SHALE	9.8	216.6	
445.5	BOND	CONCRETION	0.6	226.3	
444.9	BOND	DARK GRAY SHALE	0.2	226.9	FOSSILS (MAINLY PECTENS) ONE POSS. SEED
444.7	BOND	GRAY LIMESTONE	0.1	227.1	
444.6	BOND	DARK GRAY SHALE	1.2	227.2	FOSSILIF,PECTENS,LINGULA,ETC.,CARB
443.5	BOND	COAL	0.7	228.3	
442.8	BOND	UNDERCLAY	0.2	229.0	STIGMARIAN
442.6	BOND	UNCLASSIFIED	12.5	229.2	GAP IN CORE BOX..BOT OF GAP IS AT 241.75
430.0	BOND	SHALE	11.3	241.8	
418.8	BOND	DARK GRAY SHALE	21.8	253.0	
397.0	BOND	GRAY LIMESTONE	0.3	274.8	FOSSILIFEROUS
396.7	BOND	DARK GRAY SHALE	1.3	275.1	FOSSILIF,CARB,ARG,MEGASPORES,CALC
395.4	BOND	COAL	1.0	276.4	NORMALLY BANDED
394.4	BOND	UNDERCLAY	0.2	277.4	STIGMARIAN
394.1	BOND	SHALE	1.2	277.7	
393.0	BOND	UNCLASSIFIED	15.2	278.8	GAP--CORE LOSS

377.8	BOND		GRAY LIMESTONE	1.3	294.0	
376.5	BOND		GRAY SHALE	1.1	295.3	
375.3	BOND		BROWN LIMESTONE	0.2	296.5	HARD, FOSSILS
375.1	BOND		DARK GRAY SHALE	0.3	296.7	
374.9	BOND		GRAY SILTSTONE	29.6	296.9	WITH A CORE LOSS GAP OF 1.5' 323-324.5
345.3	BOND		GRAY SHALE	0.7	326.5	
344.6	BOND		GRAY SILTSTONE	4.4	327.2	
340.2	BOND		GRAY SHALE	0.9	331.6	
339.3	BOND		GRAY SILTSTONE	1.0	332.5	
338.3	BOND		GRAY SHALE	22.1	333.5	W/ A 1.0' CORE LOSS AT 343.25-344.25'
316.2	BOND		BLACK SHALE	0.3	355.6	BRITTLE AND FOSSILIFEROUS
315.9	BOND		COAL	0.2	355.9	NORMALLY BANDED
315.7	BOND		UNDERCLAY	0.2	356.1	STIGMARIAN
315.5	BOND		SHALE	9.0	356.3	GREENISH GRAY
306.5	BOND		GREEN SHALE	3.8	365.3	
302.6	BOND		SIDERITE	0.1	369.2	SIDERITE BAND
302.5	BOND		GRAY SHALE	7.9	369.3	GREENISH TO DARK GRY
294.6	BOND		UNCLASSIFIED	3.2	377.2	GAP W/FRAGS OF GY FOSS SH & LS NODS
291.5	BOND	CARTHAGE	GRAY LIMESTONE	16.4	380.3	
275.1	MODESTO		BLACK SHALE	13.3	396.7	
261.8	MODESTO		DARK GRAY SHALE	7.7	410.0	
254.1	MODESTO		GRAY LIMESTONE	0.4	417.7	
253.7	MODESTO		UNCLASSIFIED	2.0	418.1	GAP
251.7	MODESTO		SHALE	0.8	420.1	
251.0	MODESTO		UNCLASSIFIED	1.2	420.8	GAP-A FEW IRREGULAR CALC NODULES
249.8	MODESTO		GRAY SILTSTONE	8.0	422.0	
241.8	MODESTO		UNCLASSIFIED	0.7	430.0	GAP
241.1	MODESTO		GREEN SHALE	6.8	430.7	
234.3	MODESTO		UNCLASSIFIED	0.4	437.5	GAP
233.9	MODESTO		BLACK SHALE	1.3	437.9	
232.6	MODESTO		COAL	0.5	439.2	BRIGHT, BANDED
232.1	MODESTO		SHALE & CLAYSTONE	0.3	439.7	
231.8	MODESTO		SHALE	6.7	440.0	GREENISH GRAY
225.1	MODESTO		GREEN SHALE	0.1	446.7	
225.0	MODESTO		GRAY SILTSTONE	7.4	446.8	
217.6	MODESTO		GRAY SHALE	2.4	454.2	
215.2	MODESTO		GRAY SHALE	0.6	456.6	FRAGMENTS
214.6	MODESTO		GRAY SHALE	6.8	457.2	
207.8	MODESTO		UNCLASSIFIED	3.8	464.0	CORE LOST --WASHED OUT
204.0	MODESTO		GRAY SHALE	10.5	467.8	W/ ST
193.5	MODESTO		GRAY SILTSTONE	0.3	478.3	
193.2	MODESTO		GRAY SHALE	2.4	478.6	FOSSILS
190.8	MODESTO		GRAY SANDSTONE	4.8	481.0	
186.0	MODESTO		GRAY SILTSTONE	9.9	485.8	
176.1	MODESTO		GRAY SHALE	1.1	495.7	
175.0	MODESTO		GRAY SILTSTONE	4.1	496.8	
171.0	MODESTO		GRAY SHALE	0.7	500.8	

170.3	MODESTO		GRAY SILTSTONE	1.7	501.5	
168.6	MODESTO		GRAY SHALE	2.0	503.2	
166.6	MODESTO		GRAY SILTSTONE	1.3	505.2	
165.4	MODESTO		GRAY SHALE	24.8	506.4	
140.6	MODESTO	CHAPEL	COAL	0.3	531.2	
140.3	MODESTO		UNDERCLAY	1.5	531.5	
138.8	MODESTO		SHALE	4.0	533.0	GREENISH
134.8	MODESTO		GRAY SILTSTONE	2.5	537.0	
132.3	MODESTO		GRAY SHALE	2.3	539.5	
130.0	MODESTO		GRAY SILTSTONE	1.3	541.8	
128.7	MODESTO		GRAY SANDSTONE	16.9	543.1	
111.8	MODESTO		SANDSTONE/SHALE	1.1	560.0	
110.7	MODESTO		GRAY SILTSTONE	1.1	561.1	
109.6	MODESTO		GRAY SHALE	64.8	562.2	
44.8	MODESTO		GRAY LIMESTONE	0.5	627.0	
44.3	MODESTO		DARK GRAY SHALE	3.0	627.5	
41.3	MODESTO		BONE COAL	0.1	630.5	
41.2	MODESTO		UNDERCLAY	1.8	630.6	
39.4	MODESTO		SHALE	3.6	632.4	
35.8	MODESTO		GRAY SHALE	5.3	636.0	
30.5	MODESTO		SHALE	1.2	641.3	
29.3	MODESTO		BLACK SHALE	1.2	642.5	
28.1	MODESTO		UNCLASSIFIED	6.3	643.7	GAP
21.8	MODESTO		SHALE	1.9	650.0	
19.9	MODESTO		GRAY LIMESTONE	7.4	651.9	
12.5	MODESTO		DARK GRAY SHALE	1.0	659.3	VERY FOSSILIFEROUS
11.5	MODESTO		LIMESTONE	0.7	660.3	FOSSILIFEROUS
10.8	MODESTO		GREEN SHALE	10.0	661.0	
0.8	MODESTO		PYRITE	0.5	671.0	BK, SH MATRIX, MANY CALC SPHERULES
0.3	MODESTO		BLACK SHALE	4.7	671.5	VERY PYRITIC IN PART
-4.4	CARBONDALE		PYRITE	0.1	676.2	
-4.5	CARBONDALE	DANVILLE	COAL	0.1	676.3	BROKEN
-4.6	CARBONDALE	DANVILLE	COAL	2.9	676.4	
-7.5	CARBONDALE		UNDERCLAY	2.1	679.3	
-9.6	CARBONDALE		SHALE	0.6	681.4	GREEN-GRAY
-10.2	CARBONDALE		GRAY SHALE	2.5	682.0	
-12.6	CARBONDALE		UNCLASSIFIED	3.3	684.4	GAP
-16.0	CARBONDALE		BLACK SHALE	2.3	687.8	
-18.2	CARBONDALE		SHALE	0.1	690.0	GRAY
-18.3	CARBONDALE	BANKSTON FORK	GRAY LIMESTONE	2.3	690.1	
-20.7	CARBONDALE		SHALE	0.3	692.5	
-21.0	CARBONDALE		GRAY LIMESTONE	0.5	692.8	
-21.5	CARBONDALE		GRAY SHALE	1.2	693.3	
-22.7	CARBONDALE		GRAY LIMESTONE	1.5	694.5	
-24.2	CARBONDALE		GRAY SHALE	1.0	696.0	FOSSILIFEROUS
-25.2	CARBONDALE	BRERETON	GRAY LIMESTONE	1.4	697.0	
-26.6	CARBONDALE		SHALE	0.6	698.4	GREENISH GRAY

-27.2	CARBONDALE	ANNA	BLACK SHALE	2.3	699.0	PYRITIC
-29.5	CARBONDALE	ANNA	GRAY LIMESTONE	0.2	701.3	
-29.7	CARBONDALE	ANNA	BLACK SHALE	1.8	701.5	FOSSILS
-31.5	CARBONDALE	HERRIN	COAL	8.4	703.3	CORE BADLY BROKEN, LOG READS 8.42' CO
-39.9	CARBONDALE		UNDERCLAY	1.0	711.7	STIGMARIAN,CARB,HARD,FIRM, T.D.

MAPID: 02100181000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 33 **QUARTERS/FOOTAGES:** 10' N line, 2250' W line

QUADRANGLE: OCONEE **LONGITUDE:** -89.092359 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.361918 **DATE COLLECTED:** 6 / 0 / 1947

SURFACE ELEVATION (FT.): 671.8 **LOGGED (FT.):** 679.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-4.5	CARBONDALE	DANVILLE	COAL	3.0	676.3	
-31.5	CARBONDALE	HERRIN	COAL	8.4	703.3	

MAPID: 02100181000C **VERSION:** 3 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 33 **QUARTERS/FOOTAGES:** 10' N line, 2250' W line

QUADRANGLE: OCONEE **LONGITUDE:** -89.092359 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.361918 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 672.0 **LOGGED (FT.):** 711.4 **LOG TYPE:** Survey Core Study

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
20.2	MODESTO	PIASA	NODULAR LIMESTONE	9.1	651.8	
11.1	MODESTO		DARK GRAY SHALE	15.3	660.9	
-4.2	CARBONDALE	DANVILLE	COAL	3.0	676.2	
-7.2	CARBONDALE		CLAYSTONE	2.7	679.2	
-9.8	CARBONDALE	GALUM	CALCAREOUS SHALE	2.4	681.8	
-12.2	CARBONDALE		DARK GRAY SHALE	3.9	684.2	
-16.2	CARBONDALE	ALLENBY	BLACK SHALE	1.7	688.2	
-17.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.2	689.9	UPPER BENCH
-21.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.2	693.0	SHALE PARTING
-22.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.0	694.2	LOWER BENCH
-26.2	CARBONDALE	LAWSON	MOTTLED SHALE	0.6	698.2	
-26.8	CARBONDALE	LAWSON	BLACK SHALE	2.3	698.8	
-29.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	0.2	701.1	
-29.3	CARBONDALE	ANNA	BLACK SHALE	1.8	701.3	
-31.0	CARBONDALE	HERRIN	COAL	8.4	703.0	

MAPID: 02100305000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 33 **QUARTERS/FOOTAGES:** 3977' N line, 533' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.098437 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.351162 **DATE COLLECTED:** 6 / 0 / 1951
SURFACE ELEVATION (FT.): 677.6 **LOGGED (FT.):** 718.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 138 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-32.8	CARBONDALE	HERRIN	COAL	8.1	710.4	

MAPID: 02100612000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 36 **QUARTERS/FOOTAGES:** 13' N line, 68' W line of NW NE
QUADRANGLE: OCONEE **LONGITUDE:** -89.034631 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.360611 **DATE COLLECTED:** 1 / 0 / 1955
SURFACE ELEVATION (FT.): 658.3 **LOGGED (FT.):** 775.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 254 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-109.0	CARBONDALE	HERRIN	COAL	7.8	767.3	

MAPID: 02100906000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1E **SECTION:** 36 **QUARTERS/FOOTAGES:** 263' S line, 15' W line
QUADRANGLE: OCONEE **LONGITUDE:** -89.044018 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.347044 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 747.9 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 261 **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-25.9	MODESTO		SANDSTONE	20.0	687.9	
-45.9	CARBONDALE	DANVILLE	COAL	3.5	707.9	
-49.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	20.0	711.4	
-69.4	CARBONDALE	BRERETON	LIMESTONE	4.1	731.4	
-73.5	CARBONDALE	ANNA	BLACK SHALE	4.5	735.5	
-78.0	CARBONDALE	HERRIN	COAL	7.9	740.0	

MAPID: 02101818000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: OWANECO **LONGITUDE:** -89.196364 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.422486 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 640.0 **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
73.0	MODESTO	PIASA	LIMESTONE	6.0	584.0	
67.0	MODESTO		SHALE	13.0	590.0	
54.0	CARBONDALE	DANVILLE	COAL	1.0	603.0	
53.0	CARBONDALE		SHALE	5.0	604.0	
48.0	CARBONDALE	ALLENBY	BONE COAL	1.0	609.0	
47.0	CARBONDALE		SHALE	6.0	610.0	
41.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	616.0	
37.0	CARBONDALE	LAWSON	SHALE	6.0	620.0	
31.0	CARBONDALE	BRERETON	LIMESTONE	4.0	626.0	
27.0	CARBONDALE	ANNA	BLACK SHALE	3.0	630.0	
24.0	CARBONDALE	HERRIN	COAL	7.0	633.0	

MAPID: 02124644000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** SW SW SW

QUADRANGLE: OWANECO **LONGITUDE:** -89.212921 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.422566 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 637.8 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-243 **WELL TYPE:** Coal Test

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.8	629.0	

MAPID: 02100784000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 11 **QUARTERS/FOOTAGES:** 990' S line, 330' W line

QUADRANGLE: OWANECO **LONGITUDE:** -89.175394 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.409883 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 685.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
45.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	628.0	
40.0	MODESTO		SHALE	17.0	633.0	
23.0	CARBONDALE	DANVILLE	COAL	1.0	650.0	
22.0	CARBONDALE		SHALE	7.0	651.0	
15.0	CARBONDALE	ALLENBY	BONE COAL	1.0	658.0	
14.0	CARBONDALE		SHALE	2.0	659.0	
12.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	661.0	
5.0	CARBONDALE	LAWSON	SHALE	11.0	668.0	
-6.0	CARBONDALE	HERRIN	COAL	6.0	679.0	

MAPID: 02124645000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 12 **QUARTERS/FOOTAGES:** SW SW SW

QUADRANGLE: OWANECO **LONGITUDE:** -89.156515 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.408045 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 684.7 **LOG TYPE:** Company map

SOURCE: CARTER OIL 19A-695 **WELL TYPE:** Coal Test

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	9.7	675.0	

MAPID: 02100049000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: OWANECO **LONGITUDE:** -89.177832 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.398914 **DATE COLLECTED:** 0 / 0 / 1980

SURFACE ELEVATION (FT.): 674.8 **LOGGED (FT.):** 937.0 **LOG TYPE:** Drillers Log

SOURCE: ALLEN & GARCIA #118 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
674.8	PLEISTOCENE		CLAY	10.0	0.0	
664.8	PLEISTOCENE		GRAVEL	5.0	10.0	
659.8	PLEISTOCENE		SAND	5.0	15.0	
654.8	PLEISTOCENE		SAND	5.0	20.0	
649.8	MATTOON		SANDSTONE	18.0	25.0	
631.8	MATTOON		CLAYSTONE	6.0	43.0	
625.8	MATTOON		SHALE WITH LIMESTONE	32.0	49.0	
593.8	MATTOON		COAL WITH SHALE	2.0	81.0	
591.8	MATTOON		UNKNOWN	5.0	83.0	
586.8	MATTOON		LIMESTONE	8.0	88.0	
578.8	MATTOON		SHALE WITH LIMESTONE	7.5	96.0	
571.3	BOND	MILLERSVILLE	LIMESTONE	36.5	103.5	
534.8	BOND		SHALE WITH LIMESTONE	8.0	140.0	
526.8	BOND		DARK SHALE	38.0	148.0	
488.8	BOND		BLUE SHALE	87.0	186.0	
401.8	BOND		COAL	2.0	273.0	
399.8	BOND		UNDERCLAY	3.0	275.0	
396.8	BOND		ROCK	5.0	278.0	ROTTEN ROCK
391.8	BOND		CLAYSTONE	22.0	283.0	
369.8	BOND		BROWN SHALE	33.0	305.0	
336.8	BOND		BLUE SHALE	18.0	338.0	
318.8	BOND	CARTHAGE	LIMESTONE	12.0	356.0	
306.8	MODESTO		BLACK SHALE	2.5	368.0	
304.3	MODESTO		UNDERCLAY	3.5	370.5	
300.8	MODESTO		SHALE	28.0	374.0	W/ LS BANDS
272.8	MODESTO		BROWN SHALE	33.0	402.0	
239.8	MODESTO		BLACK SHALE	4.0	435.0	
235.8	MODESTO		LIGHT SHALE	25.0	439.0	
210.8	MODESTO		DARK SHALE	21.0	464.0	
189.8	MODESTO		SHALE WITH LIMESTONE	4.0	485.0	
185.8	MODESTO		LIGHT SHALE	45.0	489.0	
140.8	MODESTO		BLACK SHALE	1.5	534.0	
139.3	MODESTO		BLUE SHALE	1.5	535.5	
137.8	MODESTO		LIGHT SHALE	40.0	537.0	
97.8	MODESTO		DARK SHALE	60.0	577.0	
37.8	MODESTO		BLUE SHALE	5.0	637.0	
32.8	MODESTO		BLACK SHALE	2.0	642.0	
30.8	MODESTO		LIGHT SHALE	3.0	644.0	
27.8	MODESTO		SHALE	3.0	647.0	

24.8	MODESTO	PIASA	LIMESTONE	7.0	650.0	
17.8	MODESTO		BLUE SHALE	7.0	657.0	
10.8	MODESTO		BLACK SHALE	2.5	664.0	
8.3	MODESTO		DARK SHALE	4.5	666.5	
3.8	CARBONDALE		BLACK SHALE	2.5	671.0	
1.3	CARBONDALE		BLUE SHALE	2.5	673.5	
-1.2	CARBONDALE		SHALE WITH LIMESTONE	9.0	676.0	
-10.2	CARBONDALE	BRERETON	LIMESTONE	6.5	685.0	
-16.7	CARBONDALE	ANNA	BLACK SHALE	7.8	691.5	
-24.5	CARBONDALE	HERRIN	COAL	8.2	699.3	
-32.6	CARBONDALE		UNDERCLAY	7.0	707.4	
-39.6	CARBONDALE		LIMESTONE	2.6	714.4	
-42.2	CARBONDALE		LIGHT SHALE	4.0	717.0	
-46.2	CARBONDALE		BLUE SHALE	6.0	721.0	
-52.2	CARBONDALE		SHALE WITH LIMESTONE	5.0	727.0	
-57.2	CARBONDALE		DARK SHALE	32.0	732.0	
-89.2	CARBONDALE		LIGHT SHALE	19.5	764.0	
-108.7	CARBONDALE		LIMESTONE	2.5	783.5	
-111.2	CARBONDALE		BLACK SHALE	9.0	786.0	
-120.2	CARBONDALE		UNDERCLAY	1.0	795.0	
-121.2	CARBONDALE		BROWN LIMESTONE	3.0	796.0	
-124.2	CARBONDALE		CLAYSTONE	1.0	799.0	
-125.2	CARBONDALE		CLAYSTONE	2.5	800.0	
-127.7	CARBONDALE	EXCELLO	BLACK SHALE	2.5	802.5	
-130.2	CARBONDALE	HOUCHIN CREEK	COAL	2.5	805.0	
-132.7	CARBONDALE		DARK SHALE	49.5	807.5	
-182.2	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.0	857.0	BLACK AND GRAY SLATE
-184.2	CARBONDALE	COLCHESTER	COAL	1.5	859.0	
-185.7	SPOON		UNDERCLAY	15.5	860.5	W/ STONE BANDS
-201.2	SPOON		BLACK SHALE	12.0	876.0	
-213.2	SPOON		LIGHT SHALE	16.0	888.0	
-229.2	SPOON		BLACK SHALE	2.0	904.0	
-231.2	SPOON		DARK SHALE	12.0	906.0	
-243.2	SPOON		LIGHT SHALE	12.5	918.0	
-255.7	SPOON		LIMESTONE	3.0	930.5	
-258.7	SPOON		LIGHT SHALE	4.0	933.5	

MAPID: 02100049000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line
QUADRANGLE: OWANECO **LONGITUDE:** -89.177832 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.398914 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 707.2 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
25.0	MODESTO	PIASA	LIMESTONE	7.0	650.0	
18.0	MODESTO		GRAY SHALE	7.0	657.0	
11.0	CARBONDALE	DANVILLE	BLACK SHALE	2.5	664.0	
8.5	CARBONDALE		DARK GRAY SHALE	4.5	666.5	
4.0	CARBONDALE	ALLENBY	BLACK SHALE	2.5	671.0	
1.5	CARBONDALE		CALCAREOUS SHALE	11.5	673.5	
-10.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	685.0	
-16.5	CARBONDALE	ANNA	BLACK SHALE	7.8	691.5	
-24.0	CARBONDALE	HERRIN	COAL	8.2	699.0	

MAPID: 02102402000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 16 **QUARTERS/FOOTAGES:** 32' N line, 85' E line of SE NE
QUADRANGLE: OWANECO **LONGITUDE:** -89.195717 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.403337 **DATE COLLECTED:** 5 / 6 / 1968
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 696.4 **LOG TYPE:** Multiple log types
SOURCE: HUMBLE OIL CO. WF-121 **WELL TYPE:** Coal Test
COMMENT: DRILLER'S LOG, CORE REPORT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
27.1	CARBONDALE	DANVILLE	COAL	0.8	642.9	
26.3	CARBONDALE		CLAYSTONE	1.2	643.7	
25.1	CARBONDALE		SHALE WITH LIMESTONE	5.9	644.9	
19.2	CARBONDALE		CLAYSTONE	3.1	650.8	
16.1	CARBONDALE		LIMESTONE	9.3	653.9	SOME CALC. CLAYSTONE
6.8	CARBONDALE		SHALE	1.6	663.2	
5.2	CARBONDALE		SILTSTONE	2.3	664.8	
2.9	CARBONDALE	BRERETON	LIMESTONE	4.2	667.1	
-1.3	CARBONDALE		GRAY SHALE	0.7	671.3	
-2.0	CARBONDALE	ANNA	BLACK SHALE	2.8	672.0	
-4.8	CARBONDALE	HERRIN	COAL	9.3	674.8	CLEAN COAL, SEE LOGS; COAL ANALYZED
-14.1	CARBONDALE		SHALE	0.4	684.1	PARTINGS THICKNESS; ALL LOGS
-14.5	CARBONDALE		CLAYSTONE	3.9	684.5	LIGHT GY, VERY SOFT, SWOLLEN ?
-18.4	CARBONDALE		SHALE WITH LIMESTONE	2.5	688.4	
-20.9	CARBONDALE		CLAYSTONE	2.0	690.9	FIRM
-22.9	CARBONDALE		CLAYSTONE	3.3	692.9	SOFT
-26.2	CARBONDALE		CLAYSTONE	0.2	696.2	FIRM, W/ COAL SPARS

MAPID: 02102402000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 16 **QUARTERS/FOOTAGES:** 32' N line, 85' E line of SE NE
QUADRANGLE: OWANECO **LONGITUDE:** -89.195717 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.403337 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 684.6 **LOG TYPE:** Survey Core Study
SOURCE: HUMBLE OIL CO. WF-121 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-4.9	CARBONDALE	HERRIN	COAL	9.7	674.9	

MAPID: 02102534000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: OWANECO **LONGITUDE:** -89.21314 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.406106 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** 646.0 **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
78.0	MODESTO	PIASA	LIMESTONE	9.0	588.0	
69.0	MODESTO		GRAY SHALE	9.0	597.0	
60.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	606.0	
58.0	CARBONDALE		CALCAREOUS SHALE	7.0	608.0	
51.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	615.0	
50.0	CARBONDALE		CALCAREOUS SHALE	3.0	616.0	
47.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	14.0	619.0	
33.0	CARBONDALE	ANNA	BLACK SHALE	5.0	633.0	
28.0	CARBONDALE	HERRIN	COAL	8.0	638.0	

MAPID: 02124646000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 17 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: OWANECO **LONGITUDE:** -89.232028 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.406107 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 625.2 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-161 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	9.2	616.0	

MAPID: 02102194000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2590' S line, 2590' E line

QUADRANGLE: OWANECO **LONGITUDE:** -89.242392 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.399591 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 620.0 **LOG TYPE:** Electric Log

SOURCE: SUN OIL COMPANY **WELL TYPE:** Structure Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
88.0	MODESTO	PIASA	LIMESTONE	5.0	568.0	
83.0	MODESTO		MOTTLED SHALE	10.0	573.0	
73.0	CARBONDALE	DANVILLE	COAL	3.0	583.0	
70.0	CARBONDALE		CALCAREOUS SHALE	5.0	586.0	
65.0	CARBONDALE	ALLENBY	BLACK SHALE	2.0	591.0	
63.0	CARBONDALE		CALCAREOUS SHALE	9.0	593.0	
54.0	CARBONDALE	BANKSTON FORK	LIMESTONE AND SANDSTONE	4.0	602.0	
50.0	CARBONDALE	LAWSON	SHALE	2.0	606.0	
48.0	CARBONDALE	BRERETON	LIMESTONE	3.0	608.0	
45.0	CARBONDALE	ANNA	BLACK SHALE	4.0	611.0	
42.0	CARBONDALE	HERRIN	COAL	6.0	614.0	PARTING NEAR BASE: CGT 11/95

MAPID: 02102194000C **VERSION:** 2 **PROJECT:** AVAIL

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2590' S line, 2590' E line

QUADRANGLE: OWANECO **LONGITUDE:** -89.242392 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.399591 **DATE COLLECTED:** 6 / 20 / 1950

SURFACE ELEVATION (FT.): 656.0 **LOGGED (FT.):** 620.0 **LOG TYPE:** Electric Log

SOURCE: SUN OIL COMPANY **WELL TYPE:** Structure Test

COMMENT: THICKNESSES FROM 1"=20' ELOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
363.0	BOND	CARTHAGE	LIMESTONE	14.0	293.0	
74.0	CARBONDALE	DANVILLE	COAL	2.0	582.0	
42.5	CARBONDALE	HERRIN	COAL	2.0	613.5	
40.5	CARBONDALE	HERRIN	SHALE	1.0	615.5	
39.5	CARBONDALE	HERRIN	COAL	2.5	616.5	
37.0	CARBONDALE	HERRIN	SHALE	1.5	619.0	
35.5	CARBONDALE	HERRIN	COAL	1.7	620.5	

MAPID: 02124647000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: OWANECO **LONGITUDE:** -89.249306 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.406212 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 619.3 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-242 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	9.3	610.0	

MAPID: 02124648000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 19 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: OWANECO **LONGITUDE:** -89.249816 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.378746 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 630.8 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-122 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.8	623.0	

MAPID: 02100911000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line
QUADRANGLE: OWANECO **LONGITUDE:** -89.22728 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.391554 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 669.0 **LOGGED (FT.):** 642.0 **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
85.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	584.0	
79.0	MODESTO		MOTTLED SHALE	13.0	590.0	
66.0	CARBONDALE	DANVILLE	COAL	2.0	603.0	
64.0	CARBONDALE		SHALE	15.0	605.0	
49.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	620.0	
46.0	CARBONDALE	LAWSON	SHALE	4.0	623.0	
42.0	CARBONDALE	BRERETON	LIMESTONE	4.0	627.0	
38.0	CARBONDALE	ANNA	BLACK SHALE	3.0	631.0	
33.0	CARBONDALE	HERRIN	COAL	6.0	636.0	

MAPID: 02100723000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 26 **QUARTERS/FOOTAGES:** 660' N line, 1980' W line

QUADRANGLE: OWANECO **LONGITUDE:** -89.169929 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.376206 **DATE COLLECTED:** 5 / 0 / 1909

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 772.0 **LOG TYPE:** Drillers Log

SOURCE: DONK BROTHERS COAL COMPANY #27 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN, ELEVATION UNKNOWN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	1.0	0.0	
-	PLEISTOCENE		CLAY	18.0	1.0	
-	PLEISTOCENE		DARK CLAY	4.0	19.0	AND GRAVEL
-	PLEISTOCENE		SAND	6.8	23.0	GRAY
-	PLEISTOCENE		DARK CLAY	16.8	29.8	
-	PLEISTOCENE		GRAVEL	4.5	46.5	
-	PLEISTOCENE		DARK CLAY	10.3	51.0	
-	MATTOON		SAND	8.7	61.3	SOME SD
-	MATTOON		CLAY	7.0	70.0	
-	MATTOON		ARGILACEOUS SHALE	13.0	77.0	DARK
-	MATTOON		SANDY SHALE	5.8	90.0	
-	MATTOON		LIMESTONE	0.8	95.8	
-	MATTOON		SANDY SHALE	29.5	96.5	
-	MATTOON		SANDSTONE	4.0	126.0	
-	MATTOON		DARK SHALE	4.0	130.0	
-	MATTOON		DARK CLAYSTONE	3.0	134.0	
-	MATTOON		COAL	0.5	137.0	
-	MATTOON		DARK CLAYSTONE	4.8	137.5	
-	MATTOON		LIMESTONE	5.2	142.3	W/ A LITTLE SH
-	MATTOON		CLAYSTONE	1.5	147.5	
-	BOND	MILLERSVILLE	LIMESTONE	40.0	149.0	6" CLAY AT 170'
-	BOND		SHALE WITH LIMESTONE	10.0	189.0	
-	BOND		SANDY SHALE	41.0	199.0	DARK
-	BOND		DARK SHALE	31.0	240.0	SHOWING OF CO AT 270'
-	BOND		BLUE SHALE	11.0	271.0	
-	BOND		BROWN SHALE	16.0	282.0	
-	BOND		DARK SHALE	32.0	298.0	
-	BOND		LIGHT SHALE	10.0	330.0	(LSB)
-	BOND		DARK SHALE	64.0	340.0	
-	BOND	CARTHAGE	LIMESTONE	12.0	404.0	
-	MODESTO		BLACK SHALE	3.0	416.0	SOFT
-	MODESTO		DARK SHALE	33.0	419.0	BLUE AND DK SH
-	MODESTO		BROWN SHALE	37.0	452.0	
-	MODESTO		BLACK SHALE	1.0	489.0	
-	MODESTO		LIGHT SHALE	28.0	490.0	
-	MODESTO		BROWN SHALE	73.0	518.0	
-	MODESTO	CHAPEL	COAL WITH SHALE	1.0	591.0	
-	MODESTO		DARK SHALE	101.0	592.0	
-	MODESTO		SOFT SHALE	13.0	693.0	

-	MODESTO		HARD SHALE	3.0	706.0	
-	MODESTO		LIGHT SHALE	2.0	709.0	
-	MODESTO		HARD SHALE	3.0	711.0	
-	MODESTO		SHALE	2.0	714.0	
-	MODESTO		DARK SHALE	7.0	716.0	
-	MODESTO		BLACK SHALE	3.0	723.0	SOFT
-	CARBONDALE	DANVILLE	COAL	1.0	726.0	
-	CARBONDALE		BLUE SHALE	4.0	727.0	
-	CARBONDALE		HARD SHALE	10.0	731.0	
-	CARBONDALE		UNCLASSIFIED	10.5	741.0	HARD AND SOFT LAYERS
-	CARBONDALE	ANNA	BLACK SHALE	7.3	751.5	
-	CARBONDALE	HERRIN	COAL	9.3	758.8	
-	CARBONDALE		UNDERCLAY	3.8	768.2	

MAPID: 02100723000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 26 **QUARTERS/FOOTAGES:** 660' N line, 1980' W line

QUADRANGLE: OWANECO **LONGITUDE:** -89.169929 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.376206 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 720.0 **LOGGED (FT.):** 768.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
9.0	MODESTO	PIASA	CALCAREOUS SHALE	3.0	711.0	
6.0	MODESTO		DARK GRAY SHALE	12.0	714.0	
-6.0	CARBONDALE	DANVILLE	COAL	1.0	726.0	
-7.0	CARBONDALE		CALCAREOUS SHALE	14.0	727.0	
-21.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	10.5	741.0	
-31.5	CARBONDALE	ANNA	BLACK SHALE	7.3	751.5	
-39.0	CARBONDALE	HERRIN	COAL	9.3	759.0	

MAPID: 02125253000C **VERSION:** 1 **PROJECT:** NCRDS 2013

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.166406 **GEOLOGIST:** LOUCHIOS

CONFIDENTIAL: N **LATITUDE:** 39.369756 **DATE COLLECTED:** 1 / 31 / 2008

SURFACE ELEVATION (FT.): 728.0 **LOGGED (FT.):** 752.3 **LOG TYPE:** Other Core Study

SOURCE: BPI INDUSTRIES 1 **WELL TYPE:** Coal Test

COMMENT: DEPTHS ON BOXES OFTEN INACCURATE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
728.0			UNCLASSIFIED	694.5	0.0	
33.5			MUDSTONE	1.6	694.5	
31.9			GRAY SHALE	2.6	696.1	
29.3			BLACK SHALE	3.6	698.7	
25.7	SHELBURN	DANVILLE	COAL	0.5	702.3	LARGELY DULL
25.2	SHELBURN	DANVILLE	COAL	1.8	702.8	COAL REMOVED
23.4	SHELBURN		CLAYSTONE & SILTSTONE	1.6	704.6	
21.8	SHELBURN		LIMESTONE	1.7	706.2	
20.1	SHELBURN		SILTSTONE	2.1	707.9	
18.0	SHELBURN		DARK SHALE	3.2	710.0	
14.8	SHELBURN		DOLOMITE	1.9	713.2	
12.9	SHELBURN		MUDSTONE	3.8	715.1	WITH DOLOMITE
9.1	SHELBURN		LIMESTONE	2.3	718.9	
6.8	SHELBURN		SHALE WITH LIMESTONE	1.4	721.2	
5.4	SHELBURN	JAMESTOWN	BROWN SHALE	0.4	722.6	BROWN TO BLACK SHALE
5.0	SHELBURN	BRERETON	LIMESTONE	5.9	723.0	
-0.9	CARBONDALE	ANNA	BLACK SHALE	3.9	728.9	
-4.8	CARBONDALE	HERRIN	COAL	8.6	732.8	
-13.4	CARBONDALE		CLAYSTONE & SILTSTONE	3.2	741.4	
-16.6	CARBONDALE		GREEN SHALE	1.4	744.6	
-18.0	CARBONDALE		MUDSTONE	4.7	746.0	
-22.7	CARBONDALE		MUDSTONE	1.6	750.7	AND LIMESTONE

MAPID: 02124649000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** NE NW NW

QUADRANGLE: OWANECO **LONGITUDE:** -89.210907 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.377052 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 675.7 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-160 **WELL TYPE:** Coal Test

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.7	668.0	

MAPID: 02100047000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 165' S line, 495' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.231573 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.363738 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 660.6 **LOGGED (FT.):** 644.0 **LOG TYPE:** Drillers Log

SOURCE: G. STEPHENS #1 **WELL TYPE:** Coal Test

COMMENT: EXACT DAY UNCER,ELV IS 'P.S.McC-ALIDADE'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
660.6	PLEISTOCENE		SOIL	8.0	0.0	AND CLAY
652.6	PLEISTOCENE		SOIL	27.0	8.0	AND CLAY
625.6	PLEISTOCENE		GRAVEL	5.0	35.0	
620.6	PLEISTOCENE		SAND/CLAY	15.0	40.0	
605.6	BOND		GRAVEL	2.0	55.0	
603.6	BOND	MILLERSVILLE	LIMESTONE	25.0	57.0	
578.6	BOND		SANDY SHALE	68.0	82.0	
510.6	BOND		BLUE SHALE	5.0	150.0	
505.6	BOND		BLACK SHALE	2.7	155.0	
502.9	BOND		COAL	0.3	157.7	
502.6	BOND		UNDERCLAY	2.0	158.0	
500.6	BOND		GRAY SHALE	5.0	160.0	
495.6	BOND		SHALE	20.0	165.0	VARIEGATED
475.6	BOND		GRAY SHALE	15.0	185.0	TOUGH
460.6	BOND		GRAY SHALE	6.0	200.0	TOUGH, W/HD BANDS
454.6	BOND		FOSSILIFEROUS SHALE	1.5	206.0	
453.1	BOND		DARK SHALE	1.5	207.5	
451.6	BOND		BLACK SHALE	1.5	209.0	
450.1	BOND		COAL	0.7	210.5	
449.4	BOND		UNDERCLAY	0.8	211.2	
448.6	BOND		GRAY SHALE	4.0	212.0	
444.6	BOND		GRAY SHALE	6.0	216.0	
438.6	BOND		SANDY SHALE	56.0	222.0	
382.6	BOND		FOSSILIFEROUS SHALE	3.5	278.0	
379.1	BOND		GRAY SHALE	4.5	281.5	
374.6	BOND		GRAY SHALE	4.0	286.0	W/ LS SPOTS
370.6	BOND		GRAY SHALE	5.0	290.0	
365.6	BOND	CARTHAGE	LIMESTONE	11.5	295.0	
354.1	MODESTO		DARK SHALE	2.5	306.5	
351.6	MODESTO		BLACK SHALE	1.0	309.0	
350.6	MODESTO		COAL	0.2	310.0	
350.4	MODESTO		GRAY SHALE	5.8	310.2	
344.6	MODESTO		GRAY SHALE	12.0	316.0	W/ LS SPOTS
332.6	MODESTO		SANDY SHALE	39.0	328.0	
293.6	MODESTO		SANDY SHALE	9.0	367.0	W/ SS PARTINGS
284.6	MODESTO		DARK SHALE	2.0	376.0	
282.6	MODESTO		BLACK SHALE	2.8	378.0	
279.8	MODESTO		COAL	0.7	380.8	
279.1	MODESTO		UNDERCLAY	0.5	381.5	

278.6	MODESTO		GRAY SHALE	7.0	382.0	
271.6	MODESTO		LIMESTONE	1.0	389.0	
270.6	MODESTO		GRAY SHALE	2.0	390.0	
268.6	MODESTO		GRAY SHALE	7.0	392.0	
261.6	MODESTO		BLUE SHALE	25.0	399.0	(SANDY STREAKED)
236.6	MODESTO		SANDY SHALE	39.0	424.0	GRAY
197.6	MODESTO		BLUE SHALE	14.0	463.0	
183.6	MODESTO	CHAPEL	SHALY COAL	0.3	477.0	
183.3	MODESTO	CHAPEL	COAL	1.0	477.3	
182.3	MODESTO		BLUE SHALE	13.7	478.3	TOUGH
168.6	MODESTO		SANDY SHALE	39.0	492.0	BLUE
129.6	MODESTO		BLUE SHALE	39.0	531.0	TOUGH
90.6	MODESTO		BLUE SHALE	2.5	570.0	TOUGH, W/ HARD BANDS
88.1	MODESTO		BLACK SHALE	1.0	572.5	
87.1	MODESTO		COAL	0.2	573.5	
86.9	MODESTO		GRAY SHALE	4.3	573.7	
82.6	MODESTO		SHALE WITH LIMESTONE	2.0	578.0	
80.6	MODESTO		GRAY SHALE	2.0	580.0	
78.6	MODESTO		GRAY SHALE	7.0	582.0	GRAY AND RED SH MIXED
71.6	MODESTO	PIASA	LIMESTONE	5.0	589.0	
66.6	MODESTO		BLUE SHALE	11.0	594.0	
55.6	MODESTO		BLACK SHALE	2.1	605.0	
53.5	CARBONDALE	DANVILLE	COAL	0.9	607.1	
52.6	CARBONDALE		BLUE SHALE	1.0	608.0	
51.6	CARBONDALE		LIMESTONE	2.0	609.0	
49.6	CARBONDALE		DARK SHALE	3.5	611.0	
46.1	CARBONDALE		SHALE WITH LIMESTONE	6.0	614.5	
40.1	CARBONDALE		LIMESTONE	1.0	620.5	
39.1	CARBONDALE		GRAY SHALE	1.5	621.5	
37.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	623.0	
32.6	CARBONDALE		BLACK SHALE	1.0	628.0	
31.6	CARBONDALE		SANDY SHALE	1.0	629.0	
30.6	CARBONDALE	BRERETON	LIMESTONE	3.0	630.0	
27.6	CARBONDALE	ANNA	BLACK SHALE	3.0	633.0	
24.6	CARBONDALE	HERRIN	COAL	5.4	636.0	
19.2	CARBONDALE	HERRIN	SHALE	0.0	641.4	
19.2	CARBONDALE	HERRIN	COAL	0.7	641.4	
18.5	CARBONDALE	HERRIN	BLUE SHALE	0.2	642.1	
18.3	CARBONDALE	HERRIN	COAL	1.3	642.3	
17.1	CARBONDALE		SANDY SHALE	0.5	643.5	

MAPID: 02100047000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 165' S line, 495' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.231573 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.363738 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 661.0 **LOGGED (FT.):** 643.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
71.5	MODESTO	PIASA	LIMESTONE	5.0	589.5	
66.5	MODESTO		DARK GRAY SHALE	13.1	594.5	
53.4	CARBONDALE	DANVILLE	COAL	0.4	607.6	
53.0	CARBONDALE		GRAY SHALE	1.0	608.0	
52.0	CARBONDALE	GALUM	LIMESTONE	2.0	609.0	
50.0	CARBONDALE	ALLENBY	DARK GRAY SHALE	3.5	611.0	
46.5	CARBONDALE		CALCAREOUS SHALE	6.0	614.5	
40.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	620.5	UPPER BENCH
39.5	CARBONDALE	BANKSTON FORK	GRAY SHALE	1.5	621.5	SHALE PARTING
38.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	623.0	LOWER BENCH
33.0	CARBONDALE	LAWSON	BLACK SHALE	1.0	628.0	
32.0	CARBONDALE	LAWSON	SILTY SHALE	1.0	629.0	
31.0	CARBONDALE	BRERETON	LIMESTONE	3.0	630.0	
28.0	CARBONDALE	ANNA	BLACK SHALE	3.0	633.0	
25.0	CARBONDALE	HERRIN	COAL	7.5	636.0	

MAPID: 02100048000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 200' S line, 1800' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.22709 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.349285 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 667.7 **LOGGED (FT.):** 675.0 **LOG TYPE:** Drillers Log

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

COMMENT: DATE UNCERTAIN,ELV IS ALIDADE P.S.Mc

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
667.7	PLEISTOCENE		SOIL	20.0	0.0	
647.7	PLEISTOCENE		SAND	3.0	20.0	
644.7	PLEISTOCENE		CLAY & GRAVEL	20.0	23.0	BLUE CLAY
624.7	PLEISTOCENE		SAND & GRAVEL	29.0	43.0	MIXED
595.7	BOND	MILLERSVILLE	LIMESTONE	20.0	72.0	BROKEN
575.7	BOND	MILLERSVILLE	LIMESTONE	10.0	92.0	
565.7	BOND		SANDY SHALE	39.0	102.0	
526.7	BOND		GRAY SHALE	36.0	141.0	
490.7	BOND		COAL	1.0	177.0	
489.7	BOND		UNDERCLAY	1.0	178.0	
488.7	BOND		ARGILACEOUS SHALE	4.0	179.0	
484.7	BOND		RED SHALE	3.0	183.0	
481.7	BOND		SHALE WITH LIMESTONE	10.0	186.0	
471.7	BOND		GRAY SHALE	32.5	196.0	
439.2	BOND		COAL	1.5	228.5	
437.7	BOND		ARGILACEOUS SHALE	6.0	230.0	
431.7	BOND		SHALE WITH LIMESTONE	8.0	236.0	
423.7	BOND		SANDY SHALE	44.0	244.0	
379.7	BOND		GRAY SHALE	10.0	288.0	BR BANDS
369.7	BOND		DARK SHALE	1.0	298.0	
368.7	BOND		FOSSILIFEROUS SHALE	2.0	299.0	
366.7	BOND		DARK SHALE	4.0	301.0	
362.7	BOND		SHALE WITH LIMESTONE	11.0	305.0	
351.7	BOND	CARTHAGE	LIMESTONE	7.0	316.0	BROKEN
344.7	BOND	CARTHAGE	LIMESTONE	5.0	323.0	
339.7	MODESTO		ARGILACEOUS SHALE	8.0	328.0	
331.7	MODESTO		SANDY SHALE	6.0	336.0	
325.7	MODESTO		SHALE WITH LIMESTONE	7.0	342.0	
318.7	MODESTO		LIMESTONE	2.0	349.0	
316.7	MODESTO		SHALE WITH LIMESTONE	5.0	351.0	
311.7	MODESTO		SANDY SHALE	39.0	356.0	
272.7	MODESTO		BLACK SHALE	4.5	395.0	
268.2	MODESTO		COAL	0.5	399.5	
267.7	MODESTO		ARGILACEOUS SHALE	10.0	400.0	
257.7	MODESTO		BLUE SHALE	12.0	410.0	
245.7	MODESTO		GRAY SHALE	26.0	422.0	BROWN BANDS
219.7	MODESTO		SANDY SHALE	2.0	448.0	
217.7	MODESTO		SANDSTONE	5.0	450.0	
212.7	MODESTO		GRAY SHALE	30.0	455.0	

182.7	MODESTO		FOSSILIFEROUS SHALE	1.0	485.0	
181.7	MODESTO		DARK SHALE	6.0	486.0	
175.7	MODESTO	CHAPEL	COAL	1.0	492.0	
174.7	MODESTO		SHALE WITH LIMESTONE	6.0	493.0	
168.7	MODESTO		SANDY SHALE	89.0	499.0	W/ COAL SEAMS
79.7	MODESTO		SANDSTONE	12.0	588.0	
67.7	MODESTO		GRAY SHALE	4.9	600.0	
62.8	MODESTO		COAL	0.1	604.9	
62.7	MODESTO		ARGILACEOUS SHALE	5.0	605.0	
57.7	MODESTO		DARK SHALE	2.0	610.0	
55.7	MODESTO		ARGILACEOUS SHALE	9.0	612.0	
46.7	MODESTO	PIASA	LIMESTONE	4.0	621.0	
42.7	MODESTO		SHALE WITH LIMESTONE	8.0	625.0	
34.7	MODESTO		ARGILACEOUS SHALE	2.0	633.0	
32.7	MODESTO		BLACK SHALE	4.0	635.0	
28.7	CARBONDALE	DANVILLE	COAL	2.9	639.0	
25.8	CARBONDALE		ARGILACEOUS SHALE	2.1	641.9	
23.7	CARBONDALE		DARK SHALE	4.5	644.0	
19.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	648.5	LOG GIVES THICKNESS AS 5.0
14.7	CARBONDALE		SHALE WITH LIMESTONE	2.0	653.0	
12.7	CARBONDALE	BRERETON	LIMESTONE	5.5	655.0	
7.2	CARBONDALE		BLACK SHALE	6.7	660.5	
0.5	CARBONDALE	HERRIN	COAL	7.3	667.2	
-6.8	CARBONDALE		ARGILACEOUS SHALE	0.5	674.5	

MAPID: 02100048000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 200' S line, 1800' W line

QUADRANGLE: OHLMAN **LONGITUDE:** -89.22709 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.349285 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 668.0 **LOGGED (FT.):** 674.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
47.0	MODESTO	PIASA	LIMESTONE	4.0	621.0	
43.0	MODESTO		SHALE	14.0	625.0	
29.0	CARBONDALE	DANVILLE	COAL	2.9	639.0	
26.1	CARBONDALE		CLAYSTONE & SHALE	2.1	641.9	
24.0	CARBONDALE		DARK GRAY SHALE	4.5	644.0	
19.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	648.5	UPPER BENCH
14.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	653.5	SHALE PARTING
12.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	655.5	LOWER BENCH
7.0	CARBONDALE	ANNA	BLACK SHALE	6.7	661.0	
1.0	CARBONDALE	HERRIN	COAL	7.3	667.0	

MAPID: 02124650000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: OHLMAN **LONGITUDE:** -89.232238 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.356899 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 651.7 **LOG TYPE:** Company map
SOURCE: CARTER OIL 19A-714 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.7	644.0	

MAPID: 02124651000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 1W **SECTION:** 33 **QUARTERS/FOOTAGES:** SE SE SE
QUADRANGLE: OHLMAN **LONGITUDE:** -89.197283 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.349755 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 698.3 **LOG TYPE:** Company map
SOURCE: CARTER OIL W-48 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.3	690.0	

MAPID: 02124652000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** SE SW SW
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.265435 **GEOLOGIST:** E. PRUSSEN
CONFIDENTIAL: N **LATITUDE:** 39.422549 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 577.8 **LOG TYPE:** Company map
SOURCE: CARTER OIL WF-123 **WELL TYPE:** Coal Test
COMMENT: LOCN, DATA FROM PANA-BROWN A,B,C,D&E MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	8.8	569.0	

MAPID: 02100803000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.317458 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.422765 **DATE COLLECTED:** 7 / 0 / 1957
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log
SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Structure Test
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 02100803000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.317458 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.422765 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 0.0 **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
-	CARBONDALE	ENERGY	SILTY SHALE	40.0		
-	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	41.0		
-	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	9.0		

MAPID: 02100697000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW SE

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.258717 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.396973 **DATE COLLECTED:** 8 / 0 / 1951

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 574.5 **LOG TYPE:** Electric Log

SOURCE: CRAWFORD J L **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
120.0	MODESTO	PIASA	LIMESTONE	5.0	523.0	
115.0	MODESTO		UNCLASSIFIED	10.5	528.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
104.5	CARBONDALE	DANVILLE	COAL	1.5	538.5	
103.0	CARBONDALE		UNCLASSIFIED	11.5	540.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
91.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.5	551.5	
86.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	557.0	
84.5	CARBONDALE		UNCLASSIFIED	1.0	558.5	SHALE ABOVE BRERETON LIMESTONE
83.5	CARBONDALE	BRERETON	LIMESTONE	7.5	559.5	
76.0	CARBONDALE	ANNA	BLACK SHALE	1.0	567.0	
75.0	CARBONDALE	HERRIN	COAL	6.5	568.0	

MAPID: 02102196000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2590' N line, 2590' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.259718 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.39986 **DATE COLLECTED:** 6 / 0 / 1950

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

SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Structure Test

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	5.5		
-	MODESTO		UNCLASSIFIED	10.5		INTERVAL ABOVE DANVILLE, BELOW PIASA
-	CARBONDALE	DANVILLE	COAL	1.5		
-	CARBONDALE		UNCLASSIFIED	11.5		INTERVAL ABOVE BANKSTON, BELOW DANVILLE
-	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.5		
-	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.3		
-	CARBONDALE		UNCLASSIFIED	1.0		SHALE ABOVE BRERETON LIMESTONE
-	CARBONDALE	BRERETON	LIMESTONE	3.8		
-	CARBONDALE	ANNA	BLACK SHALE	4.5		
-	CARBONDALE	HERRIN	COAL	7.0		ELEVATION OF HERRIN = 79

MAPID: 02102196000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2590' N line, 2590' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.259718 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.39986 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 578.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Structure Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
121.0	MODESTO	PIASA	LIMESTONE	6.0	529.0	
115.0	MODESTO		SHALE	11.0	535.0	
104.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	546.0	
102.0	CARBONDALE		SHALE	11.0	548.0	
91.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.0	559.0	
83.0	CARBONDALE	ANNA	BLACK SHALE	5.0	567.0	
78.0	CARBONDALE	HERRIN	COAL	6.5	572.0	CONTAINS PARTINGS

MAPID: 02102196000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2590' N line, 2590' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.259718 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.39986 **DATE COLLECTED:** 6 / 15 / 1950

SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 578.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Structure Test

COMMENT: THICKNESSES MEASURED FROM 1"=20' ELOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
459.0	BOND	CARTHAGE	LIMESTONE	17.0	192.0	
78.0	CARBONDALE	HERRIN	COAL	2.7	573.0	
75.3	CARBONDALE	HERRIN	SHALE	0.3	575.7	
75.0	CARBONDALE	HERRIN	COAL	2.3	576.0	
72.7	CARBONDALE	HERRIN	SHALE	2.0	578.3	
70.7	CARBONDALE	HERRIN	COAL	1.8	580.3	
68.9	CARBONDALE		UNDERCLAY	3.0	582.1	

MAPID: 02124653000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** NE NW SE

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.275159 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.398798 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 571.3 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-162 **WELL TYPE:** Coal Test

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	9.3	562.0	

MAPID: 02102203000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 50' N line, 250' W line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.26885 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.377381 **DATE COLLECTED:** 6 / 0 / 1950

SURFACE ELEVATION (FT.): 663.0 **LOGGED (FT.):** 602.0 **LOG TYPE:** Electric Log

SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Plugged and/or Abandoned

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
111.5	MODESTO	PIASA	LIMESTONE	5.0	551.5	
106.5	MODESTO		UNCLASSIFIED	10.0	556.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
96.5	CARBONDALE	DANVILLE	COAL	1.5	566.5	
95.0	CARBONDALE		UNCLASSIFIED	11.5	568.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
83.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	579.5	
80.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.5	582.5	
78.0	CARBONDALE		UNCLASSIFIED	2.5	585.0	SHALE ABOVE BRERETON LIMESTONE
75.5	CARBONDALE	BRERETON	LIMESTONE	4.5	587.5	
71.0	CARBONDALE	ANNA	BLACK SHALE	3.0	592.0	
68.0	CARBONDALE	HERRIN	COAL	7.0	595.0	

MAPID: 02102203000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 50' N line, 250' W line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.26885 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.377381 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 663.0 **LOGGED (FT.):** 602.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
112.0	MODESTO	PIASA	LIMESTONE	6.0	551.0	
106.0	MODESTO		MOTTLED SHALE	12.0	557.0	
94.0	CARBONDALE	DANVILLE	COAL	3.0	569.0	
91.0	CARBONDALE		CLAYSTONE	4.0	572.0	
87.0	CARBONDALE	LAWSON	SHALE	11.0	576.0	
76.0	CARBONDALE	BRERETON	LIMESTONE	5.0	587.0	
71.0	CARBONDALE	ANNA	BLACK SHALE	3.0	592.0	
68.0	CARBONDALE	HERRIN	COAL	7.0	595.0	

MAPID: 02100050000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2100' S line, 2500' W line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.279628 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.369106 **DATE COLLECTED:** 0 / 0 / 1912
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 584.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
64.0	CARBONDALE	HERRIN	COAL	8.0	576.0	

MAPID: 02100050000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2100' S line, 2500' W line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.279628 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.369106 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 585.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
103.0	MODESTO	PIASA	LIMESTONE	3.0	537.0	
100.0	MODESTO		DARK GRAY SHALE	8.0	540.0	
92.0	CARBONDALE	DANVILLE	COAL	1.5	548.0	
90.5	CARBONDALE		CLAYSTONE & SHALE	3.5	549.5	
87.0	CARBONDALE	ALLENBY	BLACK SHALE	4.0	553.0	
83.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	557.0	UPPER BENCH
79.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	561.0	SHALE PARTING
76.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	564.0	LOWER BENCH
70.0	CARBONDALE	LAWSON	BLACK SHALE	3.0	570.0	
67.0	CARBONDALE	BRERETON	LIMESTONE	0.5	573.0	
66.5	CARBONDALE	ANNA	BLACK SHALE	1.0	573.5	
63.0	CARBONDALE	HERRIN	COAL	8.0	577.0	

MAPID: 02100050000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2100' S line, 2500' W line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.279628 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.369106 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 640.2 **LOGGED (FT.):** 585.5 **LOG TYPE:** Drillers Log

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

COMMENT: DATE UNCERTAIN,ELV IS ALIDADE P.S.M.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
640.2	PLEISTOCENE		CLAY	13.0	0.0	
627.2	PLEISTOCENE		SAND	4.0	13.0	
623.2	PLEISTOCENE		CLAY & GRAVEL	78.0	17.0	BLUE CLAY
545.2	PLEISTOCENE		SAND & GRAVEL	5.0	95.0	
540.2	PLEISTOCENE		UNKNOWN	2.0	100.0	LOG READ COAL & SH
538.2	PLEISTOCENE		CLAY & GRAVEL	61.0	102.0	BLUE CLAY
477.2	BOND		SHALE WITH LIMESTONE	7.0	163.0	SANDY
470.2	BOND		SANDY SHALE	37.0	170.0	
433.2	BOND		GRAY SHALE	20.0	207.0	
413.2	BOND		DARK SHALE	4.0	227.0	
409.2	BOND		FOSSILIFEROUS SHALE	2.0	231.0	
407.2	BOND		DARK SHALE	2.0	233.0	
405.2	BOND		ARGILACEOUS SHALE	3.0	235.0	
402.2	BOND		LIMESTONE	1.0	238.0	
401.2	BOND		LIGHT SHALE	8.0	239.0	
393.2	BOND		LIMESTONE	1.0	247.0	
392.2	BOND		LIGHT SHALE	4.0	248.0	
388.2	BOND	CARTHAGE	LIMESTONE	14.0	252.0	BROKEN
374.2	MODESTO		BLACK SHALE	3.0	266.0	
371.2	MODESTO		DARK SHALE	10.0	269.0	
361.2	MODESTO		ARGILACEOUS SHALE	5.0	279.0	
356.2	MODESTO		LAMINATED SHALE	9.0	284.0	LIME BANDS
347.2	MODESTO		SANDSTONE/SHALE	9.0	293.0	
338.2	MODESTO		DARK SHALE	3.5	302.0	
334.7	MODESTO		LIMESTONE	1.5	305.5	
333.2	MODESTO		DARK SHALE	4.0	307.0	
329.2	MODESTO		FOSSILIFEROUS SHALE	4.0	311.0	
325.2	MODESTO		BLACK SHALE	5.5	315.0	
319.7	MODESTO		COAL	0.5	320.5	
319.2	MODESTO		ARGILACEOUS SHALE	7.0	321.0	
312.2	MODESTO		SHALE WITH LIMESTONE	16.0	328.0	
296.2	MODESTO		SANDY SHALE	35.0	344.0	
261.2	MODESTO		GRAY SHALE	28.0	379.0	
233.2	MODESTO		LIMESTONE	1.0	407.0	
232.2	MODESTO		DARK SHALE	6.0	408.0	W/ GRAY ROCK BANDS
226.2	MODESTO		DARK SHALE	3.0	414.0	
223.2	MODESTO	CHAPEL	COAL	1.5	417.0	
221.7	MODESTO		ARGILACEOUS SHALE	1.5	418.5	
220.2	MODESTO		GRAY SHALE	13.0	420.0	

207.2	MODESTO		SANDY SHALE	55.0	433.0	
152.2	MODESTO		GRAY SHALE	28.0	488.0	
124.2	MODESTO		COAL	0.1	516.0	
124.1	MODESTO		GRAY SHALE	3.9	516.1	
120.2	MODESTO		SHALE WITH LIMESTONE	3.0	520.0	
117.2	MODESTO		ARGILACEOUS SHALE	3.0	523.0	
114.2	MODESTO		DARK SHALE	4.0	526.0	
110.2	MODESTO		SHALE WITH LIMESTONE	5.0	530.0	RED AND LIME SH
105.2	MODESTO		ARGILACEOUS SHALE	2.0	535.0	
103.2	MODESTO	PIASA	LIMESTONE	3.0	537.0	
100.2	MODESTO		SHALE WITH LIMESTONE	2.0	540.0	
98.2	MODESTO		DARK SHALE	6.0	542.0	
92.2	CARBONDALE	DANVILLE	COAL	1.5	548.0	
90.7	CARBONDALE		ARGILACEOUS SHALE	3.5	549.5	
87.2	CARBONDALE		BLACK SHALE	4.0	553.0	
83.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	557.0	
79.2	CARBONDALE		SHALE WITH LIMESTONE	3.0	561.0	
76.2	CARBONDALE		LIMESTONE	2.0	564.0	
74.2	CARBONDALE		SHALE WITH LIMESTONE	1.0	566.0	
73.2	CARBONDALE	BRERETON	LIMESTONE	3.0	567.0	
70.2	CARBONDALE		SHALE WITH LIMESTONE	2.0	570.0	
68.2	CARBONDALE	ANNA	BLACK SHALE	3.0	572.0	
65.2	CARBONDALE	ANNA	LIMESTONE	0.5	575.0	
64.7	CARBONDALE	ANNA	BLACK SHALE	1.0	575.5	
63.7	CARBONDALE	HERRIN	COAL	8.0	576.5	
55.7	CARBONDALE		ARGILACEOUS SHALE	1.0	584.5	

MAPID: 02124655000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** NE NE NE

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.289637 **GEOLOGIST:** E. PRUSSEN

CONFIDENTIAL: N **LATITUDE:** 39.377028 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 575.0 **LOG TYPE:** Company map

SOURCE: CARTER OIL WF-163 **WELL TYPE:** Coal Test

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	9.0	566.0	

MAPID: 02100051000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 660' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.347706 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.351635 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 542.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
149.0	CARBONDALE	ENERGY	UNCLASSIFIED	41.0	499.0	
108.0	CARBONDALE	HERRIN	COAL	2.0	540.0	

MAPID: 02100051000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 660' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.347706 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.351635 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 542.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
152.0	MODESTO	PIASA	LIMESTONE	3.0	496.0	
149.0	CARBONDALE		SILTY SHALE	18.0	499.0	
131.0	CARBONDALE	LAWSON	SHALE	16.0	517.0	
115.0	CARBONDALE	ANNA	BLACK SHALE	4.0	533.0	
111.0	CARBONDALE	ENERGY	GRAY SHALE	3.0	537.0	
108.0	CARBONDALE	HERRIN	COAL	2.0	540.0	

MAPID: 02100051000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** 990' S line, 660' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.347706 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.351635 **DATE COLLECTED:** 0 / 0 / 1906

SURFACE ELEVATION (FT.): 647.9 **LOGGED (FT.):** 690.0 **LOG TYPE:** Drillers Log

SOURCE: DERING COAL CO. #4 **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERT.,LOC IS CTR N 1/2 SESE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
647.9	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
633.9	PLEISTOCENE		GRAVEL	3.0	14.0	
630.9	PLEISTOCENE		HARD PAN	4.0	17.0	
626.9	PLEISTOCENE		SAND	2.0	21.0	
624.9	BOND		SANDSTONE	1.0	23.0	
623.9	BOND		LIGHT SHALE	6.0	24.0	
617.9	BOND		DARK SHALE	28.0	30.0	
589.9	BOND		COAL	0.5	58.0	
589.4	BOND		UNDERCLAY	1.5	58.5	
587.9	BOND		HARD SHALE	8.0	60.0	
579.9	BOND		DARK SHALE	6.0	68.0	
573.9	BOND		LIGHT SHALE	9.0	74.0	
564.9	BOND		BROWN SHALE	18.0	83.0	
546.9	BOND		BLUE SHALE	49.0	101.0	HARD
497.9	BOND		DARK SHALE	36.0	150.0	
461.9	BOND		LIGHT SHALE	6.0	186.0	
455.9	BOND		LIMESTONE	2.0	192.0	
453.9	BOND		LIGHT SHALE	6.0	194.0	
447.9	BOND	CARTHAGE	LIMESTONE	13.0	200.0	
434.9	MODESTO		BLACK SHALE	4.0	213.0	
430.9	MODESTO		BLUE SHALE	13.0	217.0	
417.9	MODESTO		SANDY SHALE	10.0	230.0	
407.9	MODESTO		BLUE SHALE	30.0	240.0	
377.9	MODESTO		BLACK SHALE	8.0	270.0	
369.9	MODESTO		BLUE SHALE	6.0	278.0	
363.9	MODESTO		LIMESTONE	4.0	284.0	
359.9	MODESTO		BLUE SHALE	58.0	288.0	HARD
301.9	MODESTO		SANDSTONE	2.0	346.0	
299.9	MODESTO		SANDY SHALE	22.0	348.0	
277.9	MODESTO		BLUE SHALE	80.0	370.0	
197.9	MODESTO		BLACK SHALE	3.0	450.0	
194.9	MODESTO		CLAYSTONE	5.0	453.0	
189.9	MODESTO		BLUE SHALE	16.0	458.0	
173.9	MODESTO		LIGHT SHALE	11.0	474.0	
162.9	MODESTO		BLUE SHALE	11.0	485.0	
151.9	CARBONDALE		LIMESTONE	3.0	496.0	
148.9	CARBONDALE	ENERGY	SANDY SHALE	18.0	499.0	
130.9	CARBONDALE	ENERGY	BROWN SHALE	4.0	517.0	
126.9	CARBONDALE	ENERGY	BLUE SHALE	12.0	521.0	

114.9	CARBONDALE	ENERGY	BLACK SHALE	4.0	533.0	
110.9	CARBONDALE	ENERGY	BLUE SHALE	3.0	537.0	
107.9	CARBONDALE	HERRIN	COAL	2.0	540.0	
105.9	CARBONDALE		BLUE SHALE	38.0	542.0	HARD
67.9	CARBONDALE		SANDSTONE	32.0	580.0	
35.9	CARBONDALE		SANDY SHALE	6.0	612.0	
29.9	CARBONDALE		BLACK SHALE	2.0	618.0	BLACK CHIP SLATE
27.9	CARBONDALE		LIMESTONE	2.5	620.0	
25.4	CARBONDALE		BLACK SHALE	1.5	622.5	BLACK CHIP SLATE
23.9	CARBONDALE		LIMESTONE	3.0	624.0	
20.9	CARBONDALE		SANDY SHALE	2.0	627.0	
18.9	CARBONDALE	HOUCHIN CREEK	COAL	2.0	629.0	
16.9	CARBONDALE		BLUE SHALE	5.0	631.0	
11.9	CARBONDALE		BROWN SHALE	10.0	636.0	
1.9	CARBONDALE		SANDY SHALE	13.0	646.0	
-11.1	CARBONDALE		SANDSTONE	11.0	659.0	
-22.1	CARBONDALE		BROWN SHALE	12.0	670.0	
-34.1	CARBONDALE		BLACK SHALE	2.0	682.0	
-36.1	CARBONDALE	COLCHESTER	COAL	4.8	684.0	
-40.9	CARBONDALE		CLAYSTONE	1.3	688.8	

MAPID: 02100857000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.28987 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.357051 **DATE COLLECTED:** 8 / 0 / 1957

SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** 612.5 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
104.6	MODESTO	PIASA	LIMESTONE	5.0	561.4	
99.6	MODESTO		UNCLASSIFIED	9.5	566.4	INTERVAL ABOVE DANVILLE, BELOW PIASA
90.1	CARBONDALE	DANVILLE	COAL	1.5	575.9	
88.6	CARBONDALE		UNCLASSIFIED	14.0	577.4	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
74.6	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	591.4	
70.1	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	0.8	595.9	
69.3	CARBONDALE		UNCLASSIFIED	0.8	596.7	SHALE ABOVE BRERETON LIMESTONE
68.5	CARBONDALE	BRERETON	LIMESTONE	3.0	597.5	
65.5	CARBONDALE	ANNA	BLACK SHALE	3.5	600.5	
62.0	CARBONDALE	HERRIN	COAL	8.5	604.0	

MAPID: 02100857000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.28987 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.357051 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** 618.0 **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
98.0	MODESTO	PIASA	LIMESTONE	4.0	568.0	
94.0	MODESTO		SHALE	9.0	572.0	
85.0	CARBONDALE	DANVILLE	COAL	3.0	581.0	
82.0	CARBONDALE		CLAYSTONE	6.0	584.0	
76.0	CARBONDALE	LAWSON	SHALE	12.0	590.0	
64.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	602.0	
61.0	CARBONDALE	ANNA	BLACK SHALE	4.0	605.0	
57.0	CARBONDALE	HERRIN	COAL	9.0	609.0	

MAPID: 02100857000C **VERSION:** 3 **PROJECT:** AVAIL

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2310' N line, 330' E line
QUADRANGLE: NOKOMIS **LONGITUDE:** -89.28987 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.357051 **DATE COLLECTED:** 8 / 0 / 1957
SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** 621.0 **LOG TYPE:** Electric Log
SOURCE: NATIONAL ASSOCIATED PETROLEUM CO. **WELL TYPE:** Oil and Gas Test
COMMENT: THICKNESS ESTIMATED FROM 1"=50' ELOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
388.0	BOND	CARTHAGE	LIMESTONE	19.0	278.0	
57.5	CARBONDALE	HERRIN	COAL	7.0	608.5	
50.5	CARBONDALE	HERRIN	SHALE	1.0	615.5	
49.5	CARBONDALE	HERRIN	COAL	1.5	616.5	

MAPID: 02100052000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 2W **SECTION:** 35 **QUARTERS/FOOTAGES:** NE NW NW

QUADRANGLE: NOKOMIS **LONGITUDE:** -89.285075 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.362458 **DATE COLLECTED:** 0 / 0 / 1900

SURFACE ELEVATION (FT.): 664.0 **LOGGED (FT.):** 602.0 **LOG TYPE:** Drillers Log

SOURCE: OHLMAN DOME OIL-GAS **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
119.0	MODESTO	PIASA	LIMESTONE	8.0	545.0	
111.0	MODESTO		UNCLASSIFIED	10.0	553.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
101.0	CARBONDALE	DANVILLE	COAL	2.0	563.0	
99.0	CARBONDALE		UNCLASSIFIED	17.0	565.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
82.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	582.0	
77.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	586.5	
76.5	CARBONDALE		UNCLASSIFIED	1.0	587.5	SHALE ABOVE BRERETON LIMESTONE
75.5	CARBONDALE	BRERETON	LIMESTONE	3.5	588.5	
72.0	CARBONDALE	ANNA	BLACK SHALE	3.0	592.0	
69.0	CARBONDALE	HERRIN	COAL	7.0	595.0	

MAPID: 02100696000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.457399 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.435697 **DATE COLLECTED:** 2 / 0 / 1951

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 422.0 **LOG TYPE:** Electric Log

SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
267.0	MODESTO	PIASA	LIMESTONE	4.0	370.0	
263.0	MODESTO		UNCLASSIFIED	3.0	374.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
260.0	CARBONDALE		UNCLASSIFIED	7.0	377.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
253.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	2.0	384.0	
251.0	CARBONDALE	ENERGY	UNCLASSIFIED	33.0	386.0	
218.0	CARBONDALE	HERRIN	COAL	3.0	419.0	

MAPID: 02100696000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.457399 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.435697 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 433.0 **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	CARBONDALE	ENERGY	SILTY SHALE	99.0	333.0	
205.0	CARBONDALE	HERRIN	BONE COAL	1.0	432.0	

MAPID: 02100392000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 6 **QUARTERS/FOOTAGES:** 99' N line, 85' W line of NW NW NW
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.475276 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.436354 **DATE COLLECTED:** 9 / 30 / 1946
SURFACE ELEVATION (FT.): 610.8 **LOGGED (FT.):** 383.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 48 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
232.2	CARBONDALE	HERRIN	COAL	5.2	378.6	

MAPID: 02100392000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 6 **QUARTERS/FOOTAGES:** 99' N line, 85' W line of NW NW NW
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.475276 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.436354 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 384.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 48 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
290.5	MODESTO	PIASA	LIMESTONE	2.0	320.5	
288.5	MODESTO		UNCLASSIFIED	4.0	322.5	
284.5	CARBONDALE		UNCLASSIFIED	12.0	326.5	
272.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	338.5	
267.5	CARBONDALE	ANNA	BLACK SHALE	0.9	343.5	
266.6	CARBONDALE	ENERGY	SHALE	34.6	344.4	
232.0	CARBONDALE	HERRIN	COAL	5.2	379.0	

MAPID: 02100693000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.429025 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.413268 **DATE COLLECTED:** 5 / 0 / 1951

SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 419.5 **LOG TYPE:** Electric Log

SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
269.0	MODESTO	PIASA	LIMESTONE	3.0	360.0	
266.0	MODESTO		UNCLASSIFIED	4.0	363.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
262.0	CARBONDALE		UNCLASSIFIED	7.0	367.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
255.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	374.0	
252.0	CARBONDALE	ENERGY	UNCLASSIFIED	38.0	377.0	
214.0	CARBONDALE	HERRIN	COAL	4.5	415.0	

MAPID: 02100693000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.429025 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.413268 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 420.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
256.0	CARBONDALE	ANNA	BLACK SHALE	2.0	373.0	
254.0	CARBONDALE	ENERGY	SHALE	40.0	375.0	
214.0	CARBONDALE	HERRIN	COAL	5.0	415.0	

MAPID: 02100694000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' N line, 990' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.386754 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.420781 **DATE COLLECTED:** 6 / 0 / 1951
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 476.0 **LOG TYPE:** Electric Log
SOURCE: MARSCH, LOUIS **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
227.0	MODESTO	PIASA	LIMESTONE	3.0	403.0	
224.0	MODESTO		UNCLASSIFIED	6.0	406.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
218.0	CARBONDALE	DANVILLE	COAL	2.0	412.0	
216.0	CARBONDALE		UNCLASSIFIED	8.0	414.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
208.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	422.0	
202.0	CARBONDALE	ENERGY	UNCLASSIFIED	44.0	428.0	
158.0	CARBONDALE	HERRIN	COAL	4.0	472.0	

MAPID: 02100694000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' N line, 990' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.386754 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.420781 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 604.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
232.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	398.0	
227.0	MODESTO		SHALE	1.0	403.0	
226.0	CARBONDALE	DANVILLE	COAL	2.0	404.0	
224.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	99.0	406.0	

MAPID: 02100695000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 580' W line of NW
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.381166 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.42078 **DATE COLLECTED:** 10 / 0 / 1949
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log
SOURCE: NATION OIL CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 02100858000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 330' E line
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.365734 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.421009 **DATE COLLECTED:** 8 / 0 / 1957
SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log
SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Plugged and/or Abandoned
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 02100858000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 330' N line, 330' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.365734 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.421009 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 458.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
428.0	MODESTO		SHALE	21.0	203.0	
407.0	CARBONDALE	DANVILLE	COAL	1.0	224.0	
406.0	CARBONDALE		SHALE	35.0	225.0	
371.0	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	51.0	260.0	
320.0	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	8.0	311.0	
312.0	CARBONDALE	ENERGY	SANDSTONE	40.0	319.0	

MAPID: 02100691000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' S line, 2114' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.390245 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.393541 **DATE COLLECTED:** 10 / 0 / 1950

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 499.0 **LOG TYPE:** Electric Log

SOURCE: ASH, LYLE E. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
195.5	MODESTO	PIASA	LIMESTONE	3.0	440.5	
192.5	MODESTO		UNCLASSIFIED	3.0	443.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
189.5	CARBONDALE		UNCLASSIFIED	7.0	446.5	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
182.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.5	453.5	
176.0	CARBONDALE	ENERGY	UNCLASSIFIED	37.0	460.0	
139.0	CARBONDALE	HERRIN	COAL	2.0	497.0	ELOG SHOWS 6-7' W/PARTING: CGT 11/95

MAPID: 02100691000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' S line, 2114' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.390245 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.393541 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 460.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
230.0	MODESTO		SHALE	20.0	406.0	
210.0	CARBONDALE	DANVILLE	COAL	2.0	426.0	
208.0	CARBONDALE		SHALE	5.0	428.0	
203.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	433.0	UPPER BENCH
200.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	436.0	SHALE PARTING
197.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	439.0	LOWER BENCH
193.0	CARBONDALE	LAWSON	SHALE	10.0	443.0	
183.0	CARBONDALE	HERRIN	COAL	7.0	453.0	

MAPID: 02123380000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 45' N line, 1925' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.482435 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.436452 **DATE COLLECTED:** 5 / 29 / 1975

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 415.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-25 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
620.0			UNCONSOLIDATED	22.0	0.0	
598.0	BOND		SANDSTONE	64.0	22.0	
534.0	BOND		GRAY SHALE	6.0	86.0	
528.0	BOND	CARTHAGE	LIMESTONE	6.0	92.0	TAN/GRAY
522.0	MODESTO		BLACK SHALE	3.0	98.0	
519.0	MODESTO		SHALE	19.0	101.0	DRK GRAY
500.0	MODESTO	MACOUPIN	SHALY LIMESTONE	15.0	120.0	
485.0	MODESTO		BLACK SHALE	2.0	135.0	
483.0	MODESTO		GRAY SHALE	6.5	137.0	
476.5	MODESTO	CARLINVILLE	LIMESTONE	2.5	143.5	TAN/BUFF
474.0	MODESTO		GRAY SHALE	67.0	146.0	
407.0	MODESTO	CHAPEL	COAL	1.0	213.0	
406.0	MODESTO		GRAY SHALE	96.0	214.0	
310.0	MODESTO		SHALY SANDSTONE	11.0	310.0	
299.0	MODESTO		SHALE	2.5	321.0	DARK
296.5	MODESTO		BLACK SHALE	1.5	323.5	
295.0	MODESTO		SILTY SHALE	16.0	325.0	GRAY
279.0	MODESTO		LIMESTONE	2.0	341.0	
277.0	MODESTO		BLACK SHALE	3.0	343.0	
274.0	CARBONDALE	DANVILLE	COAL	0.0	346.0	DANVILLE #7 COAL NOT PRESENT
274.0	CARBONDALE		GRAY SHALE	3.0	346.0	W/LS STREAK
271.0	CARBONDALE		SHALE	1.0	349.0	RED
270.0	CARBONDALE	ENERGY	GRAY SHALE	52.6	350.0	
217.5	CARBONDALE	HERRIN	COAL	6.0	402.5	
211.5	CARBONDALE		UNDERCLAY/SHALE	6.5	408.5	

MAPID: 02100393000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 9' N line, 131' E line of NE NE NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513907 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.436503 **DATE COLLECTED:** 10 / 9 / 1946

SURFACE ELEVATION (FT.): 638.4 **LOGGED (FT.):** 429.3 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
219.1	CARBONDALE	HERRIN	COAL	10.0	419.3	

MAPID: 02100393000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 9' N line, 131' E line of NE NE NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513907 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.436503 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 419.0 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.4	MODESTO	PIASA	LIMESTONE	1.0	372.6	
264.4	MODESTO		UNCLASSIFIED	4.8	373.6	
259.6	CARBONDALE		UNCLASSIFIED	15.6	378.4	
244.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	394.0	
237.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.2	400.3	
236.5	CARBONDALE		SHALE	1.2	401.5	
235.3	CARBONDALE	BRERETON	LIMESTONE	2.3	402.7	
233.0	CARBONDALE	ANNA	BLACK SHALE	4.0	405.0	
229.0	CARBONDALE	HERRIN	COAL	10.0	409.0	

MAPID: 02102142000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2216' N line, 14' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.53225 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.430382 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 405.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN COAL CORP. C-18-64 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.0	MODESTO	PIASA	LIMESTONE	1.4	361.0	
280.6	MODESTO		DARK GRAY SHALE	8.8	362.4	
271.8	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	0.1	371.2	
271.7	CARBONDALE	GALUM	NODULAR LIMESTONE	1.8	371.3	
269.9	CARBONDALE		CLAYSTONE	9.8	373.1	
260.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	382.8	UPPER BENCH
256.7	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	386.3	SHALE PARTING
255.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	387.3	LOWER BENCH
253.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	389.8	
251.7	CARBONDALE	BRERETON	LIMESTONE	1.5	391.3	
250.2	CARBONDALE	ANNA	BLACK SHALE	1.0	392.8	
247.0	CARBONDALE	HERRIN	COAL	9.8	396.0	

MAPID: 02102142000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2216' N line, 14' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.53225 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.430382 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 405.8 **LOG TYPE:** Drillers Log

SOURCE: FREEMAN COAL CORP. C-18-64 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
280.7	MODESTO	PIASA	LIMESTONE	1.8	362.3	
278.9	MODESTO		UNCLASSIFIED	4.6	364.1	
274.3	CARBONDALE		UNCLASSIFIED	12.7	368.7	
261.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.1	381.4	
254.5	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	388.5	
253.5	CARBONDALE	BRERETON	LIMESTONE	5.5	389.5	
248.0	CARBONDALE	ANNA	BLACK SHALE	1.0	395.0	
247.0	CARBONDALE	HERRIN	COAL	9.8	396.0	

MAPID: 02102142000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2216' N line, 14' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.53225 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.430382 **DATE COLLECTED:** 1 / 21 / 1964

SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 405.8 **LOG TYPE:** Survey Core Study

SOURCE: FREEMAN COAL CORP. C-18-64 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
247.0	CARBONDALE	HERRIN	COAL	9.8	396.0	

MAPID: 02100245000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2301' S line, 2' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.512973 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.413489 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 417.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 50 **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
270.0	MODESTO	PIASA	LIMESTONE	1.5	367.0	
268.5	CARBONDALE		GRAY SHALE	8.5	368.5	
260.0	CARBONDALE	GALUM	LIMESTONE	1.3	377.0	
258.7	CARBONDALE		DARK GRAY SHALE	2.5	378.3	
256.2	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	380.8	UPPER BENCH
251.0	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	5.3	386.0	SHALE PARTING
245.7	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.5	391.3	LOWER BENCH
237.2	CARBONDALE	LAWSON	CARBONACEOUS SHALE	4.3	399.8	
232.8	CARBONDALE	ANNA	BLACK SHALE	3.8	404.2	
229.0	CARBONDALE	HERRIN	COAL	9.0	408.0	

MAPID: 02100245000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2301' S line, 2' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.512973 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.413489 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 418.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 50 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
269.1	MODESTO	PIASA	LIMESTONE	1.5	367.9	
267.6	MODESTO		UNCLASSIFIED	4.3	369.4	
263.3	CARBONDALE		UNCLASSIFIED	13.3	373.7	
250.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	387.0	
241.7	CARBONDALE	ANVIL ROCK	SANDSTONE	1.0	395.3	
240.7	CARBONDALE		SHALE	1.0	396.3	
239.7	CARBONDALE	BRERETON	LIMESTONE	3.5	397.3	
236.2	CARBONDALE	ANNA	BLACK SHALE	8.2	400.8	
228.0	CARBONDALE	HERRIN	COAL	9.0	409.0	

MAPID: 02100245000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2301' S line, 2' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.512973 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.413489 **DATE COLLECTED:** 10 / 0 / 1946
SURFACE ELEVATION (FT.): 636.5 **LOGGED (FT.):** 417.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 50 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
228.5	CARBONDALE	HERRIN	COAL	9.0	408.0	

MAPID: 02123235000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2625' N line, 40' E line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513129 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.414602 **DATE COLLECTED:** 8 / 16 / 1979
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 415.4 **LOG TYPE:** Drillers Log
SOURCE: SHELL OIL COMPANY X-31 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
227.6	CARBONDALE	HERRIN	COAL	8.0	407.4	

MAPID: 02100692000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 25' N line, 25' W line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513049 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.421776 **DATE COLLECTED:** 6 / 0 / 1950
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 413.0 **LOG TYPE:** Electric Log
SOURCE: EISENSTEIN MORRIS A **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
268.0	MODESTO	PIASA	LIMESTONE	3.5	369.0	
264.5	MODESTO		UNCLASSIFIED	4.5	372.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
260.0	CARBONDALE		UNCLASSIFIED	14.0	377.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
246.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	9.0	391.0	
237.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	400.0	
235.0	CARBONDALE		UNCLASSIFIED	2.0	402.0	SHALE ABOVE BRERETON LIMESTONE
233.0	CARBONDALE	BRERETON	LIMESTONE	2.5	404.0	
230.5	CARBONDALE	ANNA	BLACK SHALE	0.5	406.5	
230.0	CARBONDALE	HERRIN	COAL	6.0	407.0	

MAPID: 02100692000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 25' N line, 25' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513049 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.421776 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 416.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
272.0	MODESTO		SHALE	10.0	365.0	
262.0	CARBONDALE	DANVILLE	BONE COAL	1.0	375.0	
261.0	CARBONDALE		SHALE	9.0	376.0	
252.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	385.0	
251.0	CARBONDALE		CALCAREOUS SHALE	7.0	386.0	
244.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	393.0	
233.0	CARBONDALE	ANNA	BLACK SHALE	4.0	404.0	
229.0	CARBONDALE	HERRIN	COAL	8.0	408.0	

MAPID: 02123381000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 605' N line, 50' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.475459 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.42017 **DATE COLLECTED:** 5 / 30 / 1975

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 452.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-26 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.0			UNCONSOLIDATED	30.0	0.0	
605.0	BOND		GRAY SHALE	4.0	30.0	
601.0	BOND		BLACK SHALE	3.0	34.0	
598.0	BOND		GRAY SHALE	7.0	37.0	
591.0	BOND	MILLERSVILLE	LIMESTONE	4.0	44.0	
587.0	BOND		GRAY SHALE	35.5	48.0	
551.5	BOND		SANDSTONE	21.5	83.5	
530.0	BOND		GRAY SHALE	21.0	105.0	
509.0	BOND	CARTHAGE	LIMESTONE	9.0	126.0	
500.0	MODESTO		BLACK SHALE	3.0	135.0	
497.0	MODESTO		GRAY SHALE	21.0	138.0	
476.0	MODESTO	MACOUPIN	LIMESTONE	3.0	159.0	
473.0	MODESTO		SHALY SANDSTONE	14.0	162.0	
459.0	MODESTO		BLACK SHALE	4.0	176.0	
455.0	MODESTO		GRAY SHALE	72.0	180.0	
383.0	MODESTO	CHAPEL	COAL	1.0	252.0	
382.0	MODESTO		SHALE	33.0	253.0	DRK GRAY
349.0	MODESTO		SANDSTONE	62.0	286.0	
287.0	MODESTO		SHALE	35.0	348.0	
252.0	CARBONDALE	DANVILLE	BLACK SHALE	4.5	383.0	DANVILLE #7 COAL HORIZON
247.5	CARBONDALE		GRAY SHALE	3.5	387.5	
244.0	CARBONDALE		SHALE	6.0	391.0	RED
238.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	397.0	
235.0	CARBONDALE	ENERGY	GRAY SHALE	40.0	400.0	GAMMA SHOWS BKSH AT 407-410
195.0	CARBONDALE	HERRIN	COAL	5.5	440.0	
189.5	CARBONDALE		UNDERCLAY/SHALE	6.5	445.5	

MAPID: 02123238000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 591' S line, 59' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.475144 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.394395 **DATE COLLECTED:** 8 / 29 / 1979
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 441.6 **LOG TYPE:** Drillers Log
SOURCE: SHELL OIL COMPANY X-36 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
192.8	CARBONDALE	HERRIN	COAL	4.4	437.2	

MAPID: 02123239000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2598' S line, 48' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.493896 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.399668 **DATE COLLECTED:** 7 / 26 / 1979
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 420.8 **LOG TYPE:** Drillers Log
SOURCE: SHELL OIL COMPANY X-35 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
220.0	CARBONDALE	HERRIN	COAL	5.8	415.0	

MAPID: 02100597000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.521067 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.398957 **DATE COLLECTED:** 11 / 0 / 1956
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Electric Log
SOURCE: KENLAND OIL CO **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
285.0	MODESTO	PIASA	LIMESTONE	5.0	350.0	
280.0	MODESTO		UNCLASSIFIED	5.0	355.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
275.0	CARBONDALE		UNCLASSIFIED	10.5	360.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
264.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	370.5	
260.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	375.0	
258.5	CARBONDALE		UNCLASSIFIED	1.5	376.5	SHALE ABOVE BRERETON LIMESTONE
257.0	CARBONDALE	BRERETON	LIMESTONE	9.0	378.0	
248.0	CARBONDALE	ANNA	BLACK SHALE	3.0	387.0	
245.0	CARBONDALE	HERRIN	COAL	8.0	390.0	

MAPID: 02102536000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 50' S line, 50' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.512819 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.392686 **DATE COLLECTED:** 7 / 0 / 1947

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 388.0 **LOG TYPE:** Electric Log

SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Plugged and/or Abandoned

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
293.0	MODESTO	PIASA	LIMESTONE	7.0	338.0	
286.0	MODESTO		UNCLASSIFIED	5.0	345.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
281.0	CARBONDALE	DANVILLE	COAL	1.0	350.0	
280.0	CARBONDALE		UNCLASSIFIED	11.0	351.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
269.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	362.0	
259.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	372.0	
257.0	CARBONDALE		UNCLASSIFIED	1.5	374.0	SHALE ABOVE BRERETON LIMESTONE
255.5	CARBONDALE	BRERETON	LIMESTONE	2.5	375.5	
253.0	CARBONDALE	ANNA	BLACK SHALE	2.0	378.0	
251.0	CARBONDALE	HERRIN	COAL	8.0	380.0	

MAPID: 02102536000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 50' S line, 50' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.512819 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.392686 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 631.0 **LOGGED (FT.):** 388.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
293.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	338.0	
285.0	MODESTO		SHALE	4.0	346.0	
281.0	CARBONDALE	DANVILLE	COAL	1.0	350.0	
280.0	CARBONDALE		SHALE	1.0	351.0	
279.0	CARBONDALE	GALUM	LIMESTONE	5.0	352.0	
274.0	CARBONDALE		CLAYSTONE	4.0	357.0	
270.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	361.0	UPPER BENCH
266.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	365.0	SHALE PARTING
264.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	367.0	LOWER BENCH
260.0	CARBONDALE	LAWSON	DARK GRAY SHALE	3.0	371.0	
257.0	CARBONDALE	BRERETON	LIMESTONE	3.0	374.0	
254.0	CARBONDALE	ANNA	BLACK SHALE	2.0	377.0	
251.0	CARBONDALE	HERRIN	COAL	8.0	380.0	

MAPID: 02100394000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 41' N line, 43' E line of SE NE NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.51246 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.376134 **DATE COLLECTED:** 10 / 0 / 1946

SURFACE ELEVATION (FT.): 625.6 **LOGGED (FT.):** 394.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 51 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
239.6	CARBONDALE	HERRIN	COAL	8.3	386.0	

MAPID: 02100394000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 41' N line, 43' E line of SE NE NE

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.51246 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.376134 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 394.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 51 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
295.6	MODESTO	PIASA	LIMESTONE	2.8	330.4	
292.8	MODESTO		UNCLASSIFIED	3.0	333.2	
289.8	CARBONDALE		UNCLASSIFIED	8.2	336.2	
281.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.6	344.4	
274.0	CARBONDALE	ENERGY	SHALE	34.0	352.0	
240.0	CARBONDALE	HERRIN	COAL	8.3	386.0	

MAPID: 02100690000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.530009 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.369823 **DATE COLLECTED:** 11 / 0 / 1949

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Electric Log

SOURCE: BIGGS, A. S. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
300.5	MODESTO	PIASA	LIMESTONE	5.0	341.5	
295.5	MODESTO		UNCLASSIFIED	5.5	346.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
290.0	CARBONDALE		UNCLASSIFIED	9.0	352.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
281.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	361.0	
271.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	371.0	
269.5	CARBONDALE		UNCLASSIFIED	1.5	372.5	SHALE ABOVE BRERETON LIMESTONE
268.0	CARBONDALE	BRERETON	LIMESTONE	2.0	374.0	
266.0	CARBONDALE	ANNA	BLACK SHALE	2.0	376.0	
264.0	CARBONDALE	ENERGY	UNCLASSIFIED	7.0	378.0	
257.0	CARBONDALE	HERRIN	COAL	5.0	385.0	

MAPID: 02102537000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 50' N line, 50' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.531215 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.377897 **DATE COLLECTED:** 6 / 0 / 1947

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 391.5 **LOG TYPE:** Electric Log

SOURCE: SUN PRODUCTION COMPANY **WELL TYPE:** Plugged and/or Abandoned

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.0	MODESTO	PIASA	LIMESTONE	7.0	344.0	
282.0	MODESTO		UNCLASSIFIED	7.0	351.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
275.0	CARBONDALE	DANVILLE	COAL	0.5	358.0	
274.5	CARBONDALE		UNCLASSIFIED	11.0	358.5	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
263.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	369.5	
253.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	379.5	
252.0	CARBONDALE		UNCLASSIFIED	1.0	381.0	SHALE ABOVE BRERETON LIMESTONE
251.0	CARBONDALE	BRERETON	LIMESTONE	2.0	382.0	
249.0	CARBONDALE	ANNA	BLACK SHALE	1.0	384.0	
248.0	CARBONDALE	HERRIN	COAL	6.5	385.0	

MAPID: 02102537000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 50' N line, 50' W line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.531215 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.377897 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	344.0	
282.0	CARBONDALE		MOTTLED SHALE	11.0	351.0	
271.0	CARBONDALE	GALUM	LIMESTONE	4.0	362.0	
267.0	CARBONDALE		CLAYSTONE	2.0	366.0	
265.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	368.0	UPPER BENCH
258.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	375.0	SHALE PARTING
257.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	376.0	LOWER BENCH
254.0	CARBONDALE	ANNA	BLACK SHALE	2.0	379.0	
251.0	CARBONDALE	HERRIN	COAL	8.0	382.0	

MAPID: 02123243000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 2079' S line, 363' W line
QUADRANGLE: RAYMOND **LONGITUDE:** -89.529874 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.369169 **DATE COLLECTED:** 7 / 24 / 1979
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 426.6 **LOG TYPE:** Drillers Log
SOURCE: SHELL OIL COMPANY X-41 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
217.0	CARBONDALE	HERRIN	COAL	8.6	418.0	

MAPID: 02100152000C **VERSION:** 1 **PROJECT:** BLM

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2380' N line, 570' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.528851 **GEOLOGIST:** TREWORGY,J

CONFIDENTIAL: N **LATITUDE:** 39.356863 **DATE COLLECTED:** 0 / 0 / 1890

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 700.0 **LOG TYPE:** Drillers Log

SOURCE: STATE MUSEUM SAMPLES **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
636.0			UNCONSOLIDATED	14.0	0.0	
622.0			ROCK	130.3	14.0	
491.7			COAL	0.6	144.3	
491.2			ROCK	83.2	144.8	
408.0			COAL	1.2	228.0	
406.8			ROCK	157.8	229.2	
249.0			COAL	0.5	387.0	SPLIT OF COAL BELOW
248.5			SHALE	2.5	387.5	
246.0			COAL	2.8	390.0	SH. PTG. .08'
243.2			BLACK SHALE	1.2	392.8	
242.0			SHALE	13.8	394.0	
228.2			COAL	3.6	407.8	
224.7			ROCK	52.7	411.3	
172.0			COAL	2.7	464.0	
169.3			ROCK	65.3	466.7	
104.0			COAL	2.7	532.0	
101.3			ROCK	6.0	534.7	
95.3			COAL	2.9	540.7	
92.4			ROCK	12.9	543.6	
79.5			COAL	1.5	556.5	
78.0			ROCK	19.5	558.0	
58.5			COAL	1.5	577.5	
57.0			ROCK	3.0	579.0	
54.0			COAL	2.6	582.0	FIRE CLAY PTG. .25'
51.4			ROCK	14.9	584.6	
36.5			COAL	0.2	599.5	
36.3			ROCK	4.8	599.7	
31.5			COAL	2.4	604.5	
29.1			ROCK	41.2	606.9	
-12.2			COAL	1.8	648.2	
-14.0			ROCK	50.0	650.0	

MAPID: 02100152000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2380' N line, 570' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.528851 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.356863 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 392.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
282.0	MODESTO		SHALE & SANDSTONE	10.0	354.0	
272.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	364.0	
270.0	CARBONDALE		CLAYSTONE & SHALE	5.0	366.0	
265.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	371.0	
257.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	379.0	
249.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	5.8	387.0	

MAPID: 02100152000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2380' N line, 570' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.528851 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.356863 **DATE COLLECTED:** 0 / 0 / 1890

SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 392.8 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
288.0	MODESTO	PIASA	LIMESTONE	4.0	348.0	
284.0	MODESTO		UNCLASSIFIED	4.0	352.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
280.0	CARBONDALE		UNCLASSIFIED	7.0	356.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
273.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	363.0	
265.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	371.0	
263.0	CARBONDALE		UNCLASSIFIED	2.0	373.0	SHALE ABOVE BRERETON LIMESTONE
261.0	CARBONDALE	BRERETON	LIMESTONE	2.0	375.0	
259.0	CARBONDALE	ANNA	BLACK SHALE	2.0	377.0	
257.0	CARBONDALE	ENERGY	UNCLASSIFIED	8.0	379.0	
249.0	CARBONDALE	HERRIN	COAL	5.8	387.0	

MAPID: 02100152000C **VERSION:** 4 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2380' N line, 570' W line

QUADRANGLE: RAYMOND **LONGITUDE:** -89.528851 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.356863 **DATE COLLECTED:** 0 / 0 / 1890

SURFACE ELEVATION (FT.): 636.2 **LOGGED (FT.):** 700.0 **LOG TYPE:** Drillers Log

SOURCE: HARVEL PROSPECT(FARM) **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEVAT'N IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
636.2	PLEISTOCENE		SOIL	14.0	0.0	
622.2	BOND		SANDSTONE	1.5	14.0	
620.7	BOND		SANDY SHALE	19.5	15.5	SOFT
601.2	BOND		SANDY SHALE	27.0	35.0	SOFT
574.2	BOND		SANDY SHALE	28.0	62.0	BLUE
546.2	BOND	CARTHAGE	LIMESTONE W/ SHALE	10.0	90.0	
536.2	MODESTO		BLUE SHALE	5.0	100.0	
531.2	MODESTO		ARGILACEOUS SHALE	11.0	105.0	
520.2	MODESTO		SANDSTONE	12.0	116.0	
508.2	MODESTO		SHALE	12.0	128.0	W/ BANDS OF LS
496.2	MODESTO		BLUE SHALE	2.0	140.0	
494.2	MODESTO		CARBONACEOUS SHALE	2.3	142.0	
491.9	MODESTO		COAL	0.6	144.3	
491.4	MODESTO		UNDERCLAY	6.2	144.8	
485.2	MODESTO		SANDSTONE	12.0	151.0	
473.2	MODESTO		SANDY SHALE	37.0	163.0	
436.2	MODESTO		BLUE SHALE	16.0	200.0	
420.2	MODESTO		LIMESTONE	1.0	216.0	
419.2	MODESTO		BLACK SHALE	2.0	217.0	
417.2	MODESTO		BLUE SHALE	9.0	219.0	
408.2	MODESTO	CHAPEL	COAL	1.2	228.0	
407.0	MODESTO		UNDERCLAY	6.8	229.2	
400.2	MODESTO		LIMESTONE	2.0	236.0	
398.2	MODESTO		SANDY SHALE	62.0	238.0	
336.2	MODESTO		BLUE SHALE	31.0	300.0	
305.2	MODESTO		UNDERCLAY	2.0	331.0	
303.2	MODESTO		SANDY SHALE	4.0	333.0	
299.2	MODESTO		BLACK SHALE	8.0	337.0	
291.2	CARBONDALE		ARGILACEOUS SHALE	5.0	345.0	
286.2	CARBONDALE		SANDSTONE	6.0	350.0	
280.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	356.0	
276.2	CARBONDALE		GRAY SHALE	4.0	360.0	
272.2	CARBONDALE		BLACK SHALE	2.0	364.0	
270.2	CARBONDALE		ARGILACEOUS SHALE	5.0	366.0	
265.2	CARBONDALE	BRERETON	LIMESTONE	8.0	371.0	
257.2	CARBONDALE		GRAY SHALE	8.0	379.0	
249.2	CARBONDALE	HERRIN	COAL	0.5	387.0	
248.7	CARBONDALE	HERRIN	BLACK SHALE	2.5	387.5	
246.2	CARBONDALE	HERRIN	COAL	0.9	390.0	

245.3	CARBONDALE	HERRIN	GRAY SHALE	0.1	390.9	
245.2	CARBONDALE	HERRIN	COAL	1.8	391.0	
243.4	CARBONDALE	HERRIN	BLACK SHALE	1.2	392.8	
242.2	CARBONDALE	HERRIN	GRAY SHALE	4.0	394.0	
238.2	CARBONDALE	HERRIN	BLUE SHALE	9.8	398.0	
228.4	CARBONDALE	HERRIN	COAL	3.6	407.8	
224.9	CARBONDALE		UNDERCLAY	4.7	411.3	
220.2	CARBONDALE		LIMESTONE W/ SHALE	6.0	416.0	
214.2	CARBONDALE		ARGILACEOUS SHALE	4.0	422.0	
210.2	CARBONDALE		SANDY SHALE	19.0	426.0	
191.2	CARBONDALE		BLUE SHALE	11.5	445.0	
179.7	CARBONDALE		CARBONACEOUS SHALE	7.5	456.5	
172.2	CARBONDALE	HOUCHIN CREEK	COAL	2.7	464.0	
169.5	CARBONDALE		UNDERCLAY	5.3	466.7	
164.2	CARBONDALE		SANDSTONE	3.0	472.0	
161.2	CARBONDALE		COAL/SANDSTONE	1.0	475.0	MIXED
160.2	CARBONDALE		SANDY SHALE	32.0	476.0	
128.2	CARBONDALE		BLUE SHALE	6.0	508.0	
122.2	CARBONDALE		SANDY SHALE	15.5	514.0	
106.7	CARBONDALE	MECCA QUARRY	CARBONACEOUS SHALE	1.8	529.5	
104.9	CARBONDALE		ROCK	0.8	531.3	GRAY
104.2	CARBONDALE	COLCHESTER	COAL	2.7	532.0	
101.5	SPOON		UNDERCLAY	3.3	534.7	
98.2	SPOON		LIMESTONE	2.7	538.0	
95.5	SPOON	SEELYVILLE	COAL	2.9	540.7	
92.6	SPOON		UNDERCLAY	3.4	543.6	
89.2	SPOON		GRAY SHALE	6.0	547.0	
83.2	SPOON		BLACK SHALE	3.5	553.0	
79.7	SPOON		COAL	1.5	556.5	
78.2	SPOON		UNDERCLAY	4.0	558.0	
74.2	SPOON		SANDY SHALE	5.0	562.0	
69.2	SPOON		SANDSTONE	3.0	567.0	
66.2	SPOON		GRAY SHALE	5.5	570.0	
60.7	SPOON		UNDERCLAY	2.0	575.5	
58.7	SPOON		COAL	1.5	577.5	
57.2	SPOON		UNDERCLAY	3.0	579.0	
54.2	SPOON		COAL	1.0	582.0	
53.2	SPOON		UNDERCLAY	0.3	583.0	
52.9	SPOON		COAL	1.3	583.3	
51.6	SPOON		UNDERCLAY	3.4	584.6	
48.2	SPOON		GRAY SHALE	7.0	588.0	
41.2	SPOON		SANDY SHALE	4.5	595.0	
36.7	SPOON		COAL	0.2	599.5	
36.5	SPOON		BLUE SHALE	0.8	599.7	
35.7	SPOON		UNDERCLAY	3.0	600.5	
32.7	SPOON		BLACK SHALE	1.0	603.5	
31.7	SPOON		COAL	2.4	604.5	
29.3	SPOON		BLUE SHALE	3.1	606.9	

26.2	SPOON	SANDY SHALE	5.0	610.0
21.2	SPOON	BLACK SHALE	2.0	615.0
19.2	SPOON	SANDY SHALE	8.0	617.0
11.2	SPOON	LIMESTONE	1.0	625.0
10.2	SPOON	LIMESTONE W/ SHALE	2.0	626.0
8.2	SPOON	BLUE SHALE	20.2	628.0
-12.0	SPOON	COAL	1.8	648.2
-13.8	SPOON	UNDERCLAY	3.0	650.0
-16.8	SPOON	SANDSTONE	7.0	653.0
-23.8	SPOON	BLUE SHALE	30.0	660.0
-53.8	SPOON	SANDSTONE	10.0	690.0

MAPID: 02102538000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 50' N line, 50' E line of NE

QUADRANGLE: RAYMOND **LONGITUDE:** -89.512251 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.363369 **DATE COLLECTED:** 5 / 0 / 1947

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Electric Log

SOURCE: SUN PRODUCTION COMPANY **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
295.0	MODESTO	PIASA	LIMESTONE	3.0	340.0	
292.0	MODESTO		UNCLASSIFIED	2.0	343.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
290.0	CARBONDALE		UNCLASSIFIED	5.0	345.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
285.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	350.0	
281.0	CARBONDALE	ENERGY	UNCLASSIFIED	51.0	354.0	
230.0	CARBONDALE	HERRIN	COAL	5.0	405.0	

MAPID: 02102539000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 11N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 50' S line, 660' W line of NW

QUADRANGLE: RAYMOND **LONGITUDE:** -89.528517 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.356264 **DATE COLLECTED:** 5 / 0 / 1947

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Electric Log

SOURCE: SUN PRODUCTION COMPANY **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
303.0	MODESTO	PIASA	LIMESTONE	4.0	331.0	
299.0	MODESTO		UNCLASSIFIED	3.0	335.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
296.0	CARBONDALE		UNCLASSIFIED	5.0	338.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
291.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	343.0	
287.0	CARBONDALE	ENERGY	UNCLASSIFIED	35.0	347.0	
252.0	CARBONDALE	HERRIN	COAL	4.0	382.0	

MAPID: 02100814000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 1 **QUARTERS/FOOTAGES:** 2310' S line, 990' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.039636 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.514526 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 702.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
139.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	503.0	
134.0	CARBONDALE		CLAYSTONE & SHALE	50.0	508.0	
84.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	558.0	
80.0	CARBONDALE	ENERGY	SILTY SHALE	70.0	562.0	

MAPID: 02100044000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1980' S line, 1980' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.050236 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.513715 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 1069.3 **LOG TYPE:** Drillers Log

SOURCE: ASSUMPTION COAL & MINING CO. **WELL TYPE:** Coal Test

COMMENT: DATE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
644.0	PLEISTOCENE		SOIL	1.5	0.0	
642.5	PLEISTOCENE		SOIL	1.0	1.5	
641.5	PLEISTOCENE		CLAY	8.0	2.5	
633.5	PLEISTOCENE		SAND/CLAY	8.5	10.5	YL CLY
625.0	PLEISTOCENE		CLAY & GRAVEL	5.0	19.0	HARD GRAVEL
620.0	PLEISTOCENE		CLAY	3.0	24.0	
617.0	MATTOON		SOFT SHALE	18.0	27.0	
599.0	MATTOON		COAL	0.3	45.0	
598.7	MATTOON		UNDERCLAY	2.0	45.3	
596.7	MATTOON		BLUE LIMESTONE	5.0	47.3	
591.7	MATTOON		UNDERCLAY	1.5	52.3	
590.2	MATTOON		ARGILACEOUS SHALE	5.5	53.8	
584.7	MATTOON		GRAY LIMESTONE	6.7	59.3	
578.0	MATTOON		LIMESTONE W/ SHALE	1.0	66.0	GY LS, G SH
577.0	BOND	MILLERSVILLE	GRAY LIMESTONE	38.0	67.0	
539.0	BOND		SANDY SHALE	52.3	105.0	
486.7	BOND		ARGILACEOUS SHALE	14.0	157.3	
472.7	BOND		COAL	2.5	171.3	
470.2	BOND		UNDERCLAY	6.0	173.8	
464.2	BOND		SANDY SHALE	10.0	179.8	GRAY
454.2	BOND		ARGILACEOUS SHALE	22.7	189.8	
431.5	BOND		BLUE SHALE	8.0	212.5	
423.5	BOND		LIMESTONE	2.5	220.5	CONGLOMERATE
421.0	BOND		BLACK SHALE	1.0	223.0	
420.0	BOND		COAL	0.5	224.0	
419.5	BOND		UNDERCLAY	10.5	224.5	
409.0	BOND		SANDSTONE	40.0	235.0	
369.0	BOND		SANDSTONE	14.0	275.0	POROUS (W/SALT WATER)
355.0	BOND		LIMESTONE	1.5	289.0	
353.5	BOND		CLAYSTONE	10.0	290.5	
343.5	BOND		LIMESTONE	9.0	300.5	CARLINVILLE
334.5	BOND		BLACK SHALE	1.5	309.5	
333.0	BOND		COAL	0.5	311.0	
332.5	BOND		SANDSTONE	4.0	311.5	
328.5	BOND	CARTHAGE	LIMESTONE	21.0	315.5	AND BOULDERS
307.5	MODESTO		BLUE SHALE	20.0	336.5	
287.5	MODESTO		ARGILACEOUS SHALE	2.0	356.5	CONGLOMERATE OF ROCK & CLAY SH
285.5	MODESTO		BLUE SHALE	5.0	358.5	SDY
280.5	MODESTO		COAL WITH SHALE	2.0	363.5	

278.5	MODESTO		UNDERCLAY	8.0	365.5	AND BOULDERS
270.5	MODESTO		SANDSTONE	15.0	373.5	
255.5	MODESTO		SANDSTONE	50.0	388.5	
205.5	MODESTO		BLACK SHALE	0.3	438.5	
205.2	MODESTO	CHAPEL	COAL	0.5	438.8	
204.7	MODESTO		UNDERCLAY	2.0	439.3	
202.7	MODESTO		LIMESTONE	4.0	441.3	
198.7	MODESTO		SANDSTONE	13.8	445.3	
185.0	MODESTO		SANDY SHALE	52.0	459.0	
133.0	MODESTO		UNDERCLAY	2.0	511.0	
131.0	MODESTO		BLACK SHALE	2.0	513.0	& ROCK
129.0	MODESTO		CLAYSTONE	12.3	515.0	
116.7	MODESTO		LIMESTONE	5.0	527.3	AND UCLY
111.7	MODESTO		BROWN SHALE	6.0	532.3	CHOCOLATE
105.7	MODESTO		BLUE SHALE	25.5	538.3	
80.2	MODESTO		BLACK SHALE	2.0	563.8	
78.2	CARBONDALE	DANVILLE	COAL WITH SHALE	0.5	565.8	
77.7	CARBONDALE		LIMESTONE & CLAY	12.0	566.3	CONGLOMERATE LIME & CLAY
65.7	CARBONDALE		LIMESTONE	3.0	578.3	
62.7	CARBONDALE		SANDSTONE	20.0	581.3	
42.7	CARBONDALE	ENERGY	BLUE SHALE	23.0	601.3	SDY
19.7	CARBONDALE	ENERGY	BROWN SHALE	4.0	624.3	SDY
15.7	CARBONDALE		LIMESTONE	1.0	628.3	
14.7	CARBONDALE	HERRIN	COAL	1.7	629.3	
13.0	CARBONDALE		UNDERCLAY	6.0	631.0	& BOULDERS
7.0	CARBONDALE		SANDSTONE	10.0	637.0	
-3.0	CARBONDALE		UNDERCLAY	7.0	647.0	& ROCK
-10.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	654.0	
-12.0	CARBONDALE	SPRINGFIELD	COAL	0.2	656.0	
-12.2	CARBONDALE		UNDERCLAY	10.0	656.2	& ROCK
-22.2	CARBONDALE		LIMESTONE AND SANDSTONE	8.0	666.2	
-30.2	CARBONDALE		SANDSTONE/SHALE	8.0	674.2	
-38.2	CARBONDALE		SANDSTONE	10.0	682.2	
-48.2	CARBONDALE		BLUE SHALE	21.0	692.2	SDY
-69.2	CARBONDALE		SANDSTONE	1.0	713.2	
-70.2	CARBONDALE		BLUE SHALE	32.0	714.2	
-102.2	CARBONDALE		UNDERCLAY	0.5	746.2	
-102.7	CARBONDALE		LIMESTONE	0.5	746.7	
-103.2	CARBONDALE		UNDERCLAY	2.0	747.2	
-105.2	CARBONDALE		UNDERCLAY	5.0	749.2	&LIME ROCK
-110.2	CARBONDALE		LIMESTONE	1.0	754.2	
-111.2	CARBONDALE	HOUCHIN CREEK	COAL	1.0	755.2	
-112.2	CARBONDALE		UNDERCLAY	4.0	756.2	
-116.2	CARBONDALE		SANDY SHALE	22.0	760.2	
-138.2	CARBONDALE		BLACK SHALE	1.5	782.2	
-139.7	CARBONDALE	SURVANT	COAL	1.5	783.7	
-141.2	CARBONDALE		UNDERCLAY	0.3	785.2	

-141.5	CARBONDALE		SANDY SHALE	25.0	785.5	
-166.5	CARBONDALE		BLACK SHALE	6.0	810.5	
-172.5	CARBONDALE		COAL	1.0	816.5	
-173.5	CARBONDALE		UNDERCLAY	3.0	817.5	
-176.5	CARBONDALE		LIMESTONE	1.0	820.5	
-177.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	5.0	821.5	
-182.5	CARBONDALE	COLCHESTER	COAL	1.7	826.5	
-184.2	SPOON		UNDERCLAY	1.0	828.2	
-185.2	SPOON		LIMESTONE	1.3	829.2	
-186.5	SPOON		SANDY SHALE	18.0	830.5	
-204.5	SPOON		LIMESTONE	1.5	848.5	SDY LIME ROCK & SMALL BOULDERS
-206.0	SPOON		CLAYSTONE	15.0	850.0	& BOULDERS
-221.0	SPOON		SANDSTONE	16.3	865.0	
-237.3	SPOON		SANDY SHALE	18.2	881.3	
-255.5	SPOON		BLACK SHALE	1.0	899.5	
-256.5	SPOON	SEAHORNE LS	COAL	0.2	900.5	
-256.7	SPOON		UNDERCLAY	2.0	900.7	
-258.7	SPOON		LIMESTONE	5.0	902.7	
-263.7	SPOON		BLUE SHALE	7.0	907.7	SDY
-270.7	SPOON		BLACK SHALE	1.0	914.7	
-271.7	SPOON	WISE RIDGE	COAL	0.4	915.7	
-272.1	SPOON		UNDERCLAY	5.5	916.1	
-277.6	SPOON		UNDERCLAY	7.5	921.6	& BOULDERS
-285.1	SPOON		SANDY SHALE	25.7	929.1	
-310.8	SPOON		BLACK SHALE	5.0	954.8	
-315.8	SPOON	MT. RORAH	COAL	2.2	959.8	
-317.9	SPOON		UNDERCLAY	0.3	961.9	
-318.2	SPOON		SANDSTONE/UNDERCLAY	1.5	962.2	
-319.7	SPOON		SANDY DARK SHALE	14.0	963.7	
-333.7	SPOON		ROCK	1.5	977.7	CONGLOMERATE
-335.2	SPOON	ASSUMPTION	COAL	3.5	979.2	
-338.7	ABBOTT		UNDERCLAY	3.0	982.7	
-341.7	ABBOTT		SHALE	3.5	985.7	
-345.2	ABBOTT		UNDERCLAY	1.0	989.2	
-346.2	ABBOTT		SANDY SHALE	2.5	990.2	
-348.7	ABBOTT		SANDSTONE	3.5	992.7	
-352.2	ABBOTT		UNCLASSIFIED	1.5	996.2	IRON BAND
-353.7	ABBOTT		SANDY SHALE	32.5	997.7	
-386.2	ABBOTT		SANDSTONE	1.0	1030.2	
-387.2	ABBOTT		SHALE	2.0	1031.2	
-389.2	ABBOTT		SANDSTONE	1.0	1033.2	
-390.2	ABBOTT		BLACK SHALE	3.5	1034.2	
-393.7	ABBOTT		SOFT SHALE	5.5	1037.7	
-399.2	ABBOTT		SANDSTONE	1.0	1043.2	
-400.2	ABBOTT		BLACK SHALE	7.5	1044.2	
-407.7	ABBOTT		SHALE	0.3	1051.7	
-407.9	ABBOTT		UNCLASSIFIED	0.3	1051.9	IRON BAND

-408.2	ABBOTT	BLACK SHALE	16.5	1052.2	
-424.7	ABBOTT	SANDSTONE	0.7	1068.7	VERY HARD

MAPID: 02100044000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1980' S line, 1980' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.050236 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.513715 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 670.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
117.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	527.0	
112.0	CARBONDALE		DARK GRAY SHALE	31.5	532.0	
80.5	CARBONDALE		BLACK SHALE	2.0	563.5	
78.5	CARBONDALE	ALLENBY	BONE COAL	0.5	565.5	
78.0	CARBONDALE		LIMESTONE W/ SHALE	12.0	566.0	
66.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	578.0	
62.0	CARBONDALE	ENERGY	SANDSTONE	20.0	582.0	
42.0	CARBONDALE	ENERGY	SILTY SHALE	24.0	602.0	

MAPID: 02102373000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.08912 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.507639 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 0.0 **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
-	CARBONDALE	ENERGY	SILTY SHALE	99.0		

MAPID: 02100652000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 13 **QUARTERS/FOOTAGES:** 1980' S line, 2310' E line

QUADRANGLE: PANA **LONGITUDE:** -89.033237 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.484655 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 0.0 **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
-	MODESTO		SHALE	30.0		
-	CARBONDALE	DANVILLE	COAL	3.0		
-	CARBONDALE		CLAYSTONE	1.0		
-	CARBONDALE	ENERGY	SILTY SHALE	15.0		
-	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	20.0		
-	CARBONDALE	ENERGY	SILTY SHALE	50.0		
-	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	14.0		

MAPID: 02100815000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 14 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line

QUADRANGLE: PANA **LONGITUDE:** -89.056786 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.482048 **DATE COLLECTED:** 3 / 0 / 1952

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 735.0 **LOG TYPE:** Electric Log

SOURCE: WHITE, IVAN **WELL TYPE:** Producer-Oil

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
558.0	BOND	MILLERSVILLE	UNCLASSIFIED	34.0	90.0	
343.0	BOND	CARTHAGE	UNCLASSIFIED	10.0	305.0	
91.0	CARBONDALE	DANVILLE	UNCLASSIFIED	1.0	557.0	
-14.0	CARBONDALE	HERRIN	UNCLASSIFIED	3.0	662.0	COR UNCERTAIN;CHANNEL MATL ABOVE 8 BELOW
-150.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	798.0	
-87.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	1.0	735.0	

MAPID: 02100815000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 14 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line
QUADRANGLE: PANA **LONGITUDE:** -89.056786 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.482048 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 0.0 **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
-	MODESTO		SHALE	30.0		
-	CARBONDALE	DANVILLE	COAL	1.0		
-	CARBONDALE	ENERGY	SILTY SHALE	99.0		

MAPID: 02100818000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 21 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: PANA **LONGITUDE:** -89.099077 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.478714 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 0.0 **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
-	CARBONDALE	ENERGY	SILTY SHALE	99.0		

MAPID: 02102162000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 22 **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line
QUADRANGLE: PANA **LONGITUDE:** -89.068761 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.471117 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 847.0 **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
152.0	MODESTO	PIASA	LIMESTONE & SHALE	2.0	503.0	
150.0	MODESTO		SHALE	40.0	505.0	
110.0	CARBONDALE	DANVILLE	COAL	1.0	545.0	
109.0	CARBONDALE		CLAYSTONE & SHALE	4.0	546.0	
105.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	550.0	
101.0	CARBONDALE	ENERGY	SILTY SHALE	99.0	554.0	
2.0	CARBONDALE	ENERGY	SILTY SHALE	64.0	653.0	
-62.0	CARBONDALE	ENERGY	SANDSTONE	6.0	717.0	
-68.0	CARBONDALE	ENERGY	SHALE	4.0	723.0	
-72.0	CARBONDALE	ENERGY	SANDSTONE	20.0	727.0	

MAPID: 02100480000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 23 **QUARTERS/FOOTAGES:** 2310' N line, 2310' W line

QUADRANGLE: PANA **LONGITUDE:** -89.054621 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.472927 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** 0.0 **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
-	MODESTO		SHALE	30.0		
-	CARBONDALE	DANVILLE	COAL	1.0		
-	CARBONDALE		CLAYSTONE & SHALE	10.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0		
-	CARBONDALE	ENERGY	SILTY SHALE	40.0		
-	CARBONDALE	ENERGY	SILTY SHALE	92.0		
-	CARBONDALE	ENERGY	SANDSTONE	66.0		

MAPID: 02100820000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 25 **QUARTERS/FOOTAGES:** 342' N line, 2296' E line

QUADRANGLE: PANA **LONGITUDE:** -89.033687 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.463573 **DATE COLLECTED:** 9 / 0 / 1951

SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 840.0 **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.) UNIT	OVERBURDEN	COMMENT
583.0	BOND	MILLERSVILLE	UNCLASSIFIED	33.0	90.0	TOP ERODED
363.0	BOND	CARTHAGE	UNCLASSIFIED	10.0	310.0	
115.0	CARBONDALE	DANVILLE	UNCLASSIFIED	2.0	558.0	
6.0	CARBONDALE	HERRIN	UNCLASSIFIED	3.0	667.0	COR.UNCERTAIN;CHANNEL MATL ABOVE 8 BELOW
-104.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	777.0	
-167.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	1.0	840.0	

MAPID: 02100820000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 25 **QUARTERS/FOOTAGES:** 342' N line, 2296' E line

QUADRANGLE: PANA **LONGITUDE:** -89.033687 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.463573 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 818.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
148.0	MODESTO	PIASA	LIMESTONE & SHALE	2.0	525.0	
146.0	MODESTO		SILTY SHALE	32.0	527.0	
114.0	CARBONDALE	DANVILLE	COAL	2.0	559.0	
112.0	CARBONDALE		CLAYSTONE & SHALE	7.0	561.0	
105.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	568.0	
103.0	CARBONDALE	ENERGY	SILTY SHALE	40.0	570.0	
63.0	CARBONDALE	ENERGY	SILTY SHALE	90.0	610.0	
-27.0	CARBONDALE	ENERGY	SANDSTONE	18.0	700.0	

MAPID: 02102008000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 26 **QUARTERS/FOOTAGES:** 1650' N line, 2310' E line

QUADRANGLE: PANA **LONGITUDE:** -89.052711 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.460051 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 863.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
126.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	527.0	
123.0	MODESTO		SILTY SHALE	25.0	530.0	
98.0	CARBONDALE	DANVILLE	COAL	1.0	555.0	
97.0	CARBONDALE		CLAYSTONE & SHALE	8.0	556.0	
89.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	564.0	
86.0	CARBONDALE	ENERGY	SILTY SHALE	36.0	567.0	
50.0	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	80.0	603.0	
-30.0	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	80.0	683.0	

MAPID: 02100057000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 27 **QUARTERS/FOOTAGES:** 100' S line, 1690' E line

QUADRANGLE: PANA **LONGITUDE:** -89.069421 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.450518 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 1041.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINE CO 1 **WELL TYPE:** Coal Test

COMMENT: ELEVATION AND EXACT DATE ARE UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	PLEISTOCENE		SOIL	3.0	0.0	
-	PLEISTOCENE		CLAY	12.0	3.0	
-	PLEISTOCENE		SAND	5.0	15.0	
-	PLEISTOCENE		CLAY	10.0	20.0	
-	PLEISTOCENE		SAND & GRAVEL	9.0	30.0	
-	PLEISTOCENE		CLAY & GRAVEL	17.0	39.0	
-	PLEISTOCENE		SAND	6.0	56.0	
-	PLEISTOCENE		GRAVEL	4.0	62.0	
-	BOND	MILLERSVILLE	LIMESTONE	3.0	66.0	
-	BOND	MILLERSVILLE	GRAY SHALE	1.0	69.0	W/ LIME PEBBLES
-	BOND		ARGILACEOUS SHALE	4.0	70.0	
-	BOND	MILLERSVILLE	LIMESTONE	16.0	74.0	
-	BOND	MILLERSVILLE	GRAY LIMESTONE	15.0	90.0	MIXED
-	BOND	MILLERSVILLE	LIMESTONE	4.0	105.0	
-	BOND		SANDY SHALE	31.0	109.0	
-	BOND		BLUE SHALE	45.0	140.0	
-	BOND		COAL	0.5	185.0	
-	BOND		ARGILACEOUS SHALE	5.5	185.5	
-	BOND		BLUE SHALE	12.0	191.0	
-	BOND		BROWN SHALE	6.0	203.0	CHOCOLATE
-	BOND		SHALE	15.0	209.0	CLYY
-	BOND		FOSSILIFEROUS SHALE	4.0	224.0	CALCAREOUS
-	BOND		COAL	1.2	228.0	
-	BOND		UNDERCLAY	3.8	229.2	
-	BOND		ARGILACEOUS SHALE	4.0	233.0	
-	BOND		SHALE WITH LIMESTONE	3.0	237.0	
-	BOND		SANDSTONE	10.0	240.0	
-	BOND		SANDY SHALE	13.0	250.0	
-	BOND		BLUE SHALE	12.0	263.0	SDY
-	BOND		SANDY SHALE	12.0	275.0	
-	BOND		DARK SHALE	12.0	287.0	W/ LIME PEBBLES
-	BOND		LIMESTONE	1.0	299.0	
-	BOND		ARGILACEOUS SHALE	11.0	300.0	
-	BOND	CARTHAGE	LIMESTONE	11.0	311.0	
-	MODESTO		BLACK SHALE	2.0	322.0	
-	MODESTO		BLUE SHALE	8.0	324.0	
-	MODESTO		SANDY SHALE	48.0	332.0	
-	MODESTO		BLACK SHALE	4.0	380.0	
-	MODESTO	CHAPEL	COAL	1.0	384.0	

-	MODESTO		ARGILACEOUS SHALE	9.5	385.0	
-	MODESTO		SANDY SHALE	57.5	394.5	
-	MODESTO		BLUE SHALE	8.0	452.0	
-	MODESTO		BLUE SHALE	1.3	460.0	
-	MODESTO		UNDERCLAY	0.7	461.3	
-	MODESTO		ARGILACEOUS SHALE	2.0	462.0	W/ LIME BANDS
-	MODESTO		ARGILACEOUS SHALE	10.0	464.0	W/ LIME BANDS
-	MODESTO		SANDY SHALE	23.0	474.0	
-	MODESTO		SANDY SHALE	25.0	497.0	
-	MODESTO		BLUE SHALE	18.5	522.0	
-	MODESTO		UNDERCLAY	1.5	540.5	
-	MODESTO		BLUE SHALE	1.0	542.0	SOFT
-	MODESTO		DARK SHALE	2.0	543.0	
-	MODESTO		ARGILACEOUS SHALE	13.0	545.0	
-	MODESTO		LIMESTONE	1.5	558.0	
-	MODESTO		BLUE SHALE	0.5	559.5	
-	MODESTO		SOFT SHALE	15.0	560.0	
-	MODESTO		BLUE SHALE	9.0	575.0	
-	MODESTO		BLACK SHALE	2.7	584.0	
-	CARBONDALE	DANVILLE	COAL	2.5	586.7	
-	CARBONDALE		UNDERCLAY	3.0	589.2	
-	CARBONDALE		BLUE SHALE	3.8	592.2	HARD
-	CARBONDALE		BLUE SHALE	4.0	596.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	600.0	
-	CARBONDALE	ENERGY	BLUE SHALE	5.0	605.0	
-	CARBONDALE	ENERGY	BLACK SHALE	7.0	610.0	
-	CARBONDALE	ENERGY	SANDY SHALE	4.0	617.0	W/ COAL PARTINGS
-	CARBONDALE	ENERGY	SANDY DARK SHALE	8.0	621.0	
-	CARBONDALE	ENERGY	BLUE SHALE	11.0	629.0	SDY
-	CARBONDALE	ENERGY	SHALE & SANDSTONE	60.0	640.0	SDY SH & SS MIXED
-	CARBONDALE		SANDSTONE	4.0	700.0	
-	CARBONDALE		SANDY SHALE	55.7	704.0	
-	CARBONDALE		SANDSTONE	0.3	759.7	
-	CARBONDALE		BLACK SHALE	12.0	760.0	
-	CARBONDALE		BLUE SHALE	1.0	772.0	
-	CARBONDALE		LIMESTONE	1.0	773.0	
-	CARBONDALE		BLUE SHALE	2.0	774.0	
-	CARBONDALE		SANDY SHALE	20.0	776.0	
-	CARBONDALE		BLUE SHALE	4.0	796.0	SDY
-	CARBONDALE	SURVANT	COAL	1.0	800.0	
-	CARBONDALE		UNDERCLAY	0.2	801.0	
-	CARBONDALE		BLUE SHALE	0.3	801.2	
-	CARBONDALE		BLUE SHALE	10.5	801.5	SDY
-	CARBONDALE		SANDSTONE	30.0	812.0	
-	CARBONDALE		BLACK SHALE	2.2	842.0	
-	CARBONDALE	COLCHESTER	COAL	2.0	844.2	
-	SPOON		ARGILACEOUS SHALE	8.8	846.2	

-	SPOON	BLACK SHALE	4.6	855.0	
-	SPOON	COAL	0.7	859.6	
-	SPOON	SHALE	0.4	860.3	
-	SPOON	COAL	0.3	860.7	
-	SPOON	UNDERCLAY	1.0	861.0	
-	SPOON	SHALE	19.0	862.0	
-	SPOON	BLUE SHALE	13.0	881.0	SDY
-	SPOON	BLUE SHALE	5.0	894.0	
-	SPOON	BLACK SHALE	8.0	899.0	
-	SPOON	COAL	0.8	907.0	
-	SPOON	SHALE	3.2	907.8	
-	SPOON	BLUE SHALE	7.0	911.0	SOFT
-	SPOON	SANDY SHALE	25.0	918.0	
-	SPOON	SHALE WITH LIMESTONE	13.0	943.0	
-	SPOON	SANDY SHALE	46.0	956.0	
-	SPOON	BLACK SHALE	1.0	1002.0	
-	SPOON	BLUE SHALE	29.0	1003.0	
-	SPOON	DARK SHALE	9.0	1032.0	

MAPID: 02100057000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 27 **QUARTERS/FOOTAGES:** 100' S line, 1690' E line

QUADRANGLE: PANA **LONGITUDE:** -89.069421 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.450518 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 621.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
87.0	MODESTO	PIASA	LIMESTONE	1.5	558.0	
85.5	MODESTO		GRAY SHALE	27.2	559.5	
58.3	CARBONDALE	DANVILLE	COAL	2.5	586.7	
55.8	CARBONDALE		GRAY SHALE	10.8	589.2	
45.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	600.0	
40.0	CARBONDALE	LAWSON	GRAY SHALE	5.0	605.0	
35.0	CARBONDALE	ANNA	BLACK SHALE	7.0	610.0	
28.0	CARBONDALE	HERRIN	CARBONACEOUS SHALE	4.0	617.0	

MAPID: 02102165000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 34 **QUARTERS/FOOTAGES:** 990' S line, 990' E line

QUADRANGLE: PANA **LONGITUDE:** -89.067178 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.43829 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 680.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
31.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	617.0	
26.0	MODESTO		SILTY SHALE	25.0	622.0	
1.0	CARBONDALE	DANVILLE	COAL	3.0	647.0	
-2.0	CARBONDALE		CLAYSTONE & SHALE	9.0	650.0	
-11.0	CARBONDALE	ALLENBY	BONE COAL	1.0	659.0	
-12.0	CARBONDALE		SHALE	1.0	660.0	
-13.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	8.0	661.0	
-21.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	7.0	669.0	
-28.0	CARBONDALE	ANNA	BLACK SHALE	1.0	676.0	
-29.0	CARBONDALE	HERRIN	COAL	3.0	677.0	

MAPID: 02100823000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1E **SECTION:** 35 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: PANA **LONGITUDE:** -89.062515 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.436436 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 689.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
33.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	629.0	
30.0	MODESTO		SILTY SHALE	24.0	632.0	
6.0	CARBONDALE	DANVILLE	COAL	2.0	656.0	
4.0	CARBONDALE		CLAYSTONE & SHALE	9.0	658.0	
-5.0	CARBONDALE	ALLENBY	BONE COAL	1.0	667.0	
-6.0	CARBONDALE		SHALE	1.0	668.0	
-7.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	669.0	
-13.0	CARBONDALE	LAWSON	SANDSTONE	10.0	675.0	
-23.0	CARBONDALE	ANNA	BLACK SHALE	2.0	685.0	
-24.0	CARBONDALE	HERRIN	COAL	3.0	686.0	

MAPID: 02100663000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 1 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.138861 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.515433 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 580.5 **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
146.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	484.0	
143.0	CARBONDALE		SHALE	23.0	487.0	
120.0	CARBONDALE	ENERGY	SILTY SHALE	68.0	510.0	
52.0	CARBONDALE	HERRIN	COAL	2.5	578.0	

MAPID: 02100227000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 35' N line, 72' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.176301 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.523571 **DATE COLLECTED:** 12 / 0 / 1950
SURFACE ELEVATION (FT.): 618.3 **LOGGED (FT.):** 544.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-3 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100227000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 35' N line, 72' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.176301 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.523571 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 544.3 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-3 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100232000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** 34' N line, 44' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.213383 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.523629 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 633.8 **LOGGED (FT.):** 523.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-8 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100232000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** 34' N line, 44' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.213383 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.523629 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 523.4 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-8 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100184000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 24' S line, 74' E line of NW
QUADRANGLE: WILLEYS **LONGITUDE:** -89.241794 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.516527 **DATE COLLECTED:** 12 / 0 / 1946
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 514.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 55 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	6.5	508.4	

MAPID: 02100398000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE NE
QUADRANGLE: WILLEYS **LONGITUDE:** -89.232136 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.516682 **DATE COLLECTED:** 12 / 13 / 1946
SURFACE ELEVATION (FT.): 628.6 **LOGGED (FT.):** 509.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 54 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
123.6	CARBONDALE	HERRIN	COAL	4.2	505.0	

MAPID: 02124482000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 51' N line, 2400' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.241476 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.523692 **DATE COLLECTED:** 12 / 0 / 1946
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 510.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 56 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02124482000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 51' N line, 2400' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.241476 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.523692 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 510.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 56 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100592000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: OWANECO **LONGITUDE:** -89.17711 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.495701 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 588.5 **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
143.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	484.0	
139.0	MODESTO		SILTY SHALE	11.0	488.0	
128.0	CARBONDALE	DANVILLE	BONE COAL	1.0	499.0	
127.0	CARBONDALE		CLAYSTONE & SHALE	8.0	500.0	
119.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	508.0	
117.0	CARBONDALE	ENERGY	SILTY SHALE	71.0	510.0	
46.0	CARBONDALE	HERRIN	COAL	7.5	581.0	

MAPID: 02100667000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 1650' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.170115 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.502809 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 0.0 **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
-	MODESTO	PIASA	LIMESTONE & SHALE	2.0		
-	CARBONDALE		CLAYSTONE & SHALE	21.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0		
-	CARBONDALE	ENERGY	GRAY SHALE	62.0		
-	CARBONDALE	HERRIN	COAL	1.0		

MAPID: 02123340000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 11 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: WILLEYS **LONGITUDE:** -89.174797 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.502891 **DATE COLLECTED:** 8 / 28 / 1980
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 556.4 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED COAL CO. OW-2-80 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
71.5	CARBONDALE	HERRIN	COAL	5.9	550.5	

MAPID: 02100870000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 14 **QUARTERS/FOOTAGES:** 990' N line, 990' E line
QUADRANGLE: OWANECO **LONGITUDE:** -89.160604 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.491931 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 0.0 **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
-	CARBONDALE	ENERGY	SILTY SHALE	99.0		

MAPID: 02123339000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 17 **QUARTERS/FOOTAGES:** SW NW NW
QUADRANGLE: OWANECO **LONGITUDE:** -89.231272 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.491997 **DATE COLLECTED:** 8 / 26 / 1980
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 487.2 **LOG TYPE:** Survey Core Study
SOURCE: FREEMAN UNITED COAL CO. 0W-1-80 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
136.5	CARBONDALE	HERRIN	COAL	8.7	478.5	Split coal, 1.87 claystone split!

MAPID: 02100703000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: OWANECO **LONGITUDE:** -89.174864 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.457251 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 788.5 **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
145.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	498.0	
141.0	MODESTO		CLAYSTONE & SHALE	12.0	502.0	
129.0	CARBONDALE	DANVILLE	COAL	1.5	514.0	
127.5	CARBONDALE		CLAYSTONE & SHALE	4.0	515.5	
123.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	519.5	
120.5	CARBONDALE	ENERGY	SILTY SHALE	42.0	522.5	
78.5	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	30.0	564.5	
48.5	CARBONDALE	ENERGY	SILTY SHALE	14.0	594.5	
34.5	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	80.0	608.5	

MAPID: 02102731000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 30 **QUARTERS/FOOTAGES:** 0' N line, 0' E line
QUADRANGLE: OWANECO **LONGITUDE:** -89.232497 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.465513 **DATE COLLECTED:** 11 / 14 / 1972
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 478.8 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 11 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
138.3	CARBONDALE	HERRIN	COAL	8.1	470.7	

MAPID: 02102731000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 30 **QUARTERS/FOOTAGES:** 0' N line, 0' E line
QUADRANGLE: OWANECO **LONGITUDE:** -89.232497 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.465513 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 479.1 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 11 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
177.1	MODESTO	PIASA	LIMESTONE	1.5	431.9	
175.6	MODESTO		MOTTLED SHALE	12.3	433.4	
163.3	CARBONDALE	DANVILLE	COAL	1.3	445.7	
162.0	CARBONDALE		CALCAREOUS SHALE	1.5	447.0	
160.6	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.0	448.4	
154.6	CARBONDALE	LAWSON	CLAYSTONE	0.3	454.4	
154.2	CARBONDALE	LAWSON	SILTY SHALE	4.2	454.8	
150.1	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	2.5	458.9	
147.6	CARBONDALE	LAWSON	SANDSTONE	2.3	461.4	
145.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.5	463.7	
141.8	CARBONDALE	ANNA	BLACK SHALE	3.8	467.2	
138.0	CARBONDALE	HERRIN	COAL	8.1	471.0	

MAPID: 02100688000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 1W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' W line

QUADRANGLE: OWANECO **LONGITUDE:** -89.153818 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.437158 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 644.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
67.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	593.0	
60.0	MODESTO		SHALE & SANDSTONE	9.0	600.0	
51.0	CARBONDALE	DANVILLE	BONE COAL	1.0	609.0	
50.0	CARBONDALE		CLAYSTONE & SHALE	9.0	610.0	
41.0	CARBONDALE	ALLENBY	BONE COAL	1.0	619.0	
40.0	CARBONDALE		DARK GRAY SHALE	2.0	620.0	
38.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.5	622.0	UPPER BENCH
35.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.5	624.5	SHALE PARTING
33.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	627.0	LOWER BENCH
30.0	CARBONDALE	LAWSON	SHALE	6.0	630.0	
22.0	CARBONDALE	HERRIN	COAL	6.5	638.0	

MAPID: 02100101000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 2615' N line, 2401' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.260017 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.516365 **DATE COLLECTED:** 8 / 0 / 1941

SURFACE ELEVATION (FT.): 577.0 **LOGGED (FT.):** 437.3 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.9	MODESTO	PIASA	LIMESTONE	0.5	392.1	
184.4	MODESTO		UNCLASSIFIED	5.5	392.6	INTERVAL ABOVE DANVILLE, BELOW PIASA
178.9	CARBONDALE		UNCLASSIFIED	11.0	398.1	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
167.9	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	409.1	
160.9	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	416.1	
158.9	CARBONDALE		UNCLASSIFIED	5.0	418.1	SHALE ABOVE BRERETON LIMESTONE
153.9	CARBONDALE	BRERETON	LIMESTONE	6.2	423.1	
147.7	CARBONDALE	ANNA	BLACK SHALE	0.7	429.3	
147.0	CARBONDALE	HERRIN	COAL	7.3	430.0	

MAPID: 02100101000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 2615' N line, 2401' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.260017 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.516365 **DATE COLLECTED:** 8 / 22 / 1941
SURFACE ELEVATION (FT.): 577.0 **LOGGED (FT.):** 437.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.3	CARBONDALE	HERRIN	COAL	7.3	429.7	

MAPID: 02100101000C **VERSION:** 3 **PROJECT:** NCRDS87

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 2615' N line, 2401' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.260017 **GEOLOGIST:** WEIBEL
CONFIDENTIAL: N **LATITUDE:** 39.516365 **DATE COLLECTED:** 8 / 0 / 1941
SURFACE ELEVATION (FT.): 577.3 **LOGGED (FT.):** 437.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
577.3			UNCONSOLIDATED	107.5	0.0	
469.8	BOND		SHALE	21.5	107.5	
448.3			LIMESTONE	1.5	129.0	UNCERTAIN CORRELATION
446.8	MODESTO		SHALE	0.5	130.5	
446.3	MODESTO		BLACK SHALE	1.5	131.0	
444.8	MODESTO		DARK SHALE	21.5	132.5	
423.3	MODESTO		SHALE	187.0	154.0	
236.3	MODESTO		DARK SHALE	32.0	341.0	
204.3	MODESTO		UNDERCLAY	5.0	373.0	
199.3	MODESTO		SHALE	14.0	378.0	UPPER BENCH
185.3	MODESTO		LIMESTONE	0.5	392.0	SHALE PARTING
184.8	MODESTO		DARK SHALE	5.5	392.5	LOWER BENCH
179.3	MODESTO		SHALE	2.0	398.0	
177.3	MODESTO		DARK SHALE	4.0	400.0	
173.3	MODESTO	PIASA	LIMESTONE	2.5	404.0	
170.8	CARBONDALE		DARK SHALE	2.5	406.5	
168.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	409.0	
161.3	CARBONDALE		SHALE	7.0	416.0	
154.3	CARBONDALE	BRERETON	LIMESTONE	6.0	423.0	
148.3	CARBONDALE	ANNA	BLACK SHALE	0.7	429.0	
147.6	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	7.3	429.7	
140.3	CARBONDALE		UNDERCLAY	0.5	437.0	0.5 "BLUE BAND" PARTING

MAPID: 02100101000C **VERSION:** 4 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 2615' N line, 2401' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.260017 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.516365 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 577.0 **LOGGED (FT.):** 437.3 **LOG TYPE:** Survey Core Study

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.8	MODESTO	PIASA	LIMESTONE	0.5	392.2	
184.3	MODESTO		MOTTLED SHALE	7.5	392.7	
176.8	CARBONDALE		DARK GRAY SHALE	4.0	400.2	
172.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	404.2	
170.3	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	2.5	406.7	
167.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.0	409.2	
160.8	CARBONDALE	LAWSON	CLAYSTONE	2.0	416.2	
158.8	CARBONDALE	LAWSON	SILTY SHALE	5.0	418.2	
153.8	CARBONDALE	BRERETON	LIMESTONE	6.2	423.2	
147.7	CARBONDALE	ANNA	BLACK SHALE	0.7	429.3	
147.0	CARBONDALE	HERRIN	COAL	7.3	430.0	

MAPID: 02100101000C **VERSION:** 5 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 2615' N line, 2401' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.260017 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.516365 **DATE COLLECTED:** 8 / 0 / 1941

SURFACE ELEVATION (FT.): 577.3 **LOGGED (FT.):** 437.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 2 **WELL TYPE:** Coal Test

COMMENT: EXACT DAY UNCERTAIN,ELEVATION IS P.T.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
577.3	PLEISTOCENE		CORE LOSS	10.0	0.0	
567.3	PLEISTOCENE		SAND	4.0	10.0	
563.3	PLEISTOCENE		SAND/CLAY	50.0	14.0	& GRAVEL
513.3	PLEISTOCENE		SAND/CLAY	43.5	64.0	BLU CLY
469.8	BOND		SANDSTONE	21.5	107.5	STICKY, WITH STRATAS OF LIME
448.3	BOND		LIMESTONE	1.5	129.0	
446.8	BOND		SOFT SHALE	0.5	130.5	
446.3	BOND		BLACK SHALE	1.5	131.0	
444.8	BOND		DARK SHALE	21.5	132.5	STICKY
423.3	BOND	CARTHAGE	SHALE WITH LIMESTONE	15.0	154.0	
408.3	MODESTO		GRAY SHALE	172.0	169.0	
236.3	MODESTO		DARK SHALE	32.0	341.0	
204.3	MODESTO		UNDERCLAY	5.0	373.0	
199.3	MODESTO		SANDY SHALE	14.0	378.0	
185.3	MODESTO		LIMESTONE	0.5	392.0	
184.8	MODESTO		DARK SHALE	5.5	392.5	STICKY
179.3	MODESTO		SHALE	2.0	398.0	MIXTURE
177.3	MODESTO		DARK SHALE	4.0	400.0	
173.3	CARBONDALE		LIMESTONE	2.5	404.0	
170.8	CARBONDALE		HARD SHALE	2.5	406.5	
168.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	409.0	WITH A STRATA OF SHALE
161.3	CARBONDALE		HARD SHALE	2.0	416.0	STICKY
159.3	CARBONDALE		HARD SHALE	5.0	418.0	SDY
154.3	CARBONDALE	BRERETON	LIMESTONE	6.0	423.0	
148.3	CARBONDALE	ANNA	BLACK SHALE	0.7	429.0	
147.6	CARBONDALE	HERRIN	COAL	5.3	429.7	
142.3	CARBONDALE	HERRIN	ROCK	0.5	435.0	BLUE BAND
141.8	CARBONDALE	HERRIN	COAL	1.5	435.5	
140.3	CARBONDALE		UNDERCLAY	0.5	437.0	

MAPID: 02100623000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' N line, 0' E line of NW NW NW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.266286 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.522729 **DATE COLLECTED:** 3 / 24 / 1950
SURFACE ELEVATION (FT.): 616.7 **LOGGED (FT.):** 474.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 102 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.4	CARBONDALE	HERRIN	COAL	7.8	466.3	

MAPID: 02100623000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' N line, 0' E line of NW NW NW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.266286 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.522729 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 473.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 102 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
190.3	MODESTO	PIASA	LIMESTONE	2.0	426.7	
188.3	MODESTO		UNCLASSIFIED	5.0	428.7	
183.3	CARBONDALE		UNCLASSIFIED	13.0	433.7	
170.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	446.7	
162.3	CARBONDALE	ANVIL ROCK	SANDSTONE	2.0	454.7	
160.3	CARBONDALE		SHALE	2.0	456.7	
158.3	CARBONDALE	BRERETON	LIMESTONE	5.5	458.7	
152.8	CARBONDALE	ANNA	BLACK SHALE	1.8	464.2	
151.0	CARBONDALE	HERRIN	COAL	7.8	466.0	

MAPID: 02100108000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** 25' S line, 1817' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.280806 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.509312 **DATE COLLECTED:** 8 / 0 / 1941

SURFACE ELEVATION (FT.): 619.5 **LOGGED (FT.):** 448.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 3 **WELL TYPE:** Coal Test

COMMENT: EXACT DAY UNCERTAIN,ELEVATION IS P.T.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
619.5	PLEISTOCENE		SOIL	15.0	0.0	AND CLAY
604.5	PLEISTOCENE		SAND & GRAVEL	132.0	15.0	AND HARDPAN
472.5	BOND		LIMESTONE	1.0	147.0	
471.5	BOND		SHALE WITH LIMESTONE	2.0	148.0	
469.5	BOND	CARTHAGE	LIMESTONE	2.0	150.0	
467.5	MODESTO		BLACK SHALE	1.5	152.0	
466.0	MODESTO		UNDERCLAY	7.5	153.5	
458.5	MODESTO		SHALE	19.0	161.0	STICKY
439.5	MODESTO		LIMESTONE	3.0	180.0	HARD
436.5	MODESTO		SHALE WITH LIMESTONE	3.0	183.0	SOFT SH
433.5	MODESTO		GRAY SHALE	16.0	186.0	
417.5	MODESTO		COAL	0.5	202.0	
417.0	MODESTO		SANDY SHALE	23.5	202.5	
393.5	MODESTO		SANDY SHALE	20.0	226.0	
373.5	MODESTO		GRAY SHALE	54.0	246.0	SANDY
319.5	MODESTO		BLUE SHALE	20.0	300.0	SANDY
299.5	MODESTO		DARK GRAY SHALE	86.0	320.0	
213.5	MODESTO		GRAY SHALE	17.0	406.0	SANDY
196.5	CARBONDALE		SHALE WITH LIMESTONE	3.0	423.0	
193.5	CARBONDALE		DARK SHALE	3.0	426.0	STICKY
190.5	CARBONDALE		DARK SHALE	1.0	429.0	
189.5	CARBONDALE		DARK SHALE	3.0	430.0	STICKY
186.5	CARBONDALE	BRERETON	LIMESTONE	7.0	433.0	HARD
179.5	CARBONDALE	ANNA	BLACK SHALE	0.5	440.0	
179.0	CARBONDALE	HERRIN	COAL	7.0	440.5	
172.0	CARBONDALE		UNDERCLAY	0.5	447.5	

MAPID: 02100108000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** 25' S line, 1817' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.280806 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.509312 **DATE COLLECTED:** 9 / 10 / 1941
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 447.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
180.5	CARBONDALE	HERRIN	COAL	7.0	440.5	

MAPID: 02100108000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** 25' S line, 1817' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.280806 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.509312 **DATE COLLECTED:** 8 / 0 / 1941
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 447.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
194.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	425.5	
191.5	CARBONDALE		UNCLASSIFIED	4.0	428.5	
187.5	CARBONDALE	BRERETON	LIMESTONE	7.0	432.5	
180.5	CARBONDALE	ANNA	BLACK SHALE	0.5	439.5	
180.0	CARBONDALE	HERRIN	COAL	7.0	440.0	

MAPID: 02100108000C **VERSION:** 4 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** 25' S line, 1817' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.280806 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.509312 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 448.0 **LOG TYPE:** Survey Core Study
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
234.4	MODESTO		DARK GRAY SHALE	20.0	386.6	
214.4	CARBONDALE		SILTY SHALE	17.0	406.6	
197.4	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	423.6	
194.4	CARBONDALE	LAWSON	DARK GRAY SHALE	7.0	426.6	
187.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.0	433.6	
180.4	CARBONDALE	ANNA	BLACK SHALE	0.4	440.6	
180.0	CARBONDALE	HERRIN	COAL	7.0	441.0	

MAPID: 02190002000C **VERSION:** 1 **PROJECT:** AVAIL

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2' N line, 1015' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.272231 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.523671 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.7 **LOGGED (FT.):** 474.0 **LOG TYPE:** Company map

SOURCE: PEABODY COAL CO. CC-102 **WELL TYPE:** Coal Test

COMMENT: UNDATED COMPANY MAP RETURNED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
616.7			UNKNOWN	466.3	0.0	
150.4	CARBONDALE	HERRIN	COAL	7.8	466.3	

MAPID: 02100107000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 37' S line, 1147' E line of SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.300854 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.50923 **DATE COLLECTED:** 10 / 0 / 1941

SURFACE ELEVATION (FT.): 615.6 **LOGGED (FT.):** 443.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 4 **WELL TYPE:** Coal Test

COMMENT: EXACT DAY UNCERTAIN,ELEVATION IS P.T.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
615.6	PLEISTOCENE		SOIL	13.0	0.0	AND CLAY
602.6	PLEISTOCENE		SAND & GRAVEL	126.0	13.0	AND HARDPAN
476.6	BOND	CARTHAGE	LIMESTONE	2.0	139.0	
474.6	BOND	CARTHAGE	LIMESTONE	9.0	141.0	HARD
465.6	MODESTO		BLACK SHALE	2.0	150.0	
463.6	MODESTO		SHALE	20.0	152.0	STICKY
443.6	MODESTO		LIMESTONE	7.0	172.0	
436.6	MODESTO		DARK SHALE	18.0	179.0	WITH STICKY STRATAS
418.6	MODESTO		COAL	0.5	197.0	
418.1	MODESTO		UNDERCLAY	3.5	197.5	
414.6	MODESTO		GRAY SHALE	185.0	201.0	
229.6	MODESTO		DARK SHALE	10.0	386.0	STICKY
219.6	MODESTO		SHALE	8.0	396.0	STICKY
211.6	MODESTO		SHALE WITH LIMESTONE	3.0	404.0	
208.6	MODESTO		GREEN SHALE	6.0	407.0	
202.6	MODESTO		BLACK SHALE	2.0	413.0	
200.6	MODESTO		SHALE WITH LIMESTONE	7.0	415.0	GREEN
193.6	MODESTO		HARD SHALE	8.0	422.0	
185.6	MODESTO		DARK SHALE	4.0	430.0	
181.6	MODESTO		DARK SHALE	5.0	434.0	SOLID
176.6	CARBONDALE	DANVILLE	COAL	1.5	439.0	
175.1	CARBONDALE		BLACK SHALE	2.0	440.5	
173.1	CARBONDALE		GRAY SHALE	0.5	442.5	

MAPID: 02100107000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 37' S line, 1147' E line of SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.300854 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.50923 **DATE COLLECTED:** 10 / 0 / 1941

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 420.5 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
232.0	MODESTO	PIASA	LIMESTONE	3.0	384.0	
229.0	MODESTO		UNCLASSIFIED	3.0	387.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
226.0	CARBONDALE		UNCLASSIFIED	12.0	390.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
214.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	8.0	402.0	
206.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	410.0	
204.0	CARBONDALE		UNCLASSIFIED	2.0	412.0	SHALE ABOVE BRERETON LIMESTONE
202.0	CARBONDALE	BRERETON	LIMESTONE	4.0	414.0	
198.0	CARBONDALE	ANNA	BLACK SHALE	1.0	418.0	
197.0	CARBONDALE	HERRIN	COAL	1.5	419.0	

MAPID: 02100499000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.309854 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.510054 **DATE COLLECTED:** 12 / 0 / 1955

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 455.0 **LOG TYPE:** Electric Log

SOURCE: BIG ONE DRLG. & TIMM, E. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
221.0	MODESTO	PIASA	LIMESTONE	4.0	392.0	
217.0	MODESTO		UNCLASSIFIED	2.0	396.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
215.0	CARBONDALE		UNCLASSIFIED	6.0	398.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
209.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	404.0	
206.0	CARBONDALE	ENERGY	UNCLASSIFIED	44.0	407.0	
162.0	CARBONDALE	HERRIN	COAL	4.0	451.0	

MAPID: 02100042000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** SW SE SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.348364 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.510285 **DATE COLLECTED:** 0 / 0 / 1917

SURFACE ELEVATION (FT.): 568.0 **LOGGED (FT.):** 387.0 **LOG TYPE:** Drillers Log

SOURCE: W J JENKINS(CONSOLIDATED COAL) **WELL TYPE:** Coal Test

COMMENT: EXACT DATE UNCERTAIN,ELEV. IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
568.0	PLEISTOCENE		CORE LOSS	4.0	0.0	
564.0	PLEISTOCENE		CLAY	15.0	4.0	
549.0	PLEISTOCENE		SAND & GRAVEL	6.0	19.0	FIRE SAND
543.0	BOND		SANDSTONE	18.0	25.0	
525.0	BOND		GRAY SHALE	17.0	43.0	WITH A LIMESTONE PARTING
508.0	BOND	CARTHAGE	LIMESTONE	10.0	60.0	
498.0	MODESTO		GRAY SHALE	1.0	70.0	
497.0	MODESTO		BLACK SHALE	2.0	71.0	
495.0	MODESTO		GRAY SHALE	9.0	73.0	
486.0	MODESTO		BLACK SHALE	3.0	82.0	
483.0	MODESTO		GRAY SHALE	5.0	85.0	
478.0	MODESTO		LIMESTONE	4.0	90.0	
474.0	MODESTO		SANDY SHALE	11.0	94.0	
463.0	MODESTO		GRAY SHALE	4.0	105.0	
459.0	MODESTO		LIMESTONE	7.0	109.0	
452.0	MODESTO		DARK SHALE	10.0	116.0	WITH LIMESTONE BOULDERS OR PARTINGS
442.0	MODESTO		LIMESTONE	4.0	126.0	
438.0	MODESTO		DARK SHALE	15.0	130.0	
423.0	MODESTO		DARK SHALE	41.8	145.0	
381.2	MODESTO	CHAPEL	COAL	1.2	186.8	
380.0	MODESTO		ARGILACEOUS SHALE	5.0	188.0	
375.0	MODESTO		DARK SHALE	9.0	193.0	
366.0	MODESTO		DARK SHALE	77.0	202.0	SANDY
289.0			DARK SHALE	20.0	279.0	
269.0			GRAY SHALE	22.0	299.0	
247.0	CARBONDALE		LIMESTONE	5.0	321.0	
242.0	CARBONDALE	ENERGY	GRAY SHALE	12.0	326.0	
230.0	CARBONDALE	ENERGY	GRAY SHALE	12.0	338.0	TOUGH
218.0	CARBONDALE	ENERGY	GRAY SHALE	9.0	350.0	
209.0	CARBONDALE	ENERGY	BLACK SHALE	4.0	359.0	
205.0	CARBONDALE	ENERGY	GRAY SHALE	16.0	363.0	
189.0	CARBONDALE	ENERGY	BLACK SHALE	0.6	379.0	
188.4	CARBONDALE	HERRIN	COAL	4.3	379.6	
184.1	CARBONDALE		UNDERCLAY	3.1	383.9	

MAPID: 02100042000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** SW SE SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.348364 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.510285 **DATE COLLECTED:** 0 / 0 / 1917
SURFACE ELEVATION (FT.): 568.0 **LOGGED (FT.):** 384.3 **LOG TYPE:** Drillers Log
SOURCE: JENKINS W J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
247.2	MODESTO	PIASA	LIMESTONE	5.0	320.8	
242.2	MODESTO		UNCLASSIFIED	3.0	325.8	INTERVAL ABOVE DANVILLE, BELOW PIASA
239.2	CARBONDALE		UNCLASSIFIED	9.0	328.8	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
230.2	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	337.8	
226.2	CARBONDALE	ANNA	BLACK SHALE	0.6	341.8	
225.6	CARBONDALE	ENERGY	UNCLASSIFIED	37.6	342.4	
188.0	CARBONDALE	HERRIN	COAL	4.3	380.0	

MAPID: 02100124000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NW SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365166 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.515815 **DATE COLLECTED:** 5 / 0 / 1942
SURFACE ELEVATION (FT.): 619.4 **LOGGED (FT.):** 437.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
191.4	CARBONDALE	HERRIN	COAL	9.5	428.0	

MAPID: 02100124000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365166 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.515815 **DATE COLLECTED:** 4 / 0 / 1942

SURFACE ELEVATION (FT.): 619.4 **LOGGED (FT.):** 438.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 13 **WELL TYPE:** Coal Test

COMMENT: EXACT DAY UNCERTAIN,ELEVATION IS SURFACE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
619.4	PLEISTOCENE		SAND & GRAVEL	19.0	0.0	AND SOIL
600.4	PLEISTOCENE		SANDY CLAY	47.0	19.0	
553.4	PLEISTOCENE		SAND & GRAVEL	38.0	66.0	AND HARDPAN
515.4	BOND		SHALE WITH LIMESTONE	3.0	104.0	
512.4	BOND		LIGHT SHALE	6.0	107.0	
506.4	BOND	CARTHAGE	LIMESTONE	11.0	113.0	HARD
495.4	MODESTO		BLACK SHALE	4.0	124.0	
491.4	MODESTO		LIGHT SHALE	18.0	128.0	
473.4	MODESTO		SHALE	12.0	146.0	WITH STRATAS OF LIME
461.4	MODESTO		GRAY SHALE	206.0	158.0	
255.4	CARBONDALE		SHALE WITH LIMESTONE	4.0	364.0	
251.4	CARBONDALE		SHALE	12.0	368.0	STREAKED
239.4	CARBONDALE	ENERGY	GRAY SHALE	32.0	380.0	
207.4	CARBONDALE	ENERGY	DARK GRAY SHALE	10.0	412.0	
197.4	CARBONDALE	ENERGY	DARK SHALE	5.5	422.0	SOLID
191.9	CARBONDALE	HERRIN	COAL	9.5	427.5	CO SEAM W/2" IRON BANDS 6" FROM BOTTOM
182.4	CARBONDALE		UNDERCLAY	1.0	437.0	

MAPID: 02100124000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NW SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365166 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.515815 **DATE COLLECTED:** 4 / 0 / 1942

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 435.1 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
255.5	MODESTO	PIASA	LIMESTONE	4.0	363.5	
251.5	MODESTO		UNCLASSIFIED	3.0	367.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
248.5	CARBONDALE		UNCLASSIFIED	9.0	370.5	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
239.5	CARBONDALE	ENERGY	UNCLASSIFIED	47.5	379.5	
192.0	CARBONDALE	HERRIN	COAL	8.1	427.0	

MAPID: 02100129000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 136' N line, 10' W line of NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.355382 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.516394 **DATE COLLECTED:** 4 / 0 / 1942
SURFACE ELEVATION (FT.): 567.8 **LOGGED (FT.):** 357.7 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
217.8	CARBONDALE	HERRIN	COAL	7.7	350.0	

MAPID: 02100129000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 136' N line, 10' W line of NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.355382 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.516394 **DATE COLLECTED:** 4 / 0 / 1942
SURFACE ELEVATION (FT.): 567.8 **LOGGED (FT.):** 359.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 12 **WELL TYPE:** Coal Test
COMMENT: EXACT DAY UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
567.8	PLEISTOCENE		SAND & GRAVEL	28.0	0.0	AND SOIL
539.8	BOND		SOFT SHALE	7.0	28.0	
532.8	BOND		SHALE WITH LIMESTONE	3.0	35.0	
529.8	BOND		LIGHT SHALE	6.0	38.0	
523.8	BOND	CARTHAGE	LIMESTONE	9.0	44.0	HARD
514.8	MODESTO		BLACK SHALE	3.0	53.0	
511.8	MODESTO		LIGHT SHALE	20.0	56.0	
491.8	MODESTO		SHALE WITH LIMESTONE	10.0	76.0	
481.8	MODESTO		GRAY SHALE	204.0	86.0	
277.8	CARBONDALE		LIMESTONE	3.0	290.0	HARD
274.8	CARBONDALE		SHALE WITH LIMESTONE	3.0	293.0	
271.8	CARBONDALE		DARK SHALE	8.0	296.0	STICKY
263.8	CARBONDALE		BLACK SHALE	2.0	304.0	
261.8	CARBONDALE		SHALE WITH LIMESTONE	3.0	306.0	
258.8	CARBONDALE	ENERGY	GRAY SHALE	39.0	309.0	
219.8	CARBONDALE	ENERGY	DARK SHALE	1.7	348.0	
218.1	CARBONDALE	ENERGY	BLACK SHALE	0.7	349.7	
217.5	CARBONDALE	HERRIN	COAL	7.7	350.3	COAL SEAM
209.8	CARBONDALE		UNDERCLAY	1.0	358.0	
208.8	CARBONDALE		LIMESTONE	0.5	359.0	

MAPID: 02100129000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 136' N line, 10' W line of NW SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.355382 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.516394 **DATE COLLECTED:** 4 / 0 / 1942

SURFACE ELEVATION (FT.): 568.0 **LOGGED (FT.):** 358.7 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.0	MODESTO	PIASA	LIMESTONE	3.0	290.0	
275.0	MODESTO		UNCLASSIFIED	3.0	293.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
272.0	CARBONDALE		UNCLASSIFIED	10.0	296.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
262.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	306.0	
259.0	CARBONDALE	ANNA	BLACK SHALE	0.7	309.0	
258.3	CARBONDALE	ENERGY	UNCLASSIFIED	41.3	309.7	
217.0	CARBONDALE	HERRIN	COAL	7.7	351.0	

MAPID: 02100131000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 50' S line, 2630' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.3571 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.509462 **DATE COLLECTED:** 3 / 21 / 1942

SURFACE ELEVATION (FT.): 600.1 **LOGGED (FT.):** 418.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
186.1	CARBONDALE	HERRIN	COAL	4.5	414.0	

MAPID: 02100131000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 50' S line, 2630' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.3571 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.509462 **DATE COLLECTED:** 3 / 10 / 1942

SURFACE ELEVATION (FT.): 601.8 **LOGGED (FT.):** 433.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 10 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
601.8			SAND & GRAVEL	56.0	0.0	AND CLAY AND HARDPAN
545.8	BOND		SOFT SHALE	22.0	56.0	
523.8	BOND		LIMESTONE	2.0	78.0	
521.8	BOND		LIGHT SHALE	18.0	80.0	
503.8	BOND	CARTHAGE	LIMESTONE	11.0	98.0	HARD
492.8	MODESTO		DARK SHALE	5.0	109.0	
487.8	MODESTO		GRAY SHALE	284.5	114.0	
203.3	MODESTO		BLACK SHALE	1.5	398.5	
201.8	CARBONDALE	DANVILLE	COAL	1.0	400.0	
200.8	CARBONDALE	ENERGY	DARK SHALE	1.0	401.0	
199.8	CARBONDALE	ENERGY	LIMESTONE	0.5	402.0	CHERTY
199.3	CARBONDALE	ENERGY	BLACK SHALE	2.0	402.5	
197.3	CARBONDALE	ENERGY	DARK SHALE	2.5	404.5	
194.8	CARBONDALE	ENERGY	GRAY SHALE	7.0	407.0	
187.8	CARBONDALE	HERRIN	COAL	4.5	414.0	
183.3	CARBONDALE		UNDERCLAY	4.2	418.5	
179.1	CARBONDALE		LIMESTONE	0.7	422.7	
178.5	CARBONDALE		CLAYSTONE	9.7	423.3	

MAPID: 02100131000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 50' S line, 2630' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.3571 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.509462 **DATE COLLECTED:** 3 / 0 / 1942

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 420.5 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
186.0	CARBONDALE	HERRIN	COAL	4.5	416.0	

MAPID: 02100132000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1300' S line, 2580' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.357325 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.512913 **DATE COLLECTED:** 4 / 4 / 1942
SURFACE ELEVATION (FT.): 569.5 **LOGGED (FT.):** 375.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
201.5	CARBONDALE	HERRIN	COAL	7.5	368.0	

MAPID: 02100132000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1300' S line, 2580' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.357325 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.512913 **DATE COLLECTED:** 3 / 0 / 1942
SURFACE ELEVATION (FT.): 573.5 **LOGGED (FT.):** 381.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 11 **WELL TYPE:** Coal Test
COMMENT: EXACT DAY UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
573.5	PLEISTOCENE		SAND/CLAY	38.0	0.0	AND SOIL
535.5	BOND		SHALE WITH LIMESTONE	3.0	38.0	
532.5	BOND		LIGHT SHALE	20.0	41.0	
512.5	BOND	CARTHAGE	LIMESTONE	10.0	61.0	HARD
502.5	MODESTO		LIGHT SHALE	16.0	71.0	
486.5	MODESTO		LIGHT & DARK SHALE	35.0	87.0	WITH STRATAS OF LIME ROCK
451.5	MODESTO		SHALE WITH LIMESTONE	2.0	122.0	
449.5	MODESTO		BLACK SHALE	4.0	124.0	
445.5	MODESTO		LIGHT SHALE	10.0	128.0	
435.5	MODESTO		GRAY SHALE	168.0	138.0	
267.5	MODESTO		LIMESTONE	3.0	306.0	HARD
264.5	MODESTO		SANDSTONE	6.0	309.0	STICKY
258.5	MODESTO		BLACK SHALE	1.0	315.0	
257.5	CARBONDALE		GREEN SHALE	1.0	316.0	
256.5	CARBONDALE		LIMESTONE	0.8	317.0	
255.7	CARBONDALE	ENERGY	DARK SHALE	1.3	317.8	
254.5	CARBONDALE	ENERGY	HARD SHALE	45.5	319.0	
209.0	CARBONDALE	ENERGY	DARK SHALE	3.0	364.5	
206.0	CARBONDALE	HERRIN	COAL	2.1	367.5	DIRTY
203.9	CARBONDALE	HERRIN	GRAY SHALE	0.4	369.6	
203.5	CARBONDALE	HERRIN	COAL	5.0	370.0	CLEAN
198.5	CARBONDALE		UNDERCLAY	3.0	375.0	
195.5	CARBONDALE		UNDERCLAY	3.5	378.0	AND LIME MIXTURE

MAPID: 02100132000C **VERSION:** 3 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1300' S line, 2580' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.357325 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.512913 **DATE COLLECTED:** 3 / 0 / 1942
SURFACE ELEVATION (FT.): 574.0 **LOGGED (FT.):** 379.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
262.7	MODESTO	PIASA	LIMESTONE	3.0	311.3	
259.7	MODESTO		UNCLASSIFIED	2.0	314.3	INTERVAL ABOVE DANVILLE, BELOW PIASA
257.7	CARBONDALE		UNCLASSIFIED	6.5	316.3	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
251.2	CARBONDALE	ENERGY	UNCLASSIFIED	49.2	322.8	
202.0	CARBONDALE	HERRIN	COAL	7.5	372.0	

MAPID: 02100186000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365433 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.519641 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 61 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100186000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365433 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.519641 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 61 **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

MAPID: 02100186000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365433 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.519641 **DATE COLLECTED:** 7 / 0 / 1947
SURFACE ELEVATION (FT.): 614.2 **LOGGED (FT.):** 414.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 61 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100043000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** NW NW NW SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.334256 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.501542 **DATE COLLECTED:** 0 / 0 / 1917

SURFACE ELEVATION (FT.): 568.7 **LOGGED (FT.):** 405.5 **LOG TYPE:** Drillers Log

SOURCE: W J JENKINS(CONSOLIDATED COAL) **WELL TYPE:** Coal Test

COMMENT: ELEV IS ALIDADE,LOCATION IS 125'E OF CTR

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
568.7	PLEISTOCENE		SOIL	4.0	0.0	
564.7	PLEISTOCENE		SAND	2.0	4.0	
562.7	PLEISTOCENE		HARD PAN	14.0	6.0	
548.7	PLEISTOCENE		GRAVEL	3.0	20.0	
545.7	BOND		GRAY SHALE	17.0	23.0	
528.7	BOND		GRAY SHALE	11.0	40.0	
517.7	BOND		SANDY SHALE	4.0	51.0	
513.7	BOND		GRAY SHALE	8.0	55.0	
505.7	BOND	CARTHAGE	LIMESTONE	8.5	63.0	
497.2	MODESTO		BLACK SHALE	0.5	71.5	
496.7	MODESTO		GRAY SHALE	27.0	72.0	
469.7	MODESTO		SANDY SHALE	21.0	99.0	
448.7	MODESTO		DARK SHALE	7.3	120.0	
441.4	MODESTO		LIMESTONE	0.7	127.3	
440.7	MODESTO		BLACK SHALE	1.3	128.0	
439.4	MODESTO		COAL	0.3	129.3	
439.0	MODESTO		UNDERCLAY	0.3	129.7	
438.7	MODESTO		GRAY SHALE	8.0	130.0	
430.7	MODESTO		SANDSTONE	18.0	138.0	
412.7	MODESTO		DARK SHALE	12.0	156.0	
400.7	MODESTO		ARGILACEOUS SHALE	8.0	168.0	SOFT
392.7	MODESTO		GRAY SHALE	19.0	176.0	
373.7	MODESTO		DARK SHALE	8.0	195.0	
365.7	MODESTO	CHAPEL	COAL	0.8	203.0	
364.9	MODESTO		BLACK SHALE	0.2	203.8	
364.7	MODESTO		SANDY SHALE	30.0	204.0	
334.7	MODESTO		SANDY DARK SHALE	40.0	234.0	
294.7	MODESTO		DARK SHALE	36.0	274.0	
258.7	MODESTO		BLACK SHALE	1.0	310.0	
257.7	CARBONDALE	DANVILLE	COAL	0.3	311.0	
257.4	CARBONDALE		ARGILACEOUS SHALE	3.7	311.3	
253.7	CARBONDALE		GRAY SHALE	5.0	315.0	
248.7	CARBONDALE		DARK SHALE	2.0	320.0	
246.7	CARBONDALE		BLACK SHALE	1.0	322.0	SOFT
245.7	CARBONDALE		BLUE LIMESTONE	4.0	323.0	
241.7	CARBONDALE		RED SHALE	1.0	327.0	
240.7	CARBONDALE		GRAY SHALE	12.0	328.0	
228.7	CARBONDALE		LIMESTONE	4.0	340.0	
224.7	CARBONDALE	ENERGY	GRAY SHALE	6.0	344.0	

218.7	CARBONDALE	ENERGY	DARK SHALE	7.0	350.0
211.7	CARBONDALE	ENERGY	GRAY SHALE	23.0	357.0
188.7	CARBONDALE	ENERGY	SANDY SHALE	7.0	380.0
181.7	CARBONDALE	ENERGY	DARK SHALE	13.8	387.0
167.9	CARBONDALE	HERRIN	COAL	4.3	400.8
163.7	CARBONDALE		UNDERCLAY	0.5	405.0

MAPID: 02100043000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** NW NW NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.334256 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.501542 **DATE COLLECTED:** 0 / 0 / 1917
SURFACE ELEVATION (FT.): 569.0 **LOGGED (FT.):** 405.3 **LOG TYPE:** Drillers Log
SOURCE: JENKINS W J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
221.8	MODESTO	PIASA	LIMESTONE	4.0	347.2	
217.8	MODESTO		UNCLASSIFIED	2.0	351.2	INTERVAL ABOVE DANVILLE, BELOW PIASA
215.8	CARBONDALE		UNCLASSIFIED	4.0	353.2	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
211.8	CARBONDALE	ENERGY	UNCLASSIFIED	43.8	357.2	
168.0	CARBONDALE	HERRIN	COAL	4.3	401.0	

MAPID: 02100604000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 465' S line, 61' W line of SE NW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.294241 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.506772 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 25 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100687000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.27676 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.502886 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 622.0 **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	2.5		
-	MODESTO		UNCLASSIFIED	5.0		INTERVAL ABOVE DANVILLE, BELOW PIASA
-	CARBONDALE		UNCLASSIFIED	13.0		INTERVAL ABOVE BANKSTON, BELOW DANVILLE

MAPID: 02100687000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.27676 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.502886 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 0.0 **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
-	CARBONDALE	ENERGY	SHALE	99.0		

MAPID: 02100273000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.314837 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.48087 **DATE COLLECTED:** 7 / 0 / 1946
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 495.5 **LOG TYPE:** Electric Log
SOURCE: MYERS JOHN W **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
233.0	MODESTO	PIASA	LIMESTONE	4.0	393.0	
229.0	MODESTO		UNCLASSIFIED	5.0	397.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
224.0	CARBONDALE		UNCLASSIFIED	12.0	402.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
212.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	414.0	
207.0	CARBONDALE	ENERGY	UNCLASSIFIED	72.0	419.0	
135.0	CARBONDALE	HERRIN	COAL	4.5	491.0	

MAPID: 02100648000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.300751 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.479028 **DATE COLLECTED:** 12 / 0 / 1956
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log
SOURCE: TEXAS COMPANY, THE **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	4.0		INTERVAL ABOVE DANVILLE, BELOW PIASA
-	CARBONDALE		UNCLASSIFIED	8.0		INTERVAL ABOVE BANKSTON, BELOW DANVILLE

MAPID: 02100648000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.300751 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.479028 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 572.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
244.0	MODESTO	PIASA	LIMESTONE & SHALE	2.0	381.0	
242.0	MODESTO		SHALE	17.0	383.0	
225.0	CARBONDALE	DANVILLE	BONE COAL	1.0	400.0	
224.0	CARBONDALE		CLAYSTONE & SHALE	11.0	401.0	
213.0	CARBONDALE	ENERGY	SILTY SHALE	80.0	412.0	

MAPID: 02100541000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW SE
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.274823 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.470017 **DATE COLLECTED:** 6 / 0 / 1956
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log
SOURCE: RING & KINSELL OIL C **WELL TYPE:** Dry Hole
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	4.0		INTERVAL ABOVE DANVILLE, BELOW PIASA
-	CARBONDALE		UNCLASSIFIED	11.0		INTERVAL ABOVE BANKSTON, BELOW DANVILLE

MAPID: 02102597000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW SW
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.265426 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.466366 **DATE COLLECTED:** 11 / 0 / 1970
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log
SOURCE: NAT'L. ASSOC. PETRO. CO. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 02100077000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** 950' S line, 350' E line of SE
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.288961 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.453652 **DATE COLLECTED:** 0 / 0 / 1937
SURFACE ELEVATION (FT.): 657.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log
SOURCE: ROGER BROTHERS, ETAL **WELL TYPE:** Dry Hole
COMMENT:

MAPID: 02100686000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SW

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.35577 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.455718 **DATE COLLECTED:** 2 / 0 / 1950

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 496.0 **LOG TYPE:** Electric Log

SOURCE: DUNCAN, WALTER **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
207.0	MODESTO	PIASA	LIMESTONE	4.0	414.0	
203.0	MODESTO		UNCLASSIFIED	2.0	418.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
201.0	CARBONDALE		UNCLASSIFIED	4.0	420.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
197.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	3.0	424.0	
194.0	CARBONDALE	ENERGY	UNCLASSIFIED	63.0	427.0	
131.0	CARBONDALE	HERRIN	COAL	6.0	490.0	

MAPID: 02100679000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 2310' W line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.335732 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.448475 **DATE COLLECTED:** 4 / 0 / 1957

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log

SOURCE: KUYKENDALL W R DRLG **WELL TYPE:** Dry Hole

COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	3.0		
-	MODESTO		UNCLASSIFIED	2.5		INTERVAL ABOVE DANVILLE, BELOW PIASA
-	CARBONDALE		UNCLASSIFIED	6.5		INTERVAL ABOVE BANKSTON, BELOW DANVILLE

MAPID: 02100679000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 990' N line, 2310' W line
QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.335732 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.448475 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 0.0 **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
-	MODESTO		SHALE	30.0		
-	CARBONDALE	DANVILLE	COAL	2.0		
-	CARBONDALE		CLAYSTONE & SHALE	10.0		
-	CARBONDALE	ENERGY	SHALE & SANDSTONE	30.0		
-	CARBONDALE	ENERGY	SHALE	20.0		
-	CARBONDALE	ENERGY	SHALE & SANDSTONE	47.0		
-	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	4.0		
-	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	99.0		

MAPID: 02100187000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 59' S line, 60' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.366706 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.509973 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 445.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 39 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100187000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 59' S line, 60' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.366706 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.509973 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 445.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 39 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100187000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 59' S line, 60' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.366706 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.509973 **DATE COLLECTED:** 7 / 17 / 1946
SURFACE ELEVATION (FT.): 617.3 **LOGGED (FT.):** 445.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 39 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100221000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 45' N line, 205' E line of NE SE NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.376612 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.52054 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 426.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 87 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100222000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1275' S line, 405' E line of NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.377325 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.520574 **DATE COLLECTED:** 12 / 6 / 1948
SURFACE ELEVATION (FT.): 604.8 **LOGGED (FT.):** 420.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 88 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100516000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.367771 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.517919 **DATE COLLECTED:** 2 / 0 / 1956
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 427.0 **LOG TYPE:** Electric Log
SOURCE: PATTERSON B A **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
193.0	CARBONDALE	HERRIN	COAL	6.0	421.0	

MAPID: 02100621000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 90' N line, 450' W line of SW NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.374284 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.514987 **DATE COLLECTED:** 8 / 26 / 1949
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 421.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 100 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
185.5	CARBONDALE	HERRIN	COAL	8.9	412.5	

MAPID: 02100621000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 90' N line, 450' W line of SW NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.374284 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.514987 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 416.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 100 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
218.2	MODESTO	PIASA	LIMESTONE	4.0	379.8	
214.2	MODESTO		UNCLASSIFIED	4.0	383.8	
210.2	CARBONDALE		UNCLASSIFIED	8.0	387.8	
202.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	395.8	
198.2	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	399.8	
195.2	CARBONDALE		SHALE	2.6	402.8	
192.6	CARBONDALE	BRERETON	LIMESTONE	2.8	405.4	
189.8	CARBONDALE	ANNA	BLACK SHALE	2.8	408.2	
187.0	CARBONDALE	HERRIN	COAL	5.3	411.0	

MAPID: 02100622000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 28' S line, 50' E line of SE SE SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.376075 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.509898 **DATE COLLECTED:** 9 / 3 / 1949
SURFACE ELEVATION (FT.): 611.4 **LOGGED (FT.):** 440.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 101 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
178.4	CARBONDALE	HERRIN	COAL	7.0	433.0	

MAPID: 02100622000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 28' S line, 50' E line of SE SE SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.376075 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.509898 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 440.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 101 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
213.0	MODESTO	PIASA	LIMESTONE	2.5	398.0	
210.5	MODESTO		UNCLASSIFIED	5.0	400.5	
205.5	CARBONDALE		UNCLASSIFIED	13.5	405.5	
192.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	419.0	
187.2	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5	423.8	
184.7	CARBONDALE		SHALE	2.0	426.3	
182.7	CARBONDALE	BRERETON	LIMESTONE	4.0	428.3	
178.7	CARBONDALE	ANNA	BLACK SHALE	0.7	432.3	
178.0	CARBONDALE	HERRIN	COAL	7.0	433.0	

MAPID: 02100624000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** NW SW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.374724 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.519749 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 103 **WELL TYPE:** Coal Test
COMMENT: NO DEPTH VALUES AVAILABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	MODESTO	PIASA	LIMESTONE	1.7		
-	MODESTO		UNCLASSIFIED	5.0		
-	CARBONDALE		UNCLASSIFIED	13.0		
-	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8		
-	CARBONDALE	ANVIL ROCK	SANDSTONE	2.5		
-	CARBONDALE		SHALE	2.5		
-	CARBONDALE	BRERETON	LIMESTONE	4.2		

MAPID: 02190005000C **VERSION:** 1 **PROJECT:** ISGS97

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1929' S line, 2183' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.374337 **GEOLOGIST:** MCCRACKEN
CONFIDENTIAL: N **LATITUDE:** 39.515144 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 416.4 **LOG TYPE:** Company map
SOURCE: PEABODY COAL CO. CC100 **WELL TYPE:** Coal Test
COMMENT: UNDATED COMPANY MAP-RETURNED TO CO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
598.0			UNKNOWN	412.5	0.0	
185.5	CARBONDALE	HERRIN	COAL	3.9	412.5	

MAPID: 02100481000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.40008 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.516249 **DATE COLLECTED:** 1 / 0 / 1956
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 542.0 **LOG TYPE:** Electric Log
SOURCE: MAHONEY JAMES **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
199.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	415.0	
175.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	3.0	439.0	
130.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	2.0	484.0	
72.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	542.0	

MAPID: 02100481000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.40008 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.516249 **DATE COLLECTED:** 1 / 0 / 1956
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 421.0 **LOG TYPE:** Electric Log
SOURCE: MAHONEY JAMES **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
234.0	MODESTO	PIASA	LIMESTONE	4.0	380.0	
230.0	MODESTO		UNCLASSIFIED	6.0	384.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
224.0	CARBONDALE		UNCLASSIFIED	10.0	390.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
214.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	400.0	
210.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	2.0	404.0	
208.0	CARBONDALE	CONANT	UNCLASSIFIED	0.5	406.0	
207.5	CARBONDALE		UNCLASSIFIED	2.5	406.5	SHALE ABOVE BRERETON LIMESTONE
205.0	CARBONDALE	BRERETON	LIMESTONE	4.5	409.0	
200.5	CARBONDALE	ANNA	BLACK SHALE	2.5	413.5	
198.0	CARBONDALE	HERRIN	COAL	5.0	416.0	

MAPID: 02100240000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 67' S line, 67' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.422736 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.50978 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 448.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 37 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100240000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 67' S line, 67' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.422736 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.50978 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 450.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 37 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100240000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 67' S line, 67' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.422736 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.50978 **DATE COLLECTED:** 7 / 0 / 1946
SURFACE ELEVATION (FT.): 613.6 **LOGGED (FT.):** 448.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 37 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100573000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 6 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.462997 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.521816 **DATE COLLECTED:** 9 / 0 / 1956

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 400.5 **LOG TYPE:** Electric Log

SOURCE: WARREN WALLACE **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
280.0	MODESTO	PIASA	LIMESTONE	3.0	342.0	
277.0	MODESTO		UNCLASSIFIED	5.0	345.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
272.0	CARBONDALE		UNCLASSIFIED	7.0	350.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
265.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	10.0	357.0	
255.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	367.0	
251.0	CARBONDALE		UNCLASSIFIED	4.0	371.0	SHALE ABOVE BRERETON LIMESTONE
247.0	CARBONDALE	BRERETON	LIMESTONE	3.0	375.0	
244.0	CARBONDALE	ENERGY	UNCLASSIFIED	17.0	378.0	
227.0	CARBONDALE	HERRIN	COAL	5.5	395.0	

MAPID: 02101053000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 83' S line, 9' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.476874 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.495362 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 428.3 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 275 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
244.4	MODESTO		SHALE	10.0	379.6	
234.4	CARBONDALE		CLAYSTONE & SHALE	3.9	389.6	
230.4	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.3	393.6	
229.1	CARBONDALE		CARBONACEOUS SHALE	0.3	394.9	
228.9	CARBONDALE		CLAYSTONE & SHALE	1.7	395.1	
227.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.7	396.8	
224.5	CARBONDALE	LAWSON	MOTTLED SHALE	3.3	399.5	
221.2	CARBONDALE	LAWSON	GRAY SHALE	1.8	402.8	
219.4	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	3.1	404.6	
216.3	CARBONDALE	LAWSON	SANDSTONE	2.0	407.7	
214.3	CARBONDALE	LAWSON	SILTSTONE	0.8	409.7	
213.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	9.2	410.5	
204.3	CARBONDALE	ANNA	BLACK SHALE	0.3	419.7	
204.0	CARBONDALE	HERRIN	COAL	8.3	420.0	

MAPID: 02101053000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 83' S line, 9' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.476874 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.495362 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 428.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 275 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
233.6	MODESTO	PIASA	LIMESTONE	0.5	390.4	
233.1	MODESTO		UNCLASSIFIED	2.3	390.9	
230.8	CARBONDALE		UNCLASSIFIED	4.4	393.2	
226.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.9	397.6	
220.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.1	403.5	
217.4	CARBONDALE		SHALE	3.9	406.6	
213.5	CARBONDALE	BRERETON	LIMESTONE	8.5	410.5	
205.0	CARBONDALE	ANNA	BLACK SHALE	1.0	419.0	
204.0	CARBONDALE	HERRIN	COAL	8.3	420.0	

MAPID: 02101053000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 83' S line, 9' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.476874 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.495362 **DATE COLLECTED:** 8 / 0 / 1958
SURFACE ELEVATION (FT.): 624.3 **LOGGED (FT.):** 428.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 275 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
204.0	CARBONDALE	HERRIN	COAL	8.3	420.3	

MAPID: 02100244000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 13' S line, 2580' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.450292 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.495146 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 440.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 44 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
224.8	MODESTO	PIASA	LIMESTONE	1.5	395.2	
223.3	CARBONDALE		MOTTLED SHALE	9.5	396.7	
213.8	CARBONDALE	ALLENBY	BLACK SHALE	1.5	406.2	
212.3	CARBONDALE	BANKSTON FORK	LIMESTONE	0.2	407.7	
212.2	CARBONDALE	LAWSON	BLACK SHALE	0.8	407.8	
211.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	8.8	408.7	
202.6	CARBONDALE	BRERETON	LIMESTONE	12.5	417.4	
190.1	CARBONDALE	ANNA	BLACK SHALE	1.1	429.9	
189.0	CARBONDALE	HERRIN	COAL	9.3	431.0	

MAPID: 02100244000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 13' S line, 2580' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.450292 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.495146 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 440.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 44 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
224.9	MODESTO	PIASA	LIMESTONE	1.5	395.1	
223.4	MODESTO		UNCLASSIFIED	5.0	396.6	
218.4	CARBONDALE		UNCLASSIFIED	8.8	401.6	
209.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	410.4	
205.6	CARBONDALE	ANVIL ROCK	SANDSTONE	1.5	414.4	
204.1	CARBONDALE		SHALE	1.5	415.9	
202.6	CARBONDALE	BRERETON	LIMESTONE	12.5	417.4	
190.1	CARBONDALE	ANNA	BLACK SHALE	1.1	429.9	
189.0	CARBONDALE	HERRIN	COAL	9.3	431.0	

MAPID: 02100244000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 13' S line, 2580' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.450292 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.495146 **DATE COLLECTED:** 9 / 14 / 1946
SURFACE ELEVATION (FT.): 620.3 **LOGGED (FT.):** 440.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 44 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
189.5	CARBONDALE	HERRIN	COAL	9.3	430.8	

MAPID: 02100188000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2628' N line, 76' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.42268 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.502338 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 460.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 38 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100188000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2628' N line, 76' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.42268 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.502338 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 460.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 38 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100188000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 2628' N line, 76' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.42268 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.502338 **DATE COLLECTED:** 7 / 11 / 1946
SURFACE ELEVATION (FT.): 619.5 **LOGGED (FT.):** 459.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 38 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100241000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 7' N line, 2585' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.393761 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.5098 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 579.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 41 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100241000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 7' N line, 2585' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.393761 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.5098 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 579.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 41 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100241000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 7' N line, 2585' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.393761 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.5098 **DATE COLLECTED:** 8 / 1 / 1946
SURFACE ELEVATION (FT.): 578.9 **LOGGED (FT.):** 385.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 41 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100242000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 49' S line, 135' E line of SE SE SW
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.394577 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.49529 **DATE COLLECTED:** 8 / 17 / 1946
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 450.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 42 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100242000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 49' S line, 135' E line of SE SE SW
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.394577 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.49529 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 449.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 42 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02123382000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1385' S line, 2620' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.393966 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.49898 **DATE COLLECTED:** 6 / 23 / 1975

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 442.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-35 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
610.0			UNCONSOLIDATED	47.0	0.0	
563.0	BOND		SHALE	17.0	47.0	DRK GRAY
546.0	BOND		GRAY SHALE	16.0	64.0	
530.0	BOND		SHALY SANDSTONE	28.0	80.0	
502.0	BOND		SHALY LIMESTONE	3.0	108.0	TAN
499.0	BOND		SHALE	2.0	111.0	
497.0	BOND	CARTHAGE	LIMESTONE	10.0	113.0	
487.0	MODESTO		BLACK SHALE	3.0	123.0	
484.0	MODESTO		GRAY SHALE	14.0	126.0	
470.0	MODESTO	MACOUPIN	SHALY LIMESTONE	13.0	140.0	TAN/GRAY
457.0	MODESTO		BLACK SHALE	3.0	153.0	
454.0	MODESTO		GRAY SHALE	5.0	156.0	
449.0	MODESTO	CARLINVILLE	LIMESTONE	3.0	161.0	UNCERTAIN CORRELATION
446.0	MODESTO		GRAY SHALE	118.0	164.0	W/SS; CHAPEL #8 COAL ERODED
328.0	MODESTO		SHALY SANDSTONE	15.5	282.0	
312.5	MODESTO		GRAY SHALE	62.5	297.5	W/SS
250.0	MODESTO		BLACK SHALE	3.0	360.0	
247.0	MODESTO		GRAY SHALE	5.0	363.0	
242.0	MODESTO	WEST FRANKLIN	LIMESTONE	1.0	368.0	UNCERTAIN CORRELATION
241.0	MODESTO	WEST FRANKLIN	SHALE	4.0	369.0	
237.0	MODESTO	WEST FRANKLIN	SHALY LIMESTONE	3.0	373.0	GRAY
234.0	MODESTO	WEST FRANKLIN	GRAY SHALE	2.0	376.0	
232.0	MODESTO	WEST FRANKLIN	LIMESTONE	2.5	378.0	
229.5	MODESTO		SHALE	5.5	380.5	
224.0	CARBONDALE		SHALY LIMESTONE	4.5	386.0	CARBONDALE/MODESTO BOUNDARY UNCERTAIN
219.5	CARBONDALE		UNDERCLAY/SHALE	8.5	390.5	GRAY
211.0	CARBONDALE	ENERGY	GRAY SHALE	36.0	399.0	
175.0	CARBONDALE	HERRIN	COAL	7.0	435.0	

MAPID: 02100189000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2497' S line, 190' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.366836 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.502029 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 468.9 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 40 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

MAPID: 02100189000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2497' S line, 190' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.366836 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.502029 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 468.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 40 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100189000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 2497' S line, 190' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.366836 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.502029 **DATE COLLECTED:** 7 / 29 / 1946
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 469.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 40 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02123383000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1160' S line, 40' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.366144 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.498338 **DATE COLLECTED:** 7 / 20 / 1978

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 490.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-2 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
620.0			UNCONSOLIDATED	65.0	0.0	
555.0	BOND		SHALE	52.0	65.0	
503.0	BOND		LIMESTONE	1.5	117.0	POSSIBLY A SS
501.5	BOND		SHALE	7.5	118.5	
494.0	BOND		LIMESTONE	2.0	126.0	
492.0	BOND		SHALE	6.5	128.0	
485.5	BOND	CARTHAGE	LIMESTONE	10.5	134.5	
475.0	MODESTO		BLACK SHALE	3.0	145.0	
472.0	MODESTO		SHALE	32.0	148.0	
440.0	MODESTO		BLACK SHALE	2.0	180.0	
438.0	MODESTO		SHALE	48.0	182.0	
390.0	MODESTO	MACOUPIN	LIMESTONE	4.0	230.0	FROM DRILL LOG
386.0	MODESTO		SHALE	25.8	234.0	
360.2	MODESTO	CARLINVILLE	LIMESTONE	1.0	259.8	OR SS FROM DRILL LOG
359.2	MODESTO		SHALE	3.2	260.8	
356.0	MODESTO	CHAPEL	COAL	1.0	264.0	UNCERTAIN CORRELATION
355.0	MODESTO		GRAY SHALE	122.0	265.0	
233.0	MODESTO		LIMESTONE	4.0	387.0	
229.0	MODESTO		GRAY SHALE	11.0	391.0	
218.0	MODESTO	PIASA	LIMESTONE	1.0	402.0	
217.0			GRAY SHALE	40.0	403.0	
177.0			BLACK SHALE	0.2	443.0	FROM DRILL LOG
176.8	CARBONDALE		SHALE	15.3	443.2	
161.5	CARBONDALE	HERRIN	COAL	3.5	458.5	
158.0	CARBONDALE		GRAY SHALE	8.0	462.0	
150.0	CARBONDALE		BLACK SHALE	3.0	470.0	
147.0	CARBONDALE		SHALE	17.0	473.0	LS IN PLACES

MAPID: 02100055000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 3475' N line, 2200' E line

QUADRANGLE: CLARKSDALE **LONGITUDE:** -89.373514 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.485566 **DATE COLLECTED:** 0 / 0 / 1904

SURFACE ELEVATION (FT.): 621.9 **LOGGED (FT.):** 965.0 **LOG TYPE:** Drillers Log

SOURCE: SULLIVAN MACHINERY CO. **WELL TYPE:** Coal Test

COMMENT: ELEV IS P.T.,TH'KNESS & DEPTH DONT MATCH

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
621.9	PLEISTOCENE		CLAY	19.0	0.0	
602.9	PLEISTOCENE		CLAY	47.0	19.0	LOG LISTED THICKNESS AS 29.0 WITH A ?
555.9	PLEISTOCENE		CLAY	12.0	66.0	
543.9	PLEISTOCENE		CLAY	11.0	78.0	
532.9	PLEISTOCENE		CLAY & GRAVEL	2.0	89.0	
530.9	PLEISTOCENE		CLAY & GRAVEL	1.0	91.0	
529.9	BOND		ARGILACEOUS SHALE	2.0	92.0	
527.9	BOND		BLUE SHALE	14.0	94.0	
513.9	BOND		BLUE SHALE	14.0	108.0	
499.9	BOND		LIMESTONE	2.0	122.0	
497.9	BOND		BLUE SHALE	5.0	124.0	
492.9	BOND	CARTHAGE	LIMESTONE	11.0	129.0	
481.9	MODESTO		GRAY SHALE	1.0	140.0	
480.9	MODESTO		BLUE SHALE	1.0	141.0	
479.9	MODESTO		GRAY SHALE	4.0	142.0	
475.9	MODESTO		BLUE SHALE	12.0	146.0	
463.9	MODESTO		BLUE SHALE	2.0	158.0	
461.9	MODESTO		SHALE	4.0	160.0	W/ LS BANDS
457.9	MODESTO		SANDY SHALE	13.0	164.0	
444.9	MODESTO		BLACK SHALE	1.0	177.0	
443.9	MODESTO		SHALE	12.0	178.0	W/ LS BANDS
431.9	MODESTO		SANDY SHALE	27.0	190.0	
404.9	MODESTO		SANDSTONE	28.0	217.0	
376.9	MODESTO		SANDSTONE	23.0	245.0	
353.9	MODESTO		SANDSTONE	38.0	268.0	
315.9	MODESTO		SANDY SHALE	24.0	306.0	
291.9	MODESTO		SANDY SHALE	17.0	330.0	
274.9	MODESTO		SANDY SHALE	19.0	347.0	
255.9	MODESTO		BLUE SHALE	14.0	366.0	
241.9	MODESTO		BLUE SHALE	6.0	380.0	
235.9	MODESTO		BLUE SHALE	2.0	386.0	
233.9	CARBONDALE	ENERGY	SANDY SHALE	11.0	388.0	
222.9	CARBONDALE	ENERGY	SANDY SHALE	18.0	399.0	
204.9	CARBONDALE	ENERGY	SANDY SHALE	16.0	417.0	
188.9	CARBONDALE	ENERGY	BLUE SHALE	3.0	433.0	
185.9	CARBONDALE	ENERGY	BLUE SHALE	1.7	436.0	
184.2	CARBONDALE	ENERGY	CONGLOMERATE	0.8	437.7	
183.5	CARBONDALE	ENERGY	BLUE SHALE	7.0	438.4	
176.5	CARBONDALE	ENERGY	BLUE SHALE	2.0	445.4	

174.5	CARBONDALE	ENERGY	BLUE SHALE	0.6	447.4	
173.9	CARBONDALE	ENERGY	BLUE SHALE	2.0	448.0	
171.9	CARBONDALE	ENERGY	LIMESTONE	1.0	450.0	W/ SH PARTINGS
170.9	CARBONDALE	ENERGY	SANDY SHALE	13.0	451.0	
157.9	CARBONDALE	ENERGY	BLUE SHALE	2.0	464.0	
155.9	CARBONDALE	ENERGY	BLUE SHALE	11.0	466.0	
144.9	CARBONDALE	ENERGY	BLUE SHALE	4.6	477.0	
140.3	CARBONDALE	HERRIN	COAL	1.8	481.6	
138.6	CARBONDALE	HERRIN	COAL	0.6	483.3	
138.0	CARBONDALE		BLUE SHALE	6.1	483.9	
131.9	CARBONDALE		SHALE	7.0	490.0	W/ STREAKS OF LS; THICKNESS IS .5 IN LOG
124.9	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	497.0	
122.9	CARBONDALE		BLUE SHALE	15.0	499.0	
107.9	CARBONDALE		BLUE SHALE	1.0	514.0	
106.9	CARBONDALE		SANDY SHALE	2.0	515.0	
104.9	CARBONDALE		SHALE	4.0	517.0	W/ LS BANDS
100.9	CARBONDALE		BLUE SHALE	16.0	521.0	
84.9	CARBONDALE		SANDY SHALE	2.0	537.0	
82.9	CARBONDALE		SANDY SHALE	3.0	539.0	
79.9	CARBONDALE		BLACK SHALE	7.0	542.0	
72.9	CARBONDALE	EXCELLO	BLACK SHALE	6.0	549.0	THICKNESS GIVEN AS 7.0 IN LOG
66.9	CARBONDALE		BLUE SHALE	2.0	555.0	
64.9	CARBONDALE		SANDY SHALE	1.0	557.0	
63.9	CARBONDALE		SHALE	9.0	558.0	THICKNESS GIVEN AS 8.0 IN LOG
54.9	CARBONDALE		BLUE SHALE	13.0	567.0	SANDY
41.9	CARBONDALE		SANDSTONE	3.5	580.0	
38.4	CARBONDALE		BLUE SHALE	0.5	583.5	
37.9	CARBONDALE		SANDY SHALE	17.0	584.0	
20.9	CARBONDALE		BLUE SHALE	9.0	601.0	
11.9	CARBONDALE		BLUE SHALE	5.0	610.0	
6.9	CARBONDALE	SURVANT - UPPER	COAL	1.5	615.0	
5.4	CARBONDALE	SURVANT - UPPER	COAL	0.7	616.5	
4.7	CARBONDALE		LIMESTONE	0.7	617.2	
4.1	CARBONDALE		BLUE SHALE	0.5	617.8	
3.6	CARBONDALE		SANDSTONE	1.5	618.3	
2.1	CARBONDALE		BLUE SHALE	3.2	619.8	W/ SS BANDS
-1.1	CARBONDALE		BLUE SHALE	2.6	623.0	W/ SS BANDS
-3.7	CARBONDALE	SURVANT - LOWER	COAL	0.4	625.6	
-4.1	CARBONDALE	SURVANT - LOWER	COAL	1.2	626.0	
-5.3	CARBONDALE		SANDSTONE	2.3	627.2	
-7.6	CARBONDALE		SANDSTONE	10.0	629.5	
-17.6	CARBONDALE		SANDY SHALE	3.5	639.5	
-21.1	CARBONDALE		SANDY SHALE	6.0	643.0	
-27.1	CARBONDALE		BLUE SHALE	3.0	649.0	W/ LIME BANDS
-30.1	CARBONDALE		BLUE SHALE	1.8	652.0	
-31.9	CARBONDALE	COLCHESTER	COAL	0.5	653.8	
-32.4	CARBONDALE	COLCHESTER	COAL	0.8	654.3	

-33.3	SPOON		UNDERCLAY	1.3	655.2	
-34.6	SPOON		SANDSTONE	6.5	656.5	
-41.1	SPOON		SANDSTONE	2.0	663.0	W/ SH PARTINGS
-43.1	SPOON		SANDSTONE	5.0	665.0	
-48.1	SPOON		SANDY SHALE	4.0	670.0	
-52.1	SPOON		BLUE SHALE	7.0	674.0	W/ BANDS
-59.1	SPOON		BLUE SHALE	8.0	681.0	
-67.1	SPOON		BLUE SHALE	1.0	689.0	W/ COAL PARTINGS
-68.1	SPOON		BLUE SHALE	0.5	690.0	W/ COAL PARTINGS
-68.6	SPOON		BLUE SHALE	2.5	690.5	
-71.1	SPOON		SANDSTONE	1.0	693.0	
-72.1	SPOON		SANDSTONE	0.7	694.0	
-72.8	SPOON		BLUE SHALE	1.8	694.7	SOFT
-74.6	SPOON	SEELYVILLE	COAL	0.5	696.5	
-75.1	SPOON	SEELYVILLE	COAL	1.8	697.0	
-76.9	SPOON		BLUE SHALE	0.8	698.8	
-77.6	SPOON		SANDSTONE	4.0	699.5	
-81.6	SPOON		SHALE	5.5	703.5	W/ SS PARTINGS
-87.1	SPOON		SANDSTONE	1.5	709.0	
-88.6	SPOON		BLUE SHALE	7.7	710.5	W/ SS PARTINGS
-96.3	SPOON	DAVIS	COAL WITH SHALE	0.6	718.2	MIXED
-96.9	SPOON	DAVIS	COAL	0.3	718.8	
-97.1	SPOON	DAVIS	COAL	2.8	719.0	
-99.9			BLUE SHALE	5.3	721.8	
-105.1			SANDY SHALE	18.0	727.0	W/ SS BANDS
-123.1			SANDY SHALE	13.0	745.0	W/ SS BANDS
-136.1			SHALE	6.5	758.0	W/ SS BANDS
-142.6			SANDSTONE	2.1	764.5	
-144.7			COAL	0.4	766.6	
-145.1			COAL	0.8	767.0	
-145.9			SANDSTONE	1.0	767.8	
-146.9			SANDSTONE/SHALE	7.3	768.8	W/ SS BANDS
-154.1			SANDSTONE	6.0	776.0	W/ SH PARTINGS
-160.1			SANDSTONE	4.0	782.0	W/ SH PARTINGS
-164.1			SHALE	7.0	786.0	W/ SS PARTINGS
-171.1			BLUE SHALE	9.0	793.0	
-180.1			BLUE SHALE	13.5	802.0	
-193.6			SANDSTONE	0.5	815.5	
-194.1			BLUE SHALE	4.0	816.0	
-198.1			SHALE	3.0	820.0	W/ SS PARTINGS
-201.1			BLUE SHALE	4.0	823.0	
-205.1			SANDSTONE	1.0	827.0	
-206.1			BLUE SHALE	1.0	828.0	
-207.1	MISSISSIPPIAN		SHALE	3.3	829.0	W/ LS BANDS
-210.4	MISSISSIPPIAN		LIMESTONE	0.7	832.3	
-211.1	MISSISSIPPIAN		LIMESTONE	1.0	833.0	
-212.1	MISSISSIPPIAN		SHALE	6.0	834.0	W/ LS BANDS

-218.1	MISSISSIPPIAN	SHALE	9.0	840.0	W/ LS BANDS
-227.1	MISSISSIPPIAN	SANDSTONE	2.0	849.0	
-229.1	MISSISSIPPIAN	LIMESTONE	1.0	851.0	W/ SH PARTINGS
-230.1	MISSISSIPPIAN	LIMESTONE	2.0	852.0	
-232.1	MISSISSIPPIAN	SHALE WITH LIMESTONE	4.0	854.0	SOFT
-236.1	MISSISSIPPIAN	SHALE	0.2	858.0	
-236.3	MISSISSIPPIAN	LIMESTONE	2.0	858.2	
-238.3	MISSISSIPPIAN	LIMESTONE	1.3	860.2	W/ SH PARTINGS
-239.6	MISSISSIPPIAN	SHALE WITH LIMESTONE	2.5	861.5	
-242.1	MISSISSIPPIAN	LIMESTONE	1.0	864.0	W/ SH PARTINGS
-243.1	MISSISSIPPIAN	SHALE	3.0	865.0	W/ BANDS
-246.1	MISSISSIPPIAN	LIMESTONE	2.0	868.0	
-248.1	MISSISSIPPIAN	LIMESTONE	4.0	870.0	W/ SHALE STREAKS
-252.1	MISSISSIPPIAN	LIMESTONE	1.5	874.0	
-253.6	MISSISSIPPIAN	SHALE	0.5	875.5	W/ LS BANDS
-254.1	MISSISSIPPIAN	LIMESTONE	0.8	876.0	
-254.9	MISSISSIPPIAN	SHALE	1.2	876.8	W/ LS BANDS
-256.1	MISSISSIPPIAN	LIMESTONE	25.0	878.0	
-281.1	MISSISSIPPIAN	LIMESTONE	8.0	903.0	W/ SH PARTINGS
-289.1	MISSISSIPPIAN	SHALE WITH LIMESTONE	5.0	911.0	
-294.1	MISSISSIPPIAN	SHALE WITH LIMESTONE	4.0	916.0	W/ CLY PARTINGS
-298.1	MISSISSIPPIAN	SANDSTONE	21.0	920.0	
-319.1	MISSISSIPPIAN	SHALE	4.5	941.0	
-323.6	MISSISSIPPIAN	BLUE SHALE	19.5	945.5	

MAPID: 02123127000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 43' S line, 1770' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.397018 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.480637 **DATE COLLECTED:** 7 / 18 / 1978

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 485.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-3 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
615.0			UNCONSOLIDATED	57.0	0.0	
558.0	BOND		GRAY SHALE	9.0	57.0	
549.0	BOND		SANDY SHALE	8.0	66.0	GRAY
541.0	BOND		SHALY SANDSTONE	4.0	74.0	DRK GRAY
537.0	BOND		SANDY SHALE	37.0	78.0	GRAY
500.0	BOND		GRAY SHALE	14.0	115.0	
486.0	BOND	CARTHAGE	LIMESTONE	11.0	129.0	
475.0	MODESTO		BLACK SHALE	2.0	140.0	
473.0	MODESTO		GRAY SHALE	19.5	142.0	
453.5	MODESTO		SHALY LIMESTONE	4.5	161.5	W/SH
449.0	MODESTO		SANDY LIMESTONE	3.0	166.0	
446.0	MODESTO		CALCAREOUS SANDSTONE	6.0	169.0	
440.0	MODESTO		BLACK SHALE	2.0	175.0	
438.0	MODESTO		SANDY SHALE	16.0	177.0	GRAY
422.0	MODESTO		SHALY SANDSTONE	31.0	193.0	GRAY
391.0	MODESTO		SANDY SHALE	14.0	224.0	GRAY
377.0	MODESTO		GRAY SHALE	19.0	238.0	
358.0	MODESTO	CHAPEL	COAL	1.5	257.0	
356.5	MODESTO		GRAY SHALE	2.5	258.5	
354.0	MODESTO		SHALY LIMESTONE	1.5	261.0	
352.5	MODESTO		SANDY SHALE	52.5	262.5	GRAY
300.0	MODESTO		GRAY SHALE	45.5	315.0	
254.5	MODESTO		SHALE	14.0	360.5	BKSH AT 365-366, MULTI-COLORED
240.5	MODESTO	PIASA	LIMESTONE	3.0	374.5	
237.5			SHALE	11.0	377.5	MULTI-COLORED
226.5			GRAY SHALE	8.5	388.5	
218.0			SANDY SHALE	15.0	397.0	GRAY
203.0			GRAY SHALE	25.5	412.0	
177.5			BLACK SHALE	0.5	437.5	FROM DRILL LOG
177.0			SHALE	10.0	438.0	
167.0			BLACK SHALE	1.0	448.0	FROM DRILL LOG
166.0	CARBONDALE	ENERGY	SHALE	8.2	449.0	
157.8	CARBONDALE	HERRIN	COAL	2.8	457.2	CORED 457.7-461.7
155.0	CARBONDALE		UNDERCLAY	1.7	460.0	W/PLANTS, GRAY
153.4	CARBONDALE		CORE LOSS	0.1	461.6	
153.3	CARBONDALE		CALCAREOUS SHALE	11.3	461.7	DRILL LOG HAS SHALY LS TO T.D.
142.0	CARBONDALE		BLACK SHALE	3.0	473.0	
139.0	CARBONDALE		SHALE	9.0	476.0	

MAPID: 02124484000C **VERSION:** 1 **PROJECT:** ROOF STUDY
COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2123' N line, 2599' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.394191 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.489297 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 472.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 43 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02124484000C **VERSION:** 2 **PROJECT:** D JOHNSON
COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2123' N line, 2599' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.394191 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.489297 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 472.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 43 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02124484000C **VERSION:** 3 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2123' N line, 2599' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.394191 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.489297 **DATE COLLECTED:** 9 / 10 / 1946
SURFACE ELEVATION (FT.): 626.2 **LOGGED (FT.):** 472.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 43 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100190000C **VERSION:** 1 **PROJECT:** ROOF STUDY
COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1212' N line, 40' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.42215 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.491743 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 437.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 36 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100190000C **VERSION:** 2 **PROJECT:** D JOHNSON
COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1212' N line, 40' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.42215 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.491743 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 437.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 36 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100190000C **VERSION:** 3 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1212' N line, 40' W line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.42215 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.491743 **DATE COLLECTED:** 6 / 0 / 1946
SURFACE ELEVATION (FT.): 595.1 **LOGGED (FT.):** 436.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 36 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02123126000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 2280' N line, 678' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.419856 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.488799 **DATE COLLECTED:** 7 / 18 / 1978

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 460.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-1 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
610.0			UNCONSOLIDATED	29.0	0.0	
581.0	BOND		SANDSTONE	72.5	29.0	
508.5	BOND		CALCAREOUS SANDSTONE	8.5	101.5	
500.0	BOND		BLACK SHALE	0.5	110.0	FROM DRILL LOG
499.5	BOND		SANDY SHALE	3.5	110.5	GRAY
496.0	BOND		SHALY LIMESTONE	3.0	114.0	
493.0	BOND		CALCAREOUS SHALE	5.0	117.0	GRAY
488.0	BOND	CARTHAGE	LIMESTONE	9.5	122.0	
478.5	MODESTO		BLACK SHALE	3.5	131.5	
475.0	MODESTO		GRAY SHALE	27.5	135.0	W/SS STREAKS
447.5	MODESTO		BLACK SHALE	2.0	162.5	FROM GAMMA
445.5	MODESTO		GRAY SHALE	8.5	164.5	
437.0	MODESTO		SHALY LIMESTONE	4.5	173.0	
432.5	MODESTO		SANDY SHALE	70.5	177.5	GRAY
362.0	MODESTO		SANDSTONE	2.0	248.0	CHAPEL #8 COAL ERODED?
360.0	MODESTO		SANDY SHALE	110.0	250.0	GRAY
250.0	MODESTO		BLACK SHALE	2.0	360.0	
248.0	MODESTO		SANDY SHALE	8.0	362.0	GRAY
240.0	MODESTO	PIASA	LIMESTONE	3.0	370.0	
237.0	CARBONDALE		BLACK SHALE	3.0	373.0	FROM GAMMA
234.0	CARBONDALE		SHALE	10.0	376.0	MULTI-COLORED
224.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	3.0	386.0	
221.0	CARBONDALE	ENERGY	SANDY SHALE	23.0	389.0	GRAY
198.0	CARBONDALE	ENERGY	GRAY SHALE	26.5	412.0	
171.5	CARBONDALE	HERRIN	COAL	6.7	438.5	CORED TO 446.5
164.8	CARBONDALE		CORE LOSS	1.3	445.2	
163.5	CARBONDALE		CALCAREOUS SHALE	1.5	446.5	GRAY
162.0	CARBONDALE		GRAY SHALE	2.0	448.0	
160.0	CARBONDALE		LIMESTONE	10.0	450.0	

MAPID: 02100518000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SW SE
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.430427 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.483221 **DATE COLLECTED:** 2 / 0 / 1956
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 434.0 **LOG TYPE:** Electric Log
SOURCE: MCELMURRAY, L. A. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
255.0	MODESTO	PIASA	LIMESTONE	2.5	358.0	
252.5	MODESTO		UNCLASSIFIED	2.0	360.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
250.5	CARBONDALE		UNCLASSIFIED	5.5	362.5	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
245.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	368.0	
240.0	CARBONDALE	ENERGY	UNCLASSIFIED	56.0	373.0	
184.0	CARBONDALE	HERRIN	COAL	5.0	429.0	

MAPID: 02100532000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 2184' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.430092 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.494161 **DATE COLLECTED:** 5 / 0 / 1956
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 582.0 **LOG TYPE:** Electric Log
SOURCE: GOFF OIL CO. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
166.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	453.0	
149.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.5	470.0	
108.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	511.0	
37.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	3.0	582.0	

MAPID: 02100532000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' N line, 2184' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.430092 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.494161 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 461.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
227.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	396.0	
222.0	CARBONDALE		CLAYSTONE & SHALE	9.0	401.0	
213.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	9.0	410.0	
204.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	419.0	
174.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	449.0	
171.0	CARBONDALE	ANNA	BLACK SHALE	1.0	452.0	
168.0	CARBONDALE	HERRIN	COAL	6.0	455.0	

MAPID: 02123384000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 850' S line, 2310' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.432722 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.482834 **DATE COLLECTED:** 5 / 22 / 1975

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 433.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-22 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
605.0			UNCONSOLIDATED	27.0	0.0	
578.0	BOND		SANDSTONE	8.0	27.0	
570.0	BOND		BLACK SHALE	2.5	35.0	
567.5	BOND		GRAY SHALE	42.5	37.5	
525.0	BOND		SANDSTONE	28.0	80.0	
497.0	BOND		GRAY SHALE	12.0	108.0	
485.0	BOND	CARTHAGE	LIMESTONE	10.0	120.0	TAN/GRAY
475.0	MODESTO		BLACK SHALE	2.0	130.0	
473.0	MODESTO		GRAY SHALE	13.5	132.0	
459.5	MODESTO	MACOUPIN	SHALY LIMESTONE	13.5	145.5	
446.0	MODESTO		GRAY SHALE	15.0	159.0	
431.0	MODESTO		SANDSTONE	10.0	174.0	CALCAREOUS UPPER 4 FT.
421.0	MODESTO		GRAY SHALE	65.0	184.0	W/SS STREAKS
356.0	MODESTO	CHAPEL	COAL	1.0	249.0	
355.0	MODESTO		GRAY SHALE	9.0	250.0	
346.0	MODESTO		SHALY SANDSTONE	31.0	259.0	
315.0	MODESTO		GRAY SHALE	59.0	290.0	W/SS STREAKS
256.0	MODESTO	PIASA	LIMESTONE	1.0	349.0	
255.0	MODESTO		SHALE	4.0	350.0	
251.0	CARBONDALE		BLACK SHALE	4.0	354.0	
247.0	CARBONDALE		GRAY SHALE	13.0	358.0	
234.0	CARBONDALE		LIMESTONE	4.0	371.0	
230.0	CARBONDALE		UNDERCLAY/SHALE	9.0	375.0	GRAY
221.0	CARBONDALE	ENERGY	SILTY SHALE	16.0	384.0	GRAY
205.0	CARBONDALE	ENERGY	SILTY SHALE	33.0	400.0	W/LS, GRAY

MAPID: 02100596000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.467951 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.474091 **DATE COLLECTED:** 11 / 0 / 1956

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Electric Log

SOURCE: ANCHOR WATE CO. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

MAPID: 02100389000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 44' N line, 2555' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.450021 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.480367 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 449.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 45 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
256.7	CARBONDALE	ENERGY	SILTY SHALE	35.0	366.3	
221.7	CARBONDALE	ENERGY	CLAYSTONE & SHALE	15.0	401.3	
206.7	CARBONDALE	ENERGY	SILTY SHALE	20.0	416.3	
186.7	CARBONDALE	ENERGY	DARK GRAY SHALE	6.3	436.3	
180.4	CARBONDALE	ENERGY	BLACK SHALE	0.4	442.6	
180.0	CARBONDALE	HERRIN	COAL	6.6	443.0	

MAPID: 02100389000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 44' N line, 2555' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.450021 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.480367 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 450.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 45 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
179.4	CARBONDALE	ANNA	BLACK SHALE	0.4	443.6	
179.0	CARBONDALE	HERRIN	COAL	6.6	444.0	

MAPID: 02100389000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 44' N line, 2555' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.450021 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.480367 **DATE COLLECTED:** 9 / 17 / 1946
SURFACE ELEVATION (FT.): 622.6 **LOGGED (FT.):** 450.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 45 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
178.9	CARBONDALE	HERRIN	COAL	6.6	443.7	

MAPID: 02123128000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1878' N line, 2589' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.450089 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.475304 **DATE COLLECTED:** 7 / 17 / 1978

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 460.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-5 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
620.0			UNCONSOLIDATED	33.0	0.0	
587.0	BOND		SANDSTONE	2.0	33.0	BROWN
585.0	BOND		GRAY SHALE	11.0	35.0	
574.0	BOND		SANDY SHALE	4.0	46.0	GRAY
570.0	BOND		SHALY SANDSTONE	51.0	50.0	
519.0	BOND		SANDY LIMESTONE	7.0	101.0	
512.0	BOND		SHALE	2.0	108.0	DARK
510.0	BOND		GRAY SHALE	26.0	110.0	
484.0	BOND	CARTHAGE	LIMESTONE	8.0	136.0	
476.0	MODESTO		BLACK SHALE	3.0	144.0	
473.0	MODESTO		CALCAREOUS SHALE	13.0	147.0	GRAY
460.0	MODESTO		LIMESTONE	4.0	160.0	
456.0	MODESTO		CALCAREOUS SHALE	4.0	164.0	GRAY
452.0	MODESTO		GRAY SHALE	5.0	168.0	W/LS AND SS
447.0	MODESTO		BLACK SHALE	2.5	173.0	
444.5	MODESTO		GRAY SHALE	6.0	175.5	
438.5	MODESTO		SANDY SHALE	24.5	181.5	GRAY
414.0	MODESTO		SHALE	54.0	206.0	DRK GRAY
360.0	MODESTO		GRAY SHALE	6.5	260.0	
353.5	MODESTO		BLACK SHALE	1.0	266.5	
352.5	MODESTO	CHAPEL	COAL	1.0	267.5	
351.5	MODESTO		GRAY SHALE	12.5	268.5	
339.0	MODESTO		CALCAREOUS SHALE	21.0	281.0	GRAY
318.0	MODESTO		SHALE	56.0	302.0	DRK GRAY
262.0	CARBONDALE	DANVILLE	COAL	1.0	358.0	FROM DRILL LOG
261.0	CARBONDALE		GRAY SHALE	6.5	359.0	
254.5	CARBONDALE		BLACK SHALE	2.5	365.5	
252.0	CARBONDALE		CALCAREOUS SHALE	19.5	368.0	GRAY
232.5	CARBONDALE		SHALY LIMESTONE	1.5	387.5	
231.0	CARBONDALE	ENERGY	SHALY SANDSTONE	5.0	389.0	GRAY
226.0	CARBONDALE	ENERGY	CALCAREOUS SHALE	8.0	394.0	GRAY
218.0	CARBONDALE	ENERGY	GRAY SHALE	32.5	402.0	
185.5	CARBONDALE		BLACK SHALE	0.5	434.5	
185.0	CARBONDALE	HERRIN	COAL	6.2	435.0	CLAY LAYERS; CORED TO 442.2
178.8	CARBONDALE		UNDERCLAY	0.9	441.2	W/PLANTS, GRAY
177.9	CARBONDALE		CORE LOSS	0.1	442.1	
177.8	CARBONDALE		CLAYSTONE & SILTSTONE	7.8	442.2	
170.0	CARBONDALE		GRAY SHALE	6.5	450.0	POSSIBLY CONTAINS BKSH AT 453
163.5	CARBONDALE		LIMESTONE	3.5	456.5	W/SH

MAPID: 02123129000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2225' N line, 1242' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.388689 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.474404 **DATE COLLECTED:** 7 / 20 / 1978

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 485.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-7 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
618.0			UNCONSOLIDATED	91.0	0.0	
527.0	BOND		SANDSTONE	1.0	91.0	
526.0	BOND		SILTY SHALE	8.0	92.0	GRAY
518.0	BOND		SHALE	12.0	100.0	DRK GRAY
506.0	BOND		GRAY SHALE	19.0	112.0	
487.0	BOND	CARTHAGE	LIMESTONE	9.0	131.0	
478.0	MODESTO		BLACK SHALE	2.0	140.0	
476.0	MODESTO		GRAY SHALE	23.0	142.0	
453.0	MODESTO		LIMESTONE AND SANDSTONE	2.0	165.0	
451.0	MODESTO		SHALY SANDSTONE	12.0	167.0	
439.0	MODESTO		BLACK SHALE	2.0	179.0	FROM GAMMA
437.0	MODESTO		SHALY SANDSTONE	6.0	181.0	
431.0	MODESTO		SANDY LIMESTONE	1.0	187.0	
430.0	MODESTO		GRAY SHALE	10.0	188.0	W/SS STREAKS
420.0	MODESTO		SANDSTONE	1.0	198.0	
419.0	MODESTO		GRAY SHALE	5.0	199.0	
414.0	MODESTO		SHALE	8.0	204.0	DRK GRAY
406.0	MODESTO		SANDY SHALE	17.0	212.0	GRAY
389.0	MODESTO		SHALY SANDSTONE	8.0	229.0	GRAY
381.0	MODESTO		SANDY SHALE	14.0	237.0	GRAY
367.0	MODESTO		SHALY SANDSTONE	5.5	251.0	CHAPEL #8 COAL ERODED, GRAY
361.5	MODESTO		SANDY SHALE	12.5	256.5	GRAY
349.0	MODESTO		SANDY LIMESTONE	3.0	269.0	
346.0	MODESTO		SANDY SHALE	24.0	272.0	GRAY
322.0	MODESTO		GRAY SHALE	80.5	296.0	
241.5	MODESTO		BLACK SHALE	2.5	376.5	W/COAL
239.0	MODESTO		CALCAREOUS SHALE	4.0	379.0	GRAY
235.0	MODESTO		GRAY SHALE	9.0	383.0	
226.0	MODESTO		SHALE	7.0	392.0	MULTI-COLORED
219.0	MODESTO	PIASA	LIMESTONE	1.5	399.0	
217.5	MODESTO		CALCAREOUS SHALE	6.5	400.5	GRAY
211.0	CARBONDALE	ENERGY	GRAY SHALE	61.5	407.0	
149.5	CARBONDALE	HERRIN	COAL	2.9	468.5	CORED 469.3-473.3
146.6	CARBONDALE		UNDERCLAY	1.8	471.4	GRAY
144.8	CARBONDALE		CORE LOSS	0.1	473.2	
144.7	CARBONDALE		GRAY SHALE	6.7	473.3	
138.0	CARBONDALE		LIMESTONE	0.5	480.0	
137.5	CARBONDALE		GRAY SHALE	4.5	480.5	

MAPID: 02100847000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.422887 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.452175 **DATE COLLECTED:** 2 / 0 / 1950
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 580.0 **LOG TYPE:** Electric Log
SOURCE: BOYD, L. K. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
165.0	CARBONDALE	HERRIN	UNCLASSIFIED	2.5	458.0	
153.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	-	470.0	NO COAL
106.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	517.0	
43.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	580.0	

MAPID: 02100847000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.422887 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.452175 **DATE COLLECTED:** 2 / 0 / 1950
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 460.5 **LOG TYPE:** Electric Log
SOURCE: BOYD, L. K. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
244.0	MODESTO	PIASA	LIMESTONE	3.0	379.0	
241.0	MODESTO		UNCLASSIFIED	5.0	382.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
236.0	CARBONDALE		UNCLASSIFIED	12.0	387.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
224.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	6.0	399.0	
218.0	CARBONDALE	ENERGY	UNCLASSIFIED	53.0	405.0	
165.0	CARBONDALE	HERRIN	COAL	2.5	458.0	

MAPID: 02101044000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.448855 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.452141 **DATE COLLECTED:** 8 / 0 / 1958
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 419.0 **LOG TYPE:** Electric Log
SOURCE: MANSFIELD, C. B. **WELL TYPE:** Dry Hole
COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
209.0	CARBONDALE	HERRIN	COAL	2.0	417.0	

MAPID: 02123130000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 30 **QUARTERS/FOOTAGES:** 2570' S line, 1416' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.4709 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.458255 **DATE COLLECTED:** 7 / 12 / 1978

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 430.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-4 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
634.0			UNCONSOLIDATED	22.0	0.0	
612.0	BOND		SHALY SANDSTONE	18.0	22.0	GRAY
594.0	BOND		SANDY SHALE	18.0	40.0	GRAY
576.0	BOND		GRAY SHALE	3.0	58.0	
573.0	BOND		SHALY SANDSTONE	21.0	61.0	
552.0	BOND		SHALE	3.0	82.0	DRK GRAY
549.0	BOND		BLACK SHALE	1.0	85.0	
548.0	BOND		GRAY SHALE	11.0	86.0	
537.0	BOND	CARTHAGE	SHALY LIMESTONE	6.5	97.0	BROWN
530.5	MODESTO		BLACK SHALE	2.5	103.5	
528.0	MODESTO		GRAY SHALE	16.0	106.0	
512.0	MODESTO		CALCAREOUS SANDSTONE	3.5	122.0	
508.5	MODESTO		SHALY SANDSTONE	5.5	125.5	
503.0	MODESTO		BLACK SHALE	2.0	131.0	
501.0	MODESTO		SANDY SHALE	62.0	133.0	GRAY
439.0	MODESTO		GRAY SHALE	36.0	195.0	
403.0	MODESTO		SANDY SHALE	12.0	231.0	GRAY
391.0	MODESTO		SHALY SANDSTONE	25.0	243.0	
366.0	MODESTO		GRAY SHALE	70.0	268.0	
296.0	CARBONDALE		BLACK SHALE	1.0	338.0	
295.0	CARBONDALE	ENERGY	GRAY SHALE	31.5	339.0	
263.5	CARBONDALE	ENERGY	SANDSTONE	13.5	370.5	SHALY AND CALCAREOUS
250.0	CARBONDALE	ENERGY	GRAY SHALE	26.0	384.0	
224.0	CARBONDALE	HERRIN	COAL	5.1	410.0	
218.9	CARBONDALE		UNDERCLAY	0.2	415.1	DARK
218.8	CARBONDALE		SANDSTONE	14.8	415.2	SILTY AND SHALY; W/PLANT FRAGS

MAPID: 02123131000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 2575' N line, 65' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.45963 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.444118 **DATE COLLECTED:** 7 / 14 / 1978

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 420.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-6 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
625.0			UNCONSOLIDATED	26.0	0.0	
599.0	BOND		SANDSTONE	17.0	26.0	BRN/GRAY
582.0	BOND		SANDY SHALE	7.0	43.0	GRAY
575.0	BOND		SANDSTONE	27.0	50.0	W/SH STREAKS
548.0	BOND		SANDSTONE/LIMESTONE	4.0	77.0	
544.0	BOND		GRAY SHALE	3.0	81.0	
541.0	BOND	CARTHAGE	LIMESTONE	13.0	84.0	
528.0	MODESTO		BLACK SHALE	3.0	97.0	
525.0	MODESTO		GRAY SHALE	20.0	100.0	
505.0	MODESTO		SANDY LIMESTONE	3.0	120.0	
502.0	MODESTO		CALCAREOUS SANDSTONE	11.5	123.0	12
490.5	MODESTO		BLACK SHALE	2.0	134.5	
488.5	MODESTO		GRAY SHALE	7.5	136.5	
481.0	MODESTO		SANDY SHALE	8.0	144.0	GRAY
473.0	MODESTO		SHALE	57.5	152.0	DRK GRAY
415.5	MODESTO	CHAPEL	COAL	1.0	209.5	
414.5	MODESTO		GRAY SHALE	18.0	210.5	
396.5	MODESTO		SHALY SANDSTONE	31.5	228.5	
365.0	MODESTO		CALCAREOUS SANDSTONE	40.0	260.0	
325.0	MODESTO		SHALE	8.0	300.0	W/SS STREAKS, BROWN
317.0	MODESTO		SHALE	12.0	308.0	DRK GRAY
305.0	MODESTO		BLACK SHALE	1.0	320.0	
304.0	MODESTO		SHALE	10.0	321.0	MULTI-COLORED
294.0	MODESTO		GRAY SHALE	3.5	331.0	
290.5	MODESTO	PIASA	SHALY LIMESTONE	4.5	334.5	GRAY/BRN
286.0	MODESTO		CALCAREOUS SHALE	11.0	339.0	MULTI-COLORED
275.0	CARBONDALE		SANDY SHALE	39.5	350.0	GRAY
235.5	CARBONDALE		GRAY SHALE	11.0	389.5	
224.5	CARBONDALE	HERRIN	COAL	4.6	400.5	W/PYRITE AND CLAY BANDS; CORE TO 406.4
219.9	CARBONDALE		UNDERCLAY	1.3	405.1	W/PLANT FRAGS, GRAY
218.6	CARBONDALE		UNDERCLAY/SHALE	8.6	406.4	
210.0	CARBONDALE		SHALY LIMESTONE	5.0	415.0	

MAPID: 02123385000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 560' N line, 75' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.475492 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.449588 **DATE COLLECTED:** 5 / 29 / 1975

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 427.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-24 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.0			UNCONSOLIDATED	25.0	0.0	
605.0	BOND		SANDSTONE	66.0	25.0	
539.0	BOND	CARTHAGE	LIMESTONE	7.0	91.0	
532.0	MODESTO		BLACK SHALE	11.0	98.0	
521.0	MODESTO		GRAY SHALE	18.0	109.0	
503.0	MODESTO		LIMESTONE	13.5	127.0	D LS SS SH
489.5	MODESTO		BLACK SHALE	2.0	140.5	
487.5	MODESTO		GRAY SHALE	74.5	142.5	
413.0	MODESTO	CHAPEL	COAL	1.0	217.0	
412.0	MODESTO		GRAY SHALE	39.0	218.0	
373.0	MODESTO		SANDSTONE	73.0	257.0	W/SH STREAKS
300.0	MODESTO		GRAY SHALE	23.0	330.0	W/BKSH 330-336?
277.0	MODESTO	PIASA	LIMESTONE	1.5	353.0	
275.5	CARBONDALE		GRAY SHALE	56.5	354.5	
219.0	CARBONDALE	HERRIN	COAL	6.0	411.0	
213.0	CARBONDALE		UNDERCLAY/SHALE	10.0	417.0	GRAY

MAPID: 02100528000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SE

QUADRANGLE: KINCAID **LONGITUDE:** -89.480142 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.516361 **DATE COLLECTED:** 4 / 0 / 1956

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 408.5 **LOG TYPE:** Electric Log

SOURCE: WARREN WALLACE A **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
257.0	MODESTO	PIASA	LIMESTONE	5.0	363.0	
252.0	MODESTO		UNCLASSIFIED	6.0	368.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
246.0	CARBONDALE		UNCLASSIFIED	12.5	374.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
233.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	386.5	
228.5	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	391.5	
227.0	CARBONDALE		UNCLASSIFIED	1.0	393.0	SHALE ABOVE BRERETON LIMESTONE
226.0	CARBONDALE	BRERETON	LIMESTONE	6.0	394.0	
220.0	CARBONDALE	ANNA	BLACK SHALE	2.0	400.0	
218.0	CARBONDALE	HERRIN	COAL	6.5	402.0	

MAPID: 02100556000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SE NW NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.4823 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.52191 **DATE COLLECTED:** 7 / 0 / 1956

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 403.0 **LOG TYPE:** Electric Log

SOURCE: WARREN WALLACE A **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
261.5	MODESTO	PIASA	LIMESTONE	3.0	359.5	
258.5	MODESTO		UNCLASSIFIED	6.0	362.5	INTERVAL ABOVE DANVILLE, BELOW PIASA
252.5	CARBONDALE		UNCLASSIFIED	10.5	368.5	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
242.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	7.0	379.0	
235.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.0	386.0	
234.0	CARBONDALE		UNCLASSIFIED	1.0	387.0	SHALE ABOVE BRERETON LIMESTONE
233.0	CARBONDALE	BRERETON	LIMESTONE	4.0	388.0	
229.0	CARBONDALE	ANNA	BLACK SHALE	4.0	392.0	
225.0	CARBONDALE	HERRIN	COAL	7.0	396.0	

MAPID: 02100787000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW

QUADRANGLE: PAWNEE **LONGITUDE:** -89.505905 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.516476 **DATE COLLECTED:** 6 / 0 / 1957

SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Electric Log

SOURCE: COVINGTON, JAMES R. **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.0	MODESTO	PIASA	LIMESTONE	4.0	358.0	
262.0	MODESTO		UNCLASSIFIED	5.0	362.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
257.0	CARBONDALE		UNCLASSIFIED	5.0	367.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
252.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	372.0	
247.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	377.0	
243.0	CARBONDALE		UNCLASSIFIED	5.0	381.0	SHALE ABOVE BRERETON LIMESTONE
238.0	CARBONDALE	BRERETON	LIMESTONE	4.0	386.0	
234.0	CARBONDALE	ANNA	BLACK SHALE	3.0	390.0	
231.0	CARBONDALE	HERRIN	COAL	7.0	393.0	

MAPID: 02101016000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 24' S line, 79' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.514029 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.510025 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 394.4 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 272 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
276.2	MODESTO	PIASA	LIMESTONE	1.0	347.8	
275.2	MODESTO		SHALE & SANDSTONE	6.7	348.8	
268.5	CARBONDALE	DANVILLE	BONE COAL	0.2	355.5	
268.3	CARBONDALE		MOTTLED SHALE	5.9	355.7	
262.3	CARBONDALE	GALUM	CALCAREOUS SHALE	0.3	361.7	
262.1	CARBONDALE		MOTTLED SHALE	1.0	361.9	
261.1	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.3	362.9	
260.8	CARBONDALE		CALCAREOUS SHALE	2.8	363.2	
258.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.4	366.0	UPPER BENCH
256.6	CARBONDALE	BANKSTON FORK	GRAY SHALE	0.3	367.4	SHALE PARTING
256.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.7	367.7	LOWER BENCH
255.7	CARBONDALE	LAWSON	MOTTLED SHALE	3.0	368.3	
252.7	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	4.2	371.3	
248.5	CARBONDALE	LAWSON	SILTY SHALE	1.5	375.5	
247.0	CARBONDALE	LAWSON	NODULAR LIMESTONE	0.7	377.0	
246.3	CARBONDALE	LAWSON	MOTTLED SHALE	1.9	377.7	
244.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.2	379.6	
237.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	386.8	
237.0	CARBONDALE	HERRIN	COAL	7.4	387.0	

MAPID: 02101016000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 24' S line, 79' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.514029 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.510025 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 394.4 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 272 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
277.3	MODESTO	PIASA	LIMESTONE	1.0	346.7	
276.3	MODESTO		UNCLASSIFIED	6.8	347.7	
269.5	CARBONDALE	DANVILLE	COAL	0.2	354.5	
269.3	CARBONDALE		UNCLASSIFIED	10.4	354.7	
258.9	CARBONDALE	BANKSTON FORK	LIMESTONE	3.1	365.1	
255.8	CARBONDALE	ANVIL ROCK	SANDSTONE	4.8	368.2	
251.0	CARBONDALE		SHALE	6.5	373.0	
244.5	CARBONDALE	BRERETON	LIMESTONE	7.2	379.5	
237.3	CARBONDALE	ANNA	BLACK SHALE	0.3	386.7	
237.0	CARBONDALE	HERRIN	COAL	7.4	387.0	

MAPID: 02101016000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 24' S line, 79' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.514029 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.510025 **DATE COLLECTED:** 0 / 0 / 1958

SURFACE ELEVATION (FT.): 623.8 **LOGGED (FT.):** 394.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 272 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
236.7	CARBONDALE	HERRIN	COAL	7.4	387.1	

MAPID: 02123509000C **VERSION:** 1 **PROJECT:** NCRDS17

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:**

QUADRANGLE: PAWNEE **LONGITUDE:** -89.511939 **GEOLOGIST:** JMCBETH

CONFIDENTIAL: N **LATITUDE:** 39.524384 **DATE COLLECTED:** 3 / 18 / 1981

SURFACE ELEVATION (FT.): 621.9 **LOGGED (FT.):** 395.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY CC371C **WELL TYPE:** Coal Test

COMMENT: MINE #10

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
621.9	PLEISTOCENE		UNCONSOLIDATED	22.5	0.0	
599.4	PLEISTOCENE		SAND	0.7	22.5	
598.7	PLEISTOCENE		UNCONSOLIDATED	40.2	23.2	
558.5			GRAY SHALE	27.0	63.4	
531.5			SHALE	2.4	90.4	
529.1			COAL	0.4	92.8	
528.7			UNDERCLAY	2.0	93.2	
526.7	BOND	CARTHAGE	LIMESTONE	2.6	95.2	CORRELATION UNCERTAIN
524.1	BOND	CARTHAGE	UNDERCLAY	3.7	97.8	FIRE CLAY
520.4	BOND	CARTHAGE	LIMESTONE	7.5	101.5	
512.9			GRAY SHALE	0.4	109.0	
512.5			SHALE	6.7	109.4	DARK
505.8			GRAY SHALE	7.3	116.1	
498.5			SILTSTONE	5.1	123.4	
493.4			LIMESTONE	1.8	128.5	
491.6			SHALE	2.3	130.3	DARK
489.3			GRAY SHALE	5.3	132.6	
484.0			SANDSTONE	2.1	137.9	
481.9			SANDSTONE	10.0	140.0	WITH INTERLAMINATED SH
471.9			SANDSTONE	20.0	150.0	
451.9			SILTSTONE	20.0	170.0	
431.9			GRAY SHALE	19.5	190.0	
412.4			COAL	0.5	209.5	
411.9			UNDERCLAY	4.9	210.0	
407.0			LIMESTONE	1.0	214.9	
406.0			SILTSTONE	2.3	215.9	WITH INTERLAMINATED SH
403.7			GRAY SHALE	6.7	218.2	
397.0			UNKNOWN	0.4	224.9	
396.6			SHALE	4.7	225.3	
391.9			SILTSTONE	6.0	230.0	INTERLAMINATED SS
385.9			SANDSTONE	4.0	236.0	WITH SILTST BAND
381.9			SILTSTONE	10.0	240.0	INTERLAMINATED SH
371.9			GRAY SHALE	10.0	250.0	
361.9			SILTSTONE	1.6	260.0	
360.3			SILTSTONE	8.4	261.6	INTERLAMINATED SS
351.9			SILTSTONE	30.0	270.0	
321.9			GRAY SHALE	18.8	300.0	
303.1			UNKNOWN	0.1	318.8	

303.0			SHALE	0.9	318.9	DARK
302.1			GRAY SHALE	3.0	319.8	
299.1			LIMESTONE	0.6	322.8	
298.5			SHALE	4.4	323.4	DARK
294.1			SILTSTONE	12.2	327.8	WITH SH BAND
281.9			SANDSTONE	6.2	340.0	
275.7			SHALE	0.5	346.2	DARK
275.2	SHELBURN	PIASA	LIMESTONE	2.0	346.7	
273.2	SHELBURN		GRAY SHALE	2.6	348.7	
270.6	SHELBURN	DANVILLE	COAL	0.2	351.3	
270.4	SHELBURN	DANVILLE	GRAY SHALE	0.3	351.5	
270.1	SHELBURN	DANVILLE	COAL	0.2	351.8	
269.9	SHELBURN		GRAY SHALE	1.3	352.0	
268.6	SHELBURN		LIMESTONE	0.7	353.3	
267.9	SHELBURN		MUDSTONE	4.2	354.0	
263.7	SHELBURN	BANKSTON FORK	LIMESTONE	1.8	358.2	
261.9	SHELBURN		SHALE	3.7	360.0	WITH LS BAND
258.2	SHELBURN		SANDSTONE	4.1	363.7	
254.1	SHELBURN		GRAY SHALE	2.2	367.8	
251.9	SHELBURN	BRERETON	LIMESTONE	6.9	370.0	
245.0	CARBONDALE	ANNA	SHALE	0.3	376.9	DARK
244.7	CARBONDALE	HERRIN	COAL	5.7	377.2	
239.0	CARBONDALE	HERRIN	UNKNOWN	0.1	382.9	
238.9	CARBONDALE	HERRIN	COAL	1.5	383.0	
237.4	CARBONDALE		MUDSTONE	0.4	384.5	
237.0	CARBONDALE		UNDERCLAY	1.1	384.9	
235.9	CARBONDALE		SILTSTONE	3.5	386.0	
232.4	CARBONDALE		LIMESTONE	5.5	389.5	

MAPID: 02125592000C **VERSION:** 1 **PROJECT:** NCRDS17

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:**

QUADRANGLE: PAWNEE **LONGITUDE:** -89.504707 **GEOLOGIST:** JMCBETH

CONFIDENTIAL: N **LATITUDE:** 39.517389 **DATE COLLECTED:** 9 / 15 / 1983

SURFACE ELEVATION (FT.): 622.9 **LOGGED (FT.):** 407.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY CC415C **WELL TYPE:** Coal Test

COMMENT: MINE #10

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
622.9	PLEISTOCENE		UNCONSOLIDATED	17.9	0.0	
605.1	PLEISTOCENE		CLAYSTONE & SHALE	4.1	17.8	BROWN, SOFT
600.9	PLEISTOCENE		GLACIAL DRIFT	32.0	22.0	WITH GRAVEL
568.9			GRAY SHALE	15.7	54.0	
553.2			SHALE	6.3	69.7	
546.9			SANDY SHALE	29.6	76.0	GRAY
517.3			LIMESTONE	1.2	105.6	
516.1			GRAY SHALE	4.2	106.8	
511.9			LIMESTONE	7.6	111.0	
504.3			GRAY SHALE	0.6	118.6	
503.7			SHALE	6.1	119.2	DARK, WITH SLATE
497.6			SANDY SHALE	9.7	125.3	GRAY
487.9			LIMESTONE	6.3	135.0	
481.6			SANDY SHALE	104.5	141.3	GRAY
377.1			SANDSTONE	21.2	245.8	
355.9			SANDY SHALE	16.9	267.0	GRAY
339.0			SANDSTONE	6.1	283.9	
332.9			SANDY SHALE	52.8	290.0	GRAY
280.1			LIMESTONE	0.6	342.8	
279.5			SANDY SHALE	19.6	343.4	GRAY
259.9			SHALE	8.3	363.0	WITH LS NODS
251.6			SANDSTONE	4.4	371.3	
247.3			SANDY SHALE	3.2	375.6	GRAY
244.1			SANDSTONE	2.2	378.8	
242.0	SHELBURN	BRERETON	LIMESTONE	3.4	380.9	
238.6	CARBONDALE	ANNA	BLACK SHALE	1.9	384.3	
236.7	CARBONDALE	HERRIN	COAL	6.9	386.2	
229.8	CARBONDALE		SANDY SHALE	12.5	393.1	GRAY
217.3	CARBONDALE		LIMESTONE	1.4	405.6	

MAPID: 02100551000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE

QUADRANGLE: PAWNEE **LONGITUDE:** -89.515389 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.503587 **DATE COLLECTED:** 7 / 0 / 1956

SURFACE ELEVATION (FT.): 634.0 **LOGGED (FT.):** 403.5 **LOG TYPE:** Electric Log

SOURCE: CITIES SERVICE 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	THICKNESS (FT.) OVERBURDEN	COMMENT
272.0	MODESTO	PIASA	LIMESTONE	3.0	362.0	
269.0	MODESTO		UNCLASSIFIED	4.0	365.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
265.0	CARBONDALE		UNCLASSIFIED	7.5	369.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
257.5	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.5	376.5	
253.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	3.0	381.0	
250.0	CARBONDALE		UNCLASSIFIED	4.0	384.0	SHALE ABOVE BRERETON LIMESTONE
246.0	CARBONDALE	BRERETON	LIMESTONE	4.0	388.0	
242.0	CARBONDALE	ANNA	BLACK SHALE	4.0	392.0	
238.0	CARBONDALE	HERRIN	COAL	7.5	396.0	

MAPID: 02101054000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 18' N line, 86' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.532987 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.509853 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 373.4 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 276 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
302.8	MODESTO	PIASA	LIMESTONE	4.0	318.2	
298.8	CARBONDALE		SHALE & SANDSTONE	19.4	322.2	
279.3	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.5	341.7	
278.8	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	0.3	342.2	
278.5	CARBONDALE		CALCAREOUS SHALE	7.5	342.5	
271.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.8	350.0	
267.3	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	353.7	
265.3	CARBONDALE	LAWSON	SILTSTONE	1.3	355.7	
264.0	CARBONDALE	LAWSON	SANDSTONE	3.2	357.0	
260.8	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.2	360.2	
260.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.2	360.3	
258.5	CARBONDALE	ANNA	BLACK SHALE	3.5	362.5	
255.0	CARBONDALE	HERRIN	COAL	7.4	366.0	

MAPID: 02101054000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 18' N line, 86' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.532987 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.509853 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 373.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 276 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
302.9	MODESTO	PIASA	LIMESTONE	4.0	318.1	
298.9	MODESTO		UNCLASSIFIED	7.0	322.1	
291.9	CARBONDALE		UNCLASSIFIED	18.8	329.1	
273.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	347.9	
267.3	CARBONDALE	ANVIL ROCK	SANDSTONE	3.3	353.7	
264.0	CARBONDALE		SHALE	3.3	357.0	
260.7	CARBONDALE	BRERETON	LIMESTONE	2.2	360.3	
258.5	CARBONDALE	ANNA	BLACK SHALE	3.5	362.5	
255.0	CARBONDALE	HERRIN	COAL	7.4	366.0	

MAPID: 02101054000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 18' N line, 86' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.532987 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.509853 **DATE COLLECTED:** 0 / 0 / 1958
SURFACE ELEVATION (FT.): 620.7 **LOGGED (FT.):** 373.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 276 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
254.8	CARBONDALE	HERRIN	COAL	7.4	365.9	

MAPID: 02101060000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 14' S line, 65' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.49575 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.49526 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 425.3 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 278 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.7	MODESTO	PIASA	LIMESTONE	6.5	360.3	
260.2	CARBONDALE		SHALE & SANDSTONE	23.0	366.8	
237.2	CARBONDALE	ALLENBY	BLACK SHALE	0.6	389.8	
236.6	CARBONDALE		CALCAREOUS SHALE	9.1	390.4	
227.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.0	399.5	
224.5	CARBONDALE	LAWSON	SILTSTONE	3.5	402.5	
221.0	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	406.0	
218.4	CARBONDALE	LAWSON	SILTSTONE	2.0	408.6	
216.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.9	410.6	
213.5	CARBONDALE	ANNA	BLACK SHALE	3.5	413.5	
210.0	CARBONDALE	HERRIN	COAL	8.3	417.0	

MAPID: 02101060000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 14' S line, 65' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.49575 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.49526 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 425.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 278 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.8	MODESTO	PIASA	LIMESTONE	6.5	360.2	
260.3	MODESTO		UNCLASSIFIED	8.0	366.7	
252.3	CARBONDALE		UNCLASSIFIED	21.8	374.7	
230.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	396.5	
224.5	CARBONDALE	ANVIL ROCK	SANDSTONE	3.5	402.5	
221.0	CARBONDALE		SHALE	4.6	406.0	
216.4	CARBONDALE	BRERETON	LIMESTONE	2.9	410.6	
213.5	CARBONDALE	ANNA	BLACK SHALE	3.5	413.5	
210.0	CARBONDALE	HERRIN	COAL	8.3	417.0	

MAPID: 02101060000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 14' S line, 65' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.49575 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.49526 **DATE COLLECTED:** 10 / 0 / 1958
SURFACE ELEVATION (FT.): 627.3 **LOGGED (FT.):** 425.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 278 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
210.1	CARBONDALE	HERRIN	COAL	8.3	417.2	

MAPID: 02101017000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 14' N line, 79' W line of NW NW NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.495164 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.510025 **DATE COLLECTED:** 0 / 0 / 1958
SURFACE ELEVATION (FT.): 620.8 **LOGGED (FT.):** 406.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 273 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
222.3	CARBONDALE	HERRIN	COAL	8.1	398.5	

MAPID: 02101017000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 14' N line, 79' W line of NW NW NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.495164 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.510025 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 407.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 273 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.6	MODESTO	PIASA	LIMESTONE	2.0	369.4	
249.6	MODESTO		UNCLASSIFIED	2.0	371.4	
247.6	CARBONDALE		UNCLASSIFIED	6.0	373.4	
241.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.2	379.4	
236.4	CARBONDALE	ANVIL ROCK	SANDSTONE	3.7	384.6	
232.7	CARBONDALE	CONANT	LIMESTONE	0.4	388.3	
232.3	CARBONDALE		SHALE	3.3	388.7	
229.0	CARBONDALE	BRERETON	LIMESTONE	6.5	392.0	
222.5	CARBONDALE	ANNA	BLACK SHALE	0.5	398.5	
222.0	CARBONDALE	HERRIN	COAL	8.2	399.0	

MAPID: 02101018000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 130' N line, 15' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.476966 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.509437 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 413.9 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 274 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
291.5	CARBONDALE		SHALE & SANDSTONE	47.0	323.5	
244.5	CARBONDALE	GALUM	LIMESTONE	4.5	370.5	
240.0	CARBONDALE		SHALE	7.5	375.0	
232.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.7	382.5	
228.9	CARBONDALE	LAWSON	MOTTLED SHALE	1.8	386.1	
227.1	CARBONDALE	LAWSON	SHALE & SILTSTONE	3.3	387.9	
223.8	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	5.0	391.2	
218.8	CARBONDALE	BRERETON	LIMESTONE	3.9	396.2	
214.9	CARBONDALE	ANNA	BLACK SHALE	4.9	400.1	
210.0	CARBONDALE	HERRIN	COAL	8.9	405.0	

MAPID: 02101018000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 130' N line, 15' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.476966 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.509437 **DATE COLLECTED:** 9 / 0 / 1958

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 413.9 **LOG TYPE:** Drillers Log

SOURCE: HENSON DRILLING **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
249.8	MODESTO	PIASA	LIMESTONE	4.5	370.2	
245.3	MODESTO		UNCLASSIFIED	2.0	374.7	
243.3	CARBONDALE		UNCLASSIFIED	5.5	376.7	
237.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.7	382.2	
234.1	CARBONDALE	ANVIL ROCK	SANDSTONE	5.1	385.9	
229.0	CARBONDALE		SHALE	5.1	391.0	
223.9	CARBONDALE	BRERETON	LIMESTONE	3.9	396.1	
220.0	CARBONDALE	ANNA	BLACK SHALE	5.0	400.0	
215.0	CARBONDALE	HERRIN	COAL	8.9	405.0	

MAPID: 02101018000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 130' N line, 15' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.476966 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.509437 **DATE COLLECTED:** 0 / 0 / 1958
SURFACE ELEVATION (FT.): 619.7 **LOGGED (FT.):** 413.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 274 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
214.9	CARBONDALE	HERRIN	COAL	8.9	404.8	

MAPID: 02101059000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 11' N line, 84' W line
QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513784 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.495373 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 391.6 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 277 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
294.9	CARBONDALE		SHALE & SANDSTONE	20.0	335.1	
274.9	CARBONDALE	GALUM	LIMESTONE	5.5	355.1	
269.4	CARBONDALE		SHALE	3.0	360.6	
266.4	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	8.5	363.6	
257.9	CARBONDALE	LAWSON	SHALE	2.7	372.1	
255.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	1.4	374.8	
253.8	CARBONDALE	LAWSON	SILTSTONE	0.5	376.2	
253.3	CARBONDALE	LAWSON	SILTY SHALE	0.6	376.7	
252.7	CARBONDALE	LAWSON	MOTTLED SHALE	0.8	377.3	
252.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.8	378.0	
247.2	CARBONDALE	ANNA	BLACK SHALE	1.2	382.8	
246.0	CARBONDALE	HERRIN	COAL	7.6	384.0	

MAPID: 02101059000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 11' N line, 84' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513784 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.495373 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 391.6 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 277 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
274.9	MODESTO	PIASA	LIMESTONE	5.5	355.1	
269.4	MODESTO		UNCLASSIFIED	1.5	360.6	
267.9	CARBONDALE		UNCLASSIFIED	5.0	362.1	
262.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	367.1	
257.9	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	372.1	
254.9	CARBONDALE		SHALE	2.9	375.1	
252.0	CARBONDALE	BRERETON	LIMESTONE	5.0	378.0	
247.0	CARBONDALE	ANNA	BLACK SHALE	1.0	383.0	
246.0	CARBONDALE	HERRIN	COAL	7.6	384.0	

MAPID: 02101059000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 11' N line, 84' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.513784 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.495373 **DATE COLLECTED:** 10 / 0 / 1958

SURFACE ELEVATION (FT.): 629.8 **LOGGED (FT.):** 391.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 277 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
245.9	CARBONDALE	HERRIN	COAL	7.6	383.9	

MAPID: 02101916000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW SW

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.512724 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.483503 **DATE COLLECTED:** 2 / 0 / 1961

SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 395.0 **LOG TYPE:** Electric Log

SOURCE: UNGER JOHN **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
283.0	MODESTO	PIASA	LIMESTONE	3.0	350.0	
280.0	MODESTO		UNCLASSIFIED	5.0	353.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
275.0	CARBONDALE		UNCLASSIFIED	12.0	358.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
263.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	4.0	370.0	
259.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	4.0	374.0	
255.0	CARBONDALE		UNCLASSIFIED	4.0	378.0	SHALE ABOVE BRERETON LIMESTONE
251.0	CARBONDALE	BRERETON	LIMESTONE	4.0	382.0	
247.0	CARBONDALE	ANNA	BLACK SHALE	1.0	386.0	
246.0	CARBONDALE	HERRIN	COAL	8.0	387.0	

MAPID: 02123386000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 50' N line, 1270' E line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.518379 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.480593 **DATE COLLECTED:** 5 / 20 / 1975

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 398.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-20 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.0			UNCONSOLIDATED	25.0	0.0	
605.0	BOND		GRAY SHALE	35.0	25.0	
570.0	BOND		SANDSTONE	11.5	60.0	
558.5	BOND		GRAY SHALE	6.5	71.5	
552.0	BOND	CARTHAGE	LIMESTONE	10.0	78.0	
542.0	MODESTO		BLACK SHALE	4.0	88.0	
538.0	MODESTO		GRAY SHALE	12.0	92.0	
526.0	MODESTO		SHALY LIMESTONE	5.0	104.0	GRAY
521.0	MODESTO		BLACK SHALE	2.5	109.0	
518.5	MODESTO		GRAY SHALE	3.5	111.5	
515.0	MODESTO		LIMESTONE	1.0	115.0	
514.0	MODESTO		GRAY SHALE	4.5	116.0	
509.5	MODESTO		SANDY LIMESTONE	1.5	120.5	GRAY
508.0	MODESTO		SANDY SHALE	15.0	122.0	GRAY
493.0	MODESTO		SHALY SANDSTONE	8.0	137.0	GRAY
485.0	MODESTO		GRAY SHALE	48.0	145.0	W/SS STREAKS
437.0	MODESTO	CHAPEL	COAL	1.0	193.0	
436.0	MODESTO		GRAY SHALE	8.0	194.0	
428.0	MODESTO		LIMESTONE	2.0	202.0	
426.0	MODESTO		SHALE	26.0	204.0	DRK GRAY
400.0	MODESTO		SHALY SANDSTONE	35.0	230.0	DRK GRAY
365.0	MODESTO		GRAY SHALE	55.5	265.0	W/SS STREAKS
309.5	MODESTO	PIASA	LIMESTONE	1.5	320.5	
308.0	CARBONDALE		GRAY SHALE	55.0	322.0	WITH A FEW LS STREAKS
253.0	CARBONDALE	HERRIN	COAL	4.0	377.0	
249.0	CARBONDALE		UNDERCLAY/SHALE	11.5	381.0	
237.5	CARBONDALE		LIMESTONE	4.5	392.5	GRAY
233.0	CARBONDALE		GRAY SHALE	1.0	397.0	

MAPID: 02101858000C **VERSION:** 1 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.51255 **GEOLOGIST:** D. JOHNSON

CONFIDENTIAL: N **LATITUDE:** 39.472351 **DATE COLLECTED:** 8 / 0 / 1960

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 378.0 **LOG TYPE:** Electric Log

SOURCE: HAMMER,A. J. & BREHM,C.E **WELL TYPE:** Dry Hole

COMMENT: LOG TYPE UNCERTAIN, PROBABLY AN E-LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
296.0	MODESTO	PIASA	LIMESTONE	5.0	339.0	
291.0	MODESTO		UNCLASSIFIED	6.0	344.0	INTERVAL ABOVE DANVILLE, BELOW PIASA
285.0	CARBONDALE		UNCLASSIFIED	8.0	350.0	INTERVAL ABOVE BANKSTON, BELOW DANVILLE
277.0	CARBONDALE	BANKSTON FORK	UNCLASSIFIED	5.0	358.0	
272.0	CARBONDALE	ANVIL ROCK	UNCLASSIFIED	1.5	363.0	
270.5	CARBONDALE		UNCLASSIFIED	1.5	364.5	SHALE ABOVE BRERETON LIMESTONE
269.0	CARBONDALE	BRERETON	LIMESTONE	3.0	366.0	
266.0	CARBONDALE	ANNA	BLACK SHALE	2.0	369.0	
264.0	CARBONDALE	HERRIN	COAL	7.0	371.0	

MAPID: 02101858000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.51255 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.472351 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 379.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
300.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	335.0	
293.0	CARBONDALE		MOTTLED SHALE	16.0	342.0	
277.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	358.0	
271.0	CARBONDALE	LAWSON	SHALE	4.0	364.0	
267.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	368.0	
264.0	CARBONDALE	ANNA	BLACK SHALE	1.0	371.0	
265.0	CARBONDALE	HERRIN	COAL	9.0	370.0	

MAPID: 02123387000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 50' N line, 45' E line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.495473 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.48039 **DATE COLLECTED:** 5 / 28 / 1975

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 412.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-23 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
630.0			UNCONSOLIDATED	40.0	0.0	
590.0	BOND		GRAY SHALE	63.0	40.0	
527.0	BOND		LIMESTONE	2.0	103.0	
525.0	BOND		GRAY SHALE	3.5	105.0	
521.5	BOND	CARTHAGE	LIMESTONE	8.5	108.5	
513.0	MODESTO		BLACK SHALE	4.0	117.0	
509.0	MODESTO		GRAY SHALE	11.0	121.0	
498.0	MODESTO		LIMESTONE AND SANDSTONE	9.0	132.0	
489.0	MODESTO		BLACK SHALE	2.0	141.0	
487.0	MODESTO		GRAY SHALE	79.0	143.0	W/LS STREAKS
408.0	MODESTO		LIMESTONE	1.0	222.0	
407.0	MODESTO		BLACK SHALE	1.0	223.0	
406.0	MODESTO	CHAPEL	COAL	1.0	224.0	
405.0	MODESTO		GRAY SHALE	121.0	225.0	W/SS STREAKS
284.0			BLACK SHALE	3.0	346.0	
281.0			SHALY SANDSTONE	19.0	349.0	
262.0	MODESTO	PIASA	LIMESTONE	1.5	368.0	
260.5			GRAY SHALE	2.5	369.5	
258.0			BLACK SHALE	2.0	372.0	
256.0	CARBONDALE		GRAY SHALE	7.0	374.0	
249.0	CARBONDALE		SANDY SHALE	9.5	381.0	GRAY
239.5	CARBONDALE		GRAY SHALE	5.5	390.5	
234.0	CARBONDALE	BRERETON	LIMESTONE	1.5	396.0	
232.5	CARBONDALE	ANNA	BLACK SHALE	1.5	397.5	
231.0	CARBONDALE	HERRIN	COAL	8.0	399.0	MANY CLAY/SHALE BANDS
223.0	CARBONDALE		UNDERCLAY/SHALE	5.0	407.0	W/LS STREAKS

MAPID: 02100391000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1352' S line, 56' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.476451 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.46966 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 399.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 47 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
321.9	CARBONDALE		GRAY SHALE	40.0	310.1	
281.9	CARBONDALE		MOTTLED SHALE	20.0	350.1	
261.9	CARBONDALE	BANKSTON FORK	LIMESTONE	8.7	370.1	
253.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.3	378.8	
251.9	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.2	380.1	
249.7	CARBONDALE	BRERETON	LIMESTONE	6.7	382.3	
243.1	CARBONDALE	ANNA	BLACK SHALE	1.1	388.9	
242.0	CARBONDALE	HERRIN	COAL	9.3	390.0	

MAPID: 02100391000C **VERSION:** 2 **PROJECT:** D JOHNSON

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1352' S line, 56' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.476451 **GEOLOGIST:** D. JOHNSON
CONFIDENTIAL: N **LATITUDE:** 39.46966 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 399.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 47 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.7	370.0	
253.3	CARBONDALE	ANVIL ROCK	SANDSTONE	1.3	378.7	
252.0	CARBONDALE		SHALE	2.2	380.0	
249.8	CARBONDALE	BRERETON	LIMESTONE	6.7	382.2	
243.1	CARBONDALE	ANNA	BLACK SHALE	1.1	388.9	
242.0	CARBONDALE	HERRIN	COAL	9.3	390.0	

MAPID: 02100391000C **VERSION:** 3 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1352' S line, 56' E line
QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.476451 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.46966 **DATE COLLECTED:** 9 / 26 / 1946
SURFACE ELEVATION (FT.): 632.4 **LOGGED (FT.):** 399.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 47 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.5	CARBONDALE	HERRIN	COAL	9.3	389.9	

MAPID: 02123132000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 2550' S line, 32' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.49484 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.458176 **DATE COLLECTED:** 7 / 13 / 1978

SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 416.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-8 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
628.0			UNCONSOLIDATED	17.0	0.0	
611.0	BOND		SANDSTONE	65.0	17.0	
546.0	BOND		GRAY SHALE	4.0	82.0	
542.0	BOND	CARTHAGE	LIMESTONE	11.5	86.0	
530.5	MODESTO		BLACK SHALE	3.5	97.5	
527.0	MODESTO		GRAY SHALE	8.0	101.0	
519.0	MODESTO		COAL	1.0	109.0	
518.0	MODESTO		CALCAREOUS SHALE	8.0	110.0	GRAY
510.0	MODESTO		CALCAREOUS SANDSTONE	3.0	118.0	
507.0	MODESTO		BLACK SHALE	3.5	121.0	
503.5	MODESTO		SHALE	4.5	124.5	GRN GRAY
499.0	MODESTO		CALCAREOUS SANDSTONE	7.0	129.0	
492.0	MODESTO		SANDY SHALE	14.0	136.0	GRAY
478.0	MODESTO		GRAY SHALE	51.0	150.0	
427.0	MODESTO	CHAPEL	SHALE	1.0	201.0	COAL
426.0	MODESTO		GRAY SHALE	13.0	202.0	W/LS STREAKS
413.0	MODESTO		GRAY SHALE	53.0	215.0	W/SS STREAKS
360.0	MODESTO		SANDSTONE	12.0	268.0	
348.0	MODESTO		SANDY SHALE	58.0	280.0	GRAY
290.0	MODESTO	PIASA	LIMESTONE	1.5	338.0	
288.5	MODESTO		BLACK SHALE	2.0	339.5	
286.5	CARBONDALE		GRAY SHALE	14.5	341.5	RED SH 346-348
272.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	5.0	356.0	SANDY AT BASE
267.0	CARBONDALE		SANDY SHALE	10.5	361.0	
256.5	CARBONDALE	BRERETON	LIMESTONE	3.5	371.5	
253.0	CARBONDALE	ANNA	BLACK SHALE	4.5	375.0	UPPER 1 FT. A DARK GRAY SHALE
248.5	CARBONDALE	HERRIN	COAL	7.5	379.5	
241.0	CARBONDALE		GRAY SHALE	11.0	387.0	
230.0	CARBONDALE		LIMESTONE	3.0	398.0	D LS SH
227.0	CARBONDALE		GRAY SHALE	3.0	401.0	
224.0	CARBONDALE		LIMESTONE	1.5	404.0	
222.5	CARBONDALE		BLACK SHALE	1.5	405.5	
221.0	CARBONDALE		GRAY SHALE	3.5	407.0	
217.5	CARBONDALE		LIMESTONE	5.0	410.5	W/SH STREAKS
212.5	CARBONDALE		GRAY SHALE	0.5	415.5	

MAPID: 02123133000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 2555' S line, 32' W line

QUADRANGLE: MORRISONVILLE **LONGITUDE:** -89.49484 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.45819 **DATE COLLECTED:** 7 / 14 / 1978

SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 400.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-78-8A **WELL TYPE:** Coal Test

COMMENT: GAMMA, DENSITY, DRILL LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
628.0			UNCONSOLIDATED	15.0	0.0	
613.0	BOND		SANDSTONE	67.0	15.0	
546.0	BOND		GRAY SHALE	4.0	82.0	
542.0	BOND	CARTHAGE	LIMESTONE	11.5	86.0	
530.5	MODESTO		BLACK SHALE	3.5	97.5	
527.0	MODESTO		GRAY SHALE	8.0	101.0	
519.0	MODESTO		COAL	1.0	109.0	
518.0	MODESTO		CALCAREOUS SHALE	8.0	110.0	GRAY
510.0	MODESTO		CALCAREOUS SANDSTONE	3.0	118.0	
507.0	MODESTO		BLACK SHALE	3.5	121.0	
503.5	MODESTO		SHALE	4.5	124.5	GRN GRAY
499.0	MODESTO		CALCAREOUS SANDSTONE	7.0	129.0	
492.0	MODESTO		SANDY SHALE	14.0	136.0	GRAY
478.0	MODESTO		GRAY SHALE	51.0	150.0	
427.0	MODESTO	CHAPEL	COAL	1.0	201.0	
426.0	MODESTO		GRAY SHALE	13.0	202.0	W/LS STREAKS
413.0	MODESTO		GRAY SHALE	53.0	215.0	W/SS STREAKS
360.0	MODESTO		SANDSTONE	12.0	268.0	
348.0	MODESTO		SANDY SHALE	58.0	280.0	GRAY
290.0	MODESTO	PIASA	LIMESTONE	1.5	338.0	
288.5	MODESTO		BLACK SHALE	2.0	339.5	
286.5	CARBONDALE		GRAY SHALE	16.5	341.5	RED SH 346-348
270.0	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	3.0	358.0	SANDY AT BASE
267.0	CARBONDALE		SANDY SHALE	9.0	361.0	
258.0	CARBONDALE	BRERETON	LIMESTONE	4.0	370.0	
254.0	CARBONDALE	ANNA	BLACK SHALE	3.0	374.0	UPPER 1 FT. DARK GRAY
251.0	CARBONDALE	HERRIN	COAL	8.6	377.0	PYRITE AND CLAY BANDS; CORE 386.8
242.4	CARBONDALE		CLAYSTONE & SHALE	0.8	385.6	
241.5	CARBONDALE		CORE LOSS	0.4	386.5	
241.2	CARBONDALE		GRAY SHALE	13.2	386.8	W/LS

MAPID: 02123388000C **VERSION:** 1 **PROJECT:** NCRDS89

COUNTY: CHRISTIAN **TWP/RNG:** 12N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2590' N line, 1180' W line

QUADRANGLE: RAYMOND NE **LONGITUDE:** -89.509311 **GEOLOGIST:** SROKA

CONFIDENTIAL: N **LATITUDE:** 39.458816 **DATE COLLECTED:** 5 / 21 / 1975

SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 412.0 **LOG TYPE:** Multiple log types

SOURCE: MOBIL OIL R-75-21 **WELL TYPE:** Coal Test

COMMENT: GAMMA, RESIST, DENSITY, DRILL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
635.0			UNCONSOLIDATED	30.0	0.0	
605.0	BOND		GRAY SHALE	17.0	30.0	
588.0	BOND		CALCAREOUS SANDSTONE	65.0	47.0	
523.0	BOND		GRAY SHALE	7.0	112.0	
516.0	BOND	CARTHAGE	LIMESTONE	9.0	119.0	
507.0	MODESTO		BLACK SHALE	3.0	128.0	
504.0	MODESTO		GRAY SHALE	15.0	131.0	
489.0	MODESTO		SHALY LIMESTONE	6.0	146.0	
483.0	MODESTO		BLACK SHALE	3.0	152.0	
480.0	MODESTO		SHALE	95.0	155.0	DRK GRAY
385.0	MODESTO		LIMESTONE	1.0	250.0	
384.0	MODESTO		BLACK SHALE	2.0	251.0	
382.0	MODESTO	CHAPEL	COAL	1.0	253.0	
381.0	MODESTO		GRAY SHALE	14.0	254.0	
367.0	MODESTO		COAL	1.0	268.0	
366.0	MODESTO		SHALE	1.5	269.0	
364.5	MODESTO		COAL	1.0	270.5	
363.5	MODESTO		SHALE	7.0	271.5	DRK GRAY
356.5	MODESTO		SHALY SANDSTONE	16.5	278.5	GRAY
340.0	MODESTO		GRAY SHALE	65.0	295.0	
275.0	MODESTO	PIASA	LIMESTONE	2.5	360.0	
272.5	MODESTO		BLACK SHALE	2.5	362.5	
270.0	CARBONDALE		SHALE	20.0	365.0	DRK GRAY
250.0	CARBONDALE		SHALY LIMESTONE	7.0	385.0	E-LOG SAYS LS IS BANKSTON F. & BRERETON
243.0	CARBONDALE	ANNA	BLACK SHALE	5.8	392.0	
237.2	CARBONDALE	HERRIN	COAL	7.7	397.8	
229.5	CARBONDALE		UNDERCLAY	4.5	405.5	
225.0	CARBONDALE		LIMESTONE	2.0	410.0	GRAY

MAPID: 02101096000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.080334 **GEOLOGIST:** CHENOWETH

CONFIDENTIAL: N **LATITUDE:** 39.602754 **DATE COLLECTED:** 1 / 0 / 1951

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 970.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
416.0	BOND	CARTHAGE	UNCLASSIFIED	11.0	196.0	
178.0	CARBONDALE	DANVILLE	UNCLASSIFIED	2.0	434.0	
150.0	CARBONDALE	HERRIN	UNCLASSIFIED	4.0	462.0	
115.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	3.0	497.0	
62.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	550.0	
-36.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	648.0	

MAPID: 02101100000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 3 **QUARTERS/FOOTAGES:** 990' N line, 990' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.077982 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.60815 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 488.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
192.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	422.0	
188.0	MODESTO		SHALE	30.0	426.0	
158.0	CARBONDALE	DANVILLE	COAL	2.0	456.0	
156.0	CARBONDALE		SHALE	10.0	458.0	
146.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	468.0	
142.0	CARBONDALE	LAWSON	SHALE	7.0	472.0	
135.0	CARBONDALE	BRERETON	LIMESTONE	3.0	479.0	
132.0	CARBONDALE	HERRIN	COAL	6.0	482.0	

MAPID: 02101103000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.082682 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.597371 **DATE COLLECTED:** 3 / 0 / 1949

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 670.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
422.0	BOND	CARTHAGE	UNCLASSIFIED	11.0	198.0	
178.0	CARBONDALE	DANVILLE	UNCLASSIFIED	1.0	442.0	
152.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	468.0	
117.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	5.0	503.0	
57.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	563.0	
-12.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	632.0	
-50.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	670.0	

MAPID: 02101109000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 4 **QUARTERS/FOOTAGES:** 2310' S line, 990' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.085043 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.602851 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 486.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
199.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	414.0	
195.0	MODESTO		SHALE	34.0	418.0	
161.0	CARBONDALE	DANVILLE	COAL	2.0	452.0	
159.0	CARBONDALE		SHALE	8.0	454.0	
151.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	462.0	
150.0	CARBONDALE	LAWSON	SHALE	17.0	463.0	
133.0	CARBONDALE	HERRIN	COAL	6.0	480.0	

MAPID: 02100834000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 5 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.101438 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.597506 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 508.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
175.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	444.0	
167.0	MODESTO		SHALE	30.0	452.0	
137.0	CARBONDALE	DANVILLE	COAL	2.0	482.0	
135.0	CARBONDALE		SHALE	3.0	484.0	
132.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	12.0	487.0	
120.0	CARBONDALE	LAWSON	SHALE	4.0	499.0	
115.0	CARBONDALE	HERRIN	COAL	4.0	504.0	

MAPID: 02101127000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 9 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SE

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.084855 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.588289 **DATE COLLECTED:** 1 / 0 / 1949

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 640.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
439.0	BOND	CARTHAGE	UNCLASSIFIED	10.0	180.0	
199.0	CARBONDALE	DANVILLE	UNCLASSIFIED	1.0	420.0	
165.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	454.0	
135.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	5.5	484.0	
71.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	548.0	
71.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	548.0	
-21.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	640.0	

MAPID: 02101154000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 9 **QUARTERS/FOOTAGES:** 2310' S line, 330' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.082504 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.588289 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 455.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
230.0	MODESTO	PIASA	LIMESTONE	5.0	390.0	
225.0	MODESTO		SHALE	24.0	395.0	
201.0	CARBONDALE	DANVILLE	COAL	2.0	419.0	
199.0	CARBONDALE		SHALE	14.0	421.0	
185.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	435.0	
182.0	CARBONDALE	LAWSON	SHALE	3.0	438.0	
179.0	CARBONDALE	BRERETON	LIMESTONE	5.0	441.0	
174.0	CARBONDALE	ANNA	BLACK SHALE	3.0	446.0	
168.0	CARBONDALE	HERRIN	COAL	3.0	452.0	

MAPID: 02101180000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.070813 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.595366 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 501.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
190.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	428.0	
182.0	MODESTO		SHALE	35.0	436.0	
147.0	CARBONDALE	DANVILLE	COAL	2.0	471.0	
145.0	CARBONDALE		SHALE	7.0	473.0	
138.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	480.0	
136.0	CARBONDALE	LAWSON	SHALE	7.0	482.0	
129.0	CARBONDALE	BRERETON	LIMESTONE	3.0	489.0	
126.0	CARBONDALE	ANNA	BLACK SHALE	2.0	492.0	
120.0	CARBONDALE	HERRIN	COAL	3.0	498.0	

MAPID: 02100831000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.061386 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.580671 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 538.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
162.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	457.0	
159.0	MODESTO		SHALE	39.0	460.0	
120.0	CARBONDALE	DANVILLE	COAL	3.0	499.0	
117.0	CARBONDALE		SHALE	17.0	502.0	
100.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	11.0	519.0	
89.0	CARBONDALE	LAWSON	SHALE	4.0	530.0	
85.0	CARBONDALE	HERRIN	COAL	4.0	534.0	

MAPID: 02101200000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 15 **QUARTERS/FOOTAGES:** 386' S line, 2312' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.072805 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.568292 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 540.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
169.0	MODESTO	PIASA	LIMESTONE & SHALE	10.0	450.0	
159.0	MODESTO		MOTTLED SHALE	22.0	460.0	
137.0	CARBONDALE	DANVILLE	COAL	3.0	482.0	
134.0	CARBONDALE	LAWSON	SILTSTONE	10.0	485.0	
124.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	20.0	495.0	
104.0	CARBONDALE	LAWSON	SILTSTONE	5.0	515.0	
99.0	CARBONDALE	LAWSON	SILTY SHALE	15.0	520.0	
84.0	CARBONDALE	HERRIN	COAL	5.0	535.0	

MAPID: 02101206000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE NW

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.073028 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.579038 **DATE COLLECTED:** 12 / 0 / 1949

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 708.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
374.0	BOND	CARTHAGE	UNCLASSIFIED	11.0	245.0	
137.0	CARBONDALE	DANVILLE	UNCLASSIFIED	-	482.0	
98.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	521.0	
61.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	4.0	558.0	
1.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	618.0	
-59.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	678.0	
-89.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	1.0	708.0	

MAPID: 02101234000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 16 **QUARTERS/FOOTAGES:** 2310' S line, 990' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.09643 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.573753 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 547.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
159.0	MODESTO	PIASA	LIMESTONE	4.0	458.0	
155.0	MODESTO		SHALE	25.0	462.0	
130.0	CARBONDALE	DANVILLE	COAL	2.0	487.0	
128.0	CARBONDALE		SHALE	7.0	489.0	
121.0	CARBONDALE	ALLENBY	COAL	1.0	496.0	
120.0	CARBONDALE		SHALE	10.0	497.0	
110.0	CARBONDALE	ENERGY	SANDSTONE	6.0	507.0	
104.0	CARBONDALE	ENERGY	SHALE	6.0	513.0	
98.0	CARBONDALE	ENERGY	SANDSTONE	8.0	519.0	

MAPID: 02100828000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 17 **QUARTERS/FOOTAGES:** 2310' N line, 990' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.115086 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.575999 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 542.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
136.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	480.0	
132.0	MODESTO		SHALE	20.0	484.0	
112.0	CARBONDALE	DANVILLE	COAL	1.0	504.0	
111.0	CARBONDALE		SHALE	7.0	505.0	
104.0	CARBONDALE	ALLENBY	COAL	1.0	512.0	
103.0	CARBONDALE		SHALE	11.0	513.0	
92.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	524.0	
89.0	CARBONDALE	LAWSON	SHALE	2.0	527.0	
87.0	CARBONDALE	LAWSON	SANDSTONE	6.0	529.0	
81.0	CARBONDALE	HERRIN	COAL	7.0	535.0	

MAPID: 02100840000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 18 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.129824 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.581347 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 517.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
141.0	CARBONDALE		SHALE & SANDSTONE	30.0	473.0	
111.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	503.0	
106.0	CARBONDALE	LAWSON	SHALE	4.0	508.0	
102.0	CARBONDALE	HERRIN	COAL	5.0	512.0	

MAPID: 02101249000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW
QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.110321 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.559314 **DATE COLLECTED:** 7 / 0 / 1954
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 668.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
440.0	BOND	CARTHAGE	UNCLASSIFIED	13.0	183.0	
193.0	CARBONDALE	DANVILLE	UNCLASSIFIED	2.0	430.0	
175.0	CARBONDALE	ENERGY	UNCLASSIFIED	64.0	448.0	
111.0	CARBONDALE	HERRIN	UNCLASSIFIED	4.5	512.0	
98.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	2.0	525.0	
23.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	600.0	
-10.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	633.0	
-45.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	668.0	

MAPID: 02101251000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 20 **QUARTERS/FOOTAGES:** 2310' N line, 990' E line
QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.103271 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.561106 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 518.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
200.0	CARBONDALE		SHALE	20.0	417.0	
180.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	437.0	
177.0	CARBONDALE	ENERGY	SILTY SHALE	70.0	440.0	
107.0	CARBONDALE	HERRIN	COAL	8.0	510.0	

MAPID: 02101266000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 21 **QUARTERS/FOOTAGES:** 2310' S line, 990' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.096169 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.559028 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 539.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
180.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	433.0	
177.0	MODESTO		SHALE	23.0	436.0	
154.0	CARBONDALE	DANVILLE	COAL	1.0	459.0	
153.0	CARBONDALE		SHALE	6.0	460.0	
147.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	466.0	
143.0	CARBONDALE	ENERGY	SILTY SHALE	60.0	470.0	
83.0	CARBONDALE	HERRIN	COAL	9.0	530.0	

MAPID: 02100826000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.079853 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.566266 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 554.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
167.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	450.0	
164.0	MODESTO		SHALE	29.0	453.0	
135.0	CARBONDALE	DANVILLE	COAL	1.0	482.0	
134.0	CARBONDALE		SHALE	10.0	483.0	
124.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	493.0	
121.0	CARBONDALE	ENERGY	SILTY SHALE	50.0	496.0	
71.0	CARBONDALE	HERRIN	COAL	8.0	546.0	

MAPID: 02101007000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 26 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.048966 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.546183 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 586.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
136.0	MODESTO	PIASA	CALCAREOUS SHALE	6.0	482.0	
130.0	CARBONDALE		SILTY SHALE	37.0	488.0	
93.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	1.0	525.0	
92.0	CARBONDALE	ENERGY	SILTY SHALE	58.0	526.0	
34.0	CARBONDALE	HERRIN	COAL	2.0	584.0	

MAPID: 02101271000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.098371 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.549941 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 525.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
214.0	MODESTO		SHALE	30.0	406.0	
184.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	436.0	
183.0	CARBONDALE		SHALE	13.0	437.0	
170.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	450.0	
167.0	CARBONDALE	ENERGY	SILTY SHALE	67.0	453.0	
100.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	5.0	520.0	

MAPID: 02102002000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW SW

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.114887 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.544647 **DATE COLLECTED:** 6 / 0 / 1962

SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 664.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
496.0	BOND	CARTHAGE	UNCLASSIFIED	12.0	123.0	
199.0	CARBONDALE	DANVILLE	UNCLASSIFIED	1.0	420.0	
186.0	CARBONDALE	ENERGY	UNCLASSIFIED	82.0	433.0	
104.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	515.0	ENERGY SHALE ROOF
84.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	-	535.0	CORRELATION UNCERTAIN
22.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	597.0	'
-13.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	632.0	
-45.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	664.0	

MAPID: 02102140000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.107798 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.551891 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 621.0 **LOGGED (FT.):** 508.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
220.0	MODESTO	PIASA	LIMESTONE & SHALE	2.0	401.0	
218.0	MODESTO		SHALE	18.0	403.0	
200.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	421.0	
199.0	CARBONDALE		SHALE	10.0	422.0	
189.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	432.0	
187.0	CARBONDALE	ENERGY	SILTY SHALE	30.0	434.0	
157.0	CARBONDALE	ENERGY	SHALE	35.0	464.0	
122.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	9.0	499.0	

MAPID: 02101823000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW
QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.09827 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.531562 **DATE COLLECTED:** 6 / 0 / 1960
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 744.0 **LOG TYPE:** Electric Log
SOURCE: BOYD, C. C. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
48.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	584.0	
29.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	1.0	603.0	
-42.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	674.0	
-74.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	706.0	
-112.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	744.0	

MAPID: 02102010000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1E **SECTION:** 36 **QUARTERS/FOOTAGES:** 2310' N line, 1650' E line
QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.030088 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.531133 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 624.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
110.0	MODESTO		SHALE	30.0	527.0	
80.0	CARBONDALE	DANVILLE	COAL	3.0	557.0	
77.0	CARBONDALE	ENERGY	SILTY SHALE	58.0	560.0	
19.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	6.0	618.0	

MAPID: 02122870000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 660' S line, 1980' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.169116 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.5987 **DATE COLLECTED:** 0 / 0 / 1974
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 470.6 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 434 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.7	CARBONDALE	HERRIN	COAL	8.3	462.3	

MAPID: 02122870000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 660' S line, 1980' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.169116 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.5987 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 470.4 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 434 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
164.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.2	440.2	
162.6	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.3	442.4	
161.3	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	1.3	443.7	
160.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	9.8	445.0	
150.2	CARBONDALE	LAWSON	LIMESTONE/UNDERCLAY	0.7	454.8	
149.5	CARBONDALE	LAWSON	GRAY SHALE	1.0	455.5	
148.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	456.5	
143.5	CARBONDALE	ANNA	BLACK SHALE	0.6	461.5	
143.0	CARBONDALE	HERRIN	COAL	8.4	462.0	

MAPID: 02122871000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 660' N line, 1980' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.188263 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.609703 **DATE COLLECTED:** 0 / 0 / 1974
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 486.3 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 436 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
141.9	CARBONDALE	HERRIN	COAL	8.2	478.1	

MAPID: 02122871000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 660' N line, 1980' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.188263 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.609703 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 486.2 **LOG TYPE:** Survey Core Study

SOURCE: ZEIGLER COAL CO. 436 **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.4	464.0	UPPER BENCH
154.6	CARBONDALE	BANKSTON FORK	GRAY SHALE	0.6	465.4	SHALE PARTING
154.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	466.0	LOWER BENCH
150.6	CARBONDALE	LAWSON	CLAYSTONE	0.2	469.4	
150.4	CARBONDALE	LAWSON	MOTTLED SHALE	3.4	469.6	
147.0	CARBONDALE	LAWSON	DARK GRAY SHALE	2.7	473.0	
144.3	CARBONDALE	ANNA	BLACK SHALE	2.3	475.7	
142.0	CARBONDALE	HERRIN	COAL	8.2	478.0	

MAPID: 02102620000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.208661 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.610501 **DATE COLLECTED:** 2 / 0 / 1971

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 529.0 **LOG TYPE:** Survey Core Study

SOURCE: BELL & ZOLLER 6 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
101.8	CARBONDALE	HERRIN	COAL	8.8	520.2	

MAPID: 02102620000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' N line, 1650' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.208661 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.610501 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 519.8 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER 6 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
138.8	CARBONDALE		CALCAREOUS SHALE	5.5	483.2	
133.3	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.8	488.7	UPPER BENCH
132.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	0.3	489.5	SHALE PARTING
132.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	489.8	LOWER BENCH
130.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.8	491.5	
128.6	CARBONDALE	LAWSON	SHALE & SANDSTONE	2.9	493.4	
125.7	CARBONDALE	LAWSON	LIMESTONE/UNDERCLAY	0.7	496.3	
125.0	CARBONDALE	LAWSON	MOTTLED SHALE	2.4	497.0	
122.6	CARBONDALE	LAWSON	DARK GRAY SHALE	2.3	499.4	
120.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	501.7	
115.4	CARBONDALE	ANNA	BLACK SHALE	4.4	506.6	
111.0	CARBONDALE	HERRIN	COAL	8.8	511.0	

MAPID: 02101866000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 5 **QUARTERS/FOOTAGES:** 2310' N line, 990' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.217951 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.60502 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 516.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
160.0	MODESTO		CALCAREOUS SHALE	15.0	470.0	
145.0	CARBONDALE	DANVILLE	BONE COAL	1.0	485.0	
144.0	CARBONDALE		SHALE	6.0	486.0	
138.0	CARBONDALE	ALLENBY	BONE COAL	1.0	492.0	
137.0	CARBONDALE		SHALE	7.0	493.0	
130.0	CARBONDALE	LAWSON	SHALE	5.0	500.0	
125.0	CARBONDALE	BRERETON	LIMESTONE	3.0	505.0	
122.0	CARBONDALE	ANNA	BLACK SHALE	2.0	508.0	
120.0	CARBONDALE	HERRIN	COAL	6.0	510.0	

MAPID: 02100016000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 660' S line, 660' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.235529 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.598356 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 625.9 **LOGGED (FT.):** 506.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD & SON 1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
625.9	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	
607.9	PLEISTOCENE		SAND	24.0	18.0	
583.9	PLEISTOCENE		SAND/CLAY	10.0	42.0	GY CLY
573.9	PLEISTOCENE		CLAY	16.0	52.0	
557.9	PLEISTOCENE		SAND	18.0	68.0	
539.9	PLEISTOCENE		CLAY	4.0	86.0	
535.9	PLEISTOCENE		SAND	8.0	90.0	
527.9	PLEISTOCENE		GLACIAL DRIFT	19.0	98.0	
508.9	PLEISTOCENE		SAND & GRAVEL	14.0	117.0	
494.9	PLEISTOCENE		CLAY	30.0	131.0	
464.9	PLEISTOCENE		SAND	6.0	161.0	
458.9	PLEISTOCENE		SAND & GRAVEL	3.0	167.0	
455.9	BOND		SANDSTONE	6.0	170.0	
449.9	BOND		SOFT SHALE	18.0	176.0	LIME NODS
431.9	BOND		SANDSTONE	6.1	194.0	
425.8	BOND	CARTHAGE	LIMESTONE	10.7	200.1	
415.1	MODESTO		LIGHT SHALE	1.3	210.8	
413.9	MODESTO		BLACK SHALE	1.0	212.0	
412.9	MODESTO		DARK SHALE	2.0	213.0	
410.9	MODESTO		LIGHT SHALE	7.0	215.0	
403.9	MODESTO		DARK SHALE	6.8	222.0	
397.1	MODESTO		COAL	0.2	228.8	
396.9	MODESTO		SOFT SHALE	2.0	229.0	
394.9	MODESTO		SOFT SHALE	4.0	231.0	
390.9	MODESTO		LIMESTONE W/ SHALE	5.5	235.0	
385.4	MODESTO		BLUE SHALE	10.0	240.5	
375.4	MODESTO		BLACK SHALE	1.5	250.5	
373.9	MODESTO		SOFT SHALE	7.5	252.0	
366.4	MODESTO		SHALE WITH LIMESTONE	1.5	259.5	
364.9	MODESTO		LIGHT SHALE	9.0	261.0	WITH LS NODS
355.9	MODESTO		BLUE SHALE	27.0	270.0	
328.9	MODESTO		BLUE SHALE	36.0	297.0	SAND STREAKS
292.9	MODESTO		FOSSILIFEROUS LIMESTONE	0.7	333.0	
292.2	MODESTO		BLACK SHALE	4.5	333.7	
287.7	MODESTO	CHAPEL	COAL	1.2	338.2	
286.6	MODESTO		SANDSTONE	7.0	339.3	
279.6	MODESTO		SANDY SHALE	8.7	346.3	
270.9	MODESTO		SANDY SHALE	55.0	355.0	

215.9	MODESTO		BLUE SHALE	18.3	410.0	
197.6	MODESTO		BONE COAL	0.2	428.3	
197.4	MODESTO		UNDERCLAY	4.5	428.5	
192.9	MODESTO		SHALE	3.0	433.0	W/ SS STREAKS
189.9	MODESTO		BLUE SHALE	7.0	436.0	
182.9	MODESTO		BLACK SHALE	2.0	443.0	
180.9	MODESTO		SANDSTONE	7.8	445.0	VARIEGATED
173.1	MODESTO	PIASA	FOSSILIFEROUS LIMESTONE	2.5	452.8	
170.6	MODESTO		LIGHT SHALE	3.3	455.3	
167.4	MODESTO		DARK SHALE	1.5	458.5	
165.9	MODESTO		SOFT SHALE	4.7	460.0	
161.2	CARBONDALE	DANVILLE	COAL	0.5	464.7	
160.7	CARBONDALE		LIGHT SHALE	0.8	465.2	
159.9	CARBONDALE		SHALE	6.0	466.0	W/ LS LUMPS
153.9	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	472.0	
150.4	CARBONDALE		SHALE WITH LIMESTONE	2.0	475.5	SDY SH
148.4	CARBONDALE		SANDSTONE	13.3	477.5	
135.1	CARBONDALE	BRERETON	LIMESTONE	3.8	490.8	
131.3	CARBONDALE	ANNA	BLACK SHALE	0.9	494.6	
130.4	CARBONDALE	HERRIN	COAL	7.9	495.5	
122.5	CARBONDALE		UNDERCLAY	2.6	503.4	

MAPID: 02100016000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 6 **QUARTERS/FOOTAGES:** 660' S line, 660' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.235529 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.598356 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 503.9 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
173.0	MODESTO	PIASA	LIMESTONE	2.5	453.0	
170.5	MODESTO		GRAY SHALE	3.3	455.5	
167.2	CARBONDALE	DANVILLE	DARK GRAY SHALE	1.5	458.8	
165.7	CARBONDALE		GRAY SHALE	4.7	460.3	
161.1	CARBONDALE	ALLENBY	COAL	0.5	464.9	
160.6	CARBONDALE		CALCAREOUS SHALE	6.8	465.4	
153.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	472.3	UPPER BENCH
150.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	2.0	475.8	LOWER BENCH
148.2	CARBONDALE	LAWSON	SANDSTONE	13.3	477.8	
135.0	CARBONDALE	BRERETON	LIMESTONE	3.8	491.0	
131.2	CARBONDALE	ANNA	BLACK SHALE	0.9	494.8	
130.0	CARBONDALE	HERRIN	COAL	7.9	496.0	

MAPID: 02124839000C **VERSION:** 1 **PROJECT:** NCRDS16

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1000' S line, 2000' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.240263 **GEOLOGIST:** NORTH

CONFIDENTIAL: N **LATITUDE:** 39.584755 **DATE COLLECTED:** 4 / 6 / 1999

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 514.2 **LOG TYPE:** Drillers Log

SOURCE: DIVERSIFIED ENERGY DS-99-1 **WELL TYPE:** Coal Test

COMMENT: CORE AVALIABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
630.0			UNCLASSIFIED	182.0	0.0	
448.0	BOND		SILTY SHALE	0.3	182.0	SILTY
447.7	BOND		CLAYSTONE	5.5	182.3	GREEN/GRAY
441.8	BOND		CORE LOSS	7.4	188.2	CORE LOSS
434.4	BOND		LIMESTONE	1.7	195.6	OLIVE GRAY, NODULAR, ARGILLACEOUS
432.8	BOND		CLAYSTONE	3.3	197.2	GREEN/GRAY, LS NODS
429.5	BOND		CLAYSTONE	1.7	200.5	GREEN/GRAY
427.8	BOND		CLAYSTONE	0.6	202.2	GREEN/GRAY, HARD LS NODS
427.2	BOND	CARTHAGE	LIMESTONE	9.5	202.8	FOSSILIFEROUS
417.8	PATOKA		CLAYSTONE	1.0	212.2	GREEN/GRAY
416.8	PATOKA		DARK SHALE	2.1	213.2	SOME BLACK SHALE
414.7	PATOKA		LIMESTONE	0.3	215.3	
414.5	PATOKA		DARK SHALE	0.4	215.5	
414.0	PATOKA		CLAYSTONE	3.9	216.0	GRAY
410.2	PATOKA		SHALE	11.1	219.8	
399.1	PATOKA		CLAYSTONE	5.6	230.9	DK GREEN
393.6	PATOKA		CLAYSTONE	7.8	236.4	GREEN/GRAY
385.8	PATOKA	MACOUPIN	LIMESTONE	6.1	244.2	GREEN/GRAY
379.8	PATOKA		DARK SHALE	1.9	250.2	
377.9	PATOKA		CLAYSTONE	6.9	252.1	GREEN/GRAY
371.0	PATOKA		SANDSTONE	3.2	259.0	GREEN/GRAY, LS NODS
367.8	PATOKA		CLAYSTONE	10.3	262.2	GREEN/GREY
357.5	PATOKA	WOMAC	COAL	1.0	272.5	
356.5	PATOKA		UNDERCLAY	2.2	273.5	
354.4	PATOKA		SILTSTONE	1.6	275.6	
352.7	PATOKA		GRAY SHALE	1.5	277.3	
351.3	PATOKA		SANDSTONE	1.5	278.7	GRAY
349.8	PATOKA		SILTSTONE	4.1	280.2	
345.7	PATOKA		SANDSTONE	1.1	284.3	
344.7	PATOKA		SILTSTONE	4.1	285.3	
340.6	PATOKA		GRAY SHALE	47.5	289.4	
293.1	PATOKA		BLACK SHALE	2.3	336.9	
290.9	PATOKA		GRAY SHALE	0.2	339.1	
290.7	PATOKA	CHAPEL	COAL	1.2	339.3	
289.5	PATOKA		UNDERCLAY	1.0	340.5	PLANT FOSSILS
288.5	PATOKA		CLAYSTONE	3.1	341.5	GREEN/GRAY
285.4	PATOKA		SANDSTONE	0.5	344.6	
285.0	PATOKA		GRAY SHALE	10.0	345.0	
275.0	PATOKA		SANDSTONE	13.6	355.0	

261.5	PATOKA		SILTY SHALE	8.5	368.5	SILTY WITH SANDSTONE
253.0	PATOKA	TRIVOLI	SANDSTONE	17.2	377.0	
235.8	PATOKA	TRIVOLI	SANDY SHALE	1.1	394.2	SANDY
234.7	PATOKA	TRIVOLI	SANDSTONE	12.8	395.3	
222.0	PATOKA	TRIVOLI	SILTY SHALE	10.3	408.0	SILTY
211.7	PATOKA	TRIVOLI	SANDSTONE	7.8	418.3	
203.9	SHELBURN		GRAY SHALE	12.9	426.1	
191.1	SHELBURN	ROCK BRANCH	COAL	0.2	438.9	
190.9	SHELBURN		UNDERCLAY	4.1	439.1	
186.8	SHELBURN		GRAY SHALE	11.2	443.2	GREEN/GREY
175.7	SHELBURN		CLAYSTONE	6.4	454.3	
168.9	SHELBURN	PIASA	LIMESTONE	3.3	461.1	GREY
165.6	SHELBURN		CLAYSTONE	0.5	464.4	GREEN/GRAY
165.6	SHELBURN		GRAY SHALE	8.7	464.4	
156.4	SHELBURN	DANVILLE	COAL	1.4	473.6	
155.1	SHELBURN		CLAYSTONE	2.8	474.9	GREEN/GREY
152.3	SHELBURN	BANKSTON FORK	LIMESTONE	1.0	477.7	
151.3	SHELBURN	BANKSTON FORK	CLAYSTONE	1.3	478.7	
150.0	SHELBURN	BANKSTON FORK	LIMESTONE	2.5	480.0	
147.5	SHELBURN	BANKSTON FORK	CLAYSTONE	3.4	482.5	
144.1	SHELBURN	BANKSTON FORK	LIMESTONE	2.9	485.9	
141.2	SHELBURN		GRAY SHALE	2.8	488.8	
138.4	SHELBURN	BRERETON	LIMESTONE	3.1	491.6	
135.3	SHELBURN		GRAY SHALE	1.0	494.7	
134.4	SHELBURN		DARK SHALE	2.2	495.6	
132.2	CARBONDALE	ANNA	BLACK SHALE	0.7	497.8	
131.5	CARBONDALE	HERRIN	COAL	5.8	498.5	
125.8	CARBONDALE	HERRIN	SHALE	0.1	504.2	BLUE BAND
125.7	CARBONDALE	HERRIN	COAL	2.2	504.3	
123.5	CARBONDALE		UNDERCLAY	5.9	506.5	
117.6	CARBONDALE		LIMESTONE	1.8	512.4	

MAPID: 02102736000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1650' S line, 990' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.2175 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.586147 **DATE COLLECTED:** 0 / 0 / 1972

SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 449.8 **LOG TYPE:** Drillers Log

SOURCE: ZEIGLER COAL CO. 10 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
162.7	CARBONDALE	DANVILLE	COAL	1.5	448.3	
137.4	CARBONDALE	HERRIN	COAL	8.6	473.6	

MAPID: 02102736000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1650' S line, 990' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.2175 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.586147 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 482.6 **LOG TYPE:** Survey Core Study

SOURCE: ZEIGLER COAL CO. 10 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
165.2	MODESTO		MOTTLED SHALE	0.6	445.8	
164.6	CARBONDALE	DANVILLE	BONE COAL	0.4	446.4	
164.2	CARBONDALE		CLAYSTONE	1.4	446.8	
162.8	CARBONDALE		MOTTLED SHALE	1.0	448.2	
161.9	CARBONDALE	ALLENBY	BONE COAL	1.5	449.1	
160.4	CARBONDALE		CALCAREOUS SHALE	2.5	450.6	
157.9	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.8	453.1	UPPER BENCH
156.1	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.1	454.9	SHALE PARTING
154.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.4	457.0	LOWER BENCH
151.6	CARBONDALE	LAWSON	GRAY SHALE	0.1	459.4	
151.5	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	459.5	
151.0	CARBONDALE	LAWSON	BONE COAL	0.0	460.0	
151.0	CARBONDALE	LAWSON	CLAYSTONE	1.3	460.0	
149.7	CARBONDALE	BRERETON	NODULAR LIMESTONE	10.0	461.3	
139.8	CARBONDALE	ANNA	BLACK SHALE	2.8	471.2	
137.0	CARBONDALE	HERRIN	COAL	8.6	474.0	

MAPID: 02100017000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1650' N line, 330' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.139249 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.592346 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 586.5 **LOGGED (FT.):** 495.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 10 **WELL TYPE:** Coal Test

COMMENT: NO DATE GIVEN; ELEV IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
586.5	PLEISTOCENE		CLAY	11.0	0.0	
575.5	PLEISTOCENE		SAND	22.0	11.0	
553.5	PLEISTOCENE		CLAY	32.0	33.0	AND LOOSE ROCKS
521.5	BOND		BLACK SHALE	1.5	65.0	
520.0	BOND		COAL	0.5	66.5	
519.5	BOND		LIGHT SHALE	21.0	67.0	
498.5	BOND		SANDY SHALE	17.0	88.0	
481.5	BOND		SANDSTONE	4.0	105.0	
477.5	BOND		SANDY SHALE	7.0	109.0	
470.5	BOND		SANDSTONE	31.0	116.0	
439.5	BOND		BLUE SHALE	6.0	147.0	
433.5	BOND		SANDSTONE	8.0	153.0	
425.5	BOND		BLUE SHALE	10.0	161.0	W/ A FEW LS BANDS
415.5	BOND	CARTHAGE	LIMESTONE	11.0	171.0	
404.5	MODESTO		BLACK SHALE	3.0	182.0	
401.5	MODESTO		BLUE SHALE	8.0	185.0	
393.5	MODESTO		DARK SHALE	7.0	193.0	
386.5	MODESTO		SOFT SHALE	4.0	200.0	
382.5	MODESTO		LIGHT SHALE	6.0	204.0	W/ LS NODS
376.5	MODESTO		SANDY SHALE	6.0	210.0	
370.5	MODESTO		BLUE SHALE	5.0	216.0	TOUGH
365.5	MODESTO		BLUE SHALE	4.5	221.0	
361.0	MODESTO		LIMESTONE	1.0	225.5	
360.0	MODESTO		BLACK SHALE	1.3	226.5	
358.7	MODESTO		BONE COAL	0.5	227.8	
358.2	MODESTO		SANDSTONE	8.0	228.3	
350.2	MODESTO		SANDSTONE	2.5	236.3	
347.7	MODESTO		SHALE & SANDSTONE	7.0	238.8	MIXED
340.7	MODESTO		BLUE SHALE	58.3	245.8	
282.5	MODESTO		BLACK SHALE	1.5	304.0	
281.0	MODESTO	CHAPEL	BONE COAL	0.5	305.5	
280.5	MODESTO		SANDY SHALE	4.0	306.0	
276.5	MODESTO		SANDSTONE	1.0	310.0	
275.5	MODESTO		SANDY SHALE	58.0	311.0	
217.5	MODESTO		BLUE SHALE	12.0	369.0	TOUGH
205.5	MODESTO		BLUE SHALE	14.8	381.0	
190.7	MODESTO		BONE COAL	0.2	395.8	
190.5	MODESTO		SANDSTONE	3.5	396.0	
187.0	MODESTO		LIMESTONE	0.5	399.5	

186.5	MODESTO		SOFT SHALE	2.0	400.0	W/ LS NODS
184.5	MODESTO		HARD SHALE	6.0	402.0	
178.5	MODESTO		SOFT SHALE	3.5	408.0	
175.0	MODESTO		BLACK SHALE	2.0	411.5	
173.0	MODESTO		SHALE	8.0	413.5	VARIEGATED
165.0	MODESTO		LIMESTONE W/ SHALE	2.5	421.5	
162.5	MODESTO		LIGHT SHALE	4.0	424.0	
158.5	MODESTO		SHALE	8.2	428.0	VARIEGATED
150.3	MODESTO		DARK SHALE	0.8	436.2	
149.5	MODESTO		SOFT SHALE	1.0	437.0	
148.5	MODESTO		DARK SHALE	0.2	438.0	
148.3	CARBONDALE	DANVILLE	COAL	3.5	438.2	
144.9	CARBONDALE		SOFT SHALE	4.9	441.6	
140.0	CARBONDALE		DARK SHALE	0.5	446.5	
139.5	CARBONDALE	ALLENBY	COAL	0.5	447.0	
139.0	CARBONDALE		LIGHT SHALE	3.5	447.5	
135.5	CARBONDALE		SHALE WITH LIMESTONE	14.0	451.0	LOG READS 'LIMESHALE'
121.5	CARBONDALE	BRERETON	LIMESTONE	2.5	465.0	
119.0	CARBONDALE	BRERETON	FOSSILIFEROUS LIMESTONE	2.9	467.5	
116.1	CARBONDALE	ANNA	DARK SHALE	0.2	470.4	
115.9	CARBONDALE	HERRIN	COAL	7.8	470.6	
108.2	CARBONDALE		SOFT SHALE	9.2	478.3	
99.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	487.5	
97.0	CARBONDALE	SPRINGFIELD	COAL	4.5	489.5	
92.5	CARBONDALE		LIGHT SHALE	1.0	494.0	

MAPID: 02100017000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1650' N line, 330' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.139249 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.592346 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 478.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
165.0	MODESTO	PIASA	LIMESTONE W/ SHALE	2.5	422.0	
162.5	MODESTO		MOTTLED SHALE	14.2	424.5	
148.3	CARBONDALE	DANVILLE	COAL	3.4	438.7	
144.9	CARBONDALE		MOTTLED SHALE	4.9	442.1	
140.0	CARBONDALE		DARK GRAY SHALE	0.5	447.0	
139.5	CARBONDALE	ALLENBY	COAL	0.5	447.5	
139.0	CARBONDALE		GRAY SHALE	3.5	448.0	
135.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	14.0	451.5	
121.5	CARBONDALE	BRERETON	LIMESTONE	5.4	465.5	
116.1	CARBONDALE	ANNA	DARK GRAY SHALE	0.2	470.9	
116.0	CARBONDALE	HERRIN	COAL	7.8	471.0	

MAPID: 02100804000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 13 **QUARTERS/FOOTAGES:** 330' N line, 2310' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.148887 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.581309 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 502.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
163.5	MODESTO		MOTTLED SHALE	15.0	443.5	
148.5	CARBONDALE	DANVILLE	COAL	2.5	458.5	
146.0	CARBONDALE		SHALE	7.0	461.0	
139.0	CARBONDALE	ALLENBY	COAL	2.0	468.0	
137.0	CARBONDALE	LAWSON	SHALE	7.0	470.0	
130.0	CARBONDALE	LAWSON	SANDSTONE	8.0	477.0	
122.0	CARBONDALE	BRERETON	LIMESTONE	5.0	485.0	
117.0	CARBONDALE	ANNA	BLACK SHALE	4.0	490.0	
113.0	CARBONDALE	HERRIN	COAL	8.0	494.0	

MAPID: 02102619000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.163013 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.581428 **DATE COLLECTED:** 2 / 0 / 1971
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 503.4 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER 5 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
117.2	CARBONDALE	HERRIN	COAL	8.6	494.8	

MAPID: 02102619000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 14 **QUARTERS/FOOTAGES:** 330' N line, 1650' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.163013 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.581428 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 494.6 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER 5 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
144.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.3	467.8	
141.0	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.8	471.0	
140.2	CARBONDALE	LAWSON	SILTY SHALE	1.2	471.8	
139.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	0.3	473.0	
138.7	CARBONDALE	LAWSON	MOTTLED SHALE	0.8	473.3	
137.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.4	474.1	
134.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.4	477.5	
129.1	CARBONDALE	ANNA	DARK GRAY SHALE	3.1	482.9	
126.0	CARBONDALE	HERRIN	COAL	8.6	486.0	

MAPID: 02100018000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 15 **QUARTERS/FOOTAGES:** 660' S line, 660' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.192381 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.569229 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 587.9 **LOGGED (FT.):** 520.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD & SON 3 **WELL TYPE:** Coal Test

COMMENT: ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
587.9	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
575.9	PLEISTOCENE		SAND & GRAVEL	8.0	12.0	
567.9	PLEISTOCENE		SAND	6.0	20.0	
561.9	PLEISTOCENE		SAND & GRAVEL	14.0	26.0	
547.9	PLEISTOCENE		SAND	20.0	40.0	W/ CLAY STREAKS
527.9	PLEISTOCENE		SAND	3.0	60.0	
524.9	PLEISTOCENE		CLAY	2.0	63.0	
522.9	PLEISTOCENE		SAND	5.0	65.0	
517.9	BOND		LIGHT SHALE	6.0	70.0	
511.9	BOND		DARK SHALE	17.0	76.0	W/ SAND STREAKS
494.9	BOND		SANDY SHALE	12.0	93.0	
482.9	BOND		SANDSTONE	28.5	105.0	
454.4	BOND		DARK SHALE	4.0	133.5	
450.4	BOND		SOFT SHALE	15.0	137.5	AND LS
435.4	BOND		LIGHT SHALE	3.0	152.5	
432.4	BOND	CARTHAGE	LIMESTONE	9.5	155.5	
422.9	MODESTO		DARK SHALE	3.0	165.0	
419.9	MODESTO		BLUE SHALE	6.0	168.0	
413.9	MODESTO		SANDSTONE	3.0	174.0	
410.9	MODESTO		BLUE SHALE	5.5	177.0	
405.4	MODESTO		SANDSTONE	5.0	182.5	
400.4	MODESTO		SHALE WITH LIMESTONE	2.5	187.5	LOG READS 'LIMESHALE'
397.9	MODESTO		LIGHT SHALE	16.0	190.0	THICKNESS GIVEN AS 12FT IN LOG
381.9	MODESTO		SANDSTONE & CONGLOMERATE	2.3	206.0	
379.6	MODESTO		FOSSILIFEROUS SHALE	2.0	208.3	
377.6	MODESTO		COAL	0.5	210.3	
377.1	MODESTO		SOFT SHALE	0.2	210.8	
376.9	MODESTO		SANDSTONE	4.0	211.0	
372.9	MODESTO		LIMESTONE	1.0	215.0	
371.9	MODESTO		SANDSTONE	3.0	216.0	
368.9	MODESTO		BLUE SHALE	11.8	219.0	
357.1	MODESTO		COAL	0.3	230.8	
356.8	MODESTO		BLUE SHALE	28.9	231.1	W/ SS STREAKS
327.9	MODESTO		BLUE SHALE	29.5	260.0	TOUGH
298.4	MODESTO		DARK SHALE	2.2	289.5	
296.2	MODESTO	CHAPEL	COAL	0.8	291.7	
295.4	MODESTO		SOFT SHALE	5.0	292.5	
290.4	MODESTO		SANDY SHALE	2.0	297.5	

288.4	MODESTO		SANDSTONE	17.5	299.5	W/ SH STREAKS
270.9	MODESTO		BLUE SHALE	69.0	317.0	TOUGH
201.9	MODESTO		BONE COAL	0.3	386.0	
201.6	MODESTO		SOFT SHALE	3.7	386.3	
197.9	MODESTO		BLUE SHALE	5.0	390.0	
192.9	MODESTO		DARK SHALE	9.0	395.0	
183.9	MODESTO		SOFT SHALE	4.0	404.0	
179.9	MODESTO		SHALE WITH LIMESTONE	2.5	408.0	LOG READS 'LIMESHALE'
177.4	MODESTO		SHALE	9.3	410.5	VARIEGATED
168.1	MODESTO		BONE COAL	0.2	419.8	
167.9	MODESTO		SOFT SHALE	1.0	420.0	
166.9	MODESTO		LIGHT SHALE	2.0	421.0	
164.9	CARBONDALE	DANVILLE	COAL	1.8	423.0	
163.1	CARBONDALE		DARK SHALE	0.8	424.8	
162.4	CARBONDALE		SHALE WITH LIMESTONE	2.0	425.5	LOG READS 'LIMESHALE'
160.4	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	427.5	
158.4	CARBONDALE		SOFT SHALE	0.5	429.5	
157.9	CARBONDALE		SANDSTONE	1.5	430.0	W/ LS LUMPS
156.4	CARBONDALE		SHALE WITH LIMESTONE	11.5	431.5	LOG READS 'LIMESHALE, LIMESTONE BANDS'
144.9	CARBONDALE	BRERETON	LIMESTONE	4.0	443.0	
140.9	CARBONDALE	BRERETON	SHALE WITH LIMESTONE	2.7	447.0	DARK FOS 'LIMESHALE'
138.2	CARBONDALE	ANNA	BLUE SHALE	0.3	449.7	
138.0	CARBONDALE	HERRIN	COAL	1.5	449.9	
136.5	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	451.4	SULFUR BAND
136.5	CARBONDALE	HERRIN	COAL	1.0	451.4	
135.4	CARBONDALE	HERRIN	ROCK	0.1	452.5	BAND
135.4	CARBONDALE	HERRIN	COAL	2.9	452.5	
132.5	CARBONDALE	HERRIN	COAL	1.5	455.4	
131.0	CARBONDALE		LIGHT SHALE	9.6	456.9	
121.4	CARBONDALE		DARK SHALE	3.0	466.5	
118.4	CARBONDALE		LIMESTONE	4.0	469.5	
114.4	CARBONDALE		SHALE	1.5	473.5	VARIEGATED
112.9	CARBONDALE		BLUE SHALE	0.8	475.0	
112.1	CARBONDALE	SPRINGFIELD	BONE COAL	0.3	475.8	
111.7	CARBONDALE		SANDSTONE	2.8	476.2	
108.9	CARBONDALE		LIMESTONE	2.0	479.0	
106.9	CARBONDALE		SANDY SHALE	9.0	481.0	
97.9	CARBONDALE		SANDSTONE	18.0	490.0	W/ SH STREAKS
79.9	CARBONDALE		SANDSTONE	12.0	508.0	

MAPID: 02100018000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 15 **QUARTERS/FOOTAGES:** 660' S line, 660' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.192381 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.569229 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 588.0 **LOGGED (FT.):** 457.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.9	MODESTO	PIASA	CALCAREOUS SHALE	2.5	408.1	
177.4	MODESTO		MOTTLED SHALE	9.3	410.6	
168.1	CARBONDALE	DANVILLE	BONE COAL	0.2	419.9	
167.9	CARBONDALE		MOTTLED SHALE	1.0	420.1	
166.9	CARBONDALE		GRAY SHALE	2.0	421.1	
164.9	CARBONDALE	ALLENBY	COAL	1.8	423.1	
163.2	CARBONDALE		CALCAREOUS SHALE	2.8	424.8	
160.4	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	427.6	
158.4	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	429.6	
157.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.5	430.1	
156.4	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	11.5	431.6	
144.9	CARBONDALE	BRERETON	LIMESTONE	4.0	443.1	
140.9	CARBONDALE	ANNA	DARK GRAY SHALE	2.9	447.1	
138.0	CARBONDALE	HERRIN	COAL	7.0	450.0	

MAPID: 02102615000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 16 **QUARTERS/FOOTAGES:** 165' N line, 825' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.197699 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.581614 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 579.0 **LOGGED (FT.):** 478.9 **LOG TYPE:** Survey Core Study

SOURCE: BELL & ZOLLER 4 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
125.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.8	453.3	
124.8	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.6	454.2	
124.2	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	0.2	454.8	
124.0	CARBONDALE	LAWSON	MOTTLED SHALE	0.2	455.0	
123.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	7.7	455.2	
116.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	7.9	462.8	
108.2	CARBONDALE	ANNA	BLACK SHALE	0.3	470.8	
108.0	CARBONDALE	HERRIN	COAL	7.9	471.0	

MAPID: 02122866000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 17 **QUARTERS/FOOTAGES:** 660' S line, 660' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.21605 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.569024 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 493.7 **LOG TYPE:** Drillers Log

SOURCE: LINK, HAROLD F **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
177.1	MODESTO		MOTTLED SHALE	10.0	433.9	
167.1	CARBONDALE	DANVILLE	COAL	2.0	443.9	
165.1	CARBONDALE		MOTTLED SHALE	18.0	445.9	
147.1	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	463.9	
144.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.2	467.0	
143.8	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	467.2	
142.6	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	3.5	468.4	
139.1	CARBONDALE	LAWSON	SILTY SHALE	3.9	471.9	
135.2	CARBONDALE	JAMESTOWN	BLACK SHALE	0.7	475.8	
134.5	CARBONDALE	BRERETON	LIMESTONE	6.2	476.5	
128.4	CARBONDALE	ANNA	BLACK SHALE	2.4	482.6	
126.0	CARBONDALE	HERRIN	COAL	8.7	485.0	

MAPID: 02102262000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.241265 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.575641 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 506.4 **LOG TYPE:** Survey Core Study

SOURCE: MABA OIL CO. Higginsn 1 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
157.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	0.8	472.6	UPPER BENCH
156.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	0.1	473.4	SHALE PARTING
156.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.8	473.5	LOWER BENCH
155.7	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.6	474.3	
154.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	1.3	475.8	
152.9	CARBONDALE	LAWSON	SILTY SHALE	1.0	477.1	
151.9	CARBONDALE	LAWSON	LIMESTONE/SILTSTONE	4.8	478.1	
147.1	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.1	482.9	
143.0	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	11.0	487.0	
132.0	CARBONDALE	HERRIN	COAL	8.4	498.0	

MAPID: 02102622000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** NW NW SE

QUADRANGLE: WILLEYS **LONGITUDE:** -89.241211 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.57378 **DATE COLLECTED:** 3 / 2 / 1971

SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 514.7 **LOG TYPE:** Survey Core Study

SOURCE: BELL & ZOLLER 3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
123.7	CARBONDALE	HERRIN	COAL	8.4	506.3	

MAPID: 02124840000C **VERSION:** 1 **PROJECT:** NCRDS16

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** 900' S line, 600' E line of NE

QUADRANGLE: WILLEYS **LONGITUDE:** -89.235186 **GEOLOGIST:** NORTH

CONFIDENTIAL: N **LATITUDE:** 39.577066 **DATE COLLECTED:** 4 / 9 / 1999

SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 512.0 **LOG TYPE:** Drillers Log

SOURCE: DIVERSIFIED ENERGY DS-99-2 **WELL TYPE:** Coal Test

COMMENT: CORE FROM DS-99-1 AVAIL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
618.0			UNCLASSIFIED	166.0	0.0	
452.0	BOND		SHALE	0.3	166.0	GREEN/GRAY
451.7	BOND		LIMESTONE	0.7	166.3	
451.0	BOND		GRAY SHALE	8.0	167.0	
443.0	BOND	CARTHAGE	LIMESTONE	10.0	175.0	
433.0	PATOKA		GRAY SHALE	18.1	185.0	
414.9	PATOKA	NEW HAVEN	COAL	0.1	203.1	
414.8	PATOKA		UNDERCLAY	1.2	203.2	
413.6	PATOKA		CLAYSTONE	5.6	204.4	
408.0	PATOKA	MACOUPIN	LIMESTONE	5.5	210.0	
402.6	PATOKA	MACOUPIN	GRAY SHALE	5.7	215.4	
396.9	PATOKA	MACOUPIN	LIMESTONE	0.3	221.1	NODULAR
396.7	PATOKA	MACOUPIN	CLAYSTONE	6.1	221.3	
390.6	PATOKA	MACOUPIN	DARK SHALE	1.1	227.4	
389.5	PATOKA	MACOUPIN	CLAYSTONE	7.3	228.5	
382.2	PATOKA	MACOUPIN	LIMESTONE	2.7	235.8	
379.5	PATOKA		CLAYSTONE	2.4	238.5	
377.1	PATOKA		SANDSTONE	2.4	240.9	
374.7	PATOKA		SILTSTONE	5.6	243.3	
369.1	PATOKA		CLAYSTONE	2.2	248.9	
367.0	PATOKA		SILTSTONE	1.3	251.0	
365.7	PATOKA		SANDSTONE	13.4	252.3	
352.3	PATOKA		GRAY SHALE	2.6	265.7	
349.7	PATOKA		SILTSTONE	6.8	268.3	
343.0	PATOKA		GRAY SHALE	40.1	275.0	
302.9	PATOKA		LIMESTONE	0.6	315.1	
302.3	PATOKA	CHAPEL	COAL	0.9	315.7	
301.4	PATOKA		UNDERCLAY	3.4	316.6	
298.0	PATOKA	TRIVOLI	SANDSTONE	1.4	320.0	
296.7	PATOKA	TRIVOLI	SILTSTONE	2.7	321.3	
294.0	PATOKA	TRIVOLI	SANDSTONE	15.0	324.0	
279.0	SHELBURN		GRAY SHALE	17.8	339.0	
261.2	SHELBURN		SILTSTONE	23.5	356.8	
237.8	SHELBURN		GRAY SHALE	33.7	380.2	
204.1	SHELBURN		LIMESTONE	0.4	413.9	
203.7	SHELBURN		GRAY SHALE	2.7	414.3	
201.0	SHELBURN		COAL	0.2	417.0	ROCK BRANCH?
200.8	SHELBURN		UNDERCLAY	5.2	417.2	
195.6	SHELBURN		GRAY SHALE	8.1	422.4	

187.5	SHELBURN		CLAYSTONE	9.5	430.5	
178.0	SHELBURN	PIASA	LIMESTONE	0.7	440.0	
177.3	SHELBURN		CLAYSTONE	8.0	440.7	
169.3	SHELBURN	DANVILLE	COAL	0.9	448.7	POSSIBLY DANVILLE, FAULTED
168.5	SHELBURN		UNDERCLAY	2.0	449.5	POSSIBLE FAULT
166.5	SHELBURN		GRAY SHALE	0.4	451.5	
166.1	SHELBURN		COAL	0.9	451.9	BAKER?
165.2	SHELBURN		UNDERCLAY	2.7	452.8	
162.5	SHELBURN	BANKSTON FORK	LIMESTONE	3.8	455.5	
158.7	SHELBURN		CLAYSTONE	0.8	459.3	
157.9	SHELBURN		SANDSTONE	3.5	460.1	
154.4	SHELBURN		GRAY SHALE	0.9	463.6	
153.5	SHELBURN		LIMESTONE	0.9	464.5	
152.6	SHELBURN		SILTY SHALE	2.4	465.4	SILTY/GREEN
150.2	SHELBURN		LIMESTONE	1.6	467.8	
148.6	SHELBURN		GRAY SHALE	1.1	469.4	
147.5	SHELBURN	BRERETON	LIMESTONE	5.7	470.5	
141.8	CARBONDALE	ANNA	BLACK SHALE	1.9	476.2	
139.9	CARBONDALE	HERRIN	COAL	6.4	478.1	
133.5	CARBONDALE	HERRIN	SHALE	0.1	484.5	BLUE BAND
133.4	CARBONDALE	HERRIN	COAL	2.2	484.6	
131.2	CARBONDALE		UNDERCLAY	0.2	486.8	
131.0	CARBONDALE		CLAYSTONE	17.5	487.0	
113.5	CARBONDALE	HIGGINSVILLE	LIMESTONE	2.7	504.5	
110.8	CARBONDALE		CLAYSTONE	0.9	507.2	
109.9	CARBONDALE		SANDSTONE	4.1	508.1	

MAPID: 02100247000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 19 **QUARTERS/FOOTAGES:** 1' S line, 42' W line of SW SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.250332 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.552828 **DATE COLLECTED:** 2 / 0 / 1951

SURFACE ELEVATION (FT.): 585.8 **LOGGED (FT.):** 440.9 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
152.8	CARBONDALE	HERRIN	COAL	7.9	433.0	

MAPID: 02100250000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 19 **QUARTERS/FOOTAGES:** 31' S line, 44' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.233032 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.552668 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 482.8 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 121 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
176.4	MODESTO	PIASA	LIMESTONE	0.8	433.6	
175.6	MODESTO		MOTTLED SHALE	10.0	434.4	
165.6	CARBONDALE		CLAYSTONE	0.5	444.4	
165.1	CARBONDALE		DARK GRAY SHALE	1.5	444.9	
163.6	CARBONDALE	ALLENBY	COAL	1.9	446.4	
161.7	CARBONDALE		CALCAREOUS SHALE	2.3	448.3	
159.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.5	450.6	UPPER BENCH
157.9	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	0.5	452.1	SHALE PARTING
157.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.5	452.6	LOWER BENCH
155.9	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.3	454.1	
154.6	CARBONDALE	LAWSON	GRAY SHALE	3.9	455.4	
150.8	CARBONDALE	LAWSON	MOTTLED SHALE	6.8	459.2	
143.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.5	466.1	
142.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.1	467.6	
138.3	CARBONDALE	ANNA	BLACK SHALE	3.3	471.7	
135.0	CARBONDALE	HERRIN	COAL	7.8	475.0	

MAPID: 02123540000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 19 **QUARTERS/FOOTAGES:** 31' S line, 44' E line of SE SE
QUADRANGLE: WILLEYS **LONGITUDE:** -89.233032 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.552668 **DATE COLLECTED:** 2 / 0 / 1951
SURFACE ELEVATION (FT.): 610.1 **LOGGED (FT.):** 450.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-12 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
161.7	CARBONDALE	DANVILLE	COAL	2.0	448.4	
134.8	CARBONDALE	HERRIN	COAL	7.8	475.3	

MAPID: 02124841000C **VERSION:** 1 **PROJECT:** NCRDS16

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 19 **QUARTERS/FOOTAGES:** 5' N line, 145' E line of NE

QUADRANGLE: WILLEYS **LONGITUDE:** -89.233326 **GEOLOGIST:** NORTH

CONFIDENTIAL: N **LATITUDE:** 39.567177 **DATE COLLECTED:** 4 / 21 / 1999

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 522.1 **LOG TYPE:** Drillers Log

SOURCE: DIVERSIFIED ENERGY D5-99-4 **WELL TYPE:** Coal Test

COMMENT: CORE AVAIL - TAYLORVILLE AREA

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNKNOWN	124.0		
486.0	BOND		SANDSTONE	11.0	124.0	
475.0	BOND		GRAY SHALE	15.1	135.0	
459.9	BOND		SANDSTONE	1.6	150.1	
456.3	BOND		LIMESTONE	0.3	153.7	
456.1	BOND		CLAYSTONE	6.7	153.9	
449.4	BOND		LIMESTONE	1.1	160.6	
448.3	BOND		CLAYSTONE	8.0	161.7	
440.3	BOND	CARTHAGE	LIMESTONE	10.3	169.7	
430.1	PATOKA		GRAY SHALE	16.5	179.9	
413.6	PATOKA		DARK SHALE	0.3	196.4	
413.4	PATOKA	NEW HAVEN	COAL	0.2	196.6	
413.2	PATOKA		UNDERCLAY	3.2	196.8	
410.0	PATOKA		CLAYSTONE	1.3	200.0	
408.7	PATOKA	MACOUPIN	LIMESTONE	1.4	201.3	
407.3	PATOKA		CLAYSTONE	2.2	202.7	
405.6	PATOKA		GRAY SHALE	5.2	204.4	
399.9	PATOKA		SANDSTONE	7.4	210.1	
392.5	PATOKA		GRAY SHALE	5.0	217.5	
387.5	PATOKA		LIMESTONE	1.0	222.5	
386.5	PATOKA		BLACK SHALE	1.1	223.5	
385.4	PATOKA		COAL	1.5	224.6	
383.9	PATOKA		UNDERCLAY	3.1	226.1	
380.9	PATOKA		LIMESTONE	3.5	229.1	
377.4	PATOKA		GRAY SHALE	7.8	232.6	
369.6	PATOKA		LIMESTONE	0.3	240.4	
369.4	PATOKA		GRAY SHALE	7.8	240.6	
361.6	PATOKA		COAL	1.1	248.4	
360.5	PATOKA		UNDERCLAY	0.9	249.5	
359.6	PATOKA		GRAY SHALE	3.3	250.4	
356.3	PATOKA		SANDSTONE	1.7	253.7	
354.6	PATOKA		GRAY SHALE	4.1	255.4	
350.5	PATOKA		SILTSTONE	4.3	259.5	
346.2	PATOKA		GRAY SHALE	42.1	263.8	
304.1	PATOKA		LIMESTONE	0.2	305.9	
303.9	PATOKA		GRAY SHALE	3.1	306.1	
300.8	PATOKA		LIMESTONE	0.8	309.2	
300.0	PATOKA	CHAPEL	COAL	0.7	310.0	
299.3	PATOKA		UNDERCLAY	8.1	310.7	

291.3	PATOKA		SILTSTONE	2.5	318.7	
288.8	PATOKA		GRAY SHALE	3.4	321.2	
285.4	PATOKA	TRIVOLI	SANDSTONE	0.8	324.6	
284.6	PATOKA	TRIVOLI	SILTSTONE	6.8	325.4	
277.9	PATOKA	TRIVOLI	GRAY SHALE	3.4	332.1	
274.5	PATOKA	TRIVOLI	SANDSTONE	3.3	335.5	
271.2	SHELBURN		SILTSTONE	44.8	338.8	
226.4	SHELBURN		GRAY SHALE	21.7	383.6	
204.7	SHELBURN		COAL	0.2	405.3	
204.5	SHELBURN		UNDERCLAY	6.5	405.5	
198.1	SHELBURN		GRAY SHALE	12.5	411.9	
185.6	SHELBURN	DANVILLE	COAL	0.8	424.4	
184.8	SHELBURN		UNDERCLAY	13.3	425.2	
171.6	SHELBURN	ANVIL ROCK	SANDSTONE	45.1	438.4	HERRIN COAL CUT OUT
126.5	SHELBURN	ANVIL ROCK	SILTSTONE	18.8	483.5	
107.7	CARBONDALE		GRAY SHALE	6.9	502.3	
100.8	CARBONDALE		CLAYSTONE	2.0	509.2	
98.9	CARBONDALE		SHALE	0.8	511.1	
98.2	CARBONDALE	SPRINGFIELD	COAL	1.3	511.8	
96.8	CARBONDALE		UNDERCLAY	6.2	513.2	
90.7	CARBONDALE		SANDSTONE	2.8	519.3	

MAPID: 02102614000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 20 **QUARTERS/FOOTAGES:** 990' S line, 330' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.231688 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.555312 **DATE COLLECTED:** 1 / 22 / 1971

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 518.4 **LOG TYPE:** Survey Core Study

SOURCE: BELL & ZOLLER 2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
101.7	CARBONDALE	HERRIN	COAL	10.1	508.3	

MAPID: 02102614000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 20 **QUARTERS/FOOTAGES:** 990' S line, 330' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.231688 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.555312 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 508.1 **LOG TYPE:** Survey Core Study

SOURCE: BELL & ZOLLER 2 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
169.8	CARBONDALE	ENERGY	CALCAREOUS SHALE	1.3	440.2	
168.5	CARBONDALE	ENERGY	GRAY SHALE	28.1	441.5	
140.4	CARBONDALE	ENERGY	SILTY SHALE	19.3	469.6	
121.2	CARBONDALE	ENERGY	GRAY SHALE	7.4	488.8	
113.7	CARBONDALE	ENERGY	CARBONACEOUS SHALE	1.8	496.3	
112.0	CARBONDALE	HERRIN	COAL	10.1	498.0	

MAPID: 02122865000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 21 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.212446 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.558962 **DATE COLLECTED:** 9 / 17 / 1974

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 484.7 **LOG TYPE:** Drillers Log

SOURCE: ZEIGLER COAL CO. 441 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
136.6	CARBONDALE	HERRIN	COAL	8.3	476.4	

MAPID: 02122865000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 21 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.212446 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.558962 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 484.2 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 441 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
176.9	MODESTO	PIASA	LIMESTONE/UNDERCLAY	4.5	436.1	
172.4	MODESTO		MOTTLED SHALE	7.5	440.6	
164.9	CARBONDALE	DANVILLE	BONE COAL	1.0	448.1	
163.9	CARBONDALE		CALCAREOUS SHALE	9.0	449.1	
154.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.1	458.1	
151.8	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.4	461.2	
151.4	CARBONDALE	LAWSON	SILTY SHALE	2.3	461.6	
149.1	CARBONDALE	LAWSON	NODULAR LIMESTONE	0.5	463.9	
148.6	CARBONDALE	LAWSON	SILTY SHALE	2.4	464.4	
146.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.9	466.8	
141.3	CARBONDALE	ANNA	BLACK SHALE	4.3	471.7	
137.0	CARBONDALE	HERRIN	COAL	8.2	476.0	

MAPID: 02100226000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 22 **QUARTERS/FOOTAGES:** 12' S line, 25' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.175944 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.552948 **DATE COLLECTED:** 12 / 0 / 1950
SURFACE ELEVATION (FT.): 617.6 **LOGGED (FT.):** 468.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-2 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100226000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 22 **QUARTERS/FOOTAGES:** 12' S line, 25' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.175944 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.552948 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 506.0 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-2 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02102732000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.166366 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.560385 **DATE COLLECTED:** 11 / 1 / 1972
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 477.3 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 9 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
145.8	CARBONDALE	DANVILLE	COAL	1.1	476.2	
119.2	CARBONDALE	HERRIN	COAL	9.4	502.8	

MAPID: 02102732000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.166366 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.560385 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 512.4 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 9 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
166.9	MODESTO	PIASA	CALCAREOUS SANDSTONE	2.2	455.1	
164.7	MODESTO		MOTTLED SHALE	10.8	457.3	
153.9	CARBONDALE	DANVILLE	COAL	1.8	468.1	
152.1	CARBONDALE		CLAYSTONE	2.4	469.9	
149.7	CARBONDALE	GALUM	NODULAR LIMESTONE	3.7	472.3	
146.0	CARBONDALE		MOTTLED SHALE	0.5	476.0	
145.5	CARBONDALE	ALLENBY	COAL	1.1	476.5	
144.4	CARBONDALE		CLAYSTONE & SHALE	1.7	477.6	
142.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.4	479.3	
135.3	CARBONDALE	LAWSON	MOTTLED SHALE	0.6	486.7	
134.7	CARBONDALE	LAWSON	SILTY SHALE	0.6	487.3	
134.1	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	2.4	487.9	
131.7	CARBONDALE	LAWSON	MOTTLED SHALE	4.1	490.3	
127.6	CARBONDALE	LAWSON	DARK GRAY SHALE	3.2	494.4	
124.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.1	497.6	
121.3	CARBONDALE	ANNA	BLACK SHALE	2.3	500.7	
119.0	CARBONDALE	HERRIN	COAL	9.4	503.0	

MAPID: 02101286000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 24 **QUARTERS/FOOTAGES:** 2310' N line, 330' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.155785 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.56132 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 530.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
153.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	470.0	
150.0	MODESTO		MOTTLED SHALE	14.0	473.0	
136.0	CARBONDALE	DANVILLE	BONE COAL	1.0	487.0	
135.0	CARBONDALE		SHALE	7.0	488.0	
128.0	CARBONDALE	ALLENBY	COAL	2.0	495.0	
126.0	CARBONDALE	LAWSON	SILTY SHALE	4.0	497.0	
122.0	CARBONDALE	LAWSON	SANDSTONE	7.0	501.0	
115.0	CARBONDALE	LAWSON	SHALE	2.0	508.0	
113.0	CARBONDALE	BRERETON	LIMESTONE	7.0	510.0	
106.0	CARBONDALE	ANNA	BLACK SHALE	4.0	517.0	
102.0	CARBONDALE	HERRIN	COAL	9.0	521.0	

MAPID: 02122873000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 25 **QUARTERS/FOOTAGES:** 1980' N line, 1980' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.149834 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.547589 **DATE COLLECTED:** 0 / 0 / 1974

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 521.6 **LOG TYPE:** Drillers Log

SOURCE: ZEIGLER COAL CO. 432 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
99.5	CARBONDALE	HERRIN	COAL	11.1	510.5	

MAPID: 02122873000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 25 **QUARTERS/FOOTAGES:** 1980' N line, 1980' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.149834 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.547589 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 522.1 **LOG TYPE:** Survey Core Study

SOURCE: ZEIGLER COAL CO. 432 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
125.5	CARBONDALE	ENERGY	CARBONACEOUS SANDSTONE	2.5	484.5	
123.0	CARBONDALE	ENERGY	SILTSTONE	1.5	487.0	
121.5	CARBONDALE	ENERGY	SILTY SHALE	18.1	488.5	
103.4	CARBONDALE	ENERGY	SILTSTONE	2.9	506.6	
100.5	CARBONDALE	ENERGY	SILTY SHALE	1.5	509.5	
99.0	CARBONDALE	HERRIN	COAL	11.1	511.0	

MAPID: 02122874000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 27 **QUARTERS/FOOTAGES:** 660' N line, 660' W line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.192283 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.551052 **DATE COLLECTED:** 0 / 0 / 1974

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 495.0 **LOG TYPE:** Drillers Log

SOURCE: ZEIGLER COAL CO. 435 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
125.9	CARBONDALE	HERRIN	COAL	8.9	486.1	

MAPID: 02122874000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 27 **QUARTERS/FOOTAGES:** 660' N line, 660' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.192283 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.551052 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 495.0 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 435 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.4	464.8	
143.8	CARBONDALE	LAWSON	MOTTLED SHALE	0.6	468.2	
143.3	CARBONDALE	LAWSON	SANDSTONE	3.8	468.7	
139.5	CARBONDALE	LAWSON	LIMESTONE/UNDERCLAY	1.2	472.5	
138.3	CARBONDALE	LAWSON	SILTY SHALE	2.6	473.7	
135.7	CARBONDALE	BRERETON	LIMESTONE	4.5	476.3	
131.2	CARBONDALE	ANNA	BLACK SHALE	5.2	480.8	
126.0	CARBONDALE	HERRIN	COAL	9.0	486.0	

MAPID: 02100230000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** 72' S line, 42' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.195045 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.53832 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 617.8 **LOGGED (FT.):** 479.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-6 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100230000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** 72' S line, 42' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.195045 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.53832 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 512.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-6 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02122875000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** NW NW SW NW
QUADRANGLE: WILLEYS **LONGITUDE:** -89.212953 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.548441 **DATE COLLECTED:** 10 / 15 / 1974
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 510.3 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 431 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
144.9	CARBONDALE	DANVILLE	COAL	2.1	470.1	
112.8	CARBONDALE	HERRIN	COAL	8.1	502.2	

MAPID: 02100235000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2571' N line, 35' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.213635 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.54547 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 470.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-10 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100235000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2571' N line, 35' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.213635 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.54547 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 501.2 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-10 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100236000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 28' S line, 55' W line of SW SW
QUADRANGLE: WILLEYS **LONGITUDE:** -89.232207 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.538182 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 616.6 **LOGGED (FT.):** 484.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-11 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02102613000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** SW SW NE
QUADRANGLE: WILLEYS **LONGITUDE:** -89.221897 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.546185 **DATE COLLECTED:** 1 / 20 / 1971
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 474.1 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER 1 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
153.3	CARBONDALE	HERRIN	COAL	7.4	466.7	

MAPID: 02100019000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 30 **QUARTERS/FOOTAGES:** 1320' N line, 2640' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.242173 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.549067 **DATE COLLECTED:** 0 / 0 / 1918

SURFACE ELEVATION (FT.): 586.1 **LOGGED (FT.):** 457.0 **LOG TYPE:** Drillers Log

SOURCE: W J JENKINS 2 **WELL TYPE:** Coal Test

COMMENT: ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
586.1	PLEISTOCENE		CLAY	12.0	0.0	
574.1	PLEISTOCENE		SAND	3.0	12.0	
571.1	PLEISTOCENE		HARD PAN	13.0	15.0	
558.1	PLEISTOCENE		CLAY	23.0	28.0	
535.1	PLEISTOCENE		SANDY CLAY	36.0	51.0	
499.1	PLEISTOCENE		CLAY	28.0	87.0	
471.1	BOND		BLUE SHALE	5.0	115.0	
466.1	BOND		SHALE WITH LIMESTONE	25.0	120.0	
441.1	BOND	CARTHAGE	LIMESTONE	11.0	145.0	
430.1	MODESTO		BLACK SHALE	3.0	156.0	
427.1	MODESTO		GRAY SHALE	16.0	159.0	
411.1	MODESTO		LIMESTONE	2.0	175.0	
409.1	MODESTO		SANDY SHALE	23.0	177.0	
386.1	MODESTO		BLACK SHALE	4.0	200.0	
382.1	MODESTO		BONE COAL	0.5	204.0	
381.6	MODESTO		GRAY SHALE	19.5	204.5	
362.1	MODESTO		COAL	0.7	224.0	
361.4	MODESTO		SANDY SHALE	10.3	224.7	
351.1	MODESTO		SANDSTONE	6.0	235.0	
345.1	MODESTO		SANDY SHALE	23.0	241.0	
322.1	MODESTO		BLUE SHALE	24.0	264.0	
298.1	MODESTO		BLACK SHALE	3.0	288.0	
295.1	MODESTO		COAL	0.7	291.0	
294.4	MODESTO		UNDERCLAY	1.3	291.7	
293.1	MODESTO		SHALE WITH LIMESTONE	8.0	293.0	
285.1	MODESTO		SANDY SHALE	8.0	301.0	
277.1	MODESTO		SANDSTONE	3.0	309.0	
274.1	MODESTO		SANDY SHALE	9.0	312.0	W/ SS BANDS
265.1	MODESTO		BLUE SHALE	78.6	321.0	
186.5	CARBONDALE	DANVILLE	COAL	0.4	399.6	
186.1	CARBONDALE		UNDERCLAY	2.0	400.0	
184.1	CARBONDALE		SHALE WITH LIMESTONE	10.0	402.0	
174.1	CARBONDALE		GREEN SHALE	9.0	412.0	
165.1	CARBONDALE		GRAY SHALE	6.0	421.0	
159.1	CARBONDALE		RED SHALE	3.0	427.0	
156.1	CARBONDALE	BRERETON	LIMESTONE	13.0	430.0	
143.1	CARBONDALE	ANNA	BLACK SHALE	5.8	443.0	
137.3	CARBONDALE	HERRIN	COAL	8.1	448.8	
129.3	CARBONDALE		UNDERCLAY	0.2	456.8	

MAPID: 02100019000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 30 **QUARTERS/FOOTAGES:** 1320' N line, 2640' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.242173 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.549067 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 457.1 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
183.7	MODESTO		CALCAREOUS SHALE	10.0	402.3	
173.7	CARBONDALE		MOTTLED SHALE	9.0	412.3	
164.7	CARBONDALE		GRAY SHALE	6.0	421.3	
158.7	CARBONDALE		MOTTLED SHALE	3.0	427.3	
155.7	CARBONDALE	BRERETON	LIMESTONE	13.0	430.3	
142.7	CARBONDALE	ANNA	BLACK SHALE	5.8	443.3	
137.0	CARBONDALE	HERRIN	COAL	8.1	449.0	

MAPID: 02100208000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 31 **QUARTERS/FOOTAGES:** 919' N line, 271' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.24932 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.53567 **DATE COLLECTED:** 9 / 0 / 1950
SURFACE ELEVATION (FT.): 611.7 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 114 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100208000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 31 **QUARTERS/FOOTAGES:** 919' N line, 271' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.24932 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.53567 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 547.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 114 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100020000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** NW NW SW NW

QUADRANGLE: WILLEYS **LONGITUDE:** -89.231698 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.53419 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 596.7 **LOGGED (FT.):** 588.0 **LOG TYPE:** Drillers Log

SOURCE: FRANK TAYLOR & BYRD 5 **WELL TYPE:** Coal Test

COMMENT: ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
596.7	PLEISTOCENE		CLAY	7.0	0.0	
589.7	PLEISTOCENE		SAND	3.0	7.0	
586.7	PLEISTOCENE		CLAY	35.0	10.0	AND ROCKS
551.7	PLEISTOCENE		CLAY	18.0	45.0	AND GRAVEL
533.7	PLEISTOCENE		SAND	15.0	63.0	
518.7	PLEISTOCENE		SAND/CLAY	3.0	78.0	
515.7	PLEISTOCENE		SAND	4.0	81.0	
511.7	PLEISTOCENE		CLAY	1.0	85.0	
510.7	BOND		SANDSTONE	11.0	86.0	
499.7	BOND		SANDSTONE	15.0	97.0	
484.7	BOND		SANDSTONE	3.0	112.0	W/ SH STREAKS
481.7	BOND		SANDSTONE	5.5	115.0	
476.2	BOND		SANDSTONE	4.5	120.5	W/ SH STREAKS
471.7	BOND		SANDSTONE	17.0	125.0	
454.7	BOND		FOSSILIFEROUS SHALE	4.0	142.0	
450.7	BOND		SANDSTONE	6.0	146.0	
444.7	BOND		SHALE	11.0	152.0	LS CHUNKS
433.7	BOND		LIMESTONE	7.0	163.0	BROKEN
426.7	BOND		LIMESTONE	2.5	170.0	
424.2	BOND		LIGHT SHALE	1.0	172.5	
423.2	BOND		DARK SHALE	1.5	173.5	
421.7	BOND		LIGHT SHALE	10.0	175.0	
411.7	BOND		COAL	0.0	185.0	
411.7	BOND		BLUE SHALE	4.9	185.0	
406.8	BOND		BONE COAL	0.1	189.9	
406.7	BOND		SOFT SHALE	5.0	190.0	
401.7	BOND	CARTHAGE	LIMESTONE	6.0	195.0	
395.7	MODESTO		SHALE WITH LIMESTONE	6.0	201.0	LOG READS 'LIMESHALE'
389.7	MODESTO		SANDY SHALE	16.5	207.0	
373.2	MODESTO		BLACK SHALE	0.8	223.5	
372.4	MODESTO		COAL	0.8	224.3	
371.7	MODESTO		SANDSTONE	6.0	225.0	AND LS
365.7	MODESTO		SANDSTONE	4.0	231.0	
361.7	MODESTO		SANDY SHALE	6.6	235.0	
355.2	MODESTO		COAL	0.5	241.5	
354.7	MODESTO		SANDY SHALE	19.0	242.0	
335.7	MODESTO		SANDY SHALE	21.0	261.0	
314.7	MODESTO		BLUE SHALE	25.0	282.0	
289.7	MODESTO		FOSSILIFEROUS SHALE	1.0	307.0	

288.7	MODESTO	CHAPEL	COAL	0.7	308.0	
288.0	MODESTO		SOFT SHALE	3.0	308.7	
285.0	MODESTO		SANDY SHALE	6.0	311.7	
279.0	MODESTO		BLUE SHALE	13.3	317.7	W/ SDY STREAKS
265.7	MODESTO		SANDY SHALE	56.0	331.0	
209.7	MODESTO		BLUE SHALE	20.5	387.0	TOUGH
189.2	MODESTO		COAL	0.2	407.5	
189.0	MODESTO		LIGHT SHALE	4.3	407.7	
184.7	MODESTO		BLUE SHALE	1.0	412.0	
183.7	MODESTO		BLUE SHALE	4.0	413.0	TOUGH
179.7	MODESTO		BLACK SHALE	4.0	417.0	
175.7	MODESTO		SOFT SHALE	4.0	421.0	
171.7	MODESTO		SHALE	1.0	425.0	VARIEGATED
170.7	MODESTO		SHALE WITH LIMESTONE	3.0	426.0	LOG READS 'LIMESHALE'
167.7	MODESTO		SHALE	4.0	429.0	VARIEGATED
163.7	MODESTO		LIGHT SHALE	3.0	433.0	
160.7	MODESTO		BLACK SHALE	1.0	436.0	
159.7	MODESTO		GREEN SHALE	4.0	437.0	
155.7	MODESTO		BLUE SHALE	3.2	441.0	
152.5	CARBONDALE	DANVILLE	COAL	1.5	444.2	
151.0	CARBONDALE		BLUE SHALE	1.0	445.7	
150.0	CARBONDALE		LIGHT SHALE	8.0	446.7	
142.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	454.7	
139.5	CARBONDALE		BLUE SHALE	0.7	457.2	
138.9	CARBONDALE		SHALE & SANDSTONE	4.2	457.8	MIXED
134.7	CARBONDALE	ANNA	BLACK SHALE	6.6	462.0	
128.1	CARBONDALE	HERRIN	COAL	7.4	468.6	
120.7	CARBONDALE		LIGHT SHALE	12.0	476.0	
108.7	CARBONDALE		BLACK SHALE	2.0	488.0	
106.7	CARBONDALE		SOFT SHALE	5.0	490.0	
101.7	CARBONDALE		SANDSTONE	5.0	495.0	
96.7	CARBONDALE		LIMESTONE	1.0	500.0	
95.7	CARBONDALE		SANDY SHALE	9.0	501.0	
86.7	CARBONDALE		SANDSTONE	8.0	510.0	W/ SH STREAKS
78.7	CARBONDALE		SANDSTONE	12.0	518.0	
66.7	CARBONDALE		BLUE SHALE	23.5	530.0	TOUGH
43.2	CARBONDALE		DARK SHALE	3.5	553.5	
39.7	CARBONDALE	EXCELLO	BLACK SHALE	8.8	557.0	
30.9	CARBONDALE	HOUCHIN CREEK	COAL	0.2	565.8	
30.7	CARBONDALE		LIGHT SHALE	0.3	566.0	
30.4	CARBONDALE		LIMESTONE	2.0	566.3	
28.4	CARBONDALE		GREEN SHALE	1.7	568.3	
26.7	CARBONDALE		LIMESTONE	0.5	570.0	
26.2	CARBONDALE		BLUE SHALE	17.5	570.5	

MAPID: 02100229000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 34' N line, 58' E line of NE SE
QUADRANGLE: WILLEYS **LONGITUDE:** -89.213692 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.530702 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 621.4 **LOGGED (FT.):** 499.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-5 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100246000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 32' S line, 71' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.231747 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.524291 **DATE COLLECTED:** 2 / 0 / 1951
SURFACE ELEVATION (FT.): 619.4 **LOGGED (FT.):** 506.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-13 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
119.6	CARBONDALE	HERRIN	COAL	6.9	499.8	

MAPID: 02100246000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 32' S line, 71' W line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.231747 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.524291 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 619.0 **LOGGED (FT.):** 506.9 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-13 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
158.7	MODESTO		MOTTLED SHALE	8.4	460.3	
150.3	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	0.2	468.7	
150.1	CARBONDALE		CLAYSTONE & SHALE	7.0	468.9	
143.1	CARBONDALE	ALLENBY	BONE COAL	1.4	475.9	
141.7	CARBONDALE		CALCAREOUS SHALE	3.0	477.3	
138.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	480.3	
136.0	CARBONDALE	LAWSON	MOTTLED SHALE	1.1	483.0	
134.9	CARBONDALE	LAWSON	SHALE & SILTSTONE	4.0	484.1	
130.9	CARBONDALE	LAWSON	GRAY SHALE	4.8	488.1	
126.1	CARBONDALE	LAWSON	SILTSTONE	1.7	492.9	
124.5	CARBONDALE	BRERETON	LIMESTONE	4.4	494.5	
120.0	CARBONDALE	ANNA	BLACK SHALE	1.0	499.0	
119.0	CARBONDALE	HERRIN	COAL	6.9	500.0	

MAPID: 02190001000C **VERSION:** 1 **PROJECT:** ISGS97

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2132' S line, 100' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.21385 **GEOLOGIST:** MCCRACKEN
CONFIDENTIAL: N **LATITUDE:** 39.529615 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 621.4 **LOGGED (FT.):** 499.2 **LOG TYPE:** Company map
SOURCE: PEABODY COAL CO. J-5 **WELL TYPE:** Coal Test
COMMENT: UNDATED COMPANY MAP RETURNED TO CO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
621.4			UNKNOWN	484.3	0.0	
137.1	CARBONDALE	BRERETON	LIMESTONE	5.8	484.3	
131.3			CLOD	0.2	490.1	
131.1	CARBONDALE	ANNA	BLACK SHALE	1.3	490.3	
129.9	CARBONDALE	HERRIN	COAL	7.7	491.5	

MAPID: 02100231000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 33 **QUARTERS/FOOTAGES:** 55' S line, 43' E line of SE SE
QUADRANGLE: WILLEYS **LONGITUDE:** -89.19443 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.524127 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 621.5 **LOGGED (FT.):** 512.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-7 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02102730000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line
QUADRANGLE: WILLEYS **LONGITUDE:** -89.203975 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.530708 **DATE COLLECTED:** 10 / 27 / 1972
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 508.9 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 8 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
118.0	CARBONDALE	DANVILLE	COAL	1.9	507.0	
87.9	CARBONDALE	HERRIN	COAL	10.2	537.1	

MAPID: 02102730000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 33 **QUARTERS/FOOTAGES:** 2640' N line, 2640' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.203975 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.530708 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 547.2 **LOG TYPE:** Survey Core Study

SOURCE: ZEIGLER COAL CO. 8 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
143.3	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.3	481.7	
141.0	MODESTO		MOTTLED SHALE	12.0	484.0	
129.0	CARBONDALE	DANVILLE	BLACK SHALE	2.1	496.0	
126.9	CARBONDALE		GRAY SHALE	1.6	498.1	
125.3	CARBONDALE	GALUM	NODULAR LIMESTONE	1.7	499.7	
123.6	CARBONDALE		MOTTLED SHALE	5.6	501.4	
118.0	CARBONDALE	ALLENBY	COAL	1.9	507.0	
116.1	CARBONDALE		CLAYSTONE	4.3	508.9	
111.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.3	513.2	
110.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.5	514.5	
109.0	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	1.3	516.0	
107.7	CARBONDALE	LAWSON	SILTSTONE	3.6	517.3	
104.1	CARBONDALE	LAWSON	SILTY SHALE	2.3	520.9	
101.8	CARBONDALE	LAWSON	SILTSTONE	4.7	523.2	
97.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.0	527.9	
91.1	CARBONDALE	ANNA	BLACK SHALE	3.1	533.9	
88.0	CARBONDALE	HERRIN	COAL	10.2	537.0	

MAPID: 02100021000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 34 **QUARTERS/FOOTAGES:** NW NW NW SE

QUADRANGLE: WILLEYS **LONGITUDE:** -89.184738 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.530586 **DATE COLLECTED:** 0 / 0 / 1918

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 519.0 **LOG TYPE:** Drillers Log

SOURCE: W J JENKINS 1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
620.0	PLEISTOCENE		CLAY	20.0	0.0	
600.0	PLEISTOCENE		HARD PAN	8.0	20.0	
592.0	PLEISTOCENE		SAND	14.0	28.0	
578.0	PLEISTOCENE		GRAVEL	2.0	42.0	
576.0	PLEISTOCENE		CLAY	52.0	44.0	W/ HARD BANDS MIXED THROUGH
524.0	BOND		LIGHT SHALE	1.0	96.0	
523.0	BOND		SOFT SHALE	3.0	97.0	
520.0	BOND		SANDY SHALE	5.0	100.0	
515.0	BOND		SANDY SHALE	40.0	105.0	W/ SS BANDS
475.0	BOND		SANDSTONE	12.0	145.0	
463.0	BOND		GRAY SHALE	22.5	157.0	W/ LIME PEBBLES
440.5	BOND	CARTHAGE	LIMESTONE	11.5	179.5	
429.0	MODESTO		GRAY SHALE	12.0	191.0	
417.0	MODESTO		GRAY SHALE	32.0	203.0	
385.0	MODESTO		SANDY SHALE	20.0	235.0	
365.0	MODESTO		SHALE WITH LIMESTONE	5.0	255.0	
360.0	MODESTO		SANDY SHALE	12.0	260.0	
348.0	MODESTO		BLUE SHALE	45.0	272.0	
303.0	MODESTO		BLACK SHALE	2.0	317.0	
301.0	MODESTO		COAL	0.6	319.0	
300.4	MODESTO		UNDERCLAY	3.4	319.6	
297.0	MODESTO		SHALE WITH LIMESTONE	3.0	323.0	
294.0	MODESTO		SANDSTONE	14.0	326.0	
280.0	MODESTO		SANDY SHALE	13.0	340.0	
267.0	MODESTO		GRAY SHALE	19.0	353.0	
248.0	MODESTO		BLUE SHALE	36.0	372.0	
212.0	MODESTO		BLACK SHALE	1.0	408.0	
211.0	CARBONDALE	DANVILLE	COAL	0.2	409.0	
210.8	CARBONDALE		UNDERCLAY	2.8	409.2	
208.0	CARBONDALE		GRAY SHALE	12.0	412.0	
196.0	CARBONDALE		RED SHALE	2.0	424.0	
194.0	CARBONDALE		GRAY SHALE	2.0	426.0	
192.0	CARBONDALE		SHALE WITH LIMESTONE	9.0	428.0	
183.0	CARBONDALE	ENERGY	SHALE	8.0	437.0	VARIEGATED
175.0	CARBONDALE	ENERGY	BLUE SHALE	2.0	445.0	
173.0	CARBONDALE	ENERGY	SANDY SHALE	24.0	447.0	
149.0	CARBONDALE	ENERGY	BLUE SHALE	33.8	471.0	
115.2	CARBONDALE	ENERGY	DARK SHALE	0.3	504.8	
115.0	CARBONDALE	HERRIN	COAL	8.4	505.0	#6 WAS PENCILED IN-NO AUTHORITY

106.6	CARBONDALE	UNDERCLAY	2.0	513.4
104.6	CARBONDALE	SANDY SHALE	2.6	515.4
102.0	CARBONDALE	SANDSTONE	1.0	518.0

MAPID: 02100215000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 34 **QUARTERS/FOOTAGES:** 58' N line, 37' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.176229 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.538225 **DATE COLLECTED:** 12 / 0 / 1950

SURFACE ELEVATION (FT.): 619.9 **LOGGED (FT.):** 501.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. J-1 **WELL TYPE:** Coal Test

COMMENT:

MAPID: 02100215000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 34 **QUARTERS/FOOTAGES:** 58' N line, 37' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.176229 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.538225 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. J-1 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

MAPID: 02100022000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 35 **QUARTERS/FOOTAGES:** 1320' N line, 0' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.156814 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.534622 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 608.4 **LOGGED (FT.):** 964.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD & TAYLOR 8 **WELL TYPE:** Coal Test

COMMENT: ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
608.4	PLEISTOCENE		SOIL	9.0	0.0	
599.4	PLEISTOCENE		SAND & GRAVEL	13.0	9.0	LOG READS 'CEMENT SAND & GRAVEL'
586.4	PLEISTOCENE		CLAY	21.0	22.0	BLUE GRAVELLY CLAY
565.4	PLEISTOCENE		SAND	4.0	43.0	
561.4	PLEISTOCENE		SANDY CLAY	43.0	47.0	
518.4	PLEISTOCENE		SAND & GRAVEL	25.0	90.0	
493.4	BOND		BLUE SHALE	11.5	115.0	SOFT BLU SH
481.9	BOND		DARK SHALE	4.0	126.5	
477.9	BOND		SANDY SHALE	20.0	130.5	
457.9	BOND		SANDSTONE	21.5	150.5	
436.4	BOND		GRAY SHALE	6.5	172.0	ROTTEN GY SH
429.9	BOND		SHALE WITH LIMESTONE	2.5	178.5	W/ PEBBLES
427.4	BOND		LIMESTONE	0.6	181.0	
426.8	BOND		SHALE WITH LIMESTONE	8.4	181.6	
418.4	BOND	CARTHAGE	LIMESTONE	10.8	190.0	
407.6	MODESTO		SHALE WITH LIMESTONE	0.3	200.8	
407.4	MODESTO		DARK SHALE	2.0	201.0	
405.4	MODESTO		BLUE SHALE	13.0	203.0	TOUGH
392.4	MODESTO		ARGILACEOUS SHALE	4.0	216.0	SOFT
388.4	MODESTO		SHALY LIMESTONE	3.5	220.0	
384.9	MODESTO		SANDY SHALE	32.0	223.5	
352.9	MODESTO		DARK SHALE	3.0	255.5	
349.9	MODESTO		GRAY SHALE	11.5	258.5	
338.4	MODESTO		SANDY SHALE	22.0	270.0	
316.4	MODESTO		BLUE SHALE	35.5	292.0	TOUGH
280.9	MODESTO		FOSSILIFEROUS SHALE	1.0	327.5	
279.9	MODESTO		COAL	0.5	328.5	
279.4	MODESTO		ARGILACEOUS SHALE	3.0	329.0	
276.4	MODESTO		SHALE WITH LIMESTONE	3.0	332.0	
273.4	MODESTO		SANDY SHALE	19.0	335.0	
254.4	MODESTO		BLUE SHALE	62.4	354.0	TOUGH
192.0	CARBONDALE	DANVILLE	COAL	2.3	416.4	
189.7	CARBONDALE		ARGILACEOUS SHALE	2.3	418.7	THICKNESS GIVEN AS 4.33 IN LOG
187.4	CARBONDALE		SHALE WITH LIMESTONE	8.0	421.0	
179.4	CARBONDALE		BLACK SHALE	1.0	429.0	
178.4	CARBONDALE		ARGILACEOUS SHALE	4.0	430.0	SOFT
174.4	CARBONDALE		SHALE	3.0	434.0	SOFT
171.4	CARBONDALE		RED SHALE	1.0	437.0	
170.4	CARBONDALE		LIMESTONE	1.5	438.0	

168.9	CARBONDALE		BLUE SHALE	10.0	439.5	RED & BLUE SH
158.9	CARBONDALE		ARGILACEOUS SHALE	5.5	449.5	SF ROTTEN CLAYY SH
153.4	CARBONDALE		LIMESTONE W/ SHALE	0.5	455.0	MIXED
152.9	CARBONDALE	ENERGY	ARGILACEOUS SHALE	0.5	455.5	SOFT
152.4	CARBONDALE	ENERGY	ARGILACEOUS SHALE	6.0	456.0	
146.4	CARBONDALE	ENERGY	SHALE WITH LIMESTONE	12.0	462.0	
134.4	CARBONDALE	ENERGY	SANDY SHALE	20.0	474.0	
114.4	CARBONDALE	ENERGY	BLUE SHALE	9.0	494.0	W/ BROWN BANDS
105.4	CARBONDALE	ENERGY	BLUE SHALE	17.0	503.0	TOUGH, W/ BROWN BAND
88.4	CARBONDALE	ENERGY	BLUE SHALE	13.8	520.0	W/ BROWN BANDS
74.6	CARBONDALE	HERRIN	COAL	0.5	533.8	W/ SH STREAKS
74.1	CARBONDALE	HERRIN	COAL	3.2	534.3	
70.9	CARBONDALE	HERRIN	BLUE SHALE	0.1	537.5	BLUE BAND SH
70.8	CARBONDALE	HERRIN	COAL	2.3	537.6	
68.6	CARBONDALE		UNDERCLAY	1.8	539.8	
66.7	CARBONDALE		GRAY SHALE	7.3	541.7	
59.4	CARBONDALE		BLACK SHALE	2.0	549.0	
57.4	CARBONDALE		SHALE WITH LIMESTONE	5.5	551.0	
51.9	CARBONDALE	SPRINGFIELD	BONE COAL	0.3	556.5	
51.6	CARBONDALE		DARK SHALE	0.3	556.8	
51.4	CARBONDALE		BLUE SHALE	1.3	557.0	
50.1	CARBONDALE		LIMESTONE	1.7	558.3	
48.4	CARBONDALE		SANDSTONE/LIMESTONE	4.5	560.0	MIXED WITH LIME
43.9	CARBONDALE		GRAY SHALE	3.0	564.5	
40.9	CARBONDALE		SHALY LIMESTONE	8.5	567.5	
32.4	CARBONDALE		SANDY SHALE	15.0	576.0	
17.4	CARBONDALE		BLUE SHALE	27.0	591.0	TOUGH
-9.6	CARBONDALE	HANOVER	LIMESTONE	3.0	618.0	
-12.6	CARBONDALE	EXCELLO	BLACK SHALE	6.7	621.0	
-19.3	CARBONDALE	HOUCHIN CREEK	COAL	0.5	627.7	
-19.8	CARBONDALE		UNDERCLAY	1.0	628.2	
-20.8	CARBONDALE		LIMESTONE	0.5	629.2	
-21.3	CARBONDALE		ARGILACEOUS SHALE	2.2	629.7	SOFT ROTTEN CLAY SHALE
-23.4	CARBONDALE		GRAY SHALE	1.0	631.8	
-24.4	CARBONDALE		SANDSTONE	1.2	632.8	
-25.6	CARBONDALE		SANDY SHALE	18.0	634.0	
-43.6	CARBONDALE		BLUE SHALE	4.0	652.0	
-47.6	CARBONDALE	SURVANT	COAL	2.0	656.0	
-49.6	CARBONDALE		SANDY SHALE	9.0	658.0	
-58.6	CARBONDALE		BLUE SHALE	25.0	667.0	TOUGH
-83.6	CARBONDALE	MECCA QUARRY	BLACK SHALE	1.5	692.0	
-85.1	CARBONDALE	COLCHESTER	COAL	2.2	693.5	
-87.3	SPOON		UNDERCLAY	0.3	695.7	
-87.6	SPOON		GRAY SHALE	6.7	696.0	
-94.3	SPOON		DARK SHALE	2.2	702.7	
-96.4	SPOON	SEELYVILLE	COAL	0.1	704.8	
-96.5	SPOON	SEELYVILLE	BLUE SHALE	0.6	704.9	

-97.1	SPOON	SEELYVILLE	COAL	2.8	705.5	
-99.9	SPOON		GRAY SHALE	5.7	708.3	
-105.6	SPOON		SANDSTONE	4.0	714.0	
-109.6	SPOON		SANDY SHALE	7.0	718.0	
-116.6	SPOON		BLUE SHALE	16.3	725.0	W/ BROWN BANDS
-132.9	SPOON		COAL	1.1	741.3	
-133.9	SPOON		UNDERCLAY	0.7	742.3	
-134.6	SPOON		GRAY SHALE	24.0	743.0	
-158.6	SPOON		SANDY SHALE	4.0	767.0	
-162.6	SPOON		SANDSTONE	3.4	771.0	
-166.0	SPOON		SHALE	1.3	774.4	
-167.3	SPOON		COAL	0.3	775.7	
-167.5	SPOON		FOSSILIFEROUS SHALE	2.5	775.9	
-170.0	SPOON		BONE COAL	0.3	778.4	
-170.3	SPOON		COAL	1.2	778.7	
-171.4	SPOON		BLUE SHALE	5.2	779.8	
-176.6	SPOON		COAL	0.4	785.0	
-177.0	SPOON		DARK SHALE	3.6	785.4	
-180.6	SPOON		SANDY SHALE	14.7	789.0	
-195.3	SPOON	MURPHYSBORO	COAL	3.9	803.7	
-199.2	SPOON	MURPHYSBORO	SANDY SHALE	3.4	807.6	
-202.6	SPOON	MURPHYSBORO	SANDSTONE	8.3	811.0	
-210.9	SPOON	MURPHYSBORO	COAL	3.7	819.3	
-214.6	SPOON		SANDY SHALE	9.3	823.0	
-223.9	SPOON		COAL	0.6	832.3	
-224.4	SPOON		SANDSTONE	5.2	832.8	
-229.6	SPOON		SANDSTONE	21.2	838.0	W/ SH STREAKS
-250.8	SPOON	ASSUMPTION	COAL	2.4	859.2	
-253.2	ABBOTT		DARK SHALE	3.4	861.6	
-256.6	ABBOTT		SANDSTONE	25.0	865.0	W/ SH PARTING
-281.6	ABBOTT		SANDY SHALE	19.0	890.0	
-300.6	ABBOTT		BLUE SHALE	19.0	909.0	TOUGH
-319.6	ABBOTT		BLUE SHALE	16.0	928.0	ROTTEN
-335.6	ABBOTT		GRAY SHALE	3.0	944.0	
-338.6	ABBOTT		BLUE SHALE	17.0	947.0	ROTTEN

MAPID: 02100022000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 1W **SECTION:** 35 **QUARTERS/FOOTAGES:** 1320' N line, 0' E line

QUADRANGLE: WILLEYS **LONGITUDE:** -89.156814 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.534622 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 539.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
170.3	MODESTO	PIASA	LIMESTONE	1.5	437.7	
168.8	MODESTO		MOTTLED SHALE	15.5	439.2	
153.3	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	0.5	454.7	
152.8	CARBONDALE	ENERGY	MOTTLED SHALE	6.5	455.2	
146.3	CARBONDALE	ENERGY	CALCAREOUS SHALE	12.0	461.7	
134.3	CARBONDALE	ENERGY	SILTY SHALE	20.0	473.7	
114.3	CARBONDALE	ENERGY	GRAY SHALE	39.8	493.7	
74.5	CARBONDALE	ENERGY	BONE COAL	0.5	533.5	
74.0	CARBONDALE	HERRIN	COAL	5.5	534.0	

MAPID: 02100309000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 19' N line, 57' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.25148 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.611746 **DATE COLLECTED:** 8 / 0 / 1951

SURFACE ELEVATION (FT.): 609.6 **LOGGED (FT.):** 469.7 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. W-143 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
147.9	CARBONDALE	HERRIN	COAL	8.0	461.7	

MAPID: 02100309000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 1 **QUARTERS/FOOTAGES:** 19' N line, 57' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.25148 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.611746 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 470.0 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. W-143 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
184.6	MODESTO	PIASA	LIMESTONE/UNDERCLAY	3.3	425.4	
181.4	MODESTO		MOTTLED SHALE	5.1	428.6	
176.3	CARBONDALE	DANVILLE	DARK GRAY SHALE	2.3	433.7	
173.9	CARBONDALE	GALUM	LIMESTONE W/ SHALE	5.1	436.1	
168.9	CARBONDALE		CARBONACEOUS SHALE	1.0	441.1	
167.8	CARBONDALE	ALLENBY	COAL	0.3	442.2	
167.6	CARBONDALE		CLAYSTONE & SHALE	0.7	442.4	
166.9	CARBONDALE	LAWSON	CLAYSTONE	1.5	443.1	
165.4	CARBONDALE	LAWSON	GRAY SHALE	1.1	444.6	
164.3	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	4.0	445.7	
160.3	CARBONDALE	LAWSON	MOTTLED SHALE	2.1	449.7	
158.2	CARBONDALE	LAWSON	DARK GRAY SHALE	3.0	451.8	
155.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.5	454.8	
148.7	CARBONDALE	ANNA	BLACK SHALE	0.8	461.3	
148.0	CARBONDALE	HERRIN	COAL	8.0	462.0	

MAPID: 02100368000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1960' N line, 17' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.27031 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.605925 **DATE COLLECTED:** 1 / 0 / 1953

SURFACE ELEVATION (FT.): 610.6 **LOGGED (FT.):** 485.6 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 217 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
132.5	CARBONDALE	HERRIN	COAL	7.5	478.1	

MAPID: 02100368000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1960' N line, 17' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.27031 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.605925 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 485.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 217 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
174.8	MODESTO	PIASA	LIMESTONE	2.9	436.2	
171.9	MODESTO		MOTTLED SHALE	15.0	439.1	
156.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.8	454.1	
152.1	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.4	458.9	
151.7	CARBONDALE	LAWSON	SHALE & SILTSTONE	5.1	459.3	
146.6	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.0	464.4	
146.5	CARBONDALE	LAWSON	SANDSTONE	2.0	464.5	
144.6	CARBONDALE	LAWSON	SILTSTONE	3.1	466.4	
141.5	CARBONDALE	JAMESTOWN	BLACK SHALE	0.8	469.5	
140.7	CARBONDALE	BRERETON	CARBONACEOUS LIMESTONE	5.5	470.3	
135.2	CARBONDALE	ANNA	BLACK SHALE	2.3	475.8	
133.0	CARBONDALE	HERRIN	COAL	7.5	478.0	

MAPID: 02100310000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 1272' S line, 252' W line of NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.297365 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.60385 **DATE COLLECTED:** 11 / 0 / 1951
SURFACE ELEVATION (FT.): 597.2 **LOGGED (FT.):** 445.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 150 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
159.8	CARBONDALE	HERRIN	COAL	7.7	437.4	

MAPID: 02100311000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2592' S line, 1342' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.293815 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.603686 **DATE COLLECTED:** 11 / 0 / 1951
SURFACE ELEVATION (FT.): 607.4 **LOGGED (FT.):** 448.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 150-2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
166.1	CARBONDALE	HERRIN	COAL	7.2	441.3	

MAPID: 02100311000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2592' S line, 1342' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.293815 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.603686 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 448.2 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 150-2 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
205.2	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.7	401.8	
202.6	MODESTO		MOTTLED SHALE	4.6	404.4	
198.0	CARBONDALE	DANVILLE	BLACK SHALE	0.8	409.0	
197.2	CARBONDALE		CLAYSTONE & SHALE	1.6	409.8	
195.7	CARBONDALE	ALLENBY	BONE COAL	0.5	411.3	
195.2	CARBONDALE		CLAYSTONE & SHALE	1.3	411.8	
193.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.8	413.2	
192.0	CARBONDALE	LAWSON	SILTY SHALE	2.8	415.0	
189.3	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	417.7	
186.7	CARBONDALE	LAWSON	SILTY SHALE	13.9	420.3	
172.8	CARBONDALE	LAWSON	SANDSTONE	2.2	434.2	
170.6	CARBONDALE	LAWSON	GRAY SHALE	0.2	436.4	
170.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.2	436.6	
166.2	CARBONDALE	ANNA	CALCAREOUS SHALE	0.2	440.8	
166.0	CARBONDALE	HERRIN	COAL	7.2	441.0	

MAPID: 02100313000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 66' N line, 212' E line of NE SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289782 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.603817 **DATE COLLECTED:** 3 / 0 / 1952

SURFACE ELEVATION (FT.): 609.6 **LOGGED (FT.):** 457.7 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 150-3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
160.1	CARBONDALE	HERRIN	COAL	8.2	449.5	

MAPID: 02100345000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 21' N line, 79' W line of NE NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.293364 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.611483 **DATE COLLECTED:** 2 / 0 / 1953
SURFACE ELEVATION (FT.): 604.5 **LOGGED (FT.):** 439.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 193A **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
172.5	CARBONDALE	HERRIN	COAL	7.2	432.0	

MAPID: 02100346000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 1578' N line, 1360' E line of NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.29388 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.607184 **DATE COLLECTED:** 6 / 0 / 1952
SURFACE ELEVATION (FT.): 609.3 **LOGGED (FT.):** 422.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 194 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
194.4	CARBONDALE	HERRIN	COAL	7.1	414.9	

MAPID: 02100347000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 213' N line, 52' W line of NW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.298079 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.610942 **DATE COLLECTED:** 7 / 0 / 1952
SURFACE ELEVATION (FT.): 600.5 **LOGGED (FT.):** 429.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 195 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
179.7	CARBONDALE	HERRIN	COAL	8.5	420.8	

MAPID: 02100349000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 654' S line, 947' W line of SW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.294883 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.598358 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 601.3 **LOGGED (FT.):** 464.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 197 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
146.4	CARBONDALE	HERRIN	COAL	9.9	454.9	

MAPID: 02100350000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 845' S line, 883' W line of SW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.295114 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.598891 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 601.1 **LOGGED (FT.):** 460.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 198 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
148.8	CARBONDALE	HERRIN	COAL	7.7	452.3	

MAPID: 02100351000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 312' S line, 998' W line of SW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.294704 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.597411 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 457.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 199 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
149.5	CARBONDALE	HERRIN	COAL	4.1	453.5	

MAPID: 02100352000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 203' N line, 9' E line of NE NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289061 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.61099 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 608.5 **LOGGED (FT.):** 470.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 200 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
148.2	CARBONDALE	HERRIN	COAL	9.8	460.3	

MAPID: 02100353000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 21' S line, 1304' W line of NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.293611 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.600338 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 605.3 **LOGGED (FT.):** 463.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 201 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
150.9	CARBONDALE	HERRIN	COAL	9.5	454.4	

MAPID: 02100354000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 197' S line, 23' W line of SW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.29818 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.597166 **DATE COLLECTED:** 8 / 0 / 1952
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 454.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 202 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
159.7	CARBONDALE	HERRIN	COAL	7.5	447.3	

MAPID: 02100355000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 946' S line, 17' W line of SW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.298203 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.599236 **DATE COLLECTED:** 9 / 0 / 1952
SURFACE ELEVATION (FT.): 606.3 **LOGGED (FT.):** 457.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 203 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
157.3	CARBONDALE	HERRIN	COAL	8.0	449.0	

MAPID: 02100356000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 940' S line, 20' E line of SE SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289097 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.599027 **DATE COLLECTED:** 9 / 0 / 1952
SURFACE ELEVATION (FT.): 612.7 **LOGGED (FT.):** 472.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 204 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
147.9	CARBONDALE	HERRIN	COAL	7.3	464.8	

MAPID: 02100358000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 282' S line, 360' E line of SE NW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.299549 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.604869 **DATE COLLECTED:** 10 / 0 / 1952
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 451.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 206 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
163.7	CARBONDALE	HERRIN	COAL	7.8	443.3	

MAPID: 02100359000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 250' N line, 363' E line of NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.29494 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.603357 **DATE COLLECTED:** 11 / 0 / 1952
SURFACE ELEVATION (FT.): 608.4 **LOGGED (FT.):** 451.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 207 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.1	CARBONDALE	HERRIN	COAL	7.3	444.3	

MAPID: 02100364000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 758' S line, 41' W line of SW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.298118 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.60617 **DATE COLLECTED:** 12 / 0 / 1952
SURFACE ELEVATION (FT.): 599.2 **LOGGED (FT.):** 439.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 213 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
166.4	CARBONDALE	HERRIN	COAL	6.7	432.8	

MAPID: 02100365000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 752' S line, 19' E line of SE NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289094 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.606068 **DATE COLLECTED:** 12 / 0 / 1952
SURFACE ELEVATION (FT.): 605.9 **LOGGED (FT.):** 472.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 214 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
142.3	CARBONDALE	HERRIN	COAL	9.0	463.6	

MAPID: 02100366000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 752' S line, 350' E line of SW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.294896 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.606123 **DATE COLLECTED:** 12 / 0 / 1952
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 455.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 215 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
162.3	CARBONDALE	HERRIN	COAL	7.3	447.7	

MAPID: 02100367000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 751' S line, 671' E line of SE NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.291421 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.606086 **DATE COLLECTED:** 12 / 0 / 1952
SURFACE ELEVATION (FT.): 607.8 **LOGGED (FT.):** 450.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 216 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.3	CARBONDALE	HERRIN	COAL	7.1	443.5	

MAPID: 02100373000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 2146' N line, 1248' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.293481 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.605618 **DATE COLLECTED:** 2 / 0 / 1953
SURFACE ELEVATION (FT.): 606.6 **LOGGED (FT.):** 447.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 223 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
166.6	CARBONDALE	HERRIN	COAL	7.3	440.0	

MAPID: 02100396000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 3 **QUARTERS/FOOTAGES:** 35' N line, 175' W line of NW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.297639 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.611435 **DATE COLLECTED:** 11 / 0 / 1952
SURFACE ELEVATION (FT.): 599.3 **LOGGED (FT.):** 426.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 192A **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
180.5	CARBONDALE	HERRIN	COAL	7.2	418.8	

MAPID: 02100379000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 2123' N line, 2636' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.316907 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.605723 **DATE COLLECTED:** 0 / 0 / 1953
SURFACE ELEVATION (FT.): 604.6 **LOGGED (FT.):** 448.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 229 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
164.0	CARBONDALE	HERRIN	COAL	7.6	440.6	

MAPID: 02100379000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 2123' N line, 2636' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.316907 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.605723 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 448.6 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 229 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
198.7	MODESTO	PIASA	LIMESTONE	2.5	406.3	
196.2	MODESTO		SHALE	7.0	408.8	
189.2	CARBONDALE	DANVILLE	BONE COAL	0.5	415.8	
188.7	CARBONDALE		GRAY SHALE	0.5	416.3	
188.2	CARBONDALE	ALLENBY	BONE COAL	0.9	416.8	
187.3	CARBONDALE		CLAYSTONE & SHALE	5.8	417.7	
181.5	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.0	423.5	
175.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.3	429.5	
175.2	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.4	429.8	
174.8	CARBONDALE	LAWSON	CLAYSTONE	0.0	430.2	
174.8	CARBONDALE	LAWSON	SILTSTONE	1.3	430.2	
173.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.3	431.5	
172.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.5	432.7	
170.8	CARBONDALE		MOTTLED SHALE	0.7	434.2	
170.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.2	434.9	
166.9	CARBONDALE	ANNA	BLACK SHALE	2.9	438.1	
164.0	CARBONDALE	HERRIN	COAL	7.6	441.0	

MAPID: 02100380000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 2124' N line, 1349' E line of SW NE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.316992 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.602044 **DATE COLLECTED:** 0 / 0 / 1953

SURFACE ELEVATION (FT.): 605.5 **LOGGED (FT.):** 438.6 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 230 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
173.7	CARBONDALE	HERRIN	COAL	6.8	431.8	

MAPID: 02102522000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.325284 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.610727 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 445.8 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-9 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
167.0	CARBONDALE	HERRIN	COAL	7.8	438.0	

MAPID: 02100191000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 0' S line, 1151' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.341046 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.596813 **DATE COLLECTED:** 5 / 0 / 1950
SURFACE ELEVATION (FT.): 606.6 **LOGGED (FT.):** 444.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 107 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100191000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 0' S line, 1151' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.341046 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.596813 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 444.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 107 **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

MAPID: 02100193000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 291' S line, 12' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.345198 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.597584 **DATE COLLECTED:** 6 / 0 / 1950
SURFACE ELEVATION (FT.): 593.4 **LOGGED (FT.):** 419.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 108 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100193000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 6 **QUARTERS/FOOTAGES:** 291' S line, 12' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.345198 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.597584 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 419.3 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 108 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02102510000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' N line, 330' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.346322 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.595863 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 432.9 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-4 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
180.0	CARBONDALE	HERRIN	COAL	7.9	425.0	

MAPID: 02102510000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 7 **QUARTERS/FOOTAGES:** 330' N line, 330' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.346322 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.595863 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 432.9 **LOG TYPE:** Survey Core Study
SOURCE: PAUL WEIR COAL CO PW-4 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
219.3	MODESTO	PIASA	LIMESTONE	6.0	385.7	
213.3	MODESTO		MOTTLED SHALE	8.2	391.7	
205.2	CARBONDALE	DANVILLE	BONE COAL	1.1	399.8	
204.1	CARBONDALE		GRAY SHALE	8.9	400.9	
195.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.7	409.8	
190.5	CARBONDALE	LAWSON	CLAYSTONE	0.7	414.5	
189.8	CARBONDALE	LAWSON	SILTSTONE	1.8	415.2	
188.0	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	417.0	
187.0	CARBONDALE	BRERETON	LIMESTONE	2.2	418.0	
184.8	CARBONDALE	ANNA	DARK GRAY SHALE	4.8	420.2	
180.0	CARBONDALE	HERRIN	COAL	7.9	425.0	

MAPID: 02100136000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 483' S line, 52' W line of SE SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.340171 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.583397 **DATE COLLECTED:** 8 / 0 / 1942

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 450.0 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
610.0	PLEISTOCENE		SOIL	20.0	0.0	AND CLAY
590.0	PLEISTOCENE		HARD PAN	85.0	20.0	SAND AND GRAVEL
505.0	BOND		SANDSTONE	7.0	105.0	SOFT
498.0	BOND		SHALE WITH LIMESTONE	5.0	112.0	
493.0	BOND		LIGHT SHALE	11.0	117.0	
482.0	BOND	CARTHAGE	LIMESTONE	7.0	128.0	HARD
475.0	MODESTO		BLACK SHALE	5.0	135.0	
470.0	MODESTO		SHALE	14.0	140.0	STREAKED, WITH STICKY STRATAS
456.0	MODESTO		SHALE WITH LIMESTONE	9.0	154.0	
447.0	MODESTO		BLACK SHALE	2.0	163.0	
445.0	MODESTO		GRAY SHALE	185.0	165.0	
260.0	MODESTO		SHALE WITH LIMESTONE	5.0	350.0	
255.0	MODESTO		GRAY SHALE	20.0	355.0	
235.0	MODESTO		SHALE	7.0	375.0	STICKY
228.0	MODESTO		GRAY SHALE	58.0	382.0	W/ TR OF COAL & ULCY AT 409'
170.0	CARBONDALE		COAL	0.8	440.0	
169.2	CARBONDALE		SHALE/UNDERCLAY	2.2	440.8	
167.0	CARBONDALE		LIMESTONE	7.0	443.0	BLACK, CHERTY

MAPID: 02100137000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 683' S line, 42' W line of SE SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.340205 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.583946 **DATE COLLECTED:** 8 / 0 / 1942
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 434.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 21 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
611.0	PLEISTOCENE		SOIL	20.0	0.0	AND CLAY
591.0	PLEISTOCENE		HARD PAN	100.0	20.0	SAND AND GRAVEL
491.0	BOND		SHALE WITH LIMESTONE	5.0	120.0	
486.0	BOND		LIGHT SHALE	11.0	125.0	
475.0	BOND	CARTHAGE	LIMESTONE	7.0	136.0	HARD
468.0	MODESTO		BLACK SHALE	5.0	143.0	
463.0	MODESTO		LIGHT SHALE	15.0	148.0	WITH STICKY STRATAS
448.0	MODESTO		LIMESTONE	6.0	163.0	HARD
442.0	MODESTO		BLACK SHALE	4.0	169.0	
438.0	MODESTO		GRAY SHALE	207.0	173.0	
231.0	MODESTO		DARK SHALE	3.0	380.0	
228.0	MODESTO		GREEN SHALE	2.0	383.0	
226.0	MODESTO		BLACK SHALE	2.0	385.0	
224.0	MODESTO		DARK SHALE	7.0	387.0	
217.0	CARBONDALE		BLUE SHALE	16.0	394.0	
201.0	CARBONDALE		BLUE SHALE	4.0	410.0	W/ SOFT STRATAS
197.0	CARBONDALE		SHALE WITH LIMESTONE	4.0	414.0	
193.0	CARBONDALE	ANNA	BLACK SHALE	6.3	418.0	
186.7	CARBONDALE	ANNA	LIMESTONE	0.7	424.3	DARK
186.0	CARBONDALE	HERRIN	COAL	7.5	425.0	COAL SEAM
178.5	CARBONDALE		UNDERCLAY	1.5	432.5	AND LIME STRATAS

MAPID: 02100209000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2141' N line, 1216' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.340778 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.590906 **DATE COLLECTED:** 9 / 0 / 1950
SURFACE ELEVATION (FT.): 608.1 **LOGGED (FT.):** 443.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 115 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100209000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 2141' N line, 1216' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.340778 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.590906 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 443.2 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 115 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100210000C **VERSION:** 1 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 920' N line, 103' E line of SW NW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.340736 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.590588 **DATE COLLECTED:** 9 / 0 / 1950
SURFACE ELEVATION (FT.): 606.3 **LOGGED (FT.):** 437.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 116 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100211000C **VERSION:** 1 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1020' N line, 104' E line of SW NW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.34074 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.590312 **DATE COLLECTED:** 9 / 0 / 1950
SURFACE ELEVATION (FT.): 606.2 **LOGGED (FT.):** 435.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 117 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100213000C **VERSION:** 1 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 1450' S line, 400' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.343661 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.586057 **DATE COLLECTED:** 10 / 0 / 1950
SURFACE ELEVATION (FT.): 606.8 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 119 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100216000C **VERSION:** 1 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 583' S line, 52' W line of SE SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.34017 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583673 **DATE COLLECTED:** 11 / 18 / 1947
SURFACE ELEVATION (FT.): 611.4 **LOGGED (FT.):** 431.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 67 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100217000C **VERSION:** 1 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 141' S line, 117' W line of SE SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.339938 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.582453 **DATE COLLECTED:** 11 / 26 / 1947
SURFACE ELEVATION (FT.): 608.9 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 68 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100218000C **VERSION:** 1 **PROJECT:** EIA-DOE
COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 41' S line, 127' W line of SE SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.339899 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.582177 **DATE COLLECTED:** 12 / 5 / 1947
SURFACE ELEVATION (FT.): 608.9 **LOGGED (FT.):** 430.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 69 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100219000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 770' S line, 345' E line of NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.332127 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.58791 **DATE COLLECTED:** 6 / 19 / 1948
SURFACE ELEVATION (FT.): 606.7 **LOGGED (FT.):** 439.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 75 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100220000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** 545' S line, 345' E line of NW SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.332132 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.587289 **DATE COLLECTED:** 7 / 1 / 1948
SURFACE ELEVATION (FT.): 605.8 **LOGGED (FT.):** 423.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 76 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100616000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 8 **QUARTERS/FOOTAGES:** SE SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.337997 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583916 **DATE COLLECTED:** 5 / 26 / 1949
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 438.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 93 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.6	431.0	

MAPID: 02100233000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 37' S line, 52' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.30762 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.582061 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 607.9 **LOGGED (FT.):** 462.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-9 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100233000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 37' S line, 52' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.30762 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.582061 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 463.2 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-9 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100300000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 48' N line, 9' W line of NW NW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.326033 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.5968 **DATE COLLECTED:** 8 / 0 / 1951

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 442.8 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. W-144 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
170.2	CARBONDALE	HERRIN	COAL	8.0	434.8	

MAPID: 02100023000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** NE NE NW SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.294045 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.588751 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 608.2 **LOGGED (FT.):** 548.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 12 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
608.2	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
596.2	PLEISTOCENE		SAND	8.0	12.0	
588.2	PLEISTOCENE		CLAY	25.0	20.0	AND ROCKS
563.2	PLEISTOCENE		SAND	12.0	45.0	
551.2	PLEISTOCENE		CLAY	5.0	57.0	
546.2	PLEISTOCENE		SAND	10.0	62.0	
536.2	PLEISTOCENE		GRAVEL	3.0	72.0	AND BOULDERS
533.2	PLEISTOCENE		CLAY & GRAVEL	11.0	75.0	
522.2	PLEISTOCENE		SAND	4.0	86.0	
518.2	PLEISTOCENE		CLAY	6.0	90.0	STREAKS, ROTTEN SS
512.2	BOND		SANDSTONE	29.0	96.0	
483.2	BOND		SANDSTONE/SHALE	25.0	125.0	
458.2	BOND		SANDSTONE	3.0	150.0	
455.2	BOND		LIMESTONE	2.0	153.0	
453.2	BOND		LIGHT SHALE	14.0	155.0	
439.2	BOND	CARTHAGE	LIMESTONE	9.5	169.0	
429.7	MODESTO		LIGHT SHALE	1.5	178.5	
428.2	MODESTO		BLACK SHALE	4.0	180.0	
424.2	MODESTO		BLUE SHALE	9.0	184.0	
415.2	MODESTO		SANDSTONE	5.0	193.0	
410.2	MODESTO		SHALE WITH LIMESTONE	5.0	198.0	
405.2	MODESTO		LIGHT SHALE	10.0	203.0	
395.2	MODESTO		BLACK SHALE	2.0	213.0	
393.2	MODESTO		LIGHT SHALE	19.0	215.0	
374.2	MODESTO		SANDSTONE	13.0	234.0	W/ SH STREAKS
361.2	MODESTO		BLUE SHALE	50.7	247.0	
310.5	MODESTO	CHAPEL	COAL	1.2	297.7	
309.4	MODESTO		SOFT SHALE	6.2	298.8	
303.2	MODESTO		LIGHT SHALE	4.0	305.0	
299.2	MODESTO		SANDSTONE	19.0	309.0	W/ SH STREAKS
280.2	MODESTO		SANDSTONE	15.0	328.0	
265.2	MODESTO		BLUE SHALE	64.8	343.0	
200.4	MODESTO		COAL	0.2	407.8	
200.2	MODESTO		SANDSTONE	9.0	408.0	
191.2	MODESTO		BLUE SHALE	3.5	417.0	
187.7	MODESTO		BLACK SHALE	1.5	420.5	
186.2	MODESTO		SANDSTONE	7.0	422.0	VARIEGATED
179.2	MODESTO	PIASA	LIMESTONE	3.0	429.0	
176.2	MODESTO		SANDSTONE	5.0	432.0	

171.2	MODESTO		BLACK SHALE	1.5	437.0	
169.7	CARBONDALE		SANDSTONE	2.0	438.5	
167.7	CARBONDALE		BLACK SHALE	1.0	440.5	
166.7	CARBONDALE		LIGHT SHALE	2.5	441.5	
164.2	CARBONDALE		LIMESTONE	3.5	444.0	
160.7	CARBONDALE		LIGHT SHALE	4.8	447.5	
155.9	CARBONDALE		LIMESTONE	3.3	452.3	
152.7	CARBONDALE		FOSSILIFEROUS SHALE	6.0	455.5	
146.7	CARBONDALE	BRERETON	LIMESTONE	4.5	461.5	
142.2	CARBONDALE	ANNA	BLUE SHALE	0.1	466.0	
142.1	CARBONDALE	HERRIN	COAL	3.5	466.1	
138.6	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	469.6	SULFUR BAND
138.5	CARBONDALE	HERRIN	COAL	1.0	469.7	
137.5	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	470.7	SULFUR BAND
137.5	CARBONDALE	HERRIN	COAL	0.7	470.7	
136.9	CARBONDALE	HERRIN	ROCK	0.1	471.3	BLUE BAND
136.8	CARBONDALE	HERRIN	COAL	1.8	471.4	
135.0	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	473.2	SULFUR BAND
135.0	CARBONDALE	HERRIN	COAL	0.6	473.2	
134.4	CARBONDALE		SANDSTONE	4.8	473.8	
129.7	CARBONDALE		LIGHT SHALE	7.5	478.5	
122.2	CARBONDALE		SANDSTONE	4.0	486.0	
118.2	CARBONDALE		SHALE WITH LIMESTONE	3.0	490.0	
115.2	CARBONDALE		BLUE SHALE	43.0	493.0	
72.2	CARBONDALE		BLUE LIMESTONE	1.0	536.0	
71.2	CARBONDALE	EXCELLO	BLACK SHALE	7.0	537.0	
64.2	CARBONDALE	HOUCHIN CREEK	COAL	2.7	544.0	
61.5	CARBONDALE		LIGHT SHALE	1.3	546.7	

MAPID: 02100248000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 44' N line, 59' E line of NE NE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289231 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.596313 **DATE COLLECTED:** 2 / 0 / 1951

SURFACE ELEVATION (FT.): 608.7 **LOGGED (FT.):** 475.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. J-17 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
141.0	CARBONDALE	HERRIN	COAL	7.8	467.7	

MAPID: 02100252000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 41' N line, 159' W line of NW NW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.306934 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.596695 **DATE COLLECTED:** 2 / 0 / 1951

SURFACE ELEVATION (FT.): 608.4 **LOGGED (FT.):** 459.7 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
156.7	CARBONDALE	HERRIN	COAL	8.0	451.7	

MAPID: 02100260000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 32' S line, 2572' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.29826 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.581993 **DATE COLLECTED:** 4 / 0 / 1951

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 455.9 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. J-134 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
161.6	CARBONDALE	HERRIN	COAL	8.5	447.4	

MAPID: 02100260000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 32' S line, 2572' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.29826 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.581993 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 455.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-134 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
188.7	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.2	420.3	
186.5	MODESTO		MOTTLED SHALE	0.8	422.5	
185.8	CARBONDALE		CLAYSTONE	1.0	423.2	
184.8	CARBONDALE		SILTY SHALE	0.9	424.2	
183.9	CARBONDALE	ALLENBY	BONE COAL	0.4	425.1	
183.5	CARBONDALE		CLAYSTONE & SHALE	2.2	425.5	
181.3	CARBONDALE	BANKSTON FORK	LIMESTONE	0.9	427.7	UPPER BENCH
180.4	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.3	428.6	SHALE PARTING
179.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	429.9	LOWER BENCH
177.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.7	431.8	
175.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	4.0	433.5	
171.5	CARBONDALE	LAWSON	DARK GRAY SHALE	0.4	437.5	
171.1	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	437.9	
169.9	CARBONDALE	CONANT	LIMESTONE	1.2	439.1	
168.7	CARBONDALE	JAMESTOWN	CALCAREOUS SHALE	1.2	440.3	
167.5	CARBONDALE		DARK GRAY SHALE	1.6	441.5	
165.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.2	443.1	
163.7	CARBONDALE	ANNA	BLACK SHALE	1.8	445.3	
162.0	CARBONDALE	HERRIN	COAL	8.5	447.0	

MAPID: 02100299000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 11' N line, 1003' W line of NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.294682 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.596519 **DATE COLLECTED:** 6 / 0 / 1951
SURFACE ELEVATION (FT.): 604.4 **LOGGED (FT.):** 462.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-140 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
149.7	CARBONDALE	HERRIN	COAL	7.8	454.7	

MAPID: 02102508000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** SW SW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.296987 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.590166 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 470.7 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
143.0	CARBONDALE	HERRIN	COAL	8.7	462.0	

MAPID: 02100224000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 212' N line, 12' E line of NE NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.270224 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.596261 **DATE COLLECTED:** 12 / 0 / 1950
SURFACE ELEVATION (FT.): 611.6 **LOGGED (FT.):** 484.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 123-J **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100237000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 44' S line, 785' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.285796 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.58199 **DATE COLLECTED:** 7 / 0 / 1951
SURFACE ELEVATION (FT.): 609.2 **LOGGED (FT.):** 715.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-15 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100237000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 44' S line, 785' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.285796 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.58199 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 486.7 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-15 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100378000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 11' N line, 80' W line of NW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.279321 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.596615 **DATE COLLECTED:** 4 / 0 / 1953
SURFACE ELEVATION (FT.): 608.8 **LOGGED (FT.):** 483.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 228 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
132.1	CARBONDALE	HERRIN	COAL	7.1	476.7	

MAPID: 02100254000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 22' N line, 2550' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.260371 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.596964 **DATE COLLECTED:** 2 / 0 / 1951

SURFACE ELEVATION (FT.): 610.3 **LOGGED (FT.):** 481.7 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. J-128 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
136.0	CARBONDALE	HERRIN	COAL	7.4	474.3	

MAPID: 02100254000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 22' N line, 2550' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.260371 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.596964 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 483.4 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. J-128 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
173.9	MODESTO	PIASA	LIMESTONE	0.7	436.1	
173.2	MODESTO		SHALE	16.3	436.8	
156.9	CARBONDALE	ALLENBY	CARBONACEOUS SHALE	1.3	453.1	
155.7	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	3.3	454.3	
152.3	CARBONDALE	LAWSON	CALCAREOUS SHALE	5.8	457.7	
146.5	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	463.5	
145.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.4	464.8	
144.7	CARBONDALE	LAWSON	BLACK SHALE	2.0	465.3	
142.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.7	467.3	
141.1	CARBONDALE	JAMESTOWN	DARK GRAY SHALE	1.8	468.9	
139.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	470.7	
134.3	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	475.7	
134.0	CARBONDALE	HERRIN	COAL	7.4	476.0	

MAPID: 02102512000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** SW SW NE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.259437 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.590484 **DATE COLLECTED:** 0 / 0 / 1969

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 496.5 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO PW-14 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
132.0	CARBONDALE	HERRIN	COAL	8.5	488.0	

MAPID: 02100024000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** SW NW NW SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.259724 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.573415 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 618.5 **LOGGED (FT.):** 950.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 13 **WELL TYPE:** Coal Test

COMMENT: NO DATE GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
618.5	PLEISTOCENE		CLAY	14.0	0.0	
604.5	PLEISTOCENE		SAND	8.0	14.0	
596.5	PLEISTOCENE		CLAY	11.0	22.0	AND ROCKS
585.5	PLEISTOCENE		SAND	7.0	33.0	
578.5	PLEISTOCENE		SAND	4.0	40.0	
574.5	PLEISTOCENE		SAND/CLAY	37.0	44.0	
537.5	PLEISTOCENE		SAND	23.0	81.0	
514.5	PLEISTOCENE		CLAY	17.0	104.0	
497.5	PLEISTOCENE		SAND	8.0	121.0	
489.5	PLEISTOCENE		CLAY	7.0	129.0	
482.5	PLEISTOCENE		SAND	11.0	136.0	
471.5	PLEISTOCENE		GRAVEL	2.0	147.0	
469.5	PLEISTOCENE		SANDY CLAY	2.0	149.0	
467.5	PLEISTOCENE		BOULDER	1.5	151.0	LOOSE BOULDERS
466.0	BOND		SANDSTONE	9.5	152.5	
456.5	BOND		BLUE SHALE	3.0	162.0	
453.5	BOND		SOFT SHALE	19.0	165.0	
434.5	BOND	CARTHAGE	LIMESTONE	9.5	184.0	
425.0	MODESTO		LIGHT SHALE	1.0	193.5	
424.0	MODESTO		BLACK SHALE	2.5	194.5	
421.5	MODESTO		BLUE SHALE	15.0	197.0	
406.5	MODESTO		SANDSTONE	7.0	212.0	W/ HARD LUMPS
399.5	MODESTO		LIMESTONE W/ SHALE	6.0	219.0	MIXED
393.5	MODESTO		LIGHT SHALE	3.5	225.0	
390.0	MODESTO		LIMESTONE	4.0	228.5	
386.0	MODESTO		BLACK SHALE	1.5	232.5	
384.5	MODESTO		SOFT SHALE	6.0	234.0	
378.5	MODESTO		SHALE WITH LIMESTONE	3.5	240.0	
375.0	MODESTO		LIGHT SHALE	9.2	243.5	
365.8	MODESTO		COAL	0.8	252.7	
365.0	MODESTO		LIGHT SHALE	1.5	253.5	
363.5	MODESTO		SANDY SHALE	9.0	255.0	
354.5	MODESTO		SANDSTONE	9.0	264.0	
345.5	MODESTO		SANDY SHALE	9.0	273.0	
336.5	MODESTO		BLUE SHALE	39.2	282.0	
297.3	MODESTO	CHAPEL	COAL	1.3	321.2	
296.1	MODESTO		SANDSTONE	1.6	322.4	
294.5	MODESTO		BLUE SHALE	4.0	324.0	
290.5	MODESTO		SANDY SHALE	4.0	328.0	

286.5	MODESTO		SANDSTONE	40.0	332.0	W/ A FEW SH STREAKS
246.5	MODESTO		BLUE SHALE	18.0	372.0	
228.5	MODESTO		BLUE SHALE	29.0	390.0	TOUGH
199.5	MODESTO		COAL	0.3	419.0	
199.2	MODESTO		SANDSTONE	4.8	419.3	
194.5	MODESTO		BLUE SHALE	5.0	424.0	TOUGH
189.5	MODESTO		SANDSTONE	4.0	429.0	
185.5	MODESTO		DARK SHALE	2.0	433.0	
183.5	MODESTO	PIASA	BLUE LIMESTONE	0.5	435.0	
183.0	MODESTO		SANDSTONE	10.5	435.5	VARIEGATED
172.5	MODESTO		BLUE SHALE	2.6	446.0	
169.9	CARBONDALE	DANVILLE	COAL	0.6	448.6	
169.3	CARBONDALE		DARK SHALE	0.8	449.2	
168.5	CARBONDALE		SHALE WITH LIMESTONE	3.0	450.0	
165.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	453.0	
161.5	CARBONDALE		SHALE WITH LIMESTONE	2.0	457.0	
159.5	CARBONDALE		SANDSTONE	6.5	459.0	
153.0	CARBONDALE	BRERETON	LIMESTONE	1.5	465.5	
151.5	CARBONDALE	ANNA	BLACK SHALE	6.2	467.0	
145.3	CARBONDALE	HERRIN	COAL	5.3	473.2	
140.0	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	478.5	SULFUR BAND
140.0	CARBONDALE	HERRIN	COAL	0.5	478.5	
139.5	CARBONDALE	HERRIN	ROCK	0.1	479.0	BLUE BAND
139.3	CARBONDALE	HERRIN	COAL	1.6	479.2	
137.8	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	480.7	SULFUR BAND
137.7	CARBONDALE	HERRIN	COAL	0.3	480.8	
137.4	CARBONDALE		LIGHT SHALE	7.9	481.1	
129.5	CARBONDALE		SANDSTONE	4.0	489.0	
125.5	CARBONDALE		LIMESTONE W/ SHALE	7.0	493.0	MIXED
118.5	CARBONDALE		SANDSTONE	4.0	500.0	
114.5	CARBONDALE		LIGHT SHALE	5.0	504.0	
109.5	CARBONDALE		SHALE	5.0	509.0	WITH SAND STREAKS
104.5	CARBONDALE		GRAY SHALE	6.0	514.0	
98.5	CARBONDALE		BLUE SHALE	34.0	520.0	
64.5	CARBONDALE		ROCK	1.0	554.0	HARD
63.5	CARBONDALE		BLACK SHALE	6.5	555.0	
57.0	CARBONDALE		BLUE LIMESTONE	0.9	561.5	
56.1	CARBONDALE	EXCELLO	BLACK SHALE	0.2	562.4	
55.9	CARBONDALE	HOUCHIN CREEK	COAL	2.3	562.6	
53.6	CARBONDALE		SANDSTONE	4.1	564.9	
49.5	CARBONDALE		SHALE	6.0	569.0	W/ SAND STREAKS
43.5	CARBONDALE		GRAY SHALE	17.0	575.0	
26.5	CARBONDALE		BLACK SHALE	4.0	592.0	
22.5	CARBONDALE	LOWELL	COAL	1.0	596.0	
21.5	CARBONDALE		BLUE SHALE	0.5	597.0	
21.0	CARBONDALE		SANDSTONE	5.0	597.5	
16.0	CARBONDALE		BLUE SHALE	26.5	602.5	

-10.5	CARBONDALE		SANDSTONE	7.0	629.0	
-17.5	CARBONDALE		DARK SHALE	1.0	636.0	
-18.5	CARBONDALE	COLCHESTER	COAL	1.3	637.0	
-19.8	CARBONDALE	COLCHESTER	SHALE	0.3	638.3	
-20.0	CARBONDALE	COLCHESTER	COAL	1.2	638.5	
-21.2	CARBONDALE		SANDSTONE	1.8	639.7	
-23.0	CARBONDALE		SANDSTONE	7.0	641.5	
-30.0	CARBONDALE		SANDY SHALE	8.5	648.5	
-38.5	CARBONDALE		BLUE SHALE	8.0	657.0	
-46.5	CARBONDALE		BLACK SHALE	3.7	665.0	
-50.2	CARBONDALE		COAL	1.2	668.7	
-51.3	SPOON		SANDY SHALE	1.2	669.8	
-52.5	SPOON		LIGHT SHALE	6.0	671.0	
-58.5	SPOON		SANDY SHALE	4.0	677.0	
-62.5	SPOON		SANDSTONE	4.5	681.0	
-67.0	SPOON		BLUE SHALE	1.0	685.5	
-68.0	SPOON		BONE COAL	0.3	686.5	
-68.3	SPOON		SANDSTONE	3.2	686.8	
-71.5	SPOON		LIGHT SHALE	2.0	690.0	
-73.5	SPOON		DARK SHALE	2.4	692.0	
-75.9	SPOON		COAL	0.4	694.4	
-76.3	SPOON		DARK SHALE	1.2	694.8	
-77.5	SPOON		SANDSTONE	5.0	696.0	
-82.5	SPOON		LIMESTONE	2.8	701.0	
-85.3	SPOON		COAL	0.6	703.8	
-85.8	SPOON		BLUE SHALE	15.2	704.3	
-101.0	SPOON		BLACK SHALE	2.0	719.5	
-103.0	SPOON		GRAY SHALE	4.5	721.5	
-107.5	SPOON		BLUE SHALE	2.0	726.0	
-109.5	SPOON		BLUE SHALE	9.3	728.0	
-118.8	SPOON		COAL	2.3	737.3	
-121.1	SPOON		SANDSTONE	17.4	739.6	
-138.5	SPOON		LIGHT SHALE	3.0	757.0	
-141.5	SPOON		DARK SHALE	2.0	760.0	
-143.5	SPOON		BLUE SHALE	36.0	762.0	W/ SS STREAKS
-179.5	SPOON		SANDSTONE	34.0	798.0	
-213.5	SPOON		SANDSTONE/SHALE	15.0	832.0	MIXED
-228.5	SPOON		BLUE SHALE	19.0	847.0	W/ SAND STREAKS
-247.5	SPOON		SANDSTONE/SHALE	23.0	866.0	MIXED
-270.5	SPOON		SANDSTONE	4.0	889.0	
-274.5	BASE OF PENN.		BLUE SHALE	26.0	893.0	
-300.5	MISSISSIPPIAN		LIMESTONE	31.0	919.0	

MAPID: 02100234000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 645' N line, 8' W line of NW NW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.269853 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.580209 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 611.3 **LOGGED (FT.):** 451.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 125 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100249000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2634' N line, 2485' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.259698 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.574784 **DATE COLLECTED:** 2 / 0 / 1951
SURFACE ELEVATION (FT.): 614.4 **LOGGED (FT.):** 480.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-127 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
142.4	CARBONDALE	HERRIN	COAL	8.1	472.0	

MAPID: 02100249000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2634' N line, 2485' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.259698 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.574784 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 480.1 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-127 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
183.6	MODESTO		SHALE	16.0	430.4	
167.6	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	0.3	446.4	
167.4	CARBONDALE		CLAYSTONE	0.4	446.6	
167.0	CARBONDALE		CARBONACEOUS SHALE	1.7	447.0	
165.4	CARBONDALE	ALLENBY	BONE COAL	0.3	448.6	
165.0	CARBONDALE		ROCK	3.3	449.0	
161.7	CARBONDALE	BANKSTON FORK	LIMESTONE AND SANDSTONE	2.5	452.3	
159.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.6	454.8	
158.6	CARBONDALE	LAWSON	SANDSTONE	0.6	455.4	
158.0	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	7.0	456.0	
151.0	CARBONDALE	LAWSON	GRAY SHALE	0.4	463.0	
150.6	CARBONDALE	LAWSON	MOTTLED SHALE	0.6	463.4	
150.0	CARBONDALE	BRERETON	LIMESTONE	2.5	464.0	
147.5	CARBONDALE	ANNA	BLACK SHALE	5.5	466.5	
142.0	CARBONDALE	HERRIN	COAL	8.1	472.0	

MAPID: 02102511000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.268619 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.568315 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 485.1 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-5 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
137.0	CARBONDALE	HERRIN	COAL	7.1	478.0	

MAPID: 02190004000C **VERSION:** 1 **PROJECT:** ISGS97

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 812' N line, 50' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.269701 **GEOLOGIST:** MCCRACKEN
CONFIDENTIAL: N **LATITUDE:** 39.579748 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.3 **LOGGED (FT.):** 451.6 **LOG TYPE:** Company map
SOURCE: PEABODY COAL CO. J-125 **WELL TYPE:** Coal Test
COMMENT: UNDATED COMPANY MAP-RETURNED TO CO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
611.3			UNKNOWN	437.3	0.0	
174.0	CARBONDALE	BRERETON	LIMESTONE	4.5	437.3	
169.5	CARBONDALE	ANNA	BLACK SHALE	3.8	441.8	
165.7	CARBONDALE	HERRIN	COAL	6.0	445.6	

MAPID: 02102521000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 990' S line, 330' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.28733 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.570123 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 480.5 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-11 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
137.0	CARBONDALE	HERRIN	COAL	7.5	473.0	

MAPID: 02102521000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 990' S line, 330' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.28733 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.570123 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 480.5 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-11 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
171.3	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.8	438.7	
170.6	MODESTO		MOTTLED SHALE	7.8	439.4	
162.7	CARBONDALE	GALUM	CALCAREOUS SHALE	1.5	447.3	
161.2	CARBONDALE	ALLENBY	BLACK SHALE	0.8	448.8	
160.5	CARBONDALE		MOTTLED SHALE	4.6	449.5	
155.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.5	454.1	
153.4	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	456.6	
152.4	CARBONDALE	LAWSON	SILTY SHALE	1.6	457.6	
150.8	CARBONDALE	LAWSON	SANDSTONE	3.7	459.2	
147.2	CARBONDALE	LAWSON	SILTY SHALE	0.8	462.8	
146.3	CARBONDALE	LAWSON	GRAY SHALE	1.3	463.7	
145.0	CARBONDALE	BRERETON	LIMESTONE	3.8	465.0	
141.2	CARBONDALE	ANNA	BLACK SHALE	4.3	468.8	
137.0	CARBONDALE	HERRIN	COAL	7.5	473.0	

MAPID: 02190003000C **VERSION:** 1 **PROJECT:** ISGS97

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 100' S line, 914' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.28523 **GEOLOGIST:** MCCRACKEN
CONFIDENTIAL: N **LATITUDE:** 39.567668 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 602.9 **LOGGED (FT.):** 491.2 **LOG TYPE:** Company map
SOURCE: PEABODY COAL CO. CC-J-19 **WELL TYPE:** Coal Test
COMMENT: UNDATED COMPANY MAP-RETURNED TO CO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
602.9			UNKNOWN	476.2	0.0	
126.7	CARBONDALE	BRERETON	LIMESTONE	2.1	476.2	
124.6	CARBONDALE	ANNA	BLACK SHALE	5.0	478.3	
119.6	CARBONDALE	HERRIN	COAL	7.9	483.3	

MAPID: 02100228000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 488' S line, 2591' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.298048 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.568804 **DATE COLLECTED:** 1 / 0 / 1951
SURFACE ELEVATION (FT.): 614.6 **LOGGED (FT.):** 450.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-4 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100228000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 488' S line, 2591' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.298048 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.568804 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 451.1 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. J-4 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100304000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 331' S line, 76' W line of SW NE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.297686 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.575591 **DATE COLLECTED:** 6 / 0 / 1951
SURFACE ELEVATION (FT.): 619.1 **LOGGED (FT.):** 472.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 135 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
154.6	CARBONDALE	HERRIN	COAL	7.7	464.5	

MAPID: 02100879000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 20' N line, 27' W line of SW SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.307219 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.571072 **DATE COLLECTED:** 9 / 23 / 1957
SURFACE ELEVATION (FT.): 608.7 **LOGGED (FT.):** 470.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. CC265 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
145.8	CARBONDALE	HERRIN	COAL	7.5	462.9	

MAPID: 02100256000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2085' S line, 2566' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.31649 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.573292 **DATE COLLECTED:** 2 / 0 / 1951
SURFACE ELEVATION (FT.): 597.9 **LOGGED (FT.):** 459.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. J-18 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
145.9	CARBONDALE	HERRIN	COAL	7.8	452.0	

MAPID: 02100256000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2085' S line, 2566' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.31649 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.573292 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 459.8 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. J-18 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
177.7	MODESTO	PIASA	LIMESTONE/UNDERCLAY	1.3	420.3	
176.3	MODESTO		MOTTLED SHALE	6.0	421.7	
170.4	CARBONDALE	DANVILLE	BONE COAL	0.1	427.6	
170.3	CARBONDALE		CLAYSTONE & SHALE	1.9	427.7	
168.3	CARBONDALE	ALLENBY	BONE COAL	0.2	429.7	
168.1	CARBONDALE		CALCAREOUS SHALE	5.8	429.9	
162.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.2	435.7	
160.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.2	437.8	
159.0	CARBONDALE	LAWSON	GRAY SHALE	1.8	439.0	
157.2	CARBONDALE	LAWSON	SANDSTONE	1.6	440.8	
155.6	CARBONDALE	LAWSON	SILTSTONE	1.3	442.4	
154.3	CARBONDALE	LAWSON	SILTY SHALE	0.7	443.7	
153.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.2	444.4	
148.4	CARBONDALE	ANNA	BLACK SHALE	2.4	449.6	
146.0	CARBONDALE	HERRIN	COAL	7.8	452.0	

MAPID: 02100134000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 17 **QUARTERS/FOOTAGES:** 32' N line, 1362' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.340203 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.581973 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 429.5 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
219.5	MODESTO		DARK GRAY SHALE	9.7	389.5	
209.8	CARBONDALE		DARK GRAY SHALE	2.7	399.2	
207.1	CARBONDALE	ALLENBY	BONE COAL	0.3	401.9	
206.8	CARBONDALE		CARBONACEOUS SHALE	0.8	402.2	
206.1	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	1.8	402.9	
204.3	CARBONDALE	LAWSON	CARBONACEOUS SHALE	2.2	404.7	
202.2	CARBONDALE	LAWSON	GRAY SHALE	3.7	406.8	
198.5	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	410.5	
197.0	CARBONDALE	LAWSON	BLACK SHALE	1.3	412.0	
195.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	413.3	
193.7	CARBONDALE	BRERETON	LIMESTONE & SHALE	7.0	415.3	
186.7	CARBONDALE	ANNA	CALCAREOUS SHALE	0.7	422.3	
186.0	CARBONDALE	HERRIN	COAL	6.5	423.0	

MAPID: 02100109000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 59' S line, 110' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.366499 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.567686 **DATE COLLECTED:** 11 / 0 / 1941

SURFACE ELEVATION (FT.): 588.4 **LOGGED (FT.):** 435.0 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
588.4	PLEISTOCENE		SOIL	30.0	0.0	AND HARD PAN
558.4	PLEISTOCENE		HARD PAN	35.0	30.0	DARK
523.4	PLEISTOCENE		SAND & GRAVEL	7.0	65.0	SOFT SS
516.4	BOND		SOFT SHALE	13.0	72.0	
503.4	BOND	CARTHAGE	LIMESTONE	10.0	85.0	HARD
493.4	MODESTO		BLACK SHALE	2.5	95.0	
490.9	MODESTO		COAL	1.5	97.5	
489.4	MODESTO		SHALE WITH LIMESTONE	19.5	99.0	
469.9	MODESTO		BLACK SHALE	1.5	118.5	
468.4	MODESTO		SHALE WITH LIMESTONE	4.0	120.0	
464.4	MODESTO		LIGHT SHALE	8.0	124.0	
456.4	MODESTO		GRAY SHALE	213.0	132.0	
243.4	CARBONDALE		SHALE WITH LIMESTONE	5.0	345.0	
238.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	350.0	
234.9	CARBONDALE		SHALE WITH LIMESTONE	8.5	353.5	
226.4	CARBONDALE	BRERETON	LIMESTONE	4.0	362.0	
222.4	CARBONDALE	HERRIN	COAL	8.0	366.0	COAL SEAM
214.4	CARBONDALE		UNDERCLAY	7.0	374.0	
207.4	CARBONDALE		LIMESTONE	4.0	381.0	
203.4	CARBONDALE		DARK SHALE	5.8	385.0	
197.6	CARBONDALE		CHERT	1.3	390.8	AND LIMEROCK MIXTURE
196.2	CARBONDALE		DARK GRAY SHALE	29.3	392.2	
166.9	CARBONDALE		BLACK SHALE	7.3	421.5	
159.6	CARBONDALE		LIMESTONE	0.7	428.8	DARK
158.9	CARBONDALE		LIMESTONE	1.2	429.5	HARD
157.7	CARBONDALE	EXCELLO	BLACK SHALE	1.8	430.7	
155.9	CARBONDALE	HOUCHIN CREEK	COAL	0.5	432.5	SEAM
155.4	CARBONDALE		UNDERCLAY	2.0	433.0	

MAPID: 02100113000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 100' S line, 380' W line of NW SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365725 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.571384 **DATE COLLECTED:** 10 / 0 / 1941

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 400.0 **LOG TYPE:** Drillers Log

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

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	PLEISTOCENE		SOIL	24.0	0.0	AND YL CLY
-	PLEISTOCENE		HARD PAN	78.0	24.0	AND CLY
-	BOND		SANDSTONE	4.0	102.0	
-	BOND	CARTHAGE	LIMESTONE	9.0	106.0	
-	MODESTO		LIGHT SHALE	2.0	115.0	
-	MODESTO		COAL	1.5	117.0	
-	MODESTO		UNDERCLAY	6.5	118.5	AND SOFT SH
-	MODESTO		SHALE	20.0	125.0	W/ STRATAS OF LIME
-	MODESTO		GRAY SHALE	228.0	145.0	
-	CARBONDALE		SHALE	3.0	373.0	
-	CARBONDALE		DARK SHALE	4.5	376.0	
-	CARBONDALE		LIMESTONE	1.5	380.5	
-	CARBONDALE		DARK SHALE	1.0	382.0	
-	CARBONDALE		DARK SHALE	2.5	383.0	W/ LIME STRATAS
-	CARBONDALE	BRERETON	LIMESTONE	5.5	385.5	
-	CARBONDALE		SANDSTONE	0.5	391.0	
-	CARBONDALE	HERRIN	COAL	7.5	391.5	1.5" BAND 26" FROM BOTTOM
-	CARBONDALE		UNDERCLAY	1.0	399.0	

MAPID: 02100114000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 150' N line, 380' W line of NW SW
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.365873 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.574271 **DATE COLLECTED:** 10 / 0 / 1941
SURFACE ELEVATION (FT.): 603.3 **LOGGED (FT.):** 440.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
603.3	PLEISTOCENE		SOIL	20.0	0.0	AND CLY
583.3	PLEISTOCENE		HARD PAN	63.0	20.0	AND CLY
520.3	BOND		LIMESTONE	4.0	83.0	
516.3	BOND		SANDSTONE	18.0	87.0	
498.3	BOND	CARTHAGE	LIMESTONE	8.0	105.0	
490.3	MODESTO		COAL	1.5	113.0	
488.8	MODESTO		SHALE/UNDERCLAY	8.5	114.5	
480.3	MODESTO		DARK SHALE	22.0	123.0	STICKY SH W/ STRATAS OF LIME
458.3	MODESTO		GRAY SHALE	190.0	145.0	
268.3	MODESTO		DARK SHALE	10.0	335.0	
258.3	MODESTO		ROCK	22.0	345.0	DARK COLORED
236.3	MODESTO		CONGLOMERATE	1.0	367.0	
235.3	MODESTO		HARD SHALE	5.0	368.0	
230.3	MODESTO		CONGLOMERATE	5.0	373.0	LIME CONGLOMERATE
225.3	MODESTO		HARD SHALE	7.0	378.0	
218.3	MODESTO		HARD SHALE	20.0	385.0	WITH LT HD STRATAS
198.3	MODESTO		HARD SHALE	5.0	405.0	
193.3	MODESTO		SHALE WITH LIMESTONE	6.0	410.0	
187.3	MODESTO		DARK SHALE	8.0	416.0	
179.3	MODESTO		DARK SHALE	16.0	424.0	W/ LIME STRATAS

MAPID: 02100212000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1' S line, 630' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.364638 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.567538 **DATE COLLECTED:** 9 / 0 / 1950
SURFACE ELEVATION (FT.): 607.8 **LOGGED (FT.):** 410.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 118 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100212000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 1' S line, 630' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.364638 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.567538 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 410.0 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 118 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100025000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 19 **QUARTERS/FOOTAGES:** NW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.361314 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.563893 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 595.4 **LOGGED (FT.):** 383.2 **LOG TYPE:** Drillers Log

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

COMMENT: NO DATE;ELV IS HAND LEVEL;LOC: W 1/2-NW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
595.4	PLEISTOCENE		UNCONSOLIDATED	34.0	0.0	
561.4	BOND		SANDSTONE	31.0	34.0	
530.4	BOND	CARTHAGE	LIMESTONE	33.0	65.0	
497.4	MODESTO		BLACK SHALE	6.0	98.0	
491.4	MODESTO		SHALE	4.0	104.0	
487.4	MODESTO		LIMESTONE	3.0	108.0	
484.4	MODESTO		SHALE	2.0	111.0	
482.4	MODESTO		LIMESTONE	2.0	113.0	
480.4	MODESTO		SHALE	8.0	115.0	
472.4	MODESTO		BLACK SHALE	3.0	123.0	
469.4	MODESTO		SHALE WITH LIMESTONE	27.0	126.0	
442.4	MODESTO		SANDSTONE	1.0	153.0	
441.4	MODESTO		SANDY SHALE	2.0	154.0	
439.4	MODESTO		SHALE	54.0	156.0	
385.4	MODESTO		CONCRETION	1.0	210.0	
384.4	MODESTO		BLACK SHALE	1.0	211.0	
383.4	MODESTO		BONE COAL	1.5	212.0	
381.9	MODESTO		UNDERCLAY	2.5	213.5	
379.4	MODESTO		LIMESTONE	16.0	216.0	SDY
363.4	MODESTO		SHALE	80.0	232.0	
283.4	MODESTO		LIMESTONE	2.0	312.0	MIXED
281.4			BONE COAL	1.0	314.0	
280.4			UNDERCLAY	9.0	315.0	
271.4			ARGILLACEOUS LIMESTONE	5.0	324.0	
266.4			SHALE WITH LIMESTONE	18.0	329.0	
248.4	CARBONDALE		LIMESTONE	22.0	347.0	SDY
226.4	CARBONDALE		SANDSTONE	7.0	369.0	
219.4	CARBONDALE	HERRIN	COAL	7.2	376.0	

MAPID: 02102123000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 21 **QUARTERS/FOOTAGES:** 50' N line, 372' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.324676 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.567417 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 429.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. CC294 **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
202.5	CARBONDALE		SHALE & SANDSTONE	21.0	387.5	
181.5	CARBONDALE	LAWSON	SHALE	7.0	408.5	
174.5	CARBONDALE	BRERETON	LIMESTONE	5.1	415.5	
169.4	CARBONDALE	ANNA	CALCAREOUS SHALE	0.4	420.6	
169.0	CARBONDALE	HERRIN	COAL	8.0	421.0	

MAPID: 02100253000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 407' N line, 1284' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.283879 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.566266 **DATE COLLECTED:** 2 / 0 / 1951

SURFACE ELEVATION (FT.): 602.9 **LOGGED (FT.):** 491.2 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. J-19 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
119.6	CARBONDALE	HERRIN	COAL	7.9	483.3	

MAPID: 02100253000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 407' N line, 1284' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.283879 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.566266 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 491.8 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. J-19 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
156.5	MODESTO	PIASA	NODULAR LIMESTONE	1.3	446.5	
155.3	MODESTO		MOTTLED SHALE	7.5	447.7	
147.8	CARBONDALE		CLAYSTONE	0.8	455.2	
147.0	CARBONDALE		GRAY SHALE	1.6	456.0	
145.4	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.4	457.6	
145.0	CARBONDALE		CALCAREOUS SHALE	7.3	458.0	
137.7	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	4.0	465.3	
133.7	CARBONDALE	LAWSON	MOTTLED SHALE	1.5	469.3	
132.2	CARBONDALE	LAWSON	SANDSTONE	6.0	470.8	
126.2	CARBONDALE	LAWSON	SILTSTONE	0.8	476.8	
125.5	CARBONDALE	LAWSON	MOTTLED SHALE	0.5	477.5	
125.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.1	478.0	
122.9	CARBONDALE	ANNA	BLACK SHALE	4.9	480.1	
118.0	CARBONDALE	HERRIN	COAL	6.8	485.0	

MAPID: 02100251000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 12' N line, 12' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.269767 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.567357 **DATE COLLECTED:** 1 / 0 / 1951

SURFACE ELEVATION (FT.): 615.6 **LOGGED (FT.):** 480.7 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. J-126 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
143.1	CARBONDALE	HERRIN	COAL	8.2	472.5	

MAPID: 02100251000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 12' N line, 12' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.269767 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.567357 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 477.2 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. J-126 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
181.4	MODESTO	PIASA	LIMESTONE	1.5	434.6	
179.9	MODESTO		MOTTLED SHALE	8.7	436.1	
171.2	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.2	444.8	
171.1	CARBONDALE		CLAYSTONE & SHALE	2.0	444.9	
169.1	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.5	446.9	
168.6	CARBONDALE		CALCAREOUS SHALE	7.2	447.4	
161.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.2	454.6	
157.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.3	458.8	
157.0	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.6	459.0	
156.4	CARBONDALE	LAWSON	GRAY SHALE	1.3	459.6	
155.2	CARBONDALE	LAWSON	SILTSTONE	1.6	460.8	
153.6	CARBONDALE	LAWSON	SANDSTONE	1.9	462.4	
151.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.6	464.3	
150.0	CARBONDALE	ANNA	BLACK SHALE	3.0	466.0	
147.0	CARBONDALE	HERRIN	COAL	8.2	469.0	

MAPID: 02100026000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** NW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.283329 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.549281 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 591.9 **LOGGED (FT.):** 500.1 **LOG TYPE:** Drillers Log

SOURCE: TAYLORVILLE COAL CO. 9 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
591.9			UNCONSOLIDATED	123.5	0.0	SOIL, SAND, CLAY, AND GRAVEL
468.4	BOND		SHALE	1.5	123.5	
466.9	BOND		LIMESTONE	4.0	125.0	
462.9	BOND		SHALE	3.0	129.0	
459.9	BOND		LIMESTONE	0.8	132.0	
459.1	BOND		LIMESTONE	5.0	132.8	
454.1	BOND		LIMESTONE	4.0	137.8	
450.1	BOND		SANDSTONE	5.3	141.8	SS AND SH
444.9	BOND		LIMESTONE	2.3	147.0	
442.6	BOND		GRAY SHALE	0.8	149.3	
441.9	BOND		BLACK SHALE	2.5	150.0	
439.4	BOND		GRAY SHALE	15.5	152.5	
423.9	BOND		CALCAREOUS SHALE	6.8	168.0	
417.1	BOND		LIMESTONE	1.3	174.8	
415.8	BOND		CALCAREOUS SHALE	17.2	176.1	
398.6	BOND		BLACK SHALE	0.4	193.3	
398.2	BOND	CARTHAGE	LIMESTONE	14.3	193.7	
383.9	BOND	CARTHAGE	LIMESTONE	1.5	208.0	
382.4	MODESTO		UNDERCLAY	6.5	209.5	UCLY W/LS STREAKS
375.9	MODESTO		CALCAREOUS SHALE	8.0	216.0	
367.9	MODESTO		SANDY SHALE	44.5	224.0	
323.4	MODESTO		CALCAREOUS SHALE	11.3	268.5	
312.1	MODESTO		SANDSTONE	0.8	279.8	
311.2	MODESTO		BLACK SHALE	0.4	280.7	
310.8	MODESTO		COAL	0.4	281.1	
310.4	MODESTO		CALCAREOUS SHALE	1.3	281.5	
309.1	MODESTO		SANDSTONE	0.3	282.8	
308.7	MODESTO		CALCAREOUS SHALE	3.2	283.2	
305.5	MODESTO		SANDY SHALE	7.7	286.4	
297.8	MODESTO		SANDY SHALE	26.0	294.1	SDY SH W/ SS STREAKS
271.8	MODESTO		SANDSTONE	65.8	320.1	
206.1	MODESTO		SANDSTONE	0.1	385.8	
206.0	MODESTO		SANDSTONE	2.2	385.9	
203.8	MODESTO		SHALE	0.2	388.1	SH W/ COAL STREAKS
203.6	MODESTO		SHALE	0.8	388.3	
202.8	MODESTO	PIASA	CALCAREOUS SHALE	2.0	389.1	
200.8	CARBONDALE		UNDERCLAY	3.3	391.1	
197.5	CARBONDALE		DARK SHALE	2.1	394.4	
195.4	CARBONDALE		DARK GRAY SHALE	0.7	396.5	

194.7	CARBONDALE		SHALE	0.5	397.2	
194.2	CARBONDALE		BLACK SHALE	1.5	397.7	
192.7	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.3	399.2	
190.5	CARBONDALE		SHALE	4.7	401.4	
185.8	CARBONDALE		GRAY SHALE	4.0	406.1	
181.8	CARBONDALE		SHALE	3.0	410.1	
178.8	CARBONDALE		BLACK SHALE	2.0	413.1	
176.8	CARBONDALE		SHALE	2.4	415.1	
174.4	CARBONDALE		SHALE	1.3	417.5	
173.1	CARBONDALE		BLACK SHALE	0.8	418.8	
172.2	CARBONDALE		SHALE	1.4	419.7	
170.8	CARBONDALE	BRERETON	LIMESTONE	20.5	421.1	
150.3	CARBONDALE	ANNA	BLACK SHALE	0.6	441.6	
149.7	CARBONDALE	HERRIN	COAL	6.3	442.2	
143.5	CARBONDALE	HERRIN	PYRITE	0.1	448.4	
143.4	CARBONDALE	HERRIN	COAL	1.4	448.5	
142.0	CARBONDALE		UNDERCLAY	2.0	449.9	
140.0	CARBONDALE		SANDY SHALE	2.5	451.9	
137.5	CARBONDALE		LIMESTONE	5.5	454.4	SDY LS
132.0	CARBONDALE		SHALE	0.7	459.9	
131.3	CARBONDALE		DARK SHALE	3.3	460.6	
128.1	CARBONDALE		LIMESTONE	2.2	463.8	
125.9	CARBONDALE		UNDERCLAY	1.5	466.0	
124.4	CARBONDALE		DARK SHALE	6.6	467.5	
117.8	CARBONDALE		GRAY SHALE	26.0	474.1	

MAPID: 02100026000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** NW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.283329 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.549281 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 449.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
189.1	MODESTO		MOTTLED SHALE	10.0	402.9	
179.1	CARBONDALE	DANVILLE	BLACK SHALE	2.0	412.9	
177.1	CARBONDALE		MOTTLED SHALE	3.8	414.9	
173.3	CARBONDALE	ALLENBY	BLACK SHALE	0.8	418.7	
172.5	CARBONDALE		CLAYSTONE & SHALE	1.4	419.5	
171.1	CARBONDALE	BRERETON	LIMESTONE	20.5	420.9	
150.6	CARBONDALE	ANNA	BLACK SHALE	0.6	441.4	
150.0	CARBONDALE	HERRIN	COAL	7.8	442.0	

MAPID: 02100027000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** NW SW SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.364974 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.541199 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 578.6 **LOGGED (FT.):** 375.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 15 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
578.6			UNCONSOLIDATED	30.0	0.0	CLAY, SAND, AND SOME GRAVEL
548.6	BOND		SANDSTONE	16.0	30.0	
532.6	BOND		DARK SHALE	2.0	46.0	
530.6	BOND		LIMESTONE	6.0	48.0	
524.6	BOND		CALCAREOUS SHALE	9.0	54.0	
515.6	BOND		GRAY SHALE	3.0	63.0	
512.6	BOND		CALCAREOUS SHALE	2.0	66.0	
510.6	BOND		LIMESTONE	8.0	68.0	
502.6	BOND		DARK SHALE	10.0	76.0	
492.6	BOND		COAL	0.1	86.0	
492.5	BOND		SHALE	6.9	86.1	
485.6	BOND	CARTHAGE	CALCAREOUS SHALE	2.0	93.0	
483.6	BOND	CARTHAGE	LIMESTONE	9.0	95.0	
474.6	BOND	CARTHAGE	CALCAREOUS SHALE	3.0	104.0	
471.6	MODESTO		BLACK SHALE	5.0	107.0	
466.6	MODESTO		CALCAREOUS SHALE	18.0	112.0	
448.6	MODESTO		SANDY SHALE	10.0	130.0	
438.6	MODESTO		LIMESTONE	3.0	140.0	
435.6	MODESTO		SANDY SHALE	22.0	143.0	
413.6	MODESTO		GRAY SHALE	36.0	165.0	
377.6	MODESTO		COAL	1.5	201.0	
376.1	MODESTO	PIASA	CALCAREOUS SHALE	3.5	202.5	
372.6	MODESTO		GRAY SHALE	90.8	206.0	
281.8	CARBONDALE	DANVILLE	COAL	0.3	296.8	
281.6	CARBONDALE		UNDERCLAY	3.0	297.0	
278.6	CARBONDALE		GRAY SHALE	5.0	300.0	
273.6	CARBONDALE		BLACK SHALE	1.0	305.0	
272.6	CARBONDALE		CALCAREOUS SHALE	4.0	306.0	
268.6	CARBONDALE		RED SHALE	3.0	310.0	
265.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	313.0	
260.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	318.0	
258.6	CARBONDALE		DARK SHALE	4.0	320.0	
254.6	CARBONDALE		LIMESTONE	2.0	324.0	
252.6	CARBONDALE		DARK SHALE	8.0	326.0	
244.6	CARBONDALE		LIMESTONE	12.0	334.0	
232.6	CARBONDALE		SANDSTONE	4.0	346.0	
228.6	CARBONDALE	BRERETON	CALCAREOUS SHALE	2.0	350.0	
226.6	CARBONDALE	BRERETON	LIMESTONE	3.0	352.0	
223.6	CARBONDALE	ANNA	BLACK SHALE	2.4	355.0	

221.2	CARBONDALE	HERRIN	COAL	8.3	357.4
212.9	CARBONDALE		UNDERCLAY	2.3	365.7
210.6	CARBONDALE		LIMESTONE	0.5	368.0
210.1	CARBONDALE		SHALE	5.0	368.5
205.1	CARBONDALE		LIMESTONE	0.5	373.5
204.6	CARBONDALE		SHALE	0.5	374.0
204.1	CARBONDALE		LIMESTONE	0.5	374.5

MAPID: 02100027000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** NW SW SW

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.364974 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.541199 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 579.0 **LOGGED (FT.):** 365.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
266.4	MODESTO	PIASA	LIMESTONE	5.0	312.6	
261.4	MODESTO		CALCAREOUS SHALE	2.0	317.6	
259.4	CARBONDALE	DANVILLE	DARK GRAY SHALE	4.0	319.6	
255.4	CARBONDALE	GALUM	LIMESTONE	2.0	323.6	
253.4	CARBONDALE		DARK GRAY SHALE	8.0	325.6	
245.4	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	333.6	
233.4	CARBONDALE	LAWSON	SANDSTONE	4.0	345.6	
229.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	349.6	
227.4	CARBONDALE	BRERETON	LIMESTONE	3.0	351.6	
224.4	CARBONDALE	ANNA	BLACK SHALE	2.4	354.6	
222.0	CARBONDALE	HERRIN	COAL	8.3	357.0	

MAPID: 02100702000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2190' S line, 2090' W line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.336501 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.530228 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 444.0 **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
220.0	MODESTO	PIASA	LIMESTONE	2.0	402.0	
218.0	CARBONDALE		SHALE	16.0	404.0	
202.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	420.0	
198.0	CARBONDALE	LAWSON	SHALE	8.0	424.0	
190.0	CARBONDALE	BRERETON	LIMESTONE	6.0	432.0	
184.0	CARBONDALE	ANNA	SHALE	0.5	438.0	
184.0	CARBONDALE	HERRIN	COAL	6.0	438.0	

MAPID: 02100357000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 224' S line, 1293' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.292449 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.524383 **DATE COLLECTED:** 9 / 0 / 1952

SURFACE ELEVATION (FT.): 603.2 **LOGGED (FT.):** 435.8 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 205 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
174.4	CARBONDALE	HERRIN	COAL	7.0	428.8	

MAPID: 02100357000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 224' S line, 1293' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.292449 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.524383 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 436.0 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 205 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
200.6	MODESTO		MOTTLED SHALE	6.5	402.4	
194.1	CARBONDALE		DARK GRAY SHALE	6.0	408.9	
188.1	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.5	414.9	
186.6	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	1.1	416.4	
185.5	CARBONDALE	LAWSON	GRAY SHALE	3.4	417.5	
182.1	CARBONDALE	LAWSON	MOTTLED SHALE	2.0	420.9	
180.1	CARBONDALE	LAWSON	DARK GRAY SHALE	1.3	422.9	
178.7	CARBONDALE	BRERETON	LIMESTONE	4.4	424.3	
174.3	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	428.7	
174.0	CARBONDALE	HERRIN	COAL	7.0	429.0	

MAPID: 02102513000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.36896 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.597991 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 394.1 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO PW-15 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
281.1	MODESTO		CLAYSTONE & SHALE	30.0	328.9	
251.1	CARBONDALE		MOTTLED SHALE	0.7	358.9	
250.4	CARBONDALE	ALLENBY	BLACK SHALE	0.3	359.6	
250.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	7.0	359.9	
243.1	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	366.9	
241.7	CARBONDALE	LAWSON	DARK GRAY SHALE	0.5	368.3	
241.2	CARBONDALE	LAWSON	LIMESTONE	0.3	368.8	
240.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.3	369.1	
238.7	CARBONDALE	LAWSON	GRAY SHALE	9.4	371.3	
229.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.0	380.8	
223.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	386.8	
223.0	CARBONDALE	HERRIN	COAL	7.1	387.0	

MAPID: 02102520000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** 34' N line, 72' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.367921 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.611325 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 386.0 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-12 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
226.0	CARBONDALE	HERRIN	COAL	7.0	379.0	

MAPID: 02100780000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.41974 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.607178 **DATE COLLECTED:** 2 / 0 / 1958
SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 690.0 **LOG TYPE:** Electric Log
SOURCE: SOIL TESTING SERVICE **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
309.0	CARBONDALE	DANVILLE	UNCLASSIFIED	-	290.0	
261.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	338.0	
246.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	2.5	353.0	
199.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	400.0	
134.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	465.0	
105.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	494.0	
-91.0	BASE OF PENN.		UNCLASSIFIED	-	690.0	

MAPID: 02100795000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 1650' N line, 2310' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.414987 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.607078 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 579.0 **LOGGED (FT.):** 325.0 **LOG TYPE:** Electric Log
SOURCE: JOE SIMPKINS OIL DEVELOPMENTS Bulpitt 2 **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
306.0	CARBONDALE		SHALE	20.0	273.0	
286.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	293.0	
285.0	CARBONDALE		SHALE	6.0	294.0	
279.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	300.0	
267.0	CARBONDALE	BRERETON	LIMESTONE	2.0	312.0	
265.0	CARBONDALE	ANNA	BLACK SHALE	4.0	314.0	
261.0	CARBONDALE	HERRIN	COAL	7.0	318.0	

MAPID: 02100192000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 386' S line, 86' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.441915 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.598348 **DATE COLLECTED:** 5 / 0 / 1946
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 384.8 **LOG TYPE:**
SOURCE: PEABODY COAL CO. 8 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100192000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 4 **QUARTERS/FOOTAGES:** 386' S line, 86' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.441915 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.598348 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 384.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 8 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100028000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** SE NW NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.448154 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.608983 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 564.0 **LOGGED (FT.):** 313.2 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
564.0			UNCONSOLIDATED	21.0	0.0	
543.0	MODESTO		SANDSTONE	63.0	21.0	
480.0	MODESTO		SHALE	6.0	84.0	
474.0	MODESTO		SANDY SHALE	25.0	90.0	
449.0	MODESTO		SANDSTONE	43.0	115.0	
406.0	MODESTO		LIMESTONE	4.0	158.0	
402.0	MODESTO		SANDSTONE	14.0	162.0	
388.0	MODESTO		COAL	1.0	176.0	
387.0	MODESTO		SHALE	37.0	177.0	
350.0	MODESTO		SANDY SHALE	10.0	214.0	
340.0	MODESTO		SHALE	26.0	224.0	
314.0	CARBONDALE	DANVILLE	COAL	0.3	250.0	
313.7	CARBONDALE		SHALE	18.0	250.3	
295.7	CARBONDALE		LIMESTONE	2.0	268.3	
293.7	CARBONDALE		CALCAREOUS CLAYSTONE	1.0	270.3	
292.7	CARBONDALE		LIMESTONE	3.0	271.3	
289.7	CARBONDALE		SHALE	6.0	274.3	
283.7	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	280.3	
278.7	CARBONDALE		CALCAREOUS SHALE	3.0	285.3	
275.7	CARBONDALE	ANVIL ROCK	SANDSTONE	7.0	288.3	
268.7	CARBONDALE		BLACK SHALE	4.0	295.3	
264.7	CARBONDALE	BRERETON	LIMESTONE	5.0	299.3	
259.7	CARBONDALE	ANNA	SHALE	2.0	304.3	
257.7	CARBONDALE	HERRIN	COAL	6.8	306.3	

MAPID: 02100028000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 5 **QUARTERS/FOOTAGES:** SE NW NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.448154 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.608983 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 564.0 **LOGGED (FT.):** 312.8 **LOG TYPE:** Drillers Log

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

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
296.0	MODESTO	PIASA	LIMESTONE	2.0	268.0	
294.0	CARBONDALE		CALCAREOUS SHALE	1.0	270.0	
293.0	CARBONDALE	GALUM	LIMESTONE	3.0	271.0	
290.0	CARBONDALE		SHALE	6.0	274.0	
284.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	280.0	
279.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.0	285.0	
276.0	CARBONDALE	LAWSON	SANDSTONE	7.0	288.0	
269.0	CARBONDALE	LAWSON	BLACK SHALE	4.0	295.0	
265.0	CARBONDALE	BRERETON	LIMESTONE	5.0	299.0	
260.0	CARBONDALE	ANNA	SHALE	2.0	304.0	
258.0	CARBONDALE	HERRIN	COAL	6.8	306.0	

MAPID: 02100029000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 200' S line, 100' E line of SE SE NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.451932 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.590513 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 599.9 **LOGGED (FT.):** 367.1 **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
599.9			UNCONSOLIDATED	13.0	0.0	SOIL AND CLAY
586.9	BOND		SANDY SHALE	4.0	13.0	
582.9	BOND		BLUE SHALE	8.0	17.0	
574.9	BOND		GRAY SHALE	5.0	25.0	
569.9	BOND		SANDSTONE	6.0	30.0	
563.9	BOND		CLAYSTONE & SILTSTONE	4.0	36.0	BLUE
559.9	BOND		SHALE	2.0	40.0	
557.9	BOND		SANDSTONE	6.0	42.0	
551.9	BOND		SHALE	4.0	48.0	
547.9	BOND		SANDSTONE	25.0	52.0	
522.9	BOND		SANDSTONE	2.0	77.0	
520.9	BOND		BLACK SHALE	4.0	79.0	
516.9	BOND		SHALE	4.0	83.0	
512.9	BOND	CARTHAGE	LIMESTONE	4.5	87.0	
508.4	MODESTO		SANDSTONE	9.0	91.5	
499.4	MODESTO		SHALE	1.0	100.5	
498.4	MODESTO		BLACK SHALE	4.0	101.5	
494.4	MODESTO		SHALE	3.0	105.5	
491.4	MODESTO		SANDSTONE	4.0	108.5	
487.4	MODESTO		SHALE	1.0	112.5	
486.4	MODESTO		SANDY SHALE	18.0	113.5	
468.4	MODESTO		BLUE SHALE	41.0	131.5	
427.4	MODESTO		SHALE	1.0	172.5	
426.4	MODESTO		SANDY SHALE	19.0	173.5	
407.4	MODESTO		COAL	1.0	192.5	
406.4	MODESTO		GRAY SHALE	12.0	193.5	
394.4	MODESTO		BLUE SHALE	10.5	205.5	
383.9	MODESTO	PIASA	LIMESTONE	4.0	216.0	
379.9			BLUE SHALE	9.0	220.0	
370.9			SANDY SHALE	11.0	229.0	
359.9			SHALE	13.0	240.0	
346.9			SANDY SHALE	12.0	253.0	
334.9			SANDSTONE	1.0	265.0	
333.9			SANDY SHALE	32.5	266.0	
301.4			SANDY SHALE	5.5	298.5	
295.9			SHALE	16.0	304.0	
279.9			SANDSTONE	1.0	320.0	
278.9			SHALE	7.0	321.0	
271.9			BLACK SHALE	1.5	328.0	

270.4			LIMESTONE	8.0	329.5
262.4			GRAY SHALE	4.0	337.5
258.4			LIMESTONE	3.5	341.5
254.9			SHALE	3.0	345.0
251.9			SANDSTONE	2.0	348.0
249.9			BLUE SHALE	3.5	350.0
246.4			SANDSTONE	3.0	353.5
243.4	CARBONDALE	BRERETON	LIMESTONE	5.0	356.5
238.4	CARBONDALE	ANNA	SHALE	1.0	361.5
237.4	CARBONDALE	HERRIN	COAL	4.6	362.5

MAPID: 02100030000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW SW

QUADRANGLE: KINCAID **LONGITUDE:** -89.458529 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.584474 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 598.9 **LOGGED (FT.):** 372.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 20 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
598.9			UNCONSOLIDATED	78.0	0.0	CLAY AND SAND
520.9	BOND		BLUE SHALE	5.0	78.0	
515.9	BOND		DARK SHALE	4.0	83.0	
511.9	BOND		CALCAREOUS SHALE	5.0	87.0	
506.9	BOND		LIMESTONE	8.0	92.0	
498.9	BOND		SHALE	8.0	100.0	
490.9	BOND	CARTHAGE	LIMESTONE	3.0	108.0	
487.9	BOND	CARTHAGE	CALCAREOUS SHALE	5.0	111.0	
482.9	MODESTO		SANDSTONE	9.0	116.0	
473.9	MODESTO		SANDY SHALE	10.0	125.0	
463.9	MODESTO		SANDSTONE	15.0	135.0	
448.9	MODESTO		SANDY SHALE	16.0	150.0	
432.9	MODESTO		SANDSTONE	30.0	166.0	
402.9	MODESTO		COAL	1.0	196.0	
401.9	MODESTO		UNDERCLAY	2.0	197.0	
399.9	MODESTO		SANDSTONE	20.0	199.0	
379.9	MODESTO		SANDY SHALE	36.0	219.0	
343.9	MODESTO		GRAY SHALE	52.0	255.0	
291.9	CARBONDALE	DANVILLE	COAL	0.3	307.0	
291.6	CARBONDALE		CALCAREOUS SHALE	9.8	307.3	
281.9	CARBONDALE		BLACK SHALE	1.0	317.0	
280.9	CARBONDALE		CALCAREOUS SHALE	3.0	318.0	
277.9	CARBONDALE		SHALE	3.0	321.0	
274.9	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	324.0	
272.9	CARBONDALE		CALCAREOUS SHALE	2.0	326.0	
270.9	CARBONDALE		CALCAREOUS SHALE	6.0	328.0	
264.9	CARBONDALE		CALCAREOUS SHALE	3.0	334.0	
261.9	CARBONDALE		LIMESTONE	3.0	337.0	
258.9	CARBONDALE		CALCAREOUS SHALE	12.0	340.0	
246.9	CARBONDALE	BRERETON	LIMESTONE	8.4	352.0	
238.5	CARBONDALE	HERRIN	COAL	6.8	360.4	
231.6	CARBONDALE		UNDERCLAY	2.8	367.3	
228.9	CARBONDALE		CALCAREOUS SHALE	2.0	370.0	

MAPID: 02100030000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** SW SW

QUADRANGLE: KINCAID **LONGITUDE:** -89.458529 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.584474 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 366.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
275.0	MODESTO	PIASA	LIMESTONE	2.0	324.0	
273.0	CARBONDALE		CALCAREOUS SHALE	11.0	326.0	
262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	337.0	
259.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	12.0	340.0	
247.0	CARBONDALE	BRERETON	LIMESTONE	8.4	352.0	
239.0	CARBONDALE	HERRIN	COAL	6.8	360.0	

MAPID: 02100149000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE SW NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.427972 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.590075 **DATE COLLECTED:** 2 / 0 / 1943

SURFACE ELEVATION (FT.): 600.5 **LOGGED (FT.):** 351.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 22 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
600.5			CLAY	20.0	0.0	
580.5			HARD PAN	38.0	20.0	
542.5	BOND		LIMESTONE	16.0	58.0	
526.5	BOND		BLACK SHALE	4.0	74.0	
522.5	BOND		LIGHT SHALE	4.0	78.0	
518.5	BOND	CARTHAGE	CALCAREOUS SHALE	11.0	82.0	
507.5	MODESTO		BLACK SHALE	1.0	93.0	
506.5	MODESTO		GRAY SHALE	202.0	94.0	
304.5	MODESTO	PIASA	CALCAREOUS SHALE	15.0	296.0	
289.5	CARBONDALE		SHALE	7.0	311.0	
282.5	CARBONDALE		CALCAREOUS SHALE	14.0	318.0	
268.5	CARBONDALE		BLACK SHALE	3.0	332.0	
265.5	CARBONDALE		CALCAREOUS SHALE	7.0	335.0	
258.5	CARBONDALE	HERRIN	COAL	7.0	342.0	
251.5	CARBONDALE		UNDERCLAY	2.0	349.0	

MAPID: 02100149000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE SW NE
QUADRANGLE: KINCAID **LONGITUDE:** -89.427972 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.590075 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.5 **LOGGED (FT.):** 349.0 **LOG TYPE:**
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
258.5	CARBONDALE	HERRIN	COAL	7.0	342.0	

MAPID: 02100194000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 25' S line, 1360' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.428176 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.58289 **DATE COLLECTED:** 3 / 0 / 1943
SURFACE ELEVATION (FT.): 604.1 **LOGGED (FT.):** 345.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 23 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100194000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 25' S line, 1360' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.428176 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.58289 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 345.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 23 **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

MAPID: 02100628000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 145' S line, 71' E line of SW NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.437662 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.59042 **DATE COLLECTED:** 9 / 0 / 1951
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 343.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 139 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.0	336.7	

MAPID: 02100033000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** SE

QUADRANGLE: KINCAID **LONGITUDE:** -89.409087 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.586407 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 544.2 **LOGGED (FT.):** 323.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 9 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
544.2			UNCONSOLIDATED	21.0	0.0	SOIL, CLAY, AND SANDD
523.2	BOND		SANDSTONE	2.0	21.0	
521.2	BOND		SHALE	9.0	23.0	
512.2	BOND		LIMESTONE	9.2	32.0	
503.0	BOND		BLUE SHALE	1.9	41.2	
501.1	BOND		BLACK SHALE	4.5	43.1	
496.6	BOND		BLUE SHALE	11.0	47.6	
485.6	BOND		LIMESTONE	3.0	58.6	
482.6	BOND		BLUE SHALE	17.0	61.6	
465.6	BOND	CARTHAGE	LIMESTONE	2.3	78.6	
463.3	BOND	CARTHAGE	CALCAREOUS SHALE	8.8	80.9	
454.4	MODESTO		SHALE	7.0	89.8	
447.4	MODESTO		LIMESTONE	2.3	96.8	
445.1	MODESTO		SHALE	8.7	99.1	SH AND LS
436.4	MODESTO		SHALE	25.0	107.8	SH AND LS
411.4	MODESTO		SHALE	15.0	132.8	
396.4	MODESTO		SHALE	6.0	147.8	SH AND LS
390.4	MODESTO		COAL	3.2	153.8	
387.3	MODESTO		UNDERCLAY	0.6	156.9	
386.7	MODESTO		LIMESTONE	7.3	157.5	
379.4	MODESTO		GREEN SHALE	8.5	164.8	
370.9	MODESTO		SANDSTONE	5.3	173.3	
365.7	MODESTO		LIMESTONE	3.0	178.5	
362.7	MODESTO		LIMESTONE	9.0	181.5	
353.7	MODESTO		LIMESTONE	4.5	190.5	
349.2	MODESTO		SHALE	27.0	195.0	
322.2	MODESTO		BLACK SHALE	20.0	222.0	
302.2	MODESTO		SHALE	21.0	242.0	
281.2	CARBONDALE	DANVILLE	COAL	1.0	263.0	
280.2	CARBONDALE		SHALE	3.0	264.0	
277.2	CARBONDALE	BANKSTON FORK	GREEN SHALE	10.0	267.0	
267.2	CARBONDALE		SHALE	16.0	277.0	
251.2	CARBONDALE		SHALE	3.0	293.0	
248.2	CARBONDALE		LIMESTONE	3.0	296.0	
245.2	CARBONDALE		SHALE	4.0	299.0	
241.2	CARBONDALE	BRERETON	LIMESTONE	9.0	303.0	
232.2	CARBONDALE	HERRIN	COAL	7.3	312.0	
224.9	CARBONDALE		UNDERCLAY	4.0	319.3	

MAPID: 02100034000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** NE NW NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.410244 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.596436 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 569.6 **LOGGED (FT.):** 341.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
569.6			UNCONSOLIDATED	33.0	0.0	CLAY, SAND, AND GRAVEL
536.6	BOND		LIMESTONE	1.0	33.0	
535.6	BOND		CALCAREOUS SHALE	4.0	34.0	
531.6	BOND		LIMESTONE	13.0	38.0	
518.6	BOND		BLACK SHALE	3.0	51.0	
515.6	BOND		DARK SHALE	11.0	54.0	
504.6	BOND		SHALE	8.0	65.0	
496.6	BOND	CARTHAGE	LIMESTONE	3.0	73.0	
493.6	BOND	CARTHAGE	CALCAREOUS SHALE	1.0	76.0	
492.6	MODESTO		BLACK SHALE	2.0	77.0	
490.6	MODESTO		SHALE	7.0	79.0	
483.6	MODESTO		SANDY SHALE	47.0	86.0	
436.6	MODESTO		GRAY SHALE	19.0	133.0	
417.6	MODESTO		BLACK SHALE	4.0	152.0	
413.6	MODESTO		COAL	1.0	156.0	
412.6	MODESTO		UNDERCLAY	3.0	157.0	
409.6	MODESTO		SANDY SHALE	34.0	160.0	
375.6	MODESTO		GRAY SHALE	26.0	194.0	
349.6	MODESTO		DARK GRAY SHALE	46.0	220.0	
303.6	CARBONDALE	DANVILLE	COAL	0.2	266.0	
303.4	CARBONDALE		UNDERCLAY	3.8	266.2	
299.6	CARBONDALE		DARK SHALE	9.0	270.0	
290.6	CARBONDALE		SHALE	3.0	279.0	
287.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	282.0	
285.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	284.0	
280.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	5.0	289.0	
275.6	CARBONDALE		BLACK SHALE	4.0	294.0	
271.6	CARBONDALE		DARK SHALE	3.0	298.0	
268.6	CARBONDALE		LIMESTONE	1.0	301.0	
267.6	CARBONDALE		GRAY SHALE	4.0	302.0	
263.6	CARBONDALE		LIMESTONE	4.0	306.0	
259.6	CARBONDALE		GRAY SHALE	6.0	310.0	
253.6	CARBONDALE	BRERETON	LIMESTONE	3.0	316.0	
250.6	CARBONDALE	ANNA	BLACK SHALE	1.0	319.0	
249.6	CARBONDALE	HERRIN	COAL	7.0	320.0	
242.6	CARBONDALE		UNDERCLAY	2.0	327.0	
240.6	CARBONDALE		GRAY SHALE	3.0	329.0	
237.6	CARBONDALE		LIMESTONE	9.0	332.0	

MAPID: 02100034000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 10 **QUARTERS/FOOTAGES:** NE NW NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.410244 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.596436 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 570.0 **LOGGED (FT.):** 327.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 1 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE	5.0	284.0	
281.0	MODESTO		MOTTLED SHALE	5.0	289.0	
276.0	CARBONDALE	DANVILLE	BLACK SHALE	4.0	294.0	
272.0	CARBONDALE		DARK GRAY SHALE	3.0	298.0	
269.0	CARBONDALE	GALUM	LIMESTONE	1.0	301.0	
268.0	CARBONDALE		GRAY SHALE	4.0	302.0	
264.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	306.0	
260.0	CARBONDALE	LAWSON	GRAY SHALE	6.0	310.0	
254.0	CARBONDALE	BRERETON	LIMESTONE	3.0	316.0	
251.0	CARBONDALE	ANNA	BLACK SHALE	1.0	319.0	
250.0	CARBONDALE	HERRIN	COAL	7.0	320.0	

MAPID: 02100613000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.37684 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.5971 **DATE COLLECTED:** 1 / 8 / 1949

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 387.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 90 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.0	380.0	

MAPID: 02100110000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1309' S line, 1346' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.371852 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.571648 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 410.7 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 8 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
256.3	MODESTO	PIASA	LIMESTONE	0.5	349.7	
255.8	MODESTO		MOTTLED SHALE	8.8	350.2	
247.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	359.0	
253.5	MODESTO		LIMESTONE	0.5	352.5	
253.0	CARBONDALE		SHALE	3.0	353.0	
250.0	CARBONDALE		LIGHT SHALE	6.0	356.0	
244.0	CARBONDALE		SANDY SHALE	41.0	362.0	

MAPID: 02100110000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 1309' S line, 1346' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.371852 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.571648 **DATE COLLECTED:** 12 / 0 / 1941

SURFACE ELEVATION (FT.): 606.2 **LOGGED (FT.):** 420.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 8 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
606.2			UNCONSOLIDATED	30.0	0.0	CLAY AND SAND
576.2	BOND		HARD PAN	39.0	30.0	HDPAN AND SDY CLY
537.2	BOND		HARD PAN	11.0	69.0	
526.2	BOND		DARK SHALE	5.0	80.0	
521.2	BOND		CALCAREOUS SHALE	5.0	85.0	
516.2	BOND		DARK SHALE	9.0	90.0	
507.2	BOND	CARTHAGE	LIMESTONE	9.0	99.0	
498.2	MODESTO		BLACK SHALE	2.5	108.0	
495.7	MODESTO		COAL	1.5	110.5	
494.2	MODESTO		DARK SHALE	33.0	112.0	DK SH W/LS STREAKS
461.2	MODESTO		GRAY SHALE	49.0	145.0	
412.2	MODESTO		SANDSTONE	19.0	194.0	
393.2	MODESTO		GRAY SHALE	137.0	213.0	
256.2	MODESTO		DARK SHALE	2.5	350.0	
245.2	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	9.4	361.0	
235.8	CARBONDALE	LAWSON	ROCK	2.1	370.4	
233.7	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	16.8	372.5	
216.9	CARBONDALE	LAWSON	SHALE & SILTSTONE	20.7	389.3	ERROR IN LOG THICKNESS OR DEPTH
204.2	CARBONDALE		SANDY SHALE	10.0	402.0	
194.2	CARBONDALE	HERRIN	COAL	0.6	412.0	
193.6	CARBONDALE		SHALE	1.4	412.6	SH W/ COAL MIXTURE
192.2	CARBONDALE		DARK SHALE	1.5	414.0	
190.7	CARBONDALE		CALCAREOUS SHALE	4.5	415.5	
196.2	CARBONDALE	HERRIN	COAL	0.7	410.0	

MAPID: 02100111000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 13 **QUARTERS/FOOTAGES:** 489' S line, 25' E line of NW SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.371857 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.572964 **DATE COLLECTED:** 12 / 0 / 1941

SURFACE ELEVATION (FT.): 608.3 **LOGGED (FT.):** 397.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 9 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
608.3			UNCONSOLIDATED	18.0	0.0	SOIL AND CLAY
590.3			SANDSTONE	84.0	18.0	
506.3			LIGHT SHALE	5.0	102.0	
501.3			LIMESTONE	8.0	107.0	
493.3			BLACK SHALE	2.5	115.0	
490.8			COAL	1.5	117.5	
489.3			DARK SHALE	5.0	119.0	
484.3			CALCAREOUS SHALE	11.0	124.0	
473.3			GRAY SHALE	130.0	135.0	
343.3			SANDY SHALE	12.0	265.0	
331.3			GRAY SHALE	83.0	277.0	
248.3			DARK SHALE	12.0	360.0	
236.3	CARBONDALE	BRERETON	LIMESTONE	4.0	372.0	
232.3	CARBONDALE	BRERETON	CALCAREOUS SHALE	8.0	376.0	
224.3	CARBONDALE	BRERETON	LIMESTONE	3.0	384.0	
221.3	CARBONDALE	ANNA	BLACK SHALE	0.3	387.0	
221.0	CARBONDALE	HERRIN	COAL	5.6	387.3	
215.3	CARBONDALE	HERRIN	ROCK	0.2	393.0	BLUE BAND SEAM
215.1	CARBONDALE	HERRIN	COAL	2.2	393.2	
213.0	CARBONDALE		UNDERCLAY	1.7	395.3	

MAPID: 02100032000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 250' N line, 350' W line of NW NW NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.403089 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.582024 **DATE COLLECTED:** 0 / 0 / 1911

SURFACE ELEVATION (FT.): 581.3 **LOGGED (FT.):** 345.7 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
581.3			UNCONSOLIDATED	45.7	0.0	SOIL, CLAY, SAND, AND GRAVEL
535.6	BOND		SANDSTONE	11.0	45.7	
524.6	BOND		LIMESTONE	8.5	56.7	
516.1	BOND		COAL	2.0	65.2	
514.1	BOND		LIGHT SHALE	11.0	67.2	
503.1	BOND		GREEN SHALE	1.0	78.2	
502.1	BOND		SANDSTONE	0.8	79.2	
501.4	BOND		LIMESTONE	3.8	79.9	
497.6	BOND		LIMESTONE	2.0	83.7	
495.6	BOND		SANDSTONE	1.0	85.7	
494.6	BOND		BLACK SHALE	1.3	86.7	
493.4	BOND		LIGHT SHALE	10.0	87.9	
483.4	BOND		SANDSTONE	4.0	97.9	
479.4	BOND		LIGHT SHALE	10.0	101.9	
469.4	BOND		DARK SHALE	57.5	111.9	
411.9	BOND		COAL	3.0	169.4	
408.9	BOND		UNDERCLAY	1.3	172.4	
407.5	BOND		SANDSTONE	4.0	173.8	
403.5	BOND		SHALE	13.0	177.8	
390.5	BOND		SANDSTONE	9.2	190.8	
381.4	BOND	CARTHAGE	LIMESTONE	6.1	199.9	
375.3	MODESTO		LIGHT SHALE	10.0	206.0	
365.3	MODESTO		GRAY SHALE	5.0	216.0	
360.3	MODESTO		SANDY SHALE	3.5	221.0	
356.8	MODESTO		LIGHT SHALE	5.0	224.5	
351.8	MODESTO		BLUE SHALE	12.0	229.5	
339.8	MODESTO		LIGHT SHALE	12.0	241.5	
327.8	MODESTO		SANDSTONE	1.7	253.5	
326.1	MODESTO		SANDY SHALE	5.3	255.2	
320.8	MODESTO		GRAY SHALE	6.0	260.5	
314.8	MODESTO	PIASA	LIMESTONE	1.7	266.5	
313.1	MODESTO		LIGHT SHALE	9.0	268.2	
304.1	MODESTO		SANDSTONE	5.0	277.2	
299.1	CARBONDALE		UNDERCLAY	2.0	282.2	
297.1	CARBONDALE		GRAY SHALE	4.0	284.2	
293.1	CARBONDALE		BLACK SHALE	3.3	288.2	
289.8	CARBONDALE	BANKSTON FORK	BLUE SHALE	4.0	291.5	
285.8	CARBONDALE		SANDY SHALE	2.0	295.5	
283.8	CARBONDALE		RED SHALE	2.0	297.5	RED SHALE W/ GRAVEL

281.8	CARBONDALE		LIGHT SHALE	2.0	299.5
279.8	CARBONDALE		SANDY SHALE	1.0	301.5
278.8	CARBONDALE		BLUE SHALE	8.0	302.5
270.8	CARBONDALE	ANVIL ROCK	SANDSTONE	4.5	310.5
266.3	CARBONDALE		BLUE SHALE	0.5	315.0
265.8	CARBONDALE		LIMESTONE	11.3	315.5
254.5	CARBONDALE		LIGHT SHALE	2.7	326.8
251.8	CARBONDALE		BLACK SHALE	1.0	329.5
250.8	CARBONDALE	BRERETON	BLUE SHALE	2.3	330.5
248.5	CARBONDALE		LIMESTONE	5.3	332.8
243.1	CARBONDALE	HERRIN	COAL	7.5	338.2

MAPID: 02100103000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1220' N line, 20' W line of NW NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.404216 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.579356 **DATE COLLECTED:** 0 / 0 / 1911

SURFACE ELEVATION (FT.): 589.1 **LOGGED (FT.):** 349.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
589.1			UNCONSOLIDATED	15.0	0.0	
574.1	BOND		GRAVEL	2.0	15.0	
572.1	BOND		SANDSTONE	5.4	17.0	
566.7	BOND		LIGHT SHALE	3.0	22.4	
563.7	BOND		SANDSTONE	9.0	25.4	
554.7	BOND		GRAY SHALE	4.0	34.4	
550.7	BOND		CONGLOMERATE	0.5	38.4	
550.2	BOND		UNDERCLAY	4.0	38.9	
546.2	BOND		GRAY SHALE	4.0	42.9	
542.2	BOND		SANDSTONE	11.0	46.9	
531.2	BOND		LIGHT SHALE	3.8	57.9	
527.4	BOND		SANDSTONE	0.7	61.7	
526.8	BOND		LIMESTONE	8.0	62.3	
518.8	BOND		SANDY SHALE	2.0	70.3	
516.8	BOND		BLUE SHALE	1.5	72.3	
515.3	BOND		COAL	0.5	73.8	
514.8	BOND		UNDERCLAY	1.5	74.3	
513.3	BOND		LIGHT SHALE	5.0	75.8	
508.3	BOND		BLUE SHALE	3.0	80.8	
505.3	BOND		LIGHT SHALE	3.3	83.8	
501.9	BOND	CARTHAGE	LIMESTONE	3.5	87.2	
498.4	MODESTO		SANDSTONE	3.2	90.7	
495.3	MODESTO		BLUE SHALE	2.7	93.8	
492.6	MODESTO		LIGHT SHALE	20.0	96.5	
472.6	MODESTO		BLUE SHALE	62.0	116.5	
410.6	MODESTO		COAL	1.5	178.5	
409.1	MODESTO		UNDERCLAY	3.8	180.0	
405.3	MODESTO		LIMESTONE	5.9	183.8	
399.3	MODESTO		SHALE	6.3	189.8	
393.0	MODESTO		SANDSTONE	3.0	196.1	
390.0	MODESTO		SHALE	14.5	199.1	
375.5	MODESTO		SANDSTONE	6.5	213.6	
369.0	MODESTO		CALCAREOUS SHALE	12.0	220.1	
357.0	MODESTO		SANDSTONE	3.0	232.1	
354.0	MODESTO		SHALE	6.0	235.1	
348.0	MODESTO	PIASA	CALCAREOUS SHALE	14.5	241.1	
333.5	MODESTO		LIGHT SHALE	2.0	255.6	
331.5	CARBONDALE		UNDERCLAY	3.0	257.6	
328.5	CARBONDALE		LIGHT SHALE	13.0	260.6	

315.5	CARBONDALE		SANDSTONE	0.6	273.6
314.9	CARBONDALE		LIMESTONE	0.5	274.2
314.4	CARBONDALE		LIGHT SHALE	5.8	274.7
308.6	CARBONDALE		SANDSTONE	5.5	280.5
303.1	CARBONDALE	BANKSTON FORK	LIMESTONE	0.3	286.0
302.8	CARBONDALE	BANKSTON FORK	BLUE SHALE	14.6	286.3
288.2	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	300.9
286.3	CARBONDALE		SANDY SHALE	0.8	302.8
285.5	CARBONDALE		LIGHT SHALE	8.5	303.6
277.0	CARBONDALE		BLACK SHALE	1.0	312.1
276.0	CARBONDALE		LIGHT SHALE	2.0	313.1
274.0	CARBONDALE		CALCAREOUS SHALE	4.3	315.1
269.7	CARBONDALE		LIMESTONE	6.5	319.4
263.2	CARBONDALE		SHALE	1.0	325.9
262.2	CARBONDALE	BRERETON	LIMESTONE	5.0	326.9
257.2	CARBONDALE	BRERETON	CALCAREOUS SHALE	2.8	331.9
254.3	CARBONDALE	BRERETON	LIMESTONE	5.0	334.8
249.3	CARBONDALE	HERRIN	COAL	7.5	339.8
241.8	CARBONDALE		LIGHT SHALE	2.0	347.3

MAPID: 02100103000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1220' N line, 20' W line of NW NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.404216 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.579356 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 589.0 **LOGGED (FT.):** 347.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 1 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
288.0	MODESTO	PIASA	LIMESTONE	1.8	301.0	
286.2	MODESTO		SHALE	9.3	302.8	
276.8	CARBONDALE	DANVILLE	BLACK SHALE	1.0	312.2	
275.8	CARBONDALE		GRAY SHALE	2.0	313.2	
273.8	CARBONDALE		CALCAREOUS SHALE	4.3	315.2	
269.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	319.5	UPPER BENCH
263.0	CARBONDALE	BANKSTON FORK	SHALE	1.0	326.0	SHALE PARTING
262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	327.0	LOWER BENCH
257.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.8	332.0	
254.2	CARBONDALE	BRERETON	LIMESTONE	5.0	334.8	
249.0	CARBONDALE	HERRIN	COAL	7.5	340.0	

MAPID: 02100395000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1080' N line, 500' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.406078 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.579758 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 363.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 52 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
280.0	MODESTO	PIASA	LIMESTONE	3.5	327.0	
276.5	MODESTO		GRAY SHALE	11.0	330.5	
265.5	CARBONDALE		MOTTLED SHALE	4.0	341.5	
261.5	CARBONDALE	LAWSON	GRAY SHALE	3.5	345.5	
258.0	CARBONDALE	BRERETON	LIMESTONE	6.5	349.0	
251.0	CARBONDALE	HERRIN	COAL	7.5	356.0	

MAPID: 02100035000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** SE SE SW

QUADRANGLE: KINCAID **LONGITUDE:** -89.43353 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.569034 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 583.0 **LOGGED (FT.):** 332.7 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 13 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
583.0			UNCONSOLIDATED	31.0	0.0	CLAY, SAND, AND GRAVEL
552.0	BOND		LIMESTONE	7.0	31.0	
545.0	BOND		BLACK SHALE	5.0	38.0	
540.0	BOND	CARTHAGE	CALCAREOUS SHALE	4.0	43.0	
536.0	BOND	CARTHAGE	LIMESTONE	10.0	47.0	
526.0	BOND	CARTHAGE	CALCAREOUS SHALE	10.0	57.0	
516.0	BOND	CARTHAGE	CALCAREOUS SHALE	5.0	67.0	
511.0	MODESTO		SANDY SHALE	9.0	72.0	
502.0	MODESTO		GRAY SHALE	7.0	81.0	
495.0	MODESTO		DARK SHALE	10.0	88.0	
485.0	MODESTO		SANDY SHALE	40.0	98.0	
445.0	MODESTO		DARK SHALE	5.0	138.0	
440.0	MODESTO		CALCAREOUS SHALE	1.8	143.0	
438.2	MODESTO		COAL	0.8	144.8	
437.3	MODESTO		UNDERCLAY	3.0	145.7	
434.3	MODESTO		LIMESTONE	1.0	148.7	
433.3	MODESTO		SANDY SHALE	5.0	149.7	
428.3	MODESTO		BLUE SHALE	3.0	154.7	
425.3	MODESTO		SANDSTONE	2.0	157.7	
423.3	MODESTO		GRAY SHALE	25.0	159.7	
398.3	MODESTO		DARK GRAY SHALE	54.0	184.7	
344.3	MODESTO	PIASA	CALCAREOUS SHALE	4.0	238.7	
340.3	CARBONDALE		SANDSTONE	44.0	242.7	SS W/ SH PARTINGS
296.3	CARBONDALE		CALCAREOUS SHALE	1.0	286.7	
295.3	CARBONDALE		BLACK SHALE	2.0	287.7	
293.3	CARBONDALE		COAL	1.4	289.7	
291.9	CARBONDALE		UNDERCLAY	2.6	291.1	
289.3	CARBONDALE	BRERETON	LIMESTONE	12.0	293.7	
277.3	CARBONDALE	BRERETON	CALCAREOUS SHALE	5.0	305.7	
272.3	CARBONDALE		SANDY SHALE	7.0	310.7	
265.3	CARBONDALE	ANNA	BLACK SHALE	3.3	317.7	
262.1	CARBONDALE	HERRIN	COAL	7.5	320.9	
254.6	CARBONDALE		UNDERCLAY	4.3	328.4	

MAPID: 02100035000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** SE SE SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.43353 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.569034 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 583.0 **LOGGED (FT.):** 328.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
313.2	MODESTO		SHALE & SANDSTONE	20.0	269.8	
293.2	CARBONDALE	DANVILLE	COAL	1.4	289.8	
291.8	CARBONDALE		CLAYSTONE & SHALE	2.6	291.2	
289.2	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	293.8	
277.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	5.0	305.8	
272.2	CARBONDALE	LAWSON	SILTY SHALE	7.0	310.8	
265.2	CARBONDALE	ANNA	BLACK SHALE	3.3	317.8	
262.0	CARBONDALE	HERRIN	COAL	7.5	321.0	

MAPID: 02100388000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 25' S line, 30' E line of SE NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.43261 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.57552 **DATE COLLECTED:** 7 / 0 / 1943
SURFACE ELEVATION (FT.): 583.0 **LOGGED (FT.):** 349.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 24 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
241.0	CARBONDALE	HERRIN	COAL	7.0	342.0	

MAPID: 02100677000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE NE
QUADRANGLE: KINCAID **LONGITUDE:** -89.424416 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.580075 **DATE COLLECTED:** 4 / 0 / 1957
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 479.0 **LOG TYPE:** Electric Log
SOURCE: NONNEMAN LOUIS J **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	343.0	
233.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	1.0	375.0	THIN COAL?
129.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	479.0	

MAPID: 02100583000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW SE
QUADRANGLE: KINCAID **LONGITUDE:** -89.447531 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.556308 **DATE COLLECTED:** 9 / 0 / 1956
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 512.0 **LOG TYPE:** Electric Log
SOURCE: CAMERON, W. A. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
234.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	375.0	
215.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	1.0	394.0	THIN COAL
97.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	512.0	

MAPID: 02100900000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 1655' N line, 2365' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.412465 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.563554 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 377.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
286.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	322.0	
283.0	MODESTO		SHALE	9.0	325.0	
274.0	CARBONDALE	DANVILLE	BONE COAL	1.0	334.0	
273.0	CARBONDALE		SHALE	13.0	335.0	
260.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	348.0	
257.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	5.0	351.0	
252.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	356.0	
245.0	CARBONDALE	BRERETON	LIMESTONE	6.0	363.0	
239.0	CARBONDALE	ANNA	BLACK SHALE	1.0	369.0	
238.0	CARBONDALE	HERRIN	COAL	7.0	370.0	

MAPID: 02100036000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 660' N line, 660' W line

QUADRANGLE: KINCAID **LONGITUDE:** -89.401706 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.566292 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 566.4 **LOGGED (FT.):** 372.8 **LOG TYPE:** Drillers Log

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

COMMENT: NO DATE GIVEN; ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
566.4	PLEISTOCENE		CLAY	12.0	0.0	
554.4	PLEISTOCENE		CLAY	19.0	12.0	
535.4	PLEISTOCENE		SAND	10.0	31.0	
525.4	PLEISTOCENE		CLAY	9.0	41.0	
516.4	PLEISTOCENE		SAND/CLAY	13.0	50.0	MIXED
503.4	PLEISTOCENE		SAND & GRAVEL	14.0	63.0	
489.4	BOND	CARTHAGE	LIMESTONE	8.0	77.0	
481.4	MODESTO		SHALE WITH LIMESTONE	3.0	85.0	
478.4	MODESTO		BLACK SHALE	4.0	88.0	
474.4	MODESTO		SHALE WITH LIMESTONE	6.0	92.0	
468.4	MODESTO		LIMESTONE	5.0	98.0	
463.4	MODESTO		SHALE WITH LIMESTONE	2.0	103.0	
461.4	MODESTO		LIMESTONE	3.0	105.0	
458.4	MODESTO		DARK SHALE	3.0	108.0	
455.4	MODESTO		SHALE WITH LIMESTONE	8.0	111.0	
447.4	MODESTO		LIMESTONE	1.0	119.0	
446.4	MODESTO		SHALE WITH LIMESTONE	3.0	120.0	
443.4	MODESTO		SANDSTONE/SHALE	44.0	123.0	
399.4	MODESTO		SANDSTONE	2.0	167.0	
397.4	MODESTO		GRAY SHALE	14.0	169.0	
383.4	MODESTO		DARK SHALE	1.0	183.0	
382.4	MODESTO		COAL	0.3	184.0	
382.1	MODESTO		ARGILACEOUS SHALE	4.7	184.3	
377.4	MODESTO		SANDSTONE	51.0	189.0	
326.4	MODESTO		SANDSTONE/SHALE	19.0	240.0	
307.4	MODESTO		GRAY SHALE	23.0	259.0	
284.4	MODESTO		DARK SHALE	4.0	282.0	
280.4	MODESTO		ARGILACEOUS SHALE	2.0	286.0	
278.4	MODESTO		GRAY SHALE	10.0	288.0	
268.4	MODESTO		ARGILACEOUS SHALE	2.0	298.0	
266.4	MODESTO		BLUE SHALE	13.0	300.0	RED & BLUE SH
253.4	MODESTO		SHALE WITH LIMESTONE	2.0	313.0	
251.4	MODESTO		LIMESTONE	3.0	315.0	
248.4	MODESTO		SHALE WITH LIMESTONE	3.0	318.0	
245.4	MODESTO		LIMESTONE	3.0	321.0	
242.4	MODESTO		SHALE WITH LIMESTONE	5.0	324.0	RED
237.4	MODESTO		LIMESTONE	3.0	329.0	
234.4	MODESTO		SHALE WITH LIMESTONE	4.0	332.0	
230.4	MODESTO		LIMESTONE	4.0	336.0	

226.4			SANDSTONE	2.0	340.0	
224.4			DARK SHALE	4.0	342.0	
220.4	CARBONDALE		SANDSTONE	6.0	346.0	
214.4	CARBONDALE		DARK SHALE	0.5	352.0	
213.9	CARBONDALE		FOSSILIFEROUS SHALE	2.0	352.5	
211.9	CARBONDALE	BRERETON	LIMESTONE	5.0	354.5	
206.9	CARBONDALE	ANNA	BLACK SHALE	0.3	359.5	
206.6	CARBONDALE	HERRIN	COAL	7.9	359.8	
198.7	CARBONDALE		ARGILACEOUS SHALE	0.5	367.7	
198.2	CARBONDALE		BLUE LIMESTONE	3.5	368.2	SOFT
194.7	CARBONDALE		LIMESTONE	1.1	371.7	

MAPID: 02100036000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 660' N line, 660' W line

QUADRANGLE: KINCAID **LONGITUDE:** -89.401706 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.566292 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 566.0 **LOGGED (FT.):** 367.9 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
250.7	MODESTO	PIASA	LIMESTONE W/ SHALE	9.0	315.3	
241.7	CARBONDALE		MOTTLED SHALE	5.0	324.3	
236.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	329.3	UPPER BENCH
233.7	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	332.3	SHALE PARTING
229.7	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	336.3	LOWER BENCH
225.7	CARBONDALE	LAWSON	SANDSTONE	2.0	340.3	
223.7	CARBONDALE	LAWSON	DARK GRAY SHALE	4.0	342.3	
219.7	CARBONDALE	LAWSON	SANDSTONE	6.0	346.3	
213.7	CARBONDALE	LAWSON	DARK GRAY SHALE	0.5	352.3	
213.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	352.8	
211.2	CARBONDALE	BRERETON	LIMESTONE	5.0	354.8	
206.2	CARBONDALE	ANNA	BLACK SHALE	0.3	359.8	
206.0	CARBONDALE	HERRIN	COAL	7.9	360.0	

MAPID: 02100204000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 25 **QUARTERS/FOOTAGES:** 175' N line, 1350' W line of NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.380591 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.553072 **DATE COLLECTED:** 7 / 0 / 1950

SURFACE ELEVATION (FT.): 561.6 **LOGGED (FT.):** 0.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 110 **WELL TYPE:** Coal Test

COMMENT:

MAPID: 02100206000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 25 **QUARTERS/FOOTAGES:** 400' N line, 1010' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.381797 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.552449 **DATE COLLECTED:** 8 / 0 / 1950
SURFACE ELEVATION (FT.): 582.3 **LOGGED (FT.):** 360.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 112 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100206000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 25 **QUARTERS/FOOTAGES:** 400' N line, 1010' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.381797 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.552449 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 582.0 **LOGGED (FT.):** 359.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 112 **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

MAPID: 02100223000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 25 **QUARTERS/FOOTAGES:** 345' S line, 275' E line of SE SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.376752 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.540014 **DATE COLLECTED:** 12 / 0 / 1950
SURFACE ELEVATION (FT.): 564.1 **LOGGED (FT.):** 372.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 122 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100037000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** 660' N line, 660' W line

QUADRANGLE: KINCAID **LONGITUDE:** -89.401584 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.551693 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 584.7 **LOGGED (FT.):** 387.0 **LOG TYPE:** Drillers Log

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

COMMENT: NO DATE GIVEN; ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
584.7	PLEISTOCENE		CLAY	12.0	0.0	
572.7	PLEISTOCENE		SAND	3.0	12.0	
569.7	PLEISTOCENE		HARD PAN	8.0	15.0	
561.7	PLEISTOCENE		SAND & GRAVEL	7.0	23.0	
554.7	BOND		SANDY SHALE	20.0	30.0	
534.7	BOND		GRAY SHALE	15.0	50.0	
519.7	BOND		DARK SHALE	8.0	65.0	
511.7	BOND		ARGILACEOUS SHALE	4.0	73.0	
507.7	BOND		SHALE WITH LIMESTONE	3.0	77.0	
504.7	BOND		LIMESTONE	2.0	80.0	
502.7	BOND		GRAY SHALE	10.0	82.0	
492.7	BOND		SHALE WITH LIMESTONE	2.0	92.0	
490.7	BOND		LIMESTONE	7.0	94.0	
483.7	BOND		BLACK SHALE	4.0	101.0	
479.7	BOND		SHALE WITH LIMESTONE	10.0	105.0	
469.7	BOND	CARTHAGE	LIMESTONE	11.0	115.0	
458.7	MODESTO		GRAY SHALE	10.0	126.0	
448.7	MODESTO		SHALE WITH LIMESTONE	7.0	136.0	
441.7	MODESTO		SANDSTONE/SHALE	7.0	143.0	
434.7	MODESTO		DARK GRAY SHALE	23.0	150.0	
411.7	MODESTO		GRAY SHALE	30.0	173.0	
381.7	MODESTO		GRAY SHALE	2.0	203.0	
379.7	MODESTO		COAL	0.8	205.0	
378.9	MODESTO		ARGILACEOUS SHALE	3.3	205.8	
375.7	MODESTO		SANDY SHALE	31.0	209.0	
344.7	MODESTO		GRAY SHALE	78.0	240.0	
266.7	MODESTO		DARK SHALE	2.0	318.0	
264.7	MODESTO		SANDY SHALE	2.0	320.0	W/ COAL SEAMS
262.7	MODESTO		ARGILACEOUS SHALE	3.0	322.0	
259.7	MODESTO		DARK GRAY SHALE	3.0	325.0	
256.7	MODESTO		BLACK SHALE	1.0	328.0	
255.7	MODESTO		ARGILACEOUS SHALE	3.0	329.0	
252.7	MODESTO		RED SHALE	3.0	332.0	
249.7	MODESTO	PIASA	LIMESTONE	4.0	335.0	
245.7			RED SHALE	2.0	339.0	
243.7			DARK SHALE	4.0	341.0	
239.7	CARBONDALE		SHALE WITH LIMESTONE	3.0	345.0	DARK & RED LIME SH MIXED
236.7	CARBONDALE		LIMESTONE	3.0	348.0	
233.7	CARBONDALE		SHALE WITH LIMESTONE	2.0	351.0	

231.7	CARBONDALE		SANDY SHALE	3.0	353.0
228.7	CARBONDALE		SHALE WITH LIMESTONE	1.0	356.0
227.7	CARBONDALE		SANDSTONE	5.5	357.0
222.2	CARBONDALE		SANDY SHALE	2.0	362.5
220.2	CARBONDALE		BLACK SHALE	1.0	364.5
219.2	CARBONDALE	BRERETON	LIMESTONE	6.5	365.5
212.7	CARBONDALE	ANNA	BLACK SHALE	0.3	372.0
212.4	CARBONDALE	HERRIN	COAL	7.8	372.3
204.7	CARBONDALE		ARGILACEOUS SHALE	2.0	380.0
202.7	CARBONDALE		LIMESTONE	1.5	382.0
201.2	CARBONDALE		ARGILACEOUS SHALE	1.0	383.5
200.2	CARBONDALE		SHALE WITH LIMESTONE	1.0	384.5
199.2	CARBONDALE		LIMESTONE	1.5	385.5

MAPID: 02100037000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** 660' N line, 660' W line

QUADRANGLE: KINCAID **LONGITUDE:** -89.401584 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.551693 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 585.0 **LOGGED (FT.):** 379.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
250.2	MODESTO	PIASA	LIMESTONE	4.0	334.8	
246.2	MODESTO		MOTTLED SHALE	6.0	338.8	
240.2	CARBONDALE		LIMESTONE W/ SHALE	3.0	344.8	
237.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	347.8	
234.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.0	350.8	
232.2	CARBONDALE	LAWSON	SILTY SHALE	3.0	352.8	
229.2	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.0	355.8	
228.2	CARBONDALE	LAWSON	SANDSTONE	5.5	356.8	
222.7	CARBONDALE	LAWSON	SILTY SHALE	2.0	362.3	
220.7	CARBONDALE	JAMESTOWN	BLACK SHALE	1.0	364.3	
219.7	CARBONDALE	BRERETON	LIMESTONE	6.5	365.3	
213.2	CARBONDALE	ANNA	BLACK SHALE	0.3	371.8	
213.0	CARBONDALE	HERRIN	COAL	7.8	372.0	

MAPID: 02102032000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.44054 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.541653 **DATE COLLECTED:** 11 / 0 / 1962
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 512.0 **LOG TYPE:** Electric Log
SOURCE: MILONCUS, J. W. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
238.0	CARBONDALE	DANVILLE	COAL	-	366.0	
219.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	385.0	CORRELATION UNCERTAIN
198.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	-	406.0	
159.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	445.0	
92.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	512.0	

MAPID: 02100405000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** SW SE NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.454583 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.54715 **DATE COLLECTED:** 12 / 18 / 1947
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 390.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 70 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	4.5	386.0	

MAPID: 02100615000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 30 **QUARTERS/FOOTAGES:** SE SE
QUADRANGLE: KINCAID **LONGITUDE:** -89.462819 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.540735 **DATE COLLECTED:** 5 / 17 / 1949
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 351.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 92 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	4.5	346.5	

MAPID: 02100038000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 1500' N line, 100' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.44199 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.534739 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 598.9 **LOGGED (FT.):** 375.3 **LOG TYPE:** Drillers Log

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

COMMENT: ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
598.9	PLEISTOCENE		SOIL	8.0	0.0	AND CLAY
590.9	PLEISTOCENE		CLAY & GRAVEL	9.0	8.0	
581.9	PLEISTOCENE		GRAVEL	3.0	17.0	AND BOULDERS
578.9	PLEISTOCENE		CLAY & GRAVEL	25.0	20.0	BLU CLY
553.9	PLEISTOCENE		GRAVEL	9.0	45.0	BOULDERS
544.9	BOND		SANDSTONE	7.0	54.0	
537.9	BOND		SHALE WITH LIMESTONE	2.0	61.0	
535.9	BOND		BLUE SHALE	15.0	63.0	LIMY, VERY SOFT
520.9	BOND		BLUE SHALE	1.0	78.0	LIMY
519.9	BOND	CARTHAGE	GRAY LIMESTONE	6.0	79.0	
513.9	MODESTO		BLUE SHALE	5.0	85.0	
508.9	MODESTO		BLACK SHALE	3.0	90.0	
505.9	MODESTO		BLUE SHALE	6.0	93.0	SOFT
499.9	MODESTO		BLUE LIMESTONE	6.0	99.0	
493.9	MODESTO		BLUE SHALE	1.0	105.0	LIMY
492.9	MODESTO		BLUE SHALE	1.0	106.0	
491.9	MODESTO		BLUE SHALE	7.0	107.0	LIMY
484.9	MODESTO		LIMESTONE	1.0	114.0	
483.9	MODESTO		BLUE SHALE	2.0	115.0	LIMY
481.9	MODESTO		SANDSTONE	15.0	117.0	
466.9	MODESTO		SANDY SHALE	7.0	132.0	W/ SD PARTINGS
459.9	MODESTO		SHALE & SANDSTONE	9.0	139.0	MIXED
450.9	MODESTO		SANDY SHALE	30.0	148.0	W/ SD PARTINGS
420.9	MODESTO		SANDSTONE	2.0	178.0	
418.9	MODESTO		SANDSTONE	7.0	180.0	LOG READS 'WITH C. PARTINGS'
411.9	MODESTO		BLUE SHALE	12.0	187.0	LIMY
399.9	MODESTO		SANDY SHALE	7.0	199.0	W/SH PARTINGS
392.9	MODESTO		SANDSTONE	3.0	206.0	
389.9	MODESTO		SANDY SHALE	4.0	209.0	
385.9	MODESTO		SANDSTONE	15.0	213.0	
370.9	MODESTO		SANDY SHALE	19.0	228.0	
351.9	MODESTO		SANDY SHALE	27.0	247.0	
324.9	MODESTO		SANDY SHALE	22.0	274.0	
302.9	MODESTO		BLUE SHALE	14.0	296.0	
288.9	MODESTO		COAL	0.1	310.0	
288.8	MODESTO		SHALE WITH LIMESTONE	3.9	310.1	
284.9	MODESTO		SHALE WITH LIMESTONE	5.0	314.0	BLUE
279.9	MODESTO		BLACK SHALE	1.0	319.0	
278.9	MODESTO		SHALE WITH LIMESTONE	3.0	320.0	BLUE

275.9	MODESTO		SHALE WITH LIMESTONE	3.0	323.0	DK BROWN
272.9	MODESTO		BLUE LIMESTONE	2.0	326.0	
270.9			SHALE WITH LIMESTONE	4.0	328.0	BLU
266.9			SHALE WITH LIMESTONE	3.0	332.0	BLU
263.9			LIMESTONE	5.0	335.0	
258.9			SHALE WITH LIMESTONE	2.0	340.0	
256.9	CARBONDALE		BLUE LIMESTONE	4.0	342.0	
252.9	CARBONDALE		SHALE WITH LIMESTONE	3.0	346.0	
249.9	CARBONDALE		SHALE WITH LIMESTONE	2.0	349.0	BLUE
247.9	CARBONDALE		SANDSTONE	6.5	351.0	
241.4	CARBONDALE	ANNA	BLACK SHALE	1.5	357.5	
239.9	CARBONDALE	HERRIN	COAL	7.3	359.0	
232.6	CARBONDALE		SANDY SHALE	9.0	366.3	

MAPID: 02100038000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 1500' N line, 100' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.44199 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.534739 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 366.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
284.1	MODESTO	PIASA	CALCAREOUS SHALE	8.1	314.9	
276.0	CARBONDALE	DANVILLE	BLACK SHALE	1.0	323.0	
275.0	CARBONDALE		CALCAREOUS SHALE	6.0	324.0	
269.0	CARBONDALE	GALUM	LIMESTONE	2.0	330.0	
267.0	CARBONDALE		CALCAREOUS SHALE	3.0	332.0	
264.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	335.0	UPPER BENCH
259.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	340.0	SHALE PARTING
257.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	342.0	LOWER BENCH
253.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	5.0	346.0	
248.0	CARBONDALE	LAWSON	SANDSTONE	6.5	351.0	
241.5	CARBONDALE	ANNA	BLACK SHALE	1.5	357.5	
240.0	CARBONDALE	HERRIN	COAL	7.3	359.0	

MAPID: 02100292000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE SW
QUADRANGLE: KINCAID **LONGITUDE:** -89.454354 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.527229 **DATE COLLECTED:** 12 / 0 / 1948
SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 482.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
251.0	CARBONDALE	HERRIN	UNCLASSIFIED	5.5	366.0	
235.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	4.0	382.0	CORRELATION UNCERTAIN
202.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	415.0	
135.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	482.0	

MAPID: 02100626000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 32 **QUARTERS/FOOTAGES:** 34' S line, 1' E line of NW NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.455714 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.535397 **DATE COLLECTED:** 2 / 0 / 1951
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 364.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 129 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	7.5	356.5	

MAPID: 02100291000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.42341 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.525489 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 390.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	350.0	
261.0	CARBONDALE		SHALE	17.0	354.0	
244.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	371.0	
241.0	CARBONDALE	LAWSON	SHALE	3.0	374.0	
238.0	CARBONDALE	BRERETON	LIMESTONE	6.0	377.0	
232.0	CARBONDALE	HERRIN	COAL	7.0	383.0	

MAPID: 02100125000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 800' N line, 2624' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.413291 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.536808 **DATE COLLECTED:** 5 / 0 / 1942
SURFACE ELEVATION (FT.): 607.8 **LOGGED (FT.):** 413.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
607.8	PLEISTOCENE		SOIL	20.0	0.0	AND CLAY
587.8	PLEISTOCENE		HARD PAN	70.0	20.0	
517.8	BOND		SHALE WITH LIMESTONE	3.0	90.0	
514.8	BOND		SHALE	17.0	93.0	W/ STRATAS OF LIME
497.8	BOND	CARTHAGE	LIMESTONE	10.0	110.0	HARD
487.8	MODESTO		LIGHT SHALE	2.0	120.0	
485.8	MODESTO		BLACK SHALE	4.0	122.0	
481.8	MODESTO		LIGHT SHALE	3.0	126.0	
478.8	MODESTO		SHALE WITH LIMESTONE	6.0	129.0	
472.8	MODESTO		BLACK SHALE	2.0	135.0	
470.8	MODESTO		GRAY SHALE	212.0	137.0	
258.8	MODESTO		LIMESTONE	3.0	349.0	
255.8	MODESTO		SHALE	2.0	352.0	STICKY
253.8	MODESTO		GRAY SHALE	11.0	354.0	
242.8	MODESTO		SHALE WITH LIMESTONE	3.0	365.0	
239.8	MODESTO		GREEN SHALE	3.0	368.0	
236.8	CARBONDALE		RED SHALE	1.5	371.0	MIXTURE
235.3	CARBONDALE		GRAY SHALE	4.5	372.5	
230.8	CARBONDALE		GRAY SHALE	16.0	377.0	SOLID
214.8	CARBONDALE	BRERETON	LIMESTONE	8.0	393.0	HARD
206.8	CARBONDALE	ANNA	BLACK SHALE	0.7	401.0	
206.1	CARBONDALE	HERRIN	COAL	8.3	401.7	COAL SEAM W/2" IRON BAND 27" FROM BOTTOM
197.8	CARBONDALE		SHALE WITH LIMESTONE	3.0	410.0	

MAPID: 02100125000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 800' N line, 2624' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.413291 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.536808 **DATE COLLECTED:** 5 / 0 / 1942
SURFACE ELEVATION (FT.): 607.8 **LOGGED (FT.):** 410.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
206.1	CARBONDALE	HERRIN	COAL	8.3	401.7	

MAPID: 02100125000C **VERSION:** 3 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 800' N line, 2624' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.413291 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.536808 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 411.0 **LOG TYPE:** Survey Core Study

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
256.6	MODESTO	PIASA	LIMESTONE	3.0	351.4	
253.6	CARBONDALE		GRAY SHALE	13.0	354.4	
240.6	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	367.4	
237.6	CARBONDALE	LAWSON	MOTTLED SHALE	13.2	370.4	
224.5	CARBONDALE	LAWSON	SILTSTONE	9.8	383.5	
214.7	CARBONDALE	LAWSON	CLAYSTONE	0.4	393.3	
214.4	CARBONDALE	LAWSON	SANDSTONE	0.8	393.6	
213.5	CARBONDALE	LAWSON	SHALE & SILTSTONE	1.3	394.5	
212.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.5	395.8	
206.7	CARBONDALE	ANNA	BLACK SHALE	0.7	401.3	
206.0	CARBONDALE	HERRIN	COAL	9.0	402.0	

MAPID: 02100126000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 520' S line, 194' E line of NE NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.413957 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.536836 **DATE COLLECTED:** 5 / 0 / 1942

SURFACE ELEVATION (FT.): 607.6 **LOGGED (FT.):** 414.0 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
607.6	PLEISTOCENE		SOIL	24.0	0.0	AND CLAY
583.6	PLEISTOCENE		HARD PAN	65.0	24.0	
518.6	BOND		SHALE WITH LIMESTONE	3.0	89.0	
515.6	BOND		LIGHT SHALE	19.0	92.0	W/ LIME STRATAS
496.6	BOND	CARTHAGE	LIMESTONE	6.0	111.0	HARD
490.6	MODESTO		BLACK SHALE	5.0	117.0	
485.6	MODESTO		SHALE	10.0	122.0	STICKY
475.6	MODESTO		LIMESTONE	3.0	132.0	
472.6	MODESTO		LIGHT SHALE	10.0	135.0	
462.6	MODESTO		GRAY SHALE	253.5	145.0	
209.1	CARBONDALE	BRERETON	LIMESTONE	5.5	398.5	
203.6	CARBONDALE	HERRIN	COAL	8.0	404.0	COAL SEAM W/ 2" IRON BAND
195.6	CARBONDALE		UNDERCLAY	1.5	412.0	
194.1	CARBONDALE		SHALE WITH LIMESTONE	0.5	413.5	

MAPID: 02100126000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 520' S line, 194' E line of NE NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.413957 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.536836 **DATE COLLECTED:** 6 / 0 / 1942
SURFACE ELEVATION (FT.): 607.6 **LOGGED (FT.):** 412.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
203.6	CARBONDALE	HERRIN	COAL	8.0	404.0	

MAPID: 02100127000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 175' N line, 600' E line of SE NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.415357 **GEOLOGIST:** SKURNAK
CONFIDENTIAL: N **LATITUDE:** 39.534918 **DATE COLLECTED:** 6 / 0 / 1942
SURFACE ELEVATION (FT.): 608.2 **LOGGED (FT.):** 418.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
608.2	PLEISTOCENE		SOIL	20.0	0.0	AND CLAY
588.2	PLEISTOCENE		HARD PAN	70.0	20.0	
518.2	BOND		SHALE	24.0	90.0	W/ STICKY STRATAS
494.2	BOND	CARTHAGE	LIMESTONE	8.0	114.0	
486.2	MODESTO		BLACK SHALE	6.0	122.0	
480.2	MODESTO		SHALE	20.0	128.0	W/ STRATAS OF LIME
460.2	MODESTO		GRAY SHALE	221.0	148.0	
239.2	CARBONDALE		SHALE WITH LIMESTONE	3.0	369.0	
236.2	CARBONDALE		GREEN SHALE	3.0	372.0	
233.2	CARBONDALE		RED SHALE	2.0	375.0	
231.2	CARBONDALE	ENERGY	GRAY SHALE	10.0	377.0	
221.2	CARBONDALE	ENERGY	GRAY SHALE	21.3	387.0	W/ HARD STRATAS
199.9	CARBONDALE	ENERGY	SANDY SHALE	0.7	408.3	CONGLOMERATE
199.2	CARBONDALE	HERRIN	COAL	6.7	409.0	COAL SEAM WITH ROCK BANDS
192.5	CARBONDALE		UNDERCLAY	2.3	415.7	

MAPID: 02100127000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 175' N line, 600' E line of SE NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.415357 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.534918 **DATE COLLECTED:** 6 / 0 / 1942

SURFACE ELEVATION (FT.): 608.2 **LOGGED (FT.):** 415.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
199.2	CARBONDALE	HERRIN	COAL	6.7	409.0	

MAPID: 02100039000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1650' S line, 330' W line

QUADRANGLE: KINCAID **LONGITUDE:** -89.49577 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.60154 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 569.3 **LOGGED (FT.):** 310.0 **LOG TYPE:** Drillers Log

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

COMMENT: NO DATE GIVEN; ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
569.3	PLEISTOCENE		UNCONSOLIDATED	2.0	0.0	
567.3	PLEISTOCENE		SAND	13.0	2.0	
554.3	BOND		SANDSTONE	4.0	15.0	
550.3	BOND	CARTHAGE	LIMESTONE	11.0	19.0	
539.3	MODESTO		SHALE	4.0	30.0	
535.3	MODESTO		BLACK SHALE	6.1	34.0	
529.2	MODESTO		LIMESTONE	14.5	40.1	
514.7	MODESTO		SHALE	52.0	54.6	
462.7	MODESTO		BLACK SHALE	1.0	106.6	
461.7	MODESTO		COAL	2.0	107.6	
459.7	MODESTO		SOFT SHALE	19.0	109.6	
440.7	MODESTO		COAL	0.8	128.6	
439.9	MODESTO		LIMESTONE	5.5	129.4	
434.4	MODESTO		SANDSTONE	21.0	134.9	
413.4	MODESTO		SANDY SLATE	75.9	155.9	
337.5	MODESTO		SOFT SHALE	4.5	231.8	
333.0	MODESTO		SHALE	7.3	236.3	
325.6	MODESTO	PIASA	LIMESTONE	5.2	243.7	
320.5			SHALE	11.0	248.8	
309.5			SANDSTONE	7.0	259.8	
302.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	266.8	
301.0	CARBONDALE	BANKSTON FORK	SOFT SHALE	3.2	268.3	
297.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	271.5	
295.3	CARBONDALE		SHALE	4.0	274.0	
291.3	CARBONDALE		SANDSTONE	9.0	278.0	
282.3	CARBONDALE		BLACK SHALE	2.0	287.0	
280.3	CARBONDALE	BRERETON	LIMESTONE	9.0	289.0	
271.3	CARBONDALE	ANNA	BLACK SHALE	1.0	298.0	
270.3	CARBONDALE	HERRIN	COAL	7.0	299.0	
263.3	CARBONDALE		UNDERCLAY	4.0	306.0	

MAPID: 02100039000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 1 **QUARTERS/FOOTAGES:** 1650' S line, 330' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.49577 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.60154 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 569.0 **LOGGED (FT.):** 306.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
325.3	MODESTO	PIASA	LIMESTONE	5.2	243.7	
320.2	MODESTO		SHALE & SANDSTONE	18.0	248.8	
302.2	CARBONDALE	GALUM	LIMESTONE	1.5	266.8	
300.7	CARBONDALE		GRAY SHALE	3.2	268.3	
297.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	271.5	
295.0	CARBONDALE	LAWSON	SHALE	4.0	274.0	
291.0	CARBONDALE	LAWSON	SANDSTONE	9.0	278.0	
282.0	CARBONDALE	LAWSON	BLACK SHALE	2.0	287.0	
280.0	CARBONDALE	BRERETON	LIMESTONE	9.0	289.0	
271.0	CARBONDALE	ANNA	BLACK SHALE	1.0	298.0	
270.0	CARBONDALE	HERRIN	COAL	7.0	299.0	

MAPID: 02100921000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 9' N line, 68' W line of NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515454 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.612167 **DATE COLLECTED:** 1 / 3 / 1958
SURFACE ELEVATION (FT.): 596.2 **LOGGED (FT.):** 312.0 **LOG TYPE:**
SOURCE: PEABODY COAL CO. CC270 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
291.7	CARBONDALE	HERRIN	COAL	7.5	304.5	

MAPID: 02102059000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2143' N line, 972' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512241 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.606249 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 597.4 **LOGGED (FT.):** 349.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 288 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
255.3	CARBONDALE	HERRIN	COAL	7.3	342.1	

MAPID: 02102059000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2143' N line, 972' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.512241 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.606249 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 349.3 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 288 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
307.3	MODESTO	PIASA	LIMESTONE W/ SHALE	6.5	289.7	
300.8	MODESTO		SANDSTONE/SILTSTONE	18.4	296.2	
282.4	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	1.2	314.6	
281.2	CARBONDALE		CALCAREOUS SHALE	0.2	315.8	
281.1	CARBONDALE	ALLENBY	COAL	0.8	315.9	
280.3	CARBONDALE		CLAYSTONE & SHALE	4.0	316.7	
276.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.4	320.7	
273.9	CARBONDALE	LAWSON	MOTTLED SHALE	4.8	323.1	
269.1	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	1.3	327.9	
267.8	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	2.3	329.2	
265.5	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	331.5	
263.2	CARBONDALE	LAWSON	DARK GRAY SHALE	3.2	333.8	
260.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	337.0	
255.0	CARBONDALE	HERRIN	COAL	7.3	342.0	

MAPID: 02102060000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2263' N line, 1667' E line of NW

QUADRANGLE: PAWNEE **LONGITUDE:** -89.512302 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.605918 **DATE COLLECTED:** 11 / 0 / 1962

SURFACE ELEVATION (FT.): 597.9 **LOGGED (FT.):** 349.1 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 289 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
256.1	CARBONDALE	HERRIN	COAL	7.3	341.8	

MAPID: 02102061000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 2 **QUARTERS/FOOTAGES:** 2883' N line, 980' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.51222 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.604207 **DATE COLLECTED:** 11 / 0 / 1962
SURFACE ELEVATION (FT.): 597.5 **LOGGED (FT.):** 349.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 290 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
255.6	CARBONDALE	HERRIN	COAL	7.3	341.9	

MAPID: 02100195000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2530' N line, 1096' E line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.519599 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.590018 **DATE COLLECTED:** 3 / 0 / 1946
SURFACE ELEVATION (FT.): 598.3 **LOGGED (FT.):** 343.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 29 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100195000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2530' N line, 1096' E line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.519599 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.590018 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 342.7 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 29 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100196000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 690' S line, 27' E line of SE NE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515796 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.591686 **DATE COLLECTED:** 3 / 17 / 1946
SURFACE ELEVATION (FT.): 598.6 **LOGGED (FT.):** 347.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 31 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100197000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 629' N line, 16' E line of SE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515709 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584432 **DATE COLLECTED:** 3 / 31 / 1946
SURFACE ELEVATION (FT.): 604.5 **LOGGED (FT.):** 359.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 32 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100198000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 644' N line, 223' W line of NE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.519598 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.588006 **DATE COLLECTED:** 5 / 0 / 1946
SURFACE ELEVATION (FT.): 602.9 **LOGGED (FT.):** 345.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 33 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100324000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 477' S line, 478' W line of SE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.518659 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583879 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 600.5 **LOGGED (FT.):** 352.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 162 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
255.8	CARBONDALE	HERRIN	COAL	7.8	344.7	

MAPID: 02100326000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 468' S line, 497' W line of SW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.523307 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583864 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 598.7 **LOGGED (FT.):** 345.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 164 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
261.2	CARBONDALE	HERRIN	COAL	7.7	337.5	

MAPID: 02100328000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 404' S line, 483' W line of SW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.523357 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583688 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 599.8 **LOGGED (FT.):** 342.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 166 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
266.1	CARBONDALE	HERRIN	COAL	8.3	333.7	

MAPID: 02100331000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 818' S line, 8' W line of SE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.520343 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584823 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 362.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 169 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
248.5	CARBONDALE	HERRIN	COAL	7.5	354.5	

MAPID: 02100333000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 808' S line, 32' W line of SW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.524973 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584805 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 350.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 171 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
256.4	CARBONDALE	HERRIN	COAL	7.5	342.6	

MAPID: 02100334000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 824' S line, 2' E line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.529814 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584862 **DATE COLLECTED:** 2 / 0 / 1952
SURFACE ELEVATION (FT.): 596.5 **LOGGED (FT.):** 335.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 172 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
267.8	CARBONDALE	HERRIN	COAL	7.1	328.7	

MAPID: 02100336000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 811' S line, 7' W line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.534498 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584836 **DATE COLLECTED:** 2 / 0 / 1952
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 322.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 174 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
275.7	CARBONDALE	HERRIN	COAL	7.7	314.3	

MAPID: 02100339000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 565' S line, 485' E line of SE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.517378 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584119 **DATE COLLECTED:** 4 / 0 / 1952
SURFACE ELEVATION (FT.): 601.1 **LOGGED (FT.):** 357.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 187 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.0	CARBONDALE	HERRIN	COAL	6.9	350.1	

MAPID: 02100340000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 700' S line, 800' E line of SE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.518506 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584495 **DATE COLLECTED:** 4 / 0 / 1952
SURFACE ELEVATION (FT.): 600.2 **LOGGED (FT.):** 351.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 188 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
253.5	CARBONDALE	HERRIN	COAL	4.3	346.7	

MAPID: 02100341000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 10 **QUARTERS/FOOTAGES:** 30' N line, 610' E line of SE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.517839 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.586087 **DATE COLLECTED:** 6 / 0 / 1952
SURFACE ELEVATION (FT.): 602.2 **LOGGED (FT.):** 349.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 189 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
259.7	CARBONDALE	HERRIN	COAL	7.0	342.5	

MAPID: 02100199000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2010' S line, 100' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515317 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.588103 **DATE COLLECTED:** 2 / 0 / 1946
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 340.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 28 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100199000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2010' S line, 100' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515317 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.588103 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 341.2 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 28 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100200000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 113' S line, 48' E line of SW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.511147 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.59008 **DATE COLLECTED:** 3 / 9 / 1946
SURFACE ELEVATION (FT.): 598.5 **LOGGED (FT.):** 356.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 30 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100214000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 794' N line, 1140' W line of SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.511607 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.587576 **DATE COLLECTED:** 10 / 0 / 1950
SURFACE ELEVATION (FT.): 597.8 **LOGGED (FT.):** 351.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 120 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100306000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** SW NW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.505054 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.587033 **DATE COLLECTED:** 8 / 0 / 1951
SURFACE ELEVATION (FT.): 594.8 **LOGGED (FT.):** 349.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 142 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
252.6	CARBONDALE	HERRIN	COAL	7.4	342.2	

MAPID: 02100307000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1244' N line, 411' W line of NW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.514197 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.586342 **DATE COLLECTED:** 9 / 0 / 1951
SURFACE ELEVATION (FT.): 599.0 **LOGGED (FT.):** 341.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 148 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.4	CARBONDALE	HERRIN	COAL	8.0	333.6	

MAPID: 02100314000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.51329 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584352 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 602.1 **LOGGED (FT.):** 362.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 152 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
247.4	CARBONDALE	HERRIN	COAL	8.0	354.7	

MAPID: 02100315000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.51329 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584352 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 601.3 **LOGGED (FT.):** 359.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 153 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
248.2	CARBONDALE	HERRIN	COAL	6.3	353.1	

MAPID: 02100316000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 285' S line, 757' W line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512944 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.58333 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 601.9 **LOGGED (FT.):** 7.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 154 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.1	CARBONDALE	HERRIN	COAL	8.1	359.8	

MAPID: 02100317000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 210' S line, 170' E line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.511528 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583115 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 602.3 **LOGGED (FT.):** 366.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 155 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.3	CARBONDALE	HERRIN	COAL	6.9	360.0	

MAPID: 02100318000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 5' S line, 1177' W line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.511439 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.582549 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 603.8 **LOGGED (FT.):** 368.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 156 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
243.5	CARBONDALE	HERRIN	COAL	8.0	360.3	

MAPID: 02100319000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 285' S line, 557' W line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.513658 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583333 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 601.9 **LOGGED (FT.):** 368.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 157 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.1	CARBONDALE	HERRIN	COAL	8.2	359.8	

MAPID: 02100320000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 193' S line, 26' W line of SE SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.510829 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583066 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 602.3 **LOGGED (FT.):** 357.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 158 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.8	CARBONDALE	HERRIN	COAL	7.3	350.5	

MAPID: 02100321000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 3' S line, 757' W line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512937 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.582552 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 359.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 159 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
248.9	CARBONDALE	HERRIN	COAL	5.4	354.1	

MAPID: 02100322000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 393' S line, 326' W line of SE SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.509762 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583612 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 600.9 **LOGGED (FT.):** 361.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 160 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
248.2	CARBONDALE	HERRIN	COAL	8.6	352.7	

MAPID: 02100323000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 417' S line, 12' E line of SE SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.506249 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583659 **DATE COLLECTED:** 12 / 0 / 1951
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 354.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 161 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
255.7	CARBONDALE	HERRIN	COAL	7.3	347.3	

MAPID: 02100325000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 446' S line, 26' E line of SW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.501579 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.583715 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 598.1 **LOGGED (FT.):** 361.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 163 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
243.6	CARBONDALE	HERRIN	COAL	6.9	354.5	

MAPID: 02100327000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 1029' S line, 1273' W line of SE SE
QUADRANGLE: KINCAID **LONGITUDE:** -89.496959 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.585302 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 599.5 **LOGGED (FT.):** 358.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 165 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
247.5	CARBONDALE	HERRIN	COAL	6.3	352.0	

MAPID: 02100332000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 752' S line, 29' E line of SE SE
QUADRANGLE: KINCAID **LONGITUDE:** -89.496877 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584537 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 601.5 **LOGGED (FT.):** 351.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 170 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
257.5	CARBONDALE	HERRIN	COAL	7.0	344.0	

MAPID: 02100335000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 781' S line, 28' E line of SW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.501597 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584639 **DATE COLLECTED:** 2 / 0 / 1952
SURFACE ELEVATION (FT.): 598.4 **LOGGED (FT.):** 364.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 173 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.2	CARBONDALE	HERRIN	COAL	7.8	356.2	

MAPID: 02100337000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 580' N line, 515' E line of SE SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.50805 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.584537 **DATE COLLECTED:** 4 / 0 / 1952
SURFACE ELEVATION (FT.): 600.1 **LOGGED (FT.):** 355.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 184 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
251.6	CARBONDALE	HERRIN	COAL	7.4	348.5	

MAPID: 02100338000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 25' S line, 720' E line of SE SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.508767 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.582591 **DATE COLLECTED:** 4 / 0 / 1952
SURFACE ELEVATION (FT.): 600.7 **LOGGED (FT.):** 358.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 185 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
249.5	CARBONDALE	HERRIN	COAL	7.4	351.2	

MAPID: 02100635000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 807' N line, 653' W line of SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.513341 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.587545 **DATE COLLECTED:** 5 / 2 / 1951
SURFACE ELEVATION (FT.): 600.4 **LOGGED (FT.):** 342.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 136 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
263.9	CARBONDALE	HERRIN	COAL	6.3	336.5	

MAPID: 02100636000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 761' N line, 360' W line of SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.51439 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.587678 **DATE COLLECTED:** 5 / 8 / 1951
SURFACE ELEVATION (FT.): 600.8 **LOGGED (FT.):** 338.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 136A **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
269.6	CARBONDALE	HERRIN	COAL	7.3	331.2	

MAPID: 02100637000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 713' N line, 63' W line of SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515449 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.587813 **DATE COLLECTED:** 5 / 22 / 1951
SURFACE ELEVATION (FT.): 601.8 **LOGGED (FT.):** 342.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 136B **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
266.5	CARBONDALE	HERRIN	COAL	7.3	335.3	

MAPID: 02102055000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 640' N line, 11' W line of NE NE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.501554 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.595225 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 591.1 **LOGGED (FT.):** 346.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 284 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
253.1	CARBONDALE	HERRIN	COAL	8.0	338.0	

MAPID: 02102056000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 640' N line, 606' W line of NE NE
QUADRANGLE: KINCAID **LONGITUDE:** -89.499431 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.595222 **DATE COLLECTED:** 9 / 0 / 1962
SURFACE ELEVATION (FT.): 591.2 **LOGGED (FT.):** 345.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 285 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
254.6	CARBONDALE	HERRIN	COAL	8.7	336.6	

MAPID: 02102057000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 11 **QUARTERS/FOOTAGES:** 640' N line, 930' W line of NE NE
QUADRANGLE: KINCAID **LONGITUDE:** -89.498275 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.595222 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 588.9 **LOGGED (FT.):** 340.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 286 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
255.8	CARBONDALE	HERRIN	COAL	7.7	333.1	

MAPID: 02100329000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1025' S line, 1262' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.492283 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.585307 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 602.6 **LOGGED (FT.):** 358.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 167 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
252.2	CARBONDALE	HERRIN	COAL	8.2	350.4	

MAPID: 02100329000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1025' S line, 1262' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.492283 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.585307 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 358.2 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 167 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.0	MODESTO	PIASA	LIMESTONE	1.5	322.0	
279.5	CARBONDALE		SHALE	16.0	323.5	
263.5	CARBONDALE	BANKSTON FORK	LIMESTONE	0.7	339.5	
262.8	CARBONDALE	LAWSON	SANDSTONE	2.8	340.2	
260.0	CARBONDALE	JAMESTOWN	BONE COAL	0.4	343.0	
259.6	CARBONDALE		GRAY SHALE	1.7	343.4	
257.9	CARBONDALE	BRERETON	CARBONACEOUS LIMESTONE	4.2	345.1	
253.7	CARBONDALE	ANNA	DARK GRAY SHALE	0.5	349.3	
253.0	CARBONDALE	HERRIN	COAL	8.2	350.0	

MAPID: 02100330000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 12 **QUARTERS/FOOTAGES:** 1000' S line, 33' W line of SW SE
QUADRANGLE: KINCAID **LONGITUDE:** -89.486978 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.585259 **DATE COLLECTED:** 1 / 0 / 1952
SURFACE ELEVATION (FT.): 599.7 **LOGGED (FT.):** 358.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 168 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
248.4	CARBONDALE	HERRIN	COAL	7.2	351.3	

MAPID: 02100297000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2597' N line, 1538' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.491082 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.575315 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 360.3 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 243-J **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
295.6	MODESTO	PIASA	LIMESTONE W/ SHALE	5.5	310.4	
290.1	MODESTO		MOTTLED SHALE	8.7	315.9	
281.5	CARBONDALE	DANVILLE	BONE COAL	0.1	324.5	
281.3	CARBONDALE		CLAYSTONE & SHALE	1.6	324.7	
279.7	CARBONDALE	GALUM	CALCAREOUS SHALE	0.7	326.3	
279.0	CARBONDALE		CLAYSTONE	1.4	327.0	
277.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.2	328.3	
274.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.3	331.5	
272.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.3	333.8	
268.8	CARBONDALE	LAWSON	SANDSTONE/SILTSTONE	5.4	337.2	
263.4	CARBONDALE	LAWSON	SILTY SHALE	1.1	342.6	
262.3	CARBONDALE	LAWSON	SILTSTONE	0.4	343.7	
261.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	8.6	344.1	
253.3	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.4	352.7	
253.0	CARBONDALE	HERRIN	COAL	7.3	353.0	

MAPID: 02100377000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 13 **QUARTERS/FOOTAGES:** 18' N line, 622' E line of SW NW
QUADRANGLE: KINCAID **LONGITUDE:** -89.494028 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.578812 **DATE COLLECTED:** 0 / 0 / 1953
SURFACE ELEVATION (FT.): 598.2 **LOGGED (FT.):** 360.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 227-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
244.5	CARBONDALE	HERRIN	COAL	7.0	353.7	

MAPID: 02100255000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 2630' N line, 742' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.51285 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.575282 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 368.4 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 130 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
274.6	MODESTO		MOTTLED SHALE	6.0	329.4	
268.6	CARBONDALE	DANVILLE	BLACK SHALE	0.3	335.4	
268.2	CARBONDALE		CALCAREOUS SHALE	0.3	335.8	
267.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.3	336.1	
267.6	CARBONDALE		GRAY SHALE	0.5	336.4	
267.1	CARBONDALE	ALLENBY	BLACK SHALE	0.2	336.9	
266.9	CARBONDALE		CLAYSTONE & SHALE	1.4	337.1	
265.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.3	338.5	UPPER BENCH
264.2	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	3.4	339.8	SHALE PARTING
260.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.1	343.2	LOWER BENCH
258.7	CARBONDALE	LAWSON	DARK GRAY SHALE	2.7	345.3	
256.0	CARBONDALE	LAWSON	SILTSTONE	1.9	348.0	
254.2	CARBONDALE	LAWSON	MOTTLED SHALE	0.9	349.8	
253.2	CARBONDALE	LAWSON	LIMESTONE	0.4	350.8	
252.8	CARBONDALE	LAWSON	DARK GRAY SHALE	1.8	351.2	
251.1	CARBONDALE	CONANT	LIMESTONE	0.4	352.9	
250.7	CARBONDALE		DARK GRAY SHALE	1.1	353.3	
249.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.3	354.4	
243.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	360.8	
243.0	CARBONDALE	HERRIN	COAL	7.4	361.0	

MAPID: 02100360000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 301' N line, 487' E line of NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512637 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.58171 **DATE COLLECTED:** 10 / 0 / 1952
SURFACE ELEVATION (FT.): 603.9 **LOGGED (FT.):** 369.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 208-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.9	CARBONDALE	HERRIN	COAL	8.3	361.0	

MAPID: 02100362000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 751' N line, 489' E line of NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512619 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.580468 **DATE COLLECTED:** 11 / 0 / 1952
SURFACE ELEVATION (FT.): 605.1 **LOGGED (FT.):** 369.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 211-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
243.6	CARBONDALE	HERRIN	COAL	7.5	361.5	

MAPID: 02100369000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1051' N line, 490' E line of NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512605 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.57964 **DATE COLLECTED:** 1 / 0 / 1953
SURFACE ELEVATION (FT.): 605.3 **LOGGED (FT.):** 369.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 218-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
243.9	CARBONDALE	HERRIN	COAL	7.8	361.4	

MAPID: 02100370000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 31' N line, 488' E line of SW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.51258 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.578817 **DATE COLLECTED:** 1 / 0 / 1953
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 367.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 219-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
244.2	CARBONDALE	HERRIN	COAL	7.6	359.8	

MAPID: 02100374000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 15' S line, 513' W line of SE NE
QUADRANGLE: KINCAID **LONGITUDE:** -89.499468 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.575285 **DATE COLLECTED:** 2 / 0 / 1953
SURFACE ELEVATION (FT.): 590.6 **LOGGED (FT.):** 355.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 224 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
241.9	CARBONDALE	HERRIN	COAL	6.7	348.7	

MAPID: 02100387000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 338' N line, 446' E line of NW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512333 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.574332 **DATE COLLECTED:** 8 / 0 / 1953
SURFACE ELEVATION (FT.): 602.6 **LOGGED (FT.):** 367.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 242 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.6	CARBONDALE	HERRIN	COAL	7.7	360.0	

MAPID: 02123539000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1291' N line, 683' E line of SW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.5132 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.575342 **DATE COLLECTED:** 8 / 0 / 1953
SURFACE ELEVATION (FT.): 601.7 **LOGGED (FT.):** 367.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 241 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.2	CARBONDALE	HERRIN	COAL	7.6	359.5	

MAPID: 02100257000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 11' S line, 53' E line of SE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515545 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.568016 **DATE COLLECTED:** 4 / 0 / 1951
SURFACE ELEVATION (FT.): 605.9 **LOGGED (FT.):** 359.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 131 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
254.0	CARBONDALE	HERRIN	COAL	7.3	351.9	

MAPID: 02100375000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 17' S line, 86' W line of SW NE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.524603 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.575338 **DATE COLLECTED:** 0 / 0 / 1953
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 335.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 225-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
272.0	CARBONDALE	HERRIN	COAL	7.2	328.0	

MAPID: 02100376000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 15' S line, 70' E line of SW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.529863 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.575342 **DATE COLLECTED:** 0 / 0 / 1953
SURFACE ELEVATION (FT.): 597.3 **LOGGED (FT.):** 327.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 226-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
276.5	CARBONDALE	HERRIN	COAL	6.8	320.8	

MAPID: 02100381000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 62' N line, 31' W line of NW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.534204 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.575139 **DATE COLLECTED:** 4 / 0 / 1953
SURFACE ELEVATION (FT.): 595.7 **LOGGED (FT.):** 330.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 234 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
272.5	CARBONDALE	HERRIN	COAL	7.5	323.2	

MAPID: 02100383000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 10' S line, 19' E line of SW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.520121 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.568024 **DATE COLLECTED:** 6 / 0 / 1953
SURFACE ELEVATION (FT.): 606.6 **LOGGED (FT.):** 339.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 237 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
273.9	CARBONDALE	HERRIN	COAL	7.2	332.7	

MAPID: 02100605000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1326' S line, 10' E line of NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.525025 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.578951 **DATE COLLECTED:** 12 / 0 / 1953
SURFACE ELEVATION (FT.): 598.7 **LOGGED (FT.):** 344.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 245-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
262.2	CARBONDALE	HERRIN	COAL	8.1	336.5	

MAPID: 02100606000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 638' S line, 11' W line of SW NE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.524906 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.577052 **DATE COLLECTED:** 12 / 0 / 1953
SURFACE ELEVATION (FT.): 590.8 **LOGGED (FT.):** 338.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 246-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
260.6	CARBONDALE	HERRIN	COAL	8.2	330.2	

MAPID: 02100608000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1333' S line, 6' E line of SW NE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.520302 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.57896 **DATE COLLECTED:** 1 / 0 / 1954
SURFACE ELEVATION (FT.): 605.3 **LOGGED (FT.):** 359.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 248J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
254.2	CARBONDALE	HERRIN	COAL	8.8	351.1	

MAPID: 02100609000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 296' N line, 582' E line of NW SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.522262 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.574469 **DATE COLLECTED:** 1 / 0 / 1954
SURFACE ELEVATION (FT.): 593.8 **LOGGED (FT.):** 341.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. CC-249J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
259.8	CARBONDALE	HERRIN	COAL	7.5	334.0	

MAPID: 02100610000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 326' N line, 535' E line of NE SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.526796 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.574396 **DATE COLLECTED:** 2 / 0 / 1954
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 327.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. CC250J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
274.5	CARBONDALE	HERRIN	COAL	6.6	320.5	

MAPID: 02100632000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 17' S line, 734' E line of SE NE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.518115 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.575322 **DATE COLLECTED:** 2 / 0 / 1953
SURFACE ELEVATION (FT.): 599.5 **LOGGED (FT.):** 366.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 221-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
240.5	CARBONDALE	HERRIN	COAL	7.1	359.0	

MAPID: 02100633000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 439' S line, 14' E line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515428 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.569198 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 233 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
283.8	MODESTO	PIASA	LIMESTONE	2.0	322.2	
281.8	CARBONDALE		LIMESTONE W/ SHALE	17.9	324.2	
263.9	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	342.1	
263.4	CARBONDALE	LAWSON	BLACK SHALE	1.0	342.6	
262.4	CARBONDALE	LAWSON	SHALE & SILTSTONE	1.3	343.6	
261.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	1.7	344.8	
259.5	CARBONDALE	LAWSON	SILTY SHALE	1.1	346.5	
258.4	CARBONDALE	LAWSON	DARK GRAY SHALE	1.3	347.6	
257.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.6	348.9	
251.5	CARBONDALE	ANNA	BLACK SHALE	2.5	354.5	
249.0	CARBONDALE	HERRIN	COAL	7.5	357.0	

MAPID: 02123520000C **VERSION:** 1 **PROJECT:** NCRDS17

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:**

QUADRANGLE: PAWNEE **LONGITUDE:** -89.527415 **GEOLOGIST:** JMCBETH

CONFIDENTIAL: N **LATITUDE:** 39.57538 **DATE COLLECTED:** 3 / 10 / 1981

SURFACE ELEVATION (FT.): 594.4 **LOGGED (FT.):** 379.6 **LOG TYPE:** Drillers Log

SOURCE: PEABODY CC385E **WELL TYPE:** Coal Test

COMMENT: MINE #10 POSSIBLY CC385C

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
594.4	PLEISTOCENE		UNCONSOLIDATED	37.7	0.0	
556.7			SHALE	8.5	37.7	
548.2			LIMESTONE	7.4	46.2	
540.8			SHALE	3.9	53.6	
536.9			SHALE	8.2	57.5	
528.7			LIMESTONE	8.8	65.7	
519.9			SHALE	7.9	74.5	
512.0			SHALE	7.3	82.4	
504.7			SHALE	12.0	89.7	
492.7			SHALE	34.0	101.7	WITH SAND
458.7			SHALE	17.3	135.7	
441.4			COAL	0.5	153.0	
440.9			UNDERCLAY	0.3	153.5	
440.6			SHALE	41.6	153.8	WITH SAND
399.0			SHALE	77.6	195.4	
321.4			SHALE	0.9	273.0	WITH COAL
320.5			SHALE	1.9	273.9	
318.6			LIMESTONE	0.4	275.8	
318.2			SHALE	1.2	276.2	
317.0			SHALE	4.2	277.4	WITH SAND
312.8			SHALE	2.6	281.6	
310.2			LIMESTONE	2.7	284.2	
307.5			SHALE	3.7	286.9	
303.8			SHALE	1.2	290.6	WITH SAND
302.6			SHALE	1.3	291.8	
301.3			LIMESTONE	0.8	293.1	
300.5			SHALE	5.0	293.9	WITH SAND
295.5			LIMESTONE	3.6	298.9	
291.9			SHALE	0.7	302.5	
291.2			LIMESTONE	0.7	303.2	
290.5			SHALE	3.6	303.9	WITH LS BAND
286.9			SHALE	2.2	307.5	WITH SAND
284.7			SANDSTONE	3.1	309.7	
281.6			SHALE	1.1	312.8	WITH SAND; ENERGY?
280.5			SANDSTONE	3.5	313.9	
277.0			SHALE	1.8	317.4	
275.2	CARBONDALE	HERRIN	COAL	6.1	319.2	
269.1	CARBONDALE	HERRIN	SHALE	0.1	325.3	
269.0	CARBONDALE	HERRIN	COAL	2.0	325.4	

267.0	CARBONDALE		SHALE	1.9	327.4	WITH SAND
265.1	CARBONDALE		SHALE	6.0	329.3	WITH LS
259.1	CARBONDALE		SHALE	2.4	335.3	
256.7	CARBONDALE	SPRINGFIELD	COAL	2.3	337.7	
254.4	CARBONDALE		SHALE	0.4	340.0	
254.0	CARBONDALE		LIMESTONE	4.4	340.4	
249.6	CARBONDALE		SHALE	4.6	344.8	WITH SAND
245.0	CARBONDALE		SHALE	3.2	349.4	
241.8	CARBONDALE		SHALE	8.6	352.6	WITH SAND
233.2	CARBONDALE		SHALE	10.4	361.2	
222.8	CARBONDALE		LIMESTONE	1.2	371.6	
221.6	CARBONDALE		SHALE	6.8	372.8	

MAPID: 02123541000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 15 **QUARTERS/FOOTAGES:** 313' N line, 625' E line of NW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.531825 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.574442 **DATE COLLECTED:** 2 / 0 / 1954
SURFACE ELEVATION (FT.): 598.7 **LOGGED (FT.):** 320.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 251-J **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
285.9	CARBONDALE	HERRIN	COAL	7.4	312.8	

MAPID: 02100258000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 19' N line, 16' E line of NE SE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.515308 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.56074 **DATE COLLECTED:** 3 / 0 / 1951
SURFACE ELEVATION (FT.): 609.2 **LOGGED (FT.):** 358.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 132 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
258.1	CARBONDALE	HERRIN	COAL	7.8	351.1	

MAPID: 02100384000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 7' N line, 2177' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.526376 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.567989 **DATE COLLECTED:** 6 / 0 / 1953
SURFACE ELEVATION (FT.): 605.8 **LOGGED (FT.):** 334.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 238 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.8	CARBONDALE	HERRIN	COAL	7.3	327.0	

MAPID: 02100384000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 22 **QUARTERS/FOOTAGES:** 7' N line, 2177' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.526376 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.567989 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 334.3 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 238 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
309.3	MODESTO	PIASA	LIMESTONE	0.5	296.7	
308.8	MODESTO		MOTTLED SHALE	2.7	297.2	
306.2	CARBONDALE		CARBONACEOUS SHALE	0.8	299.8	
305.4	CARBONDALE	GALUM	LIMESTONE	1.0	300.6	
304.4	CARBONDALE		GRAY SHALE	0.5	301.6	
303.9	CARBONDALE		CLAYSTONE & SHALE	2.4	302.1	
301.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.8	304.5	UPPER BENCH
298.7	CARBONDALE	BANKSTON FORK	CLAYSTONE & SHALE	0.3	307.3	SHALE PARTING
298.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.3	307.5	LOWER BENCH
294.2	CARBONDALE	LAWSON	SHALE & SILTSTONE	3.8	311.8	
290.5	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	1.9	315.5	
288.6	CARBONDALE	LAWSON	SILTSTONE	2.1	317.4	
286.5	CARBONDALE	LAWSON	CARBONACEOUS SHALE	1.9	319.5	
284.6	CARBONDALE	LAWSON	DARK GRAY SHALE	2.8	321.4	
281.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.3	324.2	
279.5	CARBONDALE	ANNA	DARK GRAY SHALE	0.5	326.5	
279.0	CARBONDALE	HERRIN	COAL	7.3	327.0	

MAPID: 02100041000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** NW NE NE

QUADRANGLE: KINCAID **LONGITUDE:** -89.499921 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.567106 **DATE COLLECTED:** 0 / 0 / 1905

SURFACE ELEVATION (FT.): 594.5 **LOGGED (FT.):** 360.0 **LOG TYPE:** Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
594.5	PLEISTOCENE		CLAY	5.0	0.0	
589.5	PLEISTOCENE		SAND	5.0	5.0	
584.5	PLEISTOCENE		CLAY	14.0	10.0	
570.5	PLEISTOCENE		GRAVEL	1.0	24.0	
569.5	BOND		SANDY SHALE	3.0	25.0	SOFT
566.5	BOND		LIMESTONE	2.0	28.0	
564.5	BOND		GRAY SHALE	30.0	30.0	
534.5	BOND		FOSSILIFEROUS SHALE	1.8	60.0	
532.7	BOND		COAL	0.2	61.8	
532.5	BOND		GRAY SHALE	2.0	62.0	
530.5	BOND		BLUE LIMESTONE	1.0	64.0	
529.5	BOND	CARTHAGE	LIMESTONE	14.0	65.0	
515.5	MODESTO		BLACK SHALE	4.0	79.0	
511.5	MODESTO		ARGILACEOUS SHALE	5.0	83.0	
506.5	MODESTO		LIMESTONE	10.0	88.0	
496.5	MODESTO		LIMESTONE	1.0	98.0	
495.5	MODESTO		GRAY SHALE	1.0	99.0	
494.5	MODESTO		BLACK SHALE	2.0	100.0	
492.5	MODESTO		ARGILACEOUS SHALE	6.0	102.0	
486.5	MODESTO		LIMESTONE	2.0	108.0	
484.5	MODESTO		SANDY SHALE	13.0	110.0	
471.5	MODESTO		SANDY SHALE	39.0	123.0	
432.5	MODESTO		GRAY SHALE	17.0	162.0	
415.5	MODESTO		LIMESTONE	1.0	179.0	
414.5	MODESTO		DARK SHALE	2.0	180.0	
412.5	MODESTO	CHAPEL	COAL	0.7	182.0	
411.8	MODESTO		SHALE WITH LIMESTONE	3.3	182.7	
408.5	MODESTO		GRAY SHALE	4.0	186.0	
404.5	MODESTO		LIMESTONE	1.0	190.0	
403.5	MODESTO		SANDY SHALE	2.0	191.0	
401.5	MODESTO		SANDY SHALE	37.0	193.0	
364.5	MODESTO		GRAY SHALE	60.0	230.0	
304.5	MODESTO		COAL	0.1	290.0	
304.4	MODESTO		ARGILACEOUS SHALE	4.9	290.1	
299.5	MODESTO		SHALE WITH LIMESTONE	6.0	295.0	
293.5	MODESTO		DARK SHALE	1.0	301.0	
292.5	MODESTO		SHALE WITH LIMESTONE	2.0	302.0	
290.5			RED SHALE	3.0	304.0	
287.5			SHALE WITH LIMESTONE	6.0	307.0	

281.5	CARBONDALE		LIMESTONE	2.0	313.0	
279.5	CARBONDALE		DARK SHALE	3.0	315.0	
276.5	CARBONDALE		DARK SHALE	6.0	318.0	
270.5	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	324.0	
262.5	CARBONDALE		DARK SHALE	4.0	332.0	
258.5	CARBONDALE		SHALE WITH LIMESTONE	1.0	336.0	SOFT
257.5	CARBONDALE		SANDSTONE	3.0	337.0	
254.5	CARBONDALE	BRERETON	LIMESTONE	3.0	340.0	
251.5	CARBONDALE	ANNA	BLACK SHALE	3.0	343.0	
248.5	CARBONDALE	HERRIN	COAL	8.0	346.0	
240.5	CARBONDALE		ARGILACEOUS SHALE	1.0	354.0	
239.5	CARBONDALE		LIMESTONE	1.0	355.0	
238.5	CARBONDALE		ARGILACEOUS SHALE	4.0	356.0	

MAPID: 02100259000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 9' S line, 622' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.512932 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.553613 **DATE COLLECTED:** 3 / 0 / 1951

SURFACE ELEVATION (FT.): 609.9 **LOGGED (FT.):** 376.0 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 133 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
241.3	CARBONDALE	HERRIN	COAL	7.4	368.6	

MAPID: 02100259000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 23 **QUARTERS/FOOTAGES:** 9' S line, 622' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.512932 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.553613 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 376.4 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 133 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
270.5	MODESTO	PIASA	LIMESTONE/UNDERCLAY	0.8	339.5	
269.8	MODESTO		MOTTLED SHALE	4.9	340.2	
264.9	CARBONDALE		CLAYSTONE & SHALE	1.0	345.1	
263.9	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.6	346.1	
263.3	CARBONDALE		GRAY SHALE	0.4	346.7	
263.0	CARBONDALE	ALLENBY	BLACK SHALE	0.2	347.0	
262.7	CARBONDALE		CLAYSTONE & SHALE	5.3	347.3	
257.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	3.1	352.6	UPPER BENCH
254.3	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.1	355.7	SHALE PARTING
254.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.4	355.7	LOWER BENCH
253.8	CARBONDALE	LAWSON	MOTTLED SHALE	3.2	356.2	
250.7	CARBONDALE	LAWSON	SILTSTONE	1.8	359.3	
248.8	CARBONDALE	LAWSON	MOTTLED SHALE	0.3	361.2	
248.6	CARBONDALE	CONANT	NODULAR LIMESTONE	0.5	361.4	
248.1	CARBONDALE		MOTTLED SHALE	0.8	361.9	
247.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.2	362.7	
243.2	CARBONDALE	ANNA	BLACK SHALE	2.2	366.8	
241.0	CARBONDALE	HERRIN	COAL	7.4	369.0	

MAPID: 02100806000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 13' S line, 14' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.476993 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.553445 **DATE COLLECTED:** 5 / 0 / 1957

SURFACE ELEVATION (FT.): 609.5 **LOGGED (FT.):** 378.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 259 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
239.7	CARBONDALE	HERRIN	COAL	8.5	369.8	

MAPID: 02100806000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 24 **QUARTERS/FOOTAGES:** 13' S line, 14' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.476993 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.553445 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 378.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 259 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.7	MODESTO		SHALE	20.0	330.3	
258.7	CARBONDALE	GALUM	LIMESTONE W/ SHALE	2.0	350.3	
256.7	CARBONDALE		SHALE	8.0	352.3	
248.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	360.3	
246.7	CARBONDALE	LAWSON	SANDSTONE	0.6	362.3	
246.0	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	363.0	
245.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.8	364.0	
243.2	CARBONDALE	ANNA	BLACK SHALE	4.3	365.8	
239.0	CARBONDALE	HERRIN	COAL	8.5	370.0	

MAPID: 02101062000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 18' S line, 900' W line
QUADRANGLE: KINCAID **LONGITUDE:** -89.492709 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.539188 **DATE COLLECTED:** 10 / 0 / 1958
SURFACE ELEVATION (FT.): 614.3 **LOGGED (FT.):** 391.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 280 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
230.3	CARBONDALE	HERRIN	COAL	7.9	384.0	

MAPID: 02101062000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:** 18' S line, 900' W line

QUADRANGLE: KINCAID **LONGITUDE:** -89.492709 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.539188 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 391.9 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 280 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
268.0	MODESTO	PIASA	LIMESTONE	2.0	346.0	
266.0	MODESTO		SHALE	7.8	348.0	
258.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	6.5	355.8	UPPER BENCH
251.7	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	0.8	362.3	SHALE PARTING
251.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	363.0	LOWER BENCH
245.0	CARBONDALE	LAWSON	DARK GRAY SHALE	15.0	369.0	
230.0	CARBONDALE	HERRIN	COAL	7.9	384.0	

MAPID: 02100342000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 68' N line, 2624' E line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.505508 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.553371 **DATE COLLECTED:** 5 / 0 / 1952

SURFACE ELEVATION (FT.): 611.2 **LOGGED (FT.):** 393.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 190 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
225.5	CARBONDALE	HERRIN	COAL	7.6	385.7	

MAPID: 02100342000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 68' N line, 2624' E line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.505508 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.553371 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 393.6 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 190 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
260.2	MODESTO	PIASA	LIMESTONE/UNDERCLAY	4.7	350.8	
255.5	MODESTO		CLAYSTONE	0.3	355.5	
255.2	CARBONDALE		MOTTLED SHALE	12.3	355.8	
243.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.3	368.0	
241.7	CARBONDALE	LAWSON	MOTTLED SHALE	2.8	369.3	
238.9	CARBONDALE	LAWSON	SILTSTONE	1.0	372.1	
237.9	CARBONDALE	LAWSON	MOTTLED SHALE	1.4	373.1	
236.5	CARBONDALE	BRERETON	LIMESTONE	4.6	374.5	
231.9	CARBONDALE	ANNA	DARK GRAY SHALE	6.9	379.1	
225.0	CARBONDALE	HERRIN	COAL	7.6	386.0	

MAPID: 02100343000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 14' S line, 15' W line of SW NE
QUADRANGLE: PAWNEE **LONGITUDE:** -89.505476 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.546368 **DATE COLLECTED:** 5 / 0 / 1952
SURFACE ELEVATION (FT.): 610.8 **LOGGED (FT.):** 397.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 191 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
220.3	CARBONDALE	HERRIN	COAL	6.8	390.5	

MAPID: 02100905000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 14' S line, 539' W line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512976 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.539086 **DATE COLLECTED:** 6 / 7 / 1957
SURFACE ELEVATION (FT.): 614.5 **LOGGED (FT.):** 377.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. CC260 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
244.5	CARBONDALE	HERRIN	COAL	7.4	370.0	

MAPID: 02100878000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 17' S line, 451' E line of SW SW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.530534 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.524679 **DATE COLLECTED:** 10 / 18 / 1957
SURFACE ELEVATION (FT.): 609.5 **LOGGED (FT.):** 374.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 268 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
242.3	CARBONDALE	HERRIN	COAL	7.5	367.2	

MAPID: 02101063000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 14' N line, 60' W line of NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.533549 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.539057 **DATE COLLECTED:** 11 / 0 / 1958
SURFACE ELEVATION (FT.): 603.9 **LOGGED (FT.):** 379.2 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 281 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
232.5	CARBONDALE	HERRIN	COAL	7.8	371.4	

MAPID: 02102585000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 660' N line, 290' E line of NE NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.525342 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.537248 **DATE COLLECTED:** 8 / 13 / 1970
SURFACE ELEVATION (FT.): 612.4 **LOGGED (FT.):** 389.0 **LOG TYPE:**
SOURCE: PEABODY COAL CO. CC-304 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
230.4	CARBONDALE	HERRIN	COAL	7.0	382.0	

MAPID: 02102586000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 660' N line, 7' E line of NW NW
QUADRANGLE: PAWNEE **LONGITUDE:** -89.529056 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.537261 **DATE COLLECTED:** 8 / 12 / 1970
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 379.1 **LOG TYPE:**
SOURCE: PEABODY COAL CO. CC-305 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
239.4	CARBONDALE	HERRIN	COAL	7.5	371.6	

MAPID: 02102587000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 666' N line, 550' E line of NE NW

QUADRANGLE: PAWNEE **LONGITUDE:** -89.526269 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.537234 **DATE COLLECTED:** 8 / 26 / 1970

SURFACE ELEVATION (FT.): 614.5 **LOGGED (FT.):** 389.1 **LOG TYPE:**

SOURCE: PEABODY COAL CO. CC-308 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
232.7	CARBONDALE	HERRIN	COAL	7.3	381.8	

MAPID: 02102588000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 660' N line, 230' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.532939 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.537271 **DATE COLLECTED:** 8 / 18 / 1970

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 386.7 **LOG TYPE:**

SOURCE: PEABODY COAL CO. CC-306 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
226.1	CARBONDALE	HERRIN	COAL	7.8	378.9	

MAPID: 02102588000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 660' N line, 230' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.532939 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.537271 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 378.8 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. CC-306 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.3	MODESTO		SILTY SHALE	20.0	323.7	
261.3	CARBONDALE	DANVILLE	BLACK SHALE	1.1	343.7	
260.2	CARBONDALE		GRAY SHALE	4.8	344.8	
255.4	CARBONDALE	ALLENBY	BLACK SHALE	0.3	349.6	
255.2	CARBONDALE		CLAYSTONE	3.8	349.8	
251.4	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.8	353.6	
246.7	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.7	358.3	
246.0	CARBONDALE	LAWSON	MOTTLED SHALE	0.8	359.0	
245.2	CARBONDALE	LAWSON	SANDSTONE	1.2	359.8	
244.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	2.7	361.0	
241.3	CARBONDALE	LAWSON	SILTY SHALE	0.3	363.7	
241.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.8	363.9	
240.3	CARBONDALE		MOTTLED SHALE	1.2	364.7	
239.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.9	365.9	
234.2	CARBONDALE	ANNA	CALCAREOUS SHALE	0.2	370.8	
234.0	CARBONDALE	HERRIN	COAL	7.8	371.0	

MAPID: 02123641000C **VERSION:** 1 **PROJECT:** NCRDS17

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2640' S line, 1' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.533611 **GEOLOGIST:** JMCBETH

CONFIDENTIAL: N **LATITUDE:** 39.531917 **DATE COLLECTED:** 9 / 10 / 1982

SURFACE ELEVATION (FT.): 611.7 **LOGGED (FT.):** 369.9 **LOG TYPE:** Drillers Log

SOURCE: PEABODY CC394C **WELL TYPE:** Coal Test

COMMENT: MINE#10; PEABODY A9

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
611.7	PLEISTOCENE		SANDY CLAY	45.0	0.0	
566.7			GRAY SHALE	23.6	45.0	
543.1			LIMESTONE	12.5	68.6	
530.6			GRAY SHALE	29.1	81.1	
501.5			SHALE	19.0	110.2	WITH LS
482.5			SANDSTONE	34.3	129.2	WITH LS
448.2			SHALE	21.9	163.5	WITH SS
426.3			LIMESTONE	6.8	185.4	
419.5			SHALE	110.8	192.2	WITH LS
308.7			LIMESTONE	2.0	303.0	
306.7			GRAY SHALE	6.8	305.0	
299.9			LIMESTONE	2.1	311.8	
297.8			SHALE	25.7	313.9	WITH LS
272.1			LIMESTONE	1.7	339.6	
270.4			SHALE	1.4	341.3	MARINE FOSSILS
269.0			SANDY LIMESTONE	3.8	342.7	
265.2			SHALE	0.5	346.5	
264.7	CARBONDALE	ANNA	BLACK SHALE	5.8	347.0	
258.9	CARBONDALE	HERRIN	COAL	7.5	352.8	
251.4	CARBONDALE		SHALE	3.3	360.3	
248.1	CARBONDALE		SANDSTONE	0.6	363.6	
247.5	CARBONDALE		LIMESTONE	4.3	364.2	
243.2	CARBONDALE		GRAY SHALE	1.4	368.5	

MAPID: 02124132000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2130' N line, 2031' W line

QUADRANGLE: PAWNEE **LONGITUDE:** -89.526503 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.533193 **DATE COLLECTED:** 3 / 0 / 1987

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 400.9 **LOG TYPE:**

SOURCE: PEABODY COAL CO. CC-439-C **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
224.3	CARBONDALE	HERRIN	COAL	9.2	391.7	

MAPID: 02124133000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2138' N line, 2131' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.526146 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.533171 **DATE COLLECTED:** 3 / 6 / 1987
SURFACE ELEVATION (FT.): 616.4 **LOGGED (FT.):** 395.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. CC-438-C **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
229.6	CARBONDALE	HERRIN	COAL	8.5	386.8	

MAPID: 02124134000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2143' N line, 2432' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.525073 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.533152 **DATE COLLECTED:** 3 / 0 / 1987
SURFACE ELEVATION (FT.): 616.2 **LOGGED (FT.):** 389.3 **LOG TYPE:**
SOURCE: PEABODY COAL CO. CC-437-C **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
234.2	CARBONDALE	HERRIN	COAL	7.3	382.0	

MAPID: 02125593000C **VERSION:** 1 **PROJECT:** NCRDS17

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:**

QUADRANGLE: PAWNEE **LONGITUDE:** -89.524236 **GEOLOGIST:** JMCBETH

CONFIDENTIAL: N **LATITUDE:** 39.531885 **DATE COLLECTED:** 4 / 23 / 1979

SURFACE ELEVATION (FT.): 315.8 **LOGGED (FT.):** 395.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY CC311C **WELL TYPE:** Coal Test

COMMENT: MINE #10

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
315.8	PLEISTOCENE		UNCONSOLIDATED	2.0	0.0	
313.8	PLEISTOCENE		CLAY	3.3	2.0	
310.5	PLEISTOCENE		SAND	10.0	5.3	
300.5	PLEISTOCENE		CLAY	46.1	15.3	
254.4			GRAY SHALE	13.5	61.4	
240.9			LIMESTONE	0.2	74.9	WHITE, HARD
240.7			GRAY SHALE	5.2	75.1	
235.5			LIMESTONE	0.4	80.3	WHITE, HARD
235.1			GRAY SHALE	2.0	80.7	
233.1			COAL	0.3	82.7	
232.8			GRAY SHALE	4.7	83.0	
228.1			LIMESTONE	4.6	87.7	W/ SH STREAKS
223.5			GRAY SHALE	1.3	92.3	
222.2			LIMESTONE	0.3	93.6	WHITE, HARD
221.9			GRAY SHALE	0.7	93.9	
221.2			LIMESTONE	7.2	94.6	WHITE, HARD
214.0			SHALE	36.0	101.8	
178.0			SANDSTONE	0.5	137.8	
177.5			LIMESTONE	1.4	138.3	WHITE, HARD
176.1			SHALE	5.6	139.7	WITH SAND
170.5			LIMESTONE	0.4	145.3	WHITE, HARD
170.1			GRAY SHALE	9.6	145.7	WITH SAND
160.5			GRAY SHALE	43.0	155.3	
117.5			LIMESTONE	0.6	198.3	WHITE, HARD
116.9			SHALE	1.0	198.9	WITH LS, FOSSILS
115.9	SHELBURN	DANVILLE	COAL	0.7	199.9	
115.2	SHELBURN		GRAY SHALE	2.6	200.6	
112.6	SHELBURN		LIMESTONE	1.2	203.2	
111.4	SHELBURN		GRAY SHALE	8.9	204.4	
102.5	SHELBURN		SHALE	6.5	213.3	WITH SAND
96.0	SHELBURN		SANDSTONE	27.4	219.8	
68.6	SHELBURN		GRAY SHALE	5.2	247.2	WITH SAND
63.4	SHELBURN		SHALE	98.0	252.4	
-34.6	SHELBURN		SHALE	10.7	350.4	WITH SAND
-45.3	SHELBURN		SHALE	3.3	361.1	
-48.6	SHELBURN	BRERETON	LIMESTONE	6.7	364.4	
-55.3	CARBONDALE	ANNA	SHALE	0.8	371.1	DARK
-56.1	CARBONDALE	HERRIN	COAL	8.0	371.9	
-64.1	CARBONDALE		GRAY SHALE	2.7	379.9	

-66.8	CARBONDALE	LIMESTONE	8.7	382.6	
-75.5	CARBONDALE	SHALE	1.7	391.3	
-77.2	CARBONDALE	LIMESTONE	2.5	393.0	WHITE, HARD

MAPID: 02100910000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 35 **QUARTERS/FOOTAGES:** 0' S line, 1320' E line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.500007 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.524741 **DATE COLLECTED:** 10 / 10 / 1957
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 387.7 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 267 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
235.8	CARBONDALE	HERRIN	COAL	7.5	380.2	

MAPID: 02100910000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 35 **QUARTERS/FOOTAGES:** 0' S line, 1320' E line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.500007 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.524741 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 387.5 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 267 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
302.2	CARBONDALE		SHALE	50.0	313.8	
252.2	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.6	363.8	UPPER BENCH
250.6	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.5	365.4	SHALE PARTING
250.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.4	365.9	LOWER BENCH
249.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.3	366.3	
249.4	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	366.6	
246.8	CARBONDALE	LAWSON	SILTSTONE	1.5	369.2	
245.3	CARBONDALE	LAWSON	GRAY SHALE	1.7	370.7	
243.7	CARBONDALE	JAMESTOWN	BLACK SHALE	0.7	372.3	
243.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.7	373.0	
236.3	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	379.7	
236.0	CARBONDALE	HERRIN	COAL	7.5	380.0	

MAPID: 02125594000C **VERSION:** 1 **PROJECT:** LUMP

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 35 **QUARTERS/FOOTAGES:**

QUADRANGLE: PAWNEE **LONGITUDE:** -89.505171 **GEOLOGIST:** JMCBETH

CONFIDENTIAL: N **LATITUDE:** 39.531933 **DATE COLLECTED:** 11 / 7 / 1982

SURFACE ELEVATION (FT.): 616.6 **LOGGED (FT.):** 406.1 **LOG TYPE:** Drillers Log

SOURCE: PEABODY CC402C **WELL TYPE:** Coal Test

COMMENT: MINE #10

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
616.6	PLEISTOCENE		UNCONSOLIDATED	82.0	0.0	
534.6			GRAY SHALE	9.3	82.0	
525.3	BOND	CARTHAGE	LIMESTONE	11.7	91.3	CORRELATION UNCERTAIN
513.6			GRAY SHALE	237.6	103.0	
276.0			SANDY SHALE	11.6	340.6	HARD GRAY
264.4			SHALE	7.2	352.2	
257.2			SANDY SHALE	2.6	359.4	
254.6			GRAY SHALE	3.6	362.0	WITH SS
251.0			GRAY SHALE	2.2	365.6	
248.8			LIMESTONE	1.8	367.8	
247.0	SHELBURN	PIASA	LIMESTONE	2.4	369.6	WITH SH
244.6	SHELBURN		SHALE	3.2	372.0	DARK GRAY
241.4	SHELBURN		SANDY SHALE	4.4	375.2	GRAY
237.0	SHELBURN		GRAY SHALE	1.3	379.6	
235.7	SHELBURN	BANKSTON FORK	LIMESTONE	0.5	380.9	
235.2	SHELBURN		SHALE	1.9	381.4	DARK
233.3	SHELBURN	BRERETON	LIMESTONE	6.9	383.3	
226.4	CARBONDALE	ANNA	SHALE	0.4	390.2	DARK
226.0	CARBONDALE	HERRIN	COAL	7.3	390.6	
218.7	CARBONDALE		UNDERCLAY	0.6	397.9	
218.1	CARBONDALE		GRAY SHALE	3.5	398.5	
214.6	CARBONDALE		SANDY SHALE	4.1	402.0	GRAY

MAPID: 02100880000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** 70' S line, 20' E line

QUADRANGLE: KINCAID **LONGITUDE:** -89.476465 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.52489 **DATE COLLECTED:** 0 / 0 / 1957

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 393.9 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. CC266 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
230.4	CARBONDALE	HERRIN	COAL	8.3	385.6	

MAPID: 02100880000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** 70' S line, 20' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.476465 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.52489 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 394.3 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. CC266 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
259.5	MODESTO	PIASA	LIMESTONE/UNDERCLAY	4.0	356.5	
255.5	MODESTO		MOTTLED SHALE	2.1	360.5	
253.4	CARBONDALE		CLAYSTONE	0.8	362.6	
252.6	CARBONDALE	GALUM	LIMESTONE/UNDERCLAY	0.5	363.4	
252.1	CARBONDALE		MOTTLED SHALE	0.4	363.9	
251.6	CARBONDALE		CLAYSTONE & SHALE	5.6	364.4	
246.1	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	2.6	369.9	UPPER BENCH
243.5	CARBONDALE	BANKSTON FORK	MOTTLED SHALE	0.8	372.5	SHALE PARTING
242.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	0.5	373.3	LOWER BENCH
242.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.2	373.8	
241.1	CARBONDALE	LAWSON	BLACK SHALE	0.6	374.9	
240.5	CARBONDALE	LAWSON	SILTSTONE	3.1	375.5	
237.4	CARBONDALE	LAWSON	GRAY SHALE	0.3	378.6	
237.1	CARBONDALE	BRERETON	LIMESTONE	2.3	378.9	
234.8	CARBONDALE	ANNA	BLACK SHALE	4.8	381.2	
230.0	CARBONDALE	HERRIN	COAL	8.3	386.0	

MAPID: 02101061000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 13N 4W **SECTION:** 36 **QUARTERS/FOOTAGES:** 36' N line, 43' E line of NE NE
QUADRANGLE: KINCAID **LONGITUDE:** -89.477155 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.538912 **DATE COLLECTED:** 10 / 0 / 1958
SURFACE ELEVATION (FT.): 611.2 **LOGGED (FT.):** 382.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 279 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
236.9	CARBONDALE	HERRIN	COAL	8.5	374.3	

MAPID: 02100843000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 21 **QUARTERS/FOOTAGES:** 990' N line, 1650' W line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.095352 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.652185 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 627.0 **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
196.0	MODESTO		SHALE	30.0	431.0	
166.0	CARBONDALE	DANVILLE	COAL	2.0	461.0	
164.0	CARBONDALE		SHALE	8.0	463.0	
156.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	471.0	
151.0	CARBONDALE	LAWSON	SHALE	9.0	476.0	
142.0	CARBONDALE	HERRIN	COAL	4.0	485.0	

MAPID: 02100844000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 22 **QUARTERS/FOOTAGES:** 990' S line, 2310' W line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.073706 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.642867 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 505.0 **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
179.0	MODESTO		SHALE	30.0	443.0	
149.0	CARBONDALE	DANVILLE	COAL	2.0	473.0	
147.0	CARBONDALE		SHALE	5.0	475.0	
142.0	CARBONDALE	ALLENBY	BONE COAL	1.0	480.0	
141.0	CARBONDALE		SHALE	5.0	481.0	
136.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	486.0	
131.0	CARBONDALE	LAWSON	SHALE	6.0	491.0	
125.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	497.0	
122.0	CARBONDALE	ANNA	BLACK SHALE	2.0	500.0	
120.0	CARBONDALE	HERRIN	COAL	3.0	502.0	

MAPID: 02100845000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 23 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.057159 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.640945 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 520.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
170.0	MODESTO		SHALE	30.0	458.0	
140.0	CARBONDALE	DANVILLE	COAL	2.0	488.0	
138.0	CARBONDALE		SHALE	10.0	490.0	
128.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	500.0	
125.0	CARBONDALE	LAWSON	SHALE	6.0	503.0	
119.0	CARBONDALE	BRERETON	LIMESTONE	5.0	509.0	
114.0	CARBONDALE	ANNA	BLACK SHALE	2.0	514.0	
112.0	CARBONDALE	HERRIN	COAL	4.0	516.0	

MAPID: 02101367000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.035681 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.640911 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 494.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
163.0	MODESTO		SHALE	30.0	438.0	
133.0	CARBONDALE	DANVILLE	COAL	2.0	468.0	
131.0	CARBONDALE		SHALE	6.0	470.0	
125.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	476.0	
121.0	CARBONDALE	LAWSON	SHALE	10.0	480.0	
111.0	CARBONDALE	HERRIN	COAL	4.0	490.0	

MAPID: 02101368000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.051852 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.626237 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 490.0 **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
171.0	MODESTO		SHALE	30.0	430.0	
141.0	CARBONDALE	DANVILLE	COAL	2.0	460.0	
139.0	CARBONDALE		SHALE	7.0	462.0	
132.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	469.0	
129.0	CARBONDALE	LAWSON	SHALE	8.0	472.0	
121.0	CARBONDALE	BRERETON	LIMESTONE	3.0	480.0	
118.0	CARBONDALE	ANNA	BLACK SHALE	2.0	483.0	
116.0	CARBONDALE	HERRIN	COAL	5.0	485.0	

MAPID: 02123246000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 26 **QUARTERS/FOOTAGES:** 1500' S line, 55' E line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.043875 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.629428 **DATE COLLECTED:** 10 / 14 / 1979

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 535.0 **LOG TYPE:**

SOURCE: NICOR M-3 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
110.1	CARBONDALE	HERRIN	COAL	6.2	491.9	
72.5	CARBONDALE	SPRINGFIELD	COAL	5.5	529.5	

MAPID: 02123527000C **VERSION:** 1 **PROJECT:** NCRDS99

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 26 **QUARTERS/FOOTAGES:** 2500' S line, 1870' W line of SW

QUADRANGLE: MACON WEST **LONGITUDE:** -89.056201 **GEOLOGIST:** MC CRACKEN

CONFIDENTIAL: N **LATITUDE:** 39.632249 **DATE COLLECTED:** 1 / 28 / 1982

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 530.0 **LOG TYPE:** Other Core Study

SOURCE: CHEVRON M3A **WELL TYPE:** Coal Test

COMMENT: COMPANY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
615.0			NO RECORD	44.8	0.0	
570.2			SILTY SHALE	16.2	44.8	
554.0			SILTSTONE	13.0	61.0	
541.0			SHALE	19.9	74.0	
521.1			COAL	0.2	93.9	
520.9			UNDERCLAY	5.9	94.1	
515.0			SHALE	21.6	100.0	
493.4			SHALE	0.7	121.6	
492.7			SHALE	8.0	122.3	
484.7			LIMESTONE	1.7	130.3	
483.0			SHALE	1.8	132.0	
481.2			BLACK SHALE	1.6	133.8	
479.6			LIMESTONE	0.2	135.4	
479.4			COAL	0.7	135.6	DIRTY
478.8			UNDERCLAY	5.6	136.2	
473.2			SHALE	1.9	141.8	
471.3			LIMESTONE	1.0	143.7	
470.3			SHALE	5.9	144.7	
464.4			SANDSTONE	51.6	150.6	SHALE, SILTSTONE LAMINAE
412.8			LIMESTONE	1.4	202.2	
411.4			SHALE	4.1	203.6	
407.3			CLAYSTONE & SILTSTONE	5.8	207.7	
401.5			SHALE	5.2	213.5	
396.3			LIMESTONE	0.4	218.7	
395.9			SHALE	11.2	219.1	WITH LIMESTONE
384.7	BOND	CARTHAGE	LIMESTONE	8.8	230.3	
375.9	MODESTO		SHALE	1.7	239.1	
374.2	MODESTO		BLACK SHALE	1.2	240.8	
373.0	MODESTO		SHALE	6.1	242.0	
366.9	MODESTO		COAL	0.1	248.1	
366.8	MODESTO		BLACK SHALE	3.9	248.2	
362.9	MODESTO		UNDERCLAY	3.5	252.1	
359.4	MODESTO	MACOUPIN	LIMESTONE	1.0	255.6	
358.4	MODESTO		SHALE	3.3	256.6	WITH LIMESTONE
355.1	MODESTO		CLAYSTONE & SILTSTONE	0.6	259.9	
354.5	MODESTO		SHALE	10.4	260.5	
344.1	MODESTO		CLAYSTONE & SILTSTONE	8.4	270.9	
335.7	MODESTO		SHALE	12.7	279.3	
323.0	MODESTO		SILTSTONE	43.2	292.0	

279.8	MODESTO		LIMESTONE	0.3	335.2	
279.5	MODESTO		SHALE	3.0	335.5	
276.5	MODESTO	CHAPEL	COAL	0.5	338.5	
276.0	MODESTO		UNDERCLAY	2.6	339.0	
273.4	MODESTO		LIMESTONE	3.8	341.6	
269.6	MODESTO		SANDSTONE	6.6	345.4	WITH SHALE AND CLAYSTONE
263.0	MODESTO		SILTSTONE	43.7	352.0	
219.3	MODESTO		BLACK SHALE	4.7	395.7	
214.6	MODESTO		LIMESTONE	0.6	400.4	
214.0	MODESTO		SHALE	2.7	401.0	
211.3	MODESTO		LIMESTONE	3.1	403.7	
208.2	MODESTO		SHALE	1.7	406.8	
206.5	MODESTO		CLAYSTONE & SILTSTONE	8.7	408.5	
197.8	MODESTO		LIMESTONE	1.5	417.2	
196.3	MODESTO		CLAYSTONE & SILTSTONE	1.6	418.7	
194.7	MODESTO		LIMESTONE	6.1	420.3	
188.6	MODESTO		CLAYSTONE & SILTSTONE	1.3	426.4	
187.3	MODESTO		LIMESTONE	1.1	427.7	
186.2	MODESTO		SHALE	4.1	428.8	
182.1	MODESTO		SILTSTONE	6.5	432.9	
175.6	MODESTO		LIMESTONE	0.6	439.4	
175.0	MODESTO		SILTY SHALE	3.8	440.0	
171.2	MODESTO		SILTY SHALE	4.8	443.8	
166.4	MODESTO		SHALE	18.6	448.6	
147.8	MODESTO		BLACK SHALE	4.1	467.2	
143.7	MODESTO		SHALE	0.3	471.3	
143.4	CARBONDALE	DANVILLE	COAL	3.0	471.6	
140.4	CARBONDALE	DANVILLE	BLACK SHALE	0.3	474.6	
140.1	CARBONDALE	DANVILLE	COAL	0.5	474.9	
139.6	CARBONDALE		UNDERCLAY	3.0	475.4	
136.6	CARBONDALE		COAL	1.5	478.4	
135.1	CARBONDALE		SHALE	1.1	479.9	
134.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.2	481.0	
126.8	CARBONDALE		SHALE	1.0	488.2	
125.8	CARBONDALE		SILTSTONE	2.2	489.2	
123.6	CARBONDALE		LIMESTONE	0.7	491.4	
122.9	CARBONDALE		SILTSTONE	1.0	492.1	
121.9	CARBONDALE	BRERETON	LIMESTONE	4.5	493.1	
117.4	CARBONDALE	ANNA	SHALE	0.6	497.6	
116.8	CARBONDALE	ANNA	BLACK SHALE	0.1	498.2	
116.7	CARBONDALE	HERRIN	COAL	5.0	498.3	
111.7	CARBONDALE		SHALE	4.4	503.3	
107.3	CARBONDALE		LIMESTONE	0.8	507.7	
106.5	CARBONDALE		SILTSTONE	10.9	508.5	
95.6	CARBONDALE		SHALE	5.3	519.4	
90.3	CARBONDALE		SANDSTONE	0.3	524.7	
90.0	CARBONDALE		SHALE	2.4	525.0	
87.6	CARBONDALE		SANDSTONE	0.4	527.4	

87.2	CARBONDALE	SHALE	2.2	527.8

MAPID: 02123527000C **VERSION:** 2 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 26 **QUARTERS/FOOTAGES:** 2500' S line, 1870' W line of SW

QUADRANGLE: MACON WEST **LONGITUDE:** -89.056201 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.632249 **DATE COLLECTED:** 4 / 16 / 1981

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 474.6 **LOG TYPE:** Survey Core Study

SOURCE: CHEVRON M-3A **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	DANVILLE	COAL	3.0	471.6	
-	CARBONDALE	HERRIN	COAL	5.0	498.3	

MAPID: 02101370000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 27 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.064004 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.629941 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 491.0 **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
180.0	MODESTO		SHALE	30.0	434.0	
150.0	CARBONDALE	DANVILLE	COAL	2.0	464.0	
148.0	CARBONDALE		SHALE	9.0	466.0	
139.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	475.0	
133.0	CARBONDALE	LAWSON	SHALE	6.0	481.0	
127.0	CARBONDALE	HERRIN	COAL	4.0	487.0	

MAPID: 02101371000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 28 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.090083 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.626433 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 488.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
182.0	MODESTO		SHALE	20.0	438.0	
162.0	CARBONDALE	DANVILLE	COAL	2.0	458.0	
160.0	CARBONDALE		SHALE	6.0	460.0	
154.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	466.0	
151.0	CARBONDALE	LAWSON	SHALE	5.0	469.0	
146.0	CARBONDALE	BRERETON	LIMESTONE	6.0	474.0	
140.0	CARBONDALE	ANNA	BLACK SHALE	3.0	480.0	
137.0	CARBONDALE	HERRIN	COAL	5.0	483.0	

MAPID: 02102007000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: MACON WEST **LONGITUDE:** -89.123073 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.626812 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
201.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	414.0	
195.0	MODESTO		SHALE	16.0	420.0	
179.0	CARBONDALE	DANVILLE	COAL	1.0	436.0	
178.0	CARBONDALE		SHALE	7.0	437.0	
171.0	CARBONDALE	ALLENBY	COAL	2.0	444.0	
169.0	CARBONDALE		SHALE	7.0	446.0	
162.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	453.0	
159.0	CARBONDALE	LAWSON	SHALE	6.0	456.0	
121.0	CARBONDALE	HERRIN	COAL	6.0	494.0	

MAPID: 02101372000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 32 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.118227 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.61748 **DATE COLLECTED:** 3 / 0 / 1949

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 634.0 **LOG TYPE:** Electric Log

SOURCE: OLDFIELD ORA A **WELL TYPE:** Producer-Oil

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
444.0	BOND	CARTHAGE	UNCLASSIFIED	13.0	172.0	
176.0	CARBONDALE	DANVILLE	UNCLASSIFIED	-	440.0	
155.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	461.0	
122.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	4.5	494.0	
70.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	546.0	
16.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	600.0	
-18.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	634.0	

MAPID: 02101372000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 32 **QUARTERS/FOOTAGES:** 2310' S line, 330' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.118227 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.61748 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 465.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
208.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	408.0	
202.0	MODESTO		SHALE	24.0	414.0	
178.0	CARBONDALE	DANVILLE	COAL	2.0	438.0	
176.0	CARBONDALE	LAWSON	SHALE	11.0	440.0	
165.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.0	451.0	
160.0	CARBONDALE	ANNA	BLACK SHALE	2.0	456.0	
154.0	CARBONDALE	HERRIN	COAL	3.0	462.0	

MAPID: 02101375000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 33 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.082717 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.611827 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 491.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
147.0	MODESTO		SHALE	20.0	440.0	
127.0	CARBONDALE	DANVILLE	COAL	2.0	460.0	
125.0	CARBONDALE		SHALE	7.0	462.0	
118.0	CARBONDALE	ALLENBY	BONE COAL	1.0	469.0	
117.0	CARBONDALE		SHALE	5.0	470.0	
112.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	475.0	
108.0	CARBONDALE	LAWSON	SHALE	7.0	479.0	
101.0	CARBONDALE	HERRIN	COAL	5.0	486.0	

MAPID: 02101376000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 34 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.066109 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.611722 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 501.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
148.0	MODESTO		SHALE	20.0	449.0	
128.0	CARBONDALE	DANVILLE	COAL	2.0	469.0	
126.0	CARBONDALE		SHALE	6.0	471.0	
120.0	CARBONDALE	ALLENBY	BONE COAL	1.0	477.0	
119.0	CARBONDALE		SHALE	3.0	478.0	
116.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	481.0	
112.0	CARBONDALE	LAWSON	SHALE	7.0	485.0	
105.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	492.0	
101.0	CARBONDALE	ANNA	SHALE	4.0	496.0	
97.0	CARBONDALE	HERRIN	COAL	1.0	500.0	

MAPID: 02100506000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1E **SECTION:** 35 **QUARTERS/FOOTAGES:** 2310' N line, 330' W line

QUADRANGLE: ASSUMPTION **LONGITUDE:** -89.061477 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.619001 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 485.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
165.0	MODESTO		SHALE	20.0	436.0	
145.0	CARBONDALE	DANVILLE	COAL	2.0	456.0	
143.0	CARBONDALE		SHALE	6.0	458.0	
137.0	CARBONDALE	ALLENBY	BONE COAL	1.0	464.0	
136.0	CARBONDALE		SHALE	4.0	465.0	
132.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	469.0	
129.0	CARBONDALE	LAWSON	SHALE	7.0	472.0	
122.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	479.0	
119.0	CARBONDALE	HERRIN	COAL	3.0	482.0	

MAPID: 02100711000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 2310' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.204663 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.6851 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 395.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
268.0	MODESTO		SHALE	20.0	348.0	
248.0	CARBONDALE	DANVILLE	COAL	1.0	368.0	
247.0	CARBONDALE		SHALE	8.0	369.0	
239.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	377.0	
235.0	CARBONDALE	LAWSON	SHALE	3.0	381.0	
232.0	CARBONDALE	BRERETON	LIMESTONE	5.5	384.0	
226.5	CARBONDALE	ANNA	BLACK SHALE	0.5	389.5	
226.0	CARBONDALE	HERRIN	COAL	5.0	390.0	

MAPID: 02100710000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.166205 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.648755 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 616.0 **LOGGED (FT.):** 499.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
161.0	MODESTO	PIASA	LIMESTONE	4.0	455.0	
157.0	CARBONDALE		SHALE	16.0	459.0	
141.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	475.0	
139.0	CARBONDALE	LAWSON	SHALE	10.0	477.0	
129.0	CARBONDALE	BRERETON	LIMESTONE	6.0	487.0	
123.0	CARBONDALE	ANNA	BLACK SHALE	2.0	493.0	
121.0	CARBONDALE	HERRIN	COAL	4.0	495.0	

MAPID: 02100014000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1980' N line, 1980' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.146162 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.649816 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 606.6 **LOGGED (FT.):** 539.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 14 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
606.6	PLEISTOCENE		CLAY	30.0	0.0	
576.6	PLEISTOCENE		CLAY & GRAVEL	60.0	30.0	
516.6	PLEISTOCENE		CLAY & GRAVEL	54.0	90.0	
462.6	BOND		SANDSTONE	2.0	144.0	
460.6	BOND		BLACK SHALE	7.0	146.0	
453.6	BOND		SANDSTONE	4.0	153.0	
449.6	BOND		BLACK SHALE	2.0	157.0	
447.6	BOND		GRAY SHALE	7.0	159.0	
440.6	BOND		GRAY SHALE	9.0	166.0	
431.6	BOND		DARK SHALE	3.0	175.0	
428.6	BOND		UNDERCLAY	6.0	178.0	
422.6	BOND		GRAY SHALE	9.0	184.0	
413.6	BOND		DARK SHALE	5.0	193.0	
408.6	BOND	CARTHAGE	LIMESTONE	6.0	198.0	
402.6	MODESTO		GRAY SHALE	7.0	204.0	
395.6	MODESTO		DARK SHALE	5.0	211.0	
390.6	MODESTO		DARK SHALE	8.0	216.0	
382.6	MODESTO		GRAY SHALE	3.0	224.0	
379.6	MODESTO		DARK SHALE	4.0	227.0	
375.6	MODESTO		GRAY SHALE	8.0	231.0	
367.6	MODESTO		DARK SHALE	11.0	239.0	
356.6	MODESTO		GRAY SHALE	14.0	250.0	
342.6	MODESTO		DARK SHALE	8.0	264.0	
334.6	MODESTO		GRAY SHALE	14.0	272.0	
320.6	MODESTO		DARK SHALE	6.0	286.0	
314.6	MODESTO		DARK SHALE	6.0	292.0	
308.6	MODESTO		GRAY SHALE	15.0	298.0	
293.6	MODESTO		GRAY SHALE	7.0	313.0	
286.6	MODESTO		DARK SHALE	6.0	320.0	
280.6	MODESTO		GRAY SHALE	11.0	326.0	
269.6	MODESTO		DARK SHALE	2.7	337.0	
266.9	MODESTO	CHAPEL	COAL	1.2	339.7	
265.8	MODESTO		GRAY SHALE	1.2	340.8	
264.6	MODESTO		GRAY SHALE	6.0	342.0	
258.6	MODESTO		SANDSTONE	2.0	348.0	
256.6	MODESTO		DARK SHALE	6.0	350.0	
250.6	MODESTO		GRAY SHALE	10.0	356.0	
240.6	MODESTO		DARK SHALE	32.0	366.0	
208.6	MODESTO		GRAY SHALE	21.0	398.0	

187.6	MODESTO		DARK SHALE	13.0	419.0	
174.6	MODESTO		DARK SHALE	23.0	432.0	TOUGH
151.6	MODESTO		GRAY SHALE	11.0	455.0	
140.6	MODESTO		GRAY SHALE	8.0	466.0	
132.6	MODESTO		BLACK SHALE	1.2	474.0	
131.4	CARBONDALE	DANVILLE	COAL	1.8	475.2	
129.6	CARBONDALE		BLUE SHALE	2.0	477.0	
127.6	CARBONDALE		GRAY SHALE	3.3	479.0	
124.3	CARBONDALE	ALLENBY	COAL	1.5	482.3	
122.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	483.8	LOG READ THICK = 5.75
117.6	CARBONDALE		SANDSTONE	4.0	489.0	
113.6	CARBONDALE		GRAY SHALE	11.0	493.0	
102.6	CARBONDALE	BRERETON	BLUE LIMESTONE	8.0	504.0	
94.6	CARBONDALE	ANNA	BLACK SHALE	2.3	512.0	
92.3	CARBONDALE	HERRIN	COAL	2.8	514.3	
89.4	CARBONDALE	HERRIN	LAMINATED SHALE	0.2	517.2	
89.1	CARBONDALE	HERRIN	COAL	3.5	517.5	
85.6	CARBONDALE	HERRIN	DARK SHALE	0.1	521.0	
85.5	CARBONDALE	HERRIN	COAL	1.1	521.1	
84.4	CARBONDALE	HERRIN	UNCLASSIFIED	0.1	522.2	SULFUR BAND
84.3	CARBONDALE	HERRIN	COAL	1.8	522.3	
82.5	CARBONDALE		UNDERCLAY	4.9	524.1	
77.6	CARBONDALE		DARK SHALE	3.0	529.0	
74.6	CARBONDALE		GRAY SHALE	7.0	532.0	

MAPID: 02100014000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 24 **QUARTERS/FOOTAGES:** 1980' N line, 1980' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.146162 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.649816 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 523.8 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
152.7	MODESTO		SHALE	20.0	454.3	
132.7	CARBONDALE	DANVILLE	COAL	1.8	474.3	
130.8	CARBONDALE		GRAY SHALE	5.3	476.2	
125.6	CARBONDALE	ALLENBY	COAL	1.5	481.4	
124.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	482.9	
118.3	CARBONDALE	LAWSON	SANDSTONE	4.0	488.7	
114.3	CARBONDALE	LAWSON	GRAY SHALE	11.0	492.7	
103.3	CARBONDALE	BRERETON	LIMESTONE	8.0	503.7	
95.3	CARBONDALE	ANNA	BLACK SHALE	2.3	511.7	
93.0	CARBONDALE	HERRIN	COAL	9.8	514.0	

MAPID: 02100015000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.195711 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.633378 **DATE COLLECTED:** 0 / 0 / 1904

SURFACE ELEVATION (FT.): 609.2 **LOGGED (FT.):** 635.8 **LOG TYPE:** Drillers Log

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

COMMENT: NO COMPANY LISTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
609.2	PLEISTOCENE		SOIL	3.0	0.0	
606.2	PLEISTOCENE		CLAY	4.0	3.0	
602.2	PLEISTOCENE		DARK CLAY	6.0	7.0	
596.2	PLEISTOCENE		SAND	5.0	13.0	
591.2	PLEISTOCENE		GRAVEL	3.0	18.0	
588.2	PLEISTOCENE		CLAY	3.0	21.0	
585.2	PLEISTOCENE		SAND & GRAVEL	10.0	24.0	
575.2	PLEISTOCENE		GRAVEL	2.0	34.0	
573.2	PLEISTOCENE		CLAY	16.0	36.0	
557.2	PLEISTOCENE		CLAY	5.0	52.0	
552.2	PLEISTOCENE		SAND	5.0	57.0	
547.2	PLEISTOCENE		SANDY CLAY	14.0	62.0	
533.2	PLEISTOCENE		CLAY & GRAVEL	6.0	76.0	
527.2	PLEISTOCENE		GRAVEL	3.0	82.0	
524.2	PLEISTOCENE		CLAY	35.0	85.0	
489.2	PLEISTOCENE		CLAY	24.0	120.0	
465.2	PLEISTOCENE		SAND	1.0	144.0	
464.2	PLEISTOCENE		SAND	16.0	145.0	
448.2	PLEISTOCENE		SAND & GRAVEL	2.0	161.0	
446.2	BOND		SHALE WITH LIMESTONE	10.0	163.0	SOFT
436.2	BOND		BLUE SHALE	7.0	173.0	
429.2	BOND	CARTHAGE	LIMESTONE	7.0	180.0	
422.2	BOND	CARTHAGE	LIMESTONE	3.0	187.0	
419.2	MODESTO		BLUE SHALE	21.5	190.0	
397.7	MODESTO		LIMESTONE	4.5	211.5	
393.2	MODESTO		BLUE SHALE	10.0	216.0	SDY
383.2	MODESTO		LIMESTONE	0.7	226.0	
382.5	MODESTO		BLACK SHALE	2.2	226.7	
380.4	MODESTO		COAL	0.3	228.8	
380.0	MODESTO		GREEN SHALE	5.5	229.2	
374.5	MODESTO		SHALE WITH LIMESTONE	9.0	234.7	
365.5	MODESTO		BLUE SHALE	4.7	243.7	
360.9	MODESTO		BLACK SHALE	4.0	248.3	
356.9	MODESTO		BLUE SHALE	10.0	252.3	SDY
346.9	MODESTO		SANDSTONE	2.0	262.3	
344.9	MODESTO		BLUE SHALE	21.0	264.3	SDY
323.9	MODESTO		BLUE SHALE	27.0	285.3	SDY
296.9	MODESTO		BLUE SHALE	8.7	312.3	
288.2	MODESTO		BLACK SHALE	0.3	321.0	

287.9	MODESTO	CHAPEL	COAL	1.3	321.3	
286.6	MODESTO		BLUE SHALE	2.8	322.6	
283.9	MODESTO		BLUE SHALE	3.0	325.3	
280.9	MODESTO		SANDSTONE	7.0	328.3	
273.9	MODESTO		BLUE SHALE	7.0	335.3	
266.9	MODESTO		BLUE SHALE	28.0	342.3	
238.9	MODESTO		SHALE	43.0	370.3	W/ BROWN SULPHUR
195.9	MODESTO		SANDY SHALE	1.3	413.3	W/ 2" OF COAL
194.6	MODESTO		UNDERCLAY	4.0	414.6	DEPTH DOES NOT ADD - ENTERED AS IN LOG !!
190.6	MODESTO		BLACK SHALE	15.8	418.6	
174.9	MODESTO	PIASA	LIMESTONE	3.5	434.3	
171.4	MODESTO	PIASA	LIMESTONE	3.5	437.8	
167.9	MODESTO		BLACK SHALE	8.5	441.3	
159.4	CARBONDALE	DANVILLE	UNDERCLAY	2.0	449.8	
157.4	CARBONDALE		BLACK SHALE	0.4	451.8	
156.9	CARBONDALE	ALLENBY	COAL	0.5	452.3	
156.4	CARBONDALE		SHALE WITH LIMESTONE	14.0	452.8	
142.4	CARBONDALE	BRERETON	LIMESTONE	5.6	466.8	
136.9	CARBONDALE	ANNA	SHALE	0.6	472.3	OR CLOD
136.3	CARBONDALE	HERRIN	COAL	7.4	472.9	
128.9	CARBONDALE		UNDERCLAY	3.5	480.3	
125.4	CARBONDALE		SHALE WITH LIMESTONE	9.5	483.8	
115.9	CARBONDALE	ST. DAVID	LIMESTONE	1.5	493.3	
114.4	CARBONDALE	TURNER MINE	BLACK SHALE	3.0	494.8	
111.4	CARBONDALE	SPRINGFIELD	COAL	4.2	497.8	
107.2	CARBONDALE		ARGILACEOUS SHALE	0.8	502.0	BLUE
106.4	CARBONDALE		UNDERCLAY	2.0	502.8	
104.4	CARBONDALE		LIMESTONE	5.3	504.8	
99.0	CARBONDALE		SHALE WITH LIMESTONE	8.7	510.2	
90.4	CARBONDALE		SANDY SHALE	2.0	518.8	
88.4	CARBONDALE		SANDSTONE	4.0	520.8	
84.4	CARBONDALE		SHALE & SANDSTONE	15.0	524.8	BLUE SD
69.4	CARBONDALE		SHALE & SANDSTONE	8.0	539.8	BLUE SD
61.4	CARBONDALE		SHALE & SANDSTONE	10.0	547.8	BLUE SD
51.4	CARBONDALE	EXCELLO	BLACK SHALE	8.1	557.8	
43.3	CARBONDALE	HOUCHIN CREEK	COAL	2.6	565.9	
40.7	CARBONDALE		UNDERCLAY	3.3	568.5	
37.4	CARBONDALE		SANDY SHALE	6.0	571.8	BLUE SD
31.4	CARBONDALE		SANDY SHALE	4.0	577.8	
27.4	CARBONDALE		BLUE SHALE	11.6	581.8	
15.8	CARBONDALE		SHALY COAL	1.7	593.4	
14.1	CARBONDALE		BLUE SHALE	8.8	595.1	
5.4	CARBONDALE		SANDSTONE	6.0	603.8	
-0.6	CARBONDALE		SANDY SHALE	17.5	609.8	BLUE
-18.1	CARBONDALE		SANDY SHALE	3.5	627.3	BLUE
-21.6	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.6	630.8	
-24.2	CARBONDALE	COLCHESTER	COAL	1.9	633.4	

-26.1	SPOON	UNDERCLAY	0.5	635.3

MAPID: 02100015000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** 2640' N line, 0' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.195711 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.633378 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 480.4 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
175.0	MODESTO	PIASA	LIMESTONE	7.0	434.0	
168.0	MODESTO		CLAYSTONE & SHALE	10.9	441.0	
157.1	CARBONDALE	DANVILLE	COAL	0.5	451.9	
156.6	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	14.0	452.4	
142.6	CARBONDALE	BRERETON	LIMESTONE	5.6	466.4	
137.0	CARBONDALE	ANNA	CALCAREOUS SHALE	0.6	472.0	
136.0	CARBONDALE	HERRIN	COAL	7.4	473.0	

MAPID: 02100712000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.227932 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.626875 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 480.0 **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
170.0	MODESTO	PIASA	LIMESTONE	3.0	442.0	
167.0	MODESTO		SHALE	7.0	445.0	
160.0	CARBONDALE	DANVILLE	BONE COAL	2.0	452.0	
158.0	CARBONDALE		SHALE	6.0	454.0	
152.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	460.0	
150.0	CARBONDALE	LAWSON	SANDSTONE	8.0	462.0	
142.0	CARBONDALE	ANNA	BLACK SHALE	3.0	470.0	
138.0	CARBONDALE	HERRIN	COAL	6.0	474.0	

MAPID: 02122876000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 1W **SECTION:** 31 **QUARTERS/FOOTAGES:** SW SW
QUADRANGLE: WILLEYS **LONGITUDE:** -89.249079 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.613571 **DATE COLLECTED:** 0 / 0 / 1974
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 470.1 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 439 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
153.1	CARBONDALE	HERRIN	COAL	8.2	461.9	

MAPID: 02101596000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 4 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.320563 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.685116 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **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
259.0	MODESTO		SHALE	20.0	341.0	
239.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	361.0	
236.0	CARBONDALE	LAWSON	SHALE	6.0	364.0	
230.0	CARBONDALE	BRERETON	LIMESTONE	4.0	370.0	
226.0	CARBONDALE	ANNA	BLACK SHALE	1.0	374.0	
225.0	CARBONDALE	HERRIN	COAL	5.0	375.0	

MAPID: 02101666000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 5 **QUARTERS/FOOTAGES:** 990' S line, 330' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.344148 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.686895 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 374.0 **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
269.0	MODESTO		SHALE	10.0	334.0	
259.0	CARBONDALE		MOTTLED SHALE	10.0	344.0	
249.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	354.0	
237.0	CARBONDALE	BRERETON	LIMESTONE	4.0	366.0	
233.0	CARBONDALE	HERRIN	COAL	4.0	370.0	

MAPID: 02101843000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 9 **QUARTERS/FOOTAGES:** 990' S line, 2310' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.318478 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.672303 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 395.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
240.0	MODESTO		SHALE	20.0	356.0	
220.0	CARBONDALE		CALCAREOUS SHALE	3.0	376.0	
217.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	379.0	
214.0	CARBONDALE	LAWSON	SHALE	5.0	382.0	
209.0	CARBONDALE	BRERETON	LIMESTONE	4.5	387.0	
204.5	CARBONDALE	ANNA	BLACK SHALE	0.5	391.5	
204.0	CARBONDALE	HERRIN	COAL	3.0	392.0	

MAPID: 02100005000C **VERSION:** 1 **PROJECT:** NCRDS87

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.306696 **GEOLOGIST:** WEIBEL

CONFIDENTIAL: N **LATITUDE:** 39.683446 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 577.8 **LOGGED (FT.):** 408.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD & SONS **WELL TYPE:** Coal Test

COMMENT: IMPRECISE LOCATION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
577.8			UNCONSOLIDATED	67.0	0.0	
510.8	BOND		SANDSTONE	15.0	67.0	
495.8	BOND		SHALE	19.0	82.0	
476.8	BOND		LIMESTONE	3.0	101.0	
473.8	BOND		SHALE	15.0	104.0	
458.8	BOND	CARTHAGE	LIMESTONE	4.0	119.0	
454.8	MODESTO		SHALE	2.0	123.0	
452.8	MODESTO		BLACK SHALE	6.0	125.0	
446.8	MODESTO		GRAY SHALE	8.0	131.0	
438.8	MODESTO		LIMESTONE	6.0	139.0	
432.8	MODESTO		SHALE	18.0	145.0	
414.8	MODESTO		DARK SHALE	1.0	163.0	
413.8	MODESTO		COAL	0.7	164.0	
413.1	MODESTO		SHALE	69.3	164.7	
343.8	MODESTO		COAL	1.0	234.0	
342.8	MODESTO		SHALE	98.0	235.0	
244.8	MODESTO		DARK SHALE	12.0	333.0	
232.8	MODESTO		SHALE	21.5	345.0	
211.3	CARBONDALE	DANVILLE	COAL	0.8	366.5	
210.5	CARBONDALE		SHALE	2.7	367.3	
207.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	370.0	
204.8	CARBONDALE		DARK SHALE	10.0	373.0	
194.8	CARBONDALE	BRERETON	LIMESTONE	10.0	383.0	
184.8	CARBONDALE	ANNA	BLACK SHALE	1.9	393.0	
182.9	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	7.7	394.9	
175.2	CARBONDALE		DARK SHALE	5.4	402.6	

MAPID: 02100005000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.306696 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.683446 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 402.7 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
223.9	MODESTO		CLAYSTONE & SHALE	12.5	354.1	
211.4	CARBONDALE	DANVILLE	COAL	0.8	366.6	
210.6	CARBONDALE		CLAYSTONE & SHALE	2.7	367.4	
207.9	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	370.1	
204.9	CARBONDALE	LAWSON	DARK GRAY SHALE	10.0	373.1	
194.9	CARBONDALE	BRERETON	LIMESTONE	10.0	383.1	
184.9	CARBONDALE	ANNA	BLACK SHALE	1.9	393.1	
183.0	CARBONDALE	HERRIN	COAL	7.7	395.0	

MAPID: 02100005000C **VERSION:** 3 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.306696 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.683446 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 577.8 **LOGGED (FT.):** 408.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD & SONS 4 **WELL TYPE:** Coal Test

COMMENT: ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
577.8	PLEISTOCENE		SOIL	3.0	0.0	
574.8	PLEISTOCENE		DARK CLAY	9.0	3.0	
565.8	PLEISTOCENE		SAND	4.0	12.0	
561.8	PLEISTOCENE		CLAY	14.0	16.0	
547.8	PLEISTOCENE		GRAVEL	8.0	30.0	
539.8	PLEISTOCENE		CLAY	17.0	38.0	
522.8	PLEISTOCENE		CLAY	9.0	55.0	SDY YL CLY MIXED W/ CSE GRAVEL
513.8	PLEISTOCENE		GRAVEL	3.0	64.0	
510.8	BOND		SANDSTONE	15.0	67.0	W/ SH PT
495.8	BOND		BLUE SHALE	18.0	82.0	SOFT & STICKY
477.8	BOND		SHALE WITH LIMESTONE	1.0	100.0	
476.8	BOND		LIMESTONE	3.0	101.0	BROKEN
473.8	BOND		BLUE SHALE	8.0	104.0	SOFT
465.8	BOND		BLUE SHALE	7.0	112.0	
458.8	BOND	CARTHAGE	LIMESTONE	4.0	119.0	
454.8	MODESTO		GRAY SHALE	2.0	123.0	
452.8	MODESTO		BLACK SHALE	6.0	125.0	
446.8	MODESTO		GRAY SHALE	8.0	131.0	
438.8	MODESTO		LIMESTONE	6.0	139.0	
432.8	MODESTO		GRAY SHALE	4.0	145.0	
428.8	MODESTO		SHALE WITH LIMESTONE	8.0	149.0	
420.8	MODESTO		GRAY SHALE	6.0	157.0	
414.8	MODESTO		DARK SHALE	1.0	163.0	
413.8	MODESTO		COAL	0.7	164.0	
413.1	MODESTO		GRAY SHALE	4.3	164.7	
408.8	MODESTO		GRAY SHALE	19.0	169.0	SS PARTINGS
389.8	MODESTO		SANDY SHALE	46.0	188.0	GRAY
343.8	MODESTO		COAL	1.2	234.0	
342.6	MODESTO		SHALE WITH LIMESTONE	2.8	235.2	
339.8	MODESTO		SHALE WITH LIMESTONE	18.0	238.0	W/ GRAY SH
321.8	MODESTO		GRAY SHALE	77.0	256.0	
244.8	MODESTO		DARK SHALE	12.0	333.0	
232.8	MODESTO		GRAY SHALE	9.0	345.0	
223.8	MODESTO		SHALE	12.5	354.0	VERY SOFT STICKY SH, GY & DK MIXED
211.3	CARBONDALE	DANVILLE	COAL	0.8	366.5	
210.5	CARBONDALE		GRAY SHALE	2.7	367.3	
207.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	370.0	
204.8	CARBONDALE		DARK SHALE	10.0	373.0	
194.8	CARBONDALE	BRERETON	LIMESTONE	10.0	383.0	

184.8	CARBONDALE	ANNA	BLACK SHALE	1.9	393.0	
182.9	CARBONDALE	HERRIN	COAL	1.4	394.9	
181.5	CARBONDALE	HERRIN	ROCK	0.0	396.3	BAND
181.4	CARBONDALE	HERRIN	COAL	0.7	396.4	
180.8	CARBONDALE	HERRIN	ROCK	0.0	397.0	BAND
180.8	CARBONDALE	HERRIN	COAL	3.2	397.0	
177.6	CARBONDALE	HERRIN	ROCK	0.0	400.2	BLUE BAND
177.5	CARBONDALE	HERRIN	COAL	2.3	400.3	
175.2	CARBONDALE		DARK SHALE	5.4	402.6	

MAPID: 02123250000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 35' S line, 2220' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.259226 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.670017 **DATE COLLECTED:** 11 / 20 / 1979

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 471.2 **LOG TYPE:**

SOURCE: NICOR R-1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
175.8	CARBONDALE	HERRIN	COAL	6.9	433.2	
142.8	CARBONDALE	SPRINGFIELD	COAL	5.0	466.2	

MAPID: 02100006000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 990' S line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.26893 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.658292 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 600.5 **LOGGED (FT.):** 431.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 11 **WELL TYPE:** Coal Test

COMMENT: ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
600.5	PLEISTOCENE		SOIL	4.0	0.0	
596.5	PLEISTOCENE		CLAY	5.0	4.0	
591.5	PLEISTOCENE		GRAVEL	28.0	9.0	AND BOULDERS
563.5	PLEISTOCENE		SAND	3.0	37.0	
560.5	PLEISTOCENE		HARD PAN	2.0	40.0	
558.5	PLEISTOCENE		GRAVEL	6.0	42.0	
552.5	BOND		SHALE	47.0	48.0	VARIEGATED
505.5	BOND		LIMESTONE	3.0	95.0	
502.5	BOND		SANDSTONE	9.0	98.0	VARIEGATED
493.5	BOND		LIMESTONE	9.0	107.0	
484.5	BOND		BLUE SHALE	2.0	116.0	
482.5	BOND		LIMESTONE	2.0	118.0	
480.5	BOND		BLUE SHALE	3.0	120.0	
477.5	BOND		BLACK SHALE	4.0	123.0	
473.5	BOND		DARK SHALE	7.0	127.0	
466.5	BOND		BLACK SHALE	1.0	134.0	
465.5	BOND		BLUE SHALE	8.0	135.0	STICKY
457.5	BOND	CARTHAGE	LIMESTONE	6.0	143.0	
451.5	MODESTO		GREEN SHALE	2.0	149.0	
449.5	MODESTO		BLACK SHALE	1.0	151.0	
448.5	MODESTO		DARK GRAY SHALE	1.0	152.0	
447.5	MODESTO		ARGILACEOUS SHALE	1.0	153.0	
446.5	MODESTO		SHALE WITH LIMESTONE	6.0	154.0	W/ LS BANDS
440.5	MODESTO		SANDY SHALE	26.0	160.0	
414.5	MODESTO		BLUE SHALE	50.3	186.0	
364.2	MODESTO		COAL	0.7	236.3	
363.5	MODESTO		DARK GRAY SHALE	2.0	237.0	
361.5	MODESTO		SHALE WITH LIMESTONE	6.0	239.0	
355.5	MODESTO		SANDY SHALE	53.0	245.0	
302.5	MODESTO		GRAY SHALE	12.0	298.0	SDY
290.5	MODESTO		GRAY SHALE	13.0	310.0	W/ BROWN BANDS
277.5	MODESTO		BLUE SHALE	21.0	323.0	
256.5	MODESTO		GRAY SHALE	7.0	344.0	
249.5	MODESTO		SHALE	5.0	351.0	
244.5	MODESTO		GRAY SHALE	2.0	356.0	
242.5	MODESTO		LIMESTONE	3.0	358.0	
239.5	MODESTO		BROWN SHALE	3.0	361.0	
236.5	MODESTO		GRAY SHALE	7.0	364.0	
229.5	MODESTO		BLUE SHALE	2.0	371.0	

227.5	MODESTO		DARK SHALE	6.0	373.0	
221.5	MODESTO		GRAY SHALE	2.0	379.0	
219.5	MODESTO		LIMESTONE	5.0	381.0	
214.5	MODESTO		SANDY SHALE	3.5	386.0	GRAY
211.0	MODESTO		LIMESTONE	5.5	389.5	
205.5	MODESTO		GRAY SHALE	0.3	395.0	
205.2	CARBONDALE	DANVILLE	COAL	2.0	395.3	
203.2	CARBONDALE	DANVILLE	UNCLASSIFIED	0.0	397.3	SULFUR PARTING
203.2	CARBONDALE	DANVILLE	COAL	1.6	397.3	
201.7	CARBONDALE		UNDERCLAY	4.2	398.8	
197.5	CARBONDALE		SANDY SHALE	4.0	403.0	
193.5	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	407.0	
192.5	CARBONDALE		BLUE SHALE	4.0	408.0	
188.5	CARBONDALE		BLUE SHALE	8.0	412.0	TOUGH
180.5	CARBONDALE	BRERETON	LIMESTONE	0.5	420.0	
180.0	CARBONDALE	ANNA	BLACK SHALE	2.8	420.5	
177.2	CARBONDALE	HERRIN	COAL	4.2	423.3	
173.0	CARBONDALE	HERRIN	PYRITE	0.0	427.5	
173.0	CARBONDALE	HERRIN	COAL	0.9	427.5	
172.1	CARBONDALE		UNDERCLAY	2.6	428.4	

MAPID: 02100006000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 990' S line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.26893 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.658292 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 398.6 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
243.0	MODESTO	PIASA	LIMESTONE	3.0	358.0	
240.0	MODESTO		GRAY SHALE	12.0	361.0	
228.0	CARBONDALE		DARK GRAY SHALE	8.0	373.0	
220.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	381.0	
215.0	CARBONDALE	LAWSON	SILTY SHALE	3.5	386.0	
211.5	CARBONDALE	BRERETON	LIMESTONE	5.5	389.5	
206.0	CARBONDALE	ANNA	GRAY SHALE	0.3	395.0	
206.0	CARBONDALE	HERRIN	COAL	3.6	395.0	

MAPID: 02102101000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 340' N line, 990' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.304369 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.668697 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 423.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
210.0	MODESTO		SHALE	7.0	391.0	
203.0	CARBONDALE	DANVILLE	COAL	1.0	398.0	
202.0	CARBONDALE		SHALE	6.0	399.0	
196.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	405.0	
192.0	CARBONDALE	LAWSON	SHALE	3.0	409.0	
189.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	412.0	
186.0	CARBONDALE	ANNA	BLACK SHALE	3.0	415.0	
183.0	CARBONDALE	HERRIN	COAL	5.0	418.0	

MAPID: 02100007000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** SE SE SW SW

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.322479 **GEOLOGIST:** SKURNAK

CONFIDENTIAL: N **LATITUDE:** 39.655607 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.4 **LOGGED (FT.):** 494.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 9 **WELL TYPE:** Coal Test

COMMENT: NO DATE GIVEN; ELEVATION IS ALIDADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
605.4	PLEISTOCENE		SOIL	2.0	0.0	
603.4	PLEISTOCENE		CLAY	22.0	2.0	
581.4	PLEISTOCENE		GRAVEL	21.0	24.0	AND BOULDER
560.4	PLEISTOCENE		SAND & GRAVEL	34.0	45.0	
526.4	BOND		BLUE SHALE	8.0	79.0	SOFT STICKY
518.4	BOND		BLUE SHALE	20.0	87.0	
498.4	BOND		BLUE SHALE	20.0	107.0	
478.4	BOND		LIMESTONE	7.0	127.0	
471.4	BOND		DARK GRAY SHALE	8.0	134.0	
463.4	BOND		LIMESTONE	6.0	142.0	
457.4	BOND		BLACK SHALE	7.0	148.0	
450.4	BOND		DARK GRAY SHALE	2.0	155.0	
448.4	BOND	CARTHAGE	LIMESTONE	7.0	157.0	
441.4	MODESTO		BLUE SHALE	1.0	164.0	
440.4	MODESTO		LIMESTONE	6.0	165.0	
434.4	MODESTO		SHALE WITH LIMESTONE	10.0	171.0	W/ LS BANDS
424.4	MODESTO		BLUE SHALE	5.0	181.0	STICKY
419.4	MODESTO		SHALE WITH LIMESTONE	10.0	186.0	W/ LS BANDS
409.4	MODESTO		BLUE SHALE	51.3	196.0	
358.1	MODESTO		LIMESTONE	0.5	247.3	
357.6	MODESTO		BLACK SHALE	0.2	247.8	
357.4	MODESTO		COAL	0.7	248.0	
356.7	MODESTO		UNDERCLAY	1.3	248.7	
355.4	MODESTO		BLUE SHALE	8.0	250.0	
347.4	MODESTO		BLUE SHALE	26.0	258.0	
321.4	MODESTO		SANDSTONE	1.0	284.0	
320.4	MODESTO		BLUE SHALE	37.0	285.0	
283.4	MODESTO		BLUE SHALE	9.0	322.0	
274.4	MODESTO		UNDERCLAY	7.0	331.0	
267.4	MODESTO		SANDSTONE	19.0	338.0	
248.4	MODESTO		SANDY SHALE	5.0	357.0	
243.4	MODESTO		GRAY SHALE	2.0	362.0	
241.4	MODESTO		SANDY SHALE	3.0	364.0	
238.4	MODESTO		SHALE WITH LIMESTONE	1.0	367.0	
237.4	MODESTO		SANDY SHALE	7.0	368.0	W/ STICKY BANDS
230.4	MODESTO		BLUE SHALE	1.0	375.0	
229.4	MODESTO		GRAY SHALE	3.0	376.0	
226.4	MODESTO		BLACK SHALE	5.5	379.0	
220.9	MODESTO		COAL	3.1	384.5	

217.8	MODESTO		UNDERCLAY	2.4	387.6	
215.4	MODESTO		SANDY SHALE	4.0	390.0	DARK GRAY
211.4	MODESTO		SANDSTONE	6.0	394.0	
205.4	MODESTO		SHALE & SANDSTONE	3.0	400.0	
202.4	MODESTO		SANDY SHALE	3.8	403.0	
198.6	CARBONDALE	DANVILLE	COAL	0.4	406.8	BONELESS
198.1	CARBONDALE	DANVILLE	COAL	1.0	407.3	
197.1	CARBONDALE	DANVILLE	COAL	2.6	408.3	BONELESS
194.6	CARBONDALE		UNDERCLAY	2.2	410.8	
192.4	CARBONDALE		DARK GRAY SHALE	6.0	413.0	W/ LS BANDS
186.4	CARBONDALE		SHALE WITH LIMESTONE	15.5	419.0	
170.9	CARBONDALE	ANNA	BLACK SHALE	3.5	434.5	
167.4	CARBONDALE	HERRIN	COAL	1.2	438.0	
166.2	CARBONDALE	HERRIN	BLACK SHALE	0.3	439.2	
166.0	CARBONDALE	HERRIN	COAL	3.4	439.4	
162.6	CARBONDALE	HERRIN	BONE COAL	0.5	442.8	
162.1	CARBONDALE		UNDERCLAY	0.4	443.3	
161.6	CARBONDALE		BLACK SHALE	1.3	443.8	
160.4	CARBONDALE		SANDSTONE	4.0	445.0	
156.4	CARBONDALE		SHALE WITH LIMESTONE	7.0	449.0	
149.4	CARBONDALE		BLUE SHALE	19.0	456.0	
130.4	CARBONDALE		BLUE SHALE	8.0	475.0	
122.4	CARBONDALE	TURNER MINE	BLACK SHALE	9.0	483.0	
113.4	CARBONDALE	SPRINGFIELD	COAL	1.0	492.0	
112.4	CARBONDALE		SANDSTONE	1.0	493.0	

MAPID: 02100008000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.325595 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.668654 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 422.6 **LOG TYPE:** Drillers Log

SOURCE: NO COMPANY 15 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
226.9	MODESTO	PIASA	LIMESTONE	4.2	373.1	
222.8	MODESTO		GRAY SHALE	6.7	377.2	
216.1	CARBONDALE	DANVILLE	COAL	4.9	383.9	
211.2	CARBONDALE		CLAYSTONE	0.5	388.8	
210.7	CARBONDALE		CLAYSTONE & SHALE	4.0	389.3	
206.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	393.3	
205.7	CARBONDALE	LAWSON	DARK GRAY SHALE	4.0	394.3	
201.7	CARBONDALE	LAWSON	GRAY SHALE	11.0	398.3	
190.7	CARBONDALE	LAWSON	DARK GRAY SHALE	5.0	409.3	
185.7	CARBONDALE	ANNA	BLACK SHALE	2.7	414.3	
183.0	CARBONDALE	HERRIN	COAL	5.6	417.0	

MAPID: 02100008000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** NW NW NW

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.325595 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.668654 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 599.7 **LOGGED (FT.):** 480.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 15 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
599.7	PLEISTOCENE		SOIL	4.0	0.0	
595.7	PLEISTOCENE		CLAY	8.0	4.0	
587.7	PLEISTOCENE		CLAY	6.0	12.0	
581.7	PLEISTOCENE		CLAY	7.0	18.0	AND FINE GRAVEL
574.7	PLEISTOCENE		SAND	5.0	25.0	
569.7	PLEISTOCENE		GRAVEL	5.0	30.0	
564.7	PLEISTOCENE		CLAY	63.0	35.0	AND FINE GRAVEL
501.7	PLEISTOCENE		GRAVEL	2.0	98.0	
499.7	PLEISTOCENE		CLAY	5.0	100.0	
494.7	BOND		DARK SHALE	7.0	105.0	
487.7	BOND		LIMESTONE	1.0	112.0	
486.7	BOND		GRAY SHALE	11.0	113.0	
475.7	BOND		GRAY SHALE	6.0	124.0	
469.7	BOND	CARTHAGE	LIMESTONE	6.0	130.0	
463.7	MODESTO		DARK SHALE	4.0	136.0	
459.7	MODESTO		GRAY SHALE	4.0	140.0	
455.7	MODESTO		GRAY SHALE	3.0	144.0	
452.7	MODESTO		LIMESTONE	5.0	147.0	
447.7	MODESTO		GRAY SHALE	16.0	152.0	
431.7	MODESTO		LIMESTONE	9.0	168.0	WITH HARD BANDS
422.7	MODESTO		SHALE WITH LIMESTONE	4.0	177.0	
418.7	MODESTO		GRAY SHALE	23.0	181.0	BROWN BANDS
395.7	MODESTO		DARK SHALE	29.0	204.0	TOUGH
366.7	MODESTO		GRAY SHALE	6.0	233.0	
360.7	MODESTO		COAL	1.4	239.0	
359.3	MODESTO		GRAY SHALE	3.6	240.4	
355.7	MODESTO		SANDY SHALE	16.0	244.0	
339.7	MODESTO		SANDY SHALE	40.0	260.0	GRAY
299.7	MODESTO		GRAY SHALE	10.0	300.0	TOUGH
289.7	MODESTO		SANDY SHALE	9.0	310.0	
280.7	MODESTO		DARK SHALE	24.0	319.0	TOUGH, WITH BANDS
256.7	MODESTO		GRAY SHALE	16.0	343.0	
240.7	MODESTO		SHALE	7.0	359.0	SOFT GRAY & RED SH
233.7	MODESTO		BLUE SHALE	6.8	366.0	
226.9	MODESTO	PIASA	LIMESTONE	4.2	372.8	
222.8	MODESTO		GRAY SHALE	6.7	376.9	
216.1	CARBONDALE	DANVILLE	COAL	4.9	383.6	
211.2	CARBONDALE		UNDERCLAY	0.5	388.5	
210.7	CARBONDALE		GRAY SHALE	4.0	389.0	

206.7	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	393.0
205.7	CARBONDALE		DARK SHALE	4.0	394.0
201.7	CARBONDALE		GRAY SHALE	11.0	398.0
190.7	CARBONDALE		DARK SHALE	5.0	409.0
185.7	CARBONDALE	ANNA	BLACK SHALE	2.7	414.0
183.0	CARBONDALE	HERRIN	COAL	5.6	416.7
177.4	CARBONDALE		GRAY SHALE	1.7	422.3
175.7	CARBONDALE		SANDSTONE	4.0	424.0
171.7	CARBONDALE		LIMESTONE	7.0	428.0
164.7	CARBONDALE		BLUE SHALE	32.0	435.0
132.7	CARBONDALE	TURNER MINE	BLACK SHALE	8.6	467.0
124.1	CARBONDALE	SPRINGFIELD	COAL	3.2	475.6
120.9	CARBONDALE		GRAY SHALE	1.3	478.8

MAPID: 02123251000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1337' S line, 48' E line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.307953 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.65915 **DATE COLLECTED:** 11 / 27 / 1979
SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 446.9 **LOG TYPE:**
SOURCE: NICOR R-2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
193.6	CARBONDALE	HERRIN	COAL	6.0	410.4	
162.3	CARBONDALE	SPRINGFIELD	COAL	5.2	441.7	

MAPID: 02101684000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE NW
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.361126 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.668583 **DATE COLLECTED:** 7 / 0 / 1959
SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 488.0 **LOG TYPE:** Electric Log
SOURCE: SMITH & PATTERSON ASSOC. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
254.0	CARBONDALE	HERRIN	UNCLASSIFIED	8.0	342.0	
223.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	4.5	373.0	
173.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	423.0	
108.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	488.0	

MAPID: 02100009000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** SW SW NW

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.344087 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.648856 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 585.8 **LOGGED (FT.):** 435.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 16 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
585.8			UNCONSOLIDATED	83.5	0.0	SOIL, CLAY, SAND, AND GRAVEL
502.3	BOND		BLUE SHALE	0.5	83.5	
501.8	BOND		BLUE SHALE	30.0	84.0	
471.8	BOND		GRAY SHALE	6.0	114.0	
465.8	BOND		LIMESTONE	3.0	120.0	
462.8	BOND		CALCAREOUS SHALE	4.0	123.0	
458.8	BOND		LIMESTONE	2.0	127.0	
456.8	BOND		CALCAREOUS SHALE	3.0	129.0	
453.8	BOND		LIMESTONE	7.0	132.0	
446.8	BOND		DARK SHALE	9.0	139.0	
437.8	BOND	CARTHAGE	CALCAREOUS SHALE	10.3	148.0	
427.5	BOND	CARTHAGE	LIMESTONE	5.7	158.3	
421.8	MODESTO		SHALE	5.0	164.0	
416.8	MODESTO		CALCAREOUS SHALE	6.0	169.0	
410.8	MODESTO		SANDSTONE	10.0	175.0	
400.8	MODESTO		SANDY SHALE	43.0	185.0	
357.8	MODESTO		BLUE SHALE	15.0	228.0	
342.8	MODESTO		DARK SHALE	3.6	243.0	
339.2	MODESTO		BONE COAL	0.3	246.6	
339.0	MODESTO		COAL	1.2	246.8	
337.8	MODESTO		UNDERCLAY	3.0	248.0	
334.8	MODESTO		LIMESTONE	1.5	251.0	
333.3	MODESTO		SANDY SHALE	40.5	252.5	
292.8	MODESTO		BLUE SHALE	6.0	293.0	
286.8	MODESTO		BLUE SHALE	41.0	299.0	
245.8	MODESTO		CALCAREOUS SHALE	7.0	340.0	
238.8	MODESTO		GRAY SHALE	8.0	347.0	
230.8	MODESTO		SANDY SHALE	12.0	355.0	
218.8	MODESTO	PIASA	LIMESTONE	3.5	367.0	
215.3	MODESTO		BLACK SHALE	2.0	370.5	
213.3	MODESTO		DARK SHALE	5.8	372.5	
207.5	CARBONDALE	DANVILLE	COAL	1.8	378.3	
205.8	CARBONDALE	DANVILLE	BONE COAL	0.4	380.0	
205.4	CARBONDALE	DANVILLE	COAL	1.0	380.4	
204.4	CARBONDALE		BLUE SHALE	4.2	381.4	
200.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.9	385.6	
195.3	CARBONDALE		GRAY SHALE	0.5	390.5	
194.8	CARBONDALE		LIMESTONE	1.0	391.0	
193.8	CARBONDALE		CALCAREOUS SHALE	3.3	392.0	

190.5	CARBONDALE	BRERETON	LIMESTONE	5.6	395.3	
184.9	CARBONDALE	ANNA	BLACK SHALE	0.1	400.9	
184.8	CARBONDALE	HERRIN	COAL	3.4	401.0	
181.4	CARBONDALE		SHALE	0.1	404.4	
181.3	CARBONDALE		COAL	0.8	404.5	
180.5	CARBONDALE		UNDERCLAY	0.8	405.3	
179.8	CARBONDALE		SHALE	1.0	406.0	
178.8	CARBONDALE		LIMESTONE	4.0	407.0	
174.8	CARBONDALE		CALCAREOUS SHALE	12.0	411.0	CALC SH W/ LS STREAKS
162.8	CARBONDALE		BLUE SHALE	2.0	423.0	
160.8	CARBONDALE		BLUE SHALE	0.4	425.0	
160.4	CARBONDALE		LIMESTONE	0.6	425.4	
159.8	CARBONDALE		BLACK SHALE	2.8	426.0	
157.0	CARBONDALE		BONE COAL	0.3	428.8	
156.8	CARBONDALE		COAL	4.8	429.0	
152.0	CARBONDALE		UNDERCLAY	0.3	433.8	
151.8	CARBONDALE		BLUE SHALE	1.0	434.0	

MAPID: 02100009000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** SW SW NW

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.344087 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.648856 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 405.3 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
219.0	MODESTO	PIASA	LIMESTONE	3.5	367.0	
215.5	MODESTO		DARK GRAY SHALE	7.8	370.5	
207.7	CARBONDALE	DANVILLE	COAL	3.2	378.3	
204.6	CARBONDALE		GRAY SHALE	4.2	381.4	
200.4	CARBONDALE	BANKSTON FORK	LIMESTONE	4.9	385.6	UPPER BENCH
195.5	CARBONDALE	BANKSTON FORK	GRAY SHALE	0.5	390.5	SHALE PARTING
195.0	CARBONDALE	BANKSTON FORK	GRAY SHALE	1.0	391.0	LOWER BENCH
194.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.3	392.0	
190.7	CARBONDALE	BRERETON	LIMESTONE	5.6	395.3	
185.0	CARBONDALE	HERRIN	COAL	4.3	401.0	

MAPID: 02100010000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** SE SE SE

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.290393 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.641581 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 608.6 **LOGGED (FT.):** 476.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 17 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
608.6			UNCONSOLIDATED	82.0	0.0	CLAY, SAND, AND GRAVEL
526.6	BOND		SANDY SHALE	9.0	82.0	
517.6	BOND		SANDSTONE	39.0	91.0	
478.6	BOND		SANDSTONE	14.0	130.0	
464.6	BOND		GRAY SHALE	2.0	144.0	
462.6	BOND		LIMESTONE	2.0	146.0	
460.6	BOND		GRAY SHALE	13.0	148.0	
447.6	BOND		LIMESTONE	8.0	161.0	
439.6	BOND		GRAY SHALE	1.0	169.0	
438.6	BOND		BLACK SHALE	5.0	170.0	
433.6	BOND		GRAY SHALE	4.0	175.0	
429.6	BOND		DARK SHALE	5.0	179.0	
424.6	BOND		GRAY SHALE	3.0	184.0	
421.6	BOND	CARTHAGE	CALCAREOUS SHALE	10.0	187.0	
411.6	BOND	CARTHAGE	LIMESTONE	3.0	197.0	
408.6	BOND	CARTHAGE	CALCAREOUS SHALE	2.0	200.0	
406.6	MODESTO		BLACK SHALE	1.0	202.0	
405.6	MODESTO		GRAY SHALE	7.0	203.0	
398.6	MODESTO		LIMESTONE	2.0	210.0	
396.6	MODESTO		GRAY SHALE	2.0	212.0	
394.6	MODESTO		SANDY SHALE	24.0	214.0	
370.6	MODESTO		SANDY SHALE	44.0	238.0	
326.6	MODESTO		GRAY SHALE	4.0	282.0	
322.6	MODESTO		LIMESTONE	1.0	286.0	LS W/ SH SPOTS
321.6	MODESTO		BLACK SHALE	1.3	287.0	
320.3	MODESTO		COAL	1.3	288.3	
319.0	MODESTO		GRAY SHALE	2.4	289.6	
316.6	MODESTO		BLUE SHALE	8.0	292.0	
308.6	MODESTO		SANDY SHALE	17.0	300.0	
291.6	MODESTO		GRAY SHALE	33.0	317.0	
258.6	MODESTO		SANDY SHALE	5.0	350.0	
253.6	MODESTO		DARK GRAY SHALE	9.0	355.0	
244.6	MODESTO		DARK SHALE	10.0	364.0	
234.6	MODESTO		BLUE SHALE	16.0	374.0	
218.6	MODESTO		GRAY SHALE	14.0	390.0	
204.6	MODESTO		DARK GRAY SHALE	7.0	404.0	
197.6	MODESTO	PIASA	LIMESTONE	2.0	411.0	
195.6	MODESTO		GRAY SHALE	7.0	413.0	
188.6	CARBONDALE	DANVILLE	COAL	0.3	420.0	

188.3	CARBONDALE		DARK GRAY SHALE	4.8	420.3
183.6	CARBONDALE	ANVIL ROCK	SANDSTONE	3.0	425.0
180.6	CARBONDALE		GRAY SHALE	3.0	428.0
177.6	CARBONDALE		LIMESTONE	4.0	431.0
173.6	CARBONDALE		BLACK SHALE	1.0	435.0
172.6	CARBONDALE	BRERETON	LIMESTONE	0.5	436.0
172.1	CARBONDALE	ANNA	BLACK SHALE	2.8	436.5
169.3	CARBONDALE	HERRIN	COAL	0.5	439.3
168.8	CARBONDALE		LIMESTONE	0.4	439.8
168.3	CARBONDALE	HERRIN	COAL	4.8	440.3
163.6	CARBONDALE		BLUE SHALE	0.1	445.0
163.5	CARBONDALE	HERRIN	COAL	1.0	445.1
162.5	CARBONDALE		UNDERCLAY	0.9	446.1
161.6	CARBONDALE		GRAY SHALE	7.0	447.0
154.6	CARBONDALE		LIGHT SHALE	8.0	454.0
146.6	CARBONDALE		DARK GRAY SHALE	3.0	462.0
143.6	CARBONDALE		LIMESTONE	1.0	465.0
142.6	CARBONDALE	TURNER MINE	BLACK SHALE	3.8	466.0
138.8	CARBONDALE		COAL	2.8	469.8
136.1	CARBONDALE		DARK GRAY SHALE	3.5	472.5

MAPID: 02100909000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 11' S line, 2599' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.298514 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.640657 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 438.8 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. 264 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
201.9	MODESTO	PIASA	LIMESTONE	2.0	403.1	
199.9	MODESTO		SHALE	8.0	405.1	
191.9	CARBONDALE	ALLENBY	BONE COAL	0.5	413.1	
191.4	CARBONDALE		CLAYSTONE	5.3	413.6	
186.0	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	6.7	419.0	
179.4	CARBONDALE	LAWSON	MOTTLED SHALE	1.0	425.6	
178.4	CARBONDALE	LAWSON	SILTSTONE	0.6	426.6	
177.8	CARBONDALE	LAWSON	SANDSTONE	0.6	427.2	
177.3	CARBONDALE	LAWSON	GRAY SHALE	1.2	427.7	
176.1	CARBONDALE	LAWSON	CARBONACEOUS SHALE	1.9	428.9	
174.2	CARBONDALE	BRERETON	LIMESTONE	0.5	430.8	
173.7	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.7	431.3	
173.0	CARBONDALE	HERRIN	COAL	6.8	432.0	

MAPID: 02100302000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 10' S line, 203' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.288507 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.640694 **DATE COLLECTED:** 10 / 0 / 1951

SURFACE ELEVATION (FT.): 604.5 **LOGGED (FT.):** 441.7 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. W-146 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
169.1	CARBONDALE	HERRIN	COAL	6.3	435.4	

MAPID: 02100302000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 10' S line, 203' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.288507 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.640694 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 441.3 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. W-146 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
198.6	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.3	406.4	
196.3	MODESTO		MOTTLED SHALE	6.8	408.7	
189.5	CARBONDALE	DANVILLE	BONE COAL	0.8	415.5	
188.7	CARBONDALE		CLAYSTONE & SHALE	1.1	416.3	
187.5	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.3	417.5	
187.2	CARBONDALE		CLAYSTONE & SHALE	1.3	417.8	
186.0	CARBONDALE	LAWSON	GRAY SHALE	0.4	419.0	
185.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	0.8	419.5	
184.8	CARBONDALE	LAWSON	SANDSTONE	4.0	420.2	
180.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.2	424.2	
177.6	CARBONDALE	LAWSON	GRAY SHALE	1.9	427.4	
175.7	CARBONDALE	BRERETON	LIMESTONE	5.5	429.3	
170.2	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.2	434.8	
170.0	CARBONDALE	HERRIN	COAL	6.3	435.0	

MAPID: 02100011000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** SW SE NE

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.254946 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.649143 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 422.3 **LOG TYPE:** Drillers Log

SOURCE: NO COMPANY 18 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
206.5	MODESTO	PIASA	LIMESTONE	4.0	383.5	
202.5	MODESTO		MOTTLED SHALE	9.0	387.5	
193.5	CARBONDALE		CLAYSTONE & SHALE	3.0	396.5	
190.5	CARBONDALE	LAWSON	SANDSTONE	5.0	399.5	
185.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.0	404.5	
181.5	CARBONDALE	JAMESTOWN	BLACK SHALE	1.0	408.5	
180.5	CARBONDALE	BRERETON	LIMESTONE	6.0	409.5	
174.5	CARBONDALE	ANNA	DARK GRAY SHALE	0.5	415.5	
174.0	CARBONDALE	HERRIN	COAL	6.3	416.0	

MAPID: 02100011000C **VERSION:** 2 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** SW SE NE

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.254946 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.649143 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 590.3 **LOGGED (FT.):** 452.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD-WILLEY 18 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
590.3			UNCONSOLIDATED	89.0	0.0	SOIL, CLAY, SAND, AND GRAVEL
501.3	BOND		SHALE	44.0	89.0	
457.3	BOND		LIMESTONE	6.0	133.0	
451.3	BOND		DARK SHALE	7.0	139.0	
444.3	BOND		SHALE	9.0	146.0	
435.3	BOND		LIGHT SHALE	2.0	155.0	
433.3	BOND		DARK SHALE	5.0	157.0	
428.3	BOND		DARK SHALE	10.0	162.0	
418.3	BOND	CARTHAGE	LIMESTONE	5.0	172.0	
413.3	MODESTO		GRAY SHALE	1.0	177.0	
412.3	MODESTO		BLACK SHALE	1.0	178.0	
411.3	MODESTO		DARK GRAY SHALE	5.0	179.0	
406.3	MODESTO		SANDY SHALE	9.0	184.0	
397.3	MODESTO		SANDY SHALE	45.0	193.0	
352.3	MODESTO		BLUE SHALE	23.7	238.0	
328.6	MODESTO		COAL	1.3	261.7	
327.3	MODESTO		UNDERCLAY	2.0	263.0	
325.3	MODESTO		LIGHT SHALE	1.0	265.0	
324.3	MODESTO		SANDY SHALE	2.0	266.0	
322.3	MODESTO		SANDY SHALE	40.0	268.0	
282.3	MODESTO		SANDY SHALE	26.0	308.0	
256.3	MODESTO		DARK SHALE	23.8	334.0	
232.5	MODESTO	PIASA	LIMESTONE	0.3	357.8	
232.1	MODESTO		BLACK SHALE	0.5	358.2	
231.6	CARBONDALE		UNDERCLAY	1.6	358.7	
230.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	360.3	
229.3	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	12.0	361.0	CALC SH W/ LS STREAKS
217.3	CARBONDALE		BLACK SHALE	1.0	373.0	
216.3	CARBONDALE		BLUE SHALE	7.0	374.0	
209.3	CARBONDALE		SANDY SHALE	2.0	381.0	
207.3	CARBONDALE		LIMESTONE	4.0	383.0	
203.3	CARBONDALE		BLUE SHALE	8.0	387.0	
195.3	CARBONDALE		LIGHT SHALE	1.0	395.0	
194.3	CARBONDALE		GRAY SHALE	3.0	396.0	
191.3	CARBONDALE		SANDSTONE	5.0	399.0	
186.3	CARBONDALE		GRAY SHALE	4.0	404.0	GY SH W/ LS STREAKS
182.3	CARBONDALE		BLACK SHALE	1.0	408.0	
181.3	CARBONDALE	BRERETON	LIMESTONE	6.0	409.0	
175.3	CARBONDALE	ANNA	DARK GRAY SHALE	0.5	415.0	

174.8	CARBONDALE	HERRIN	COAL	6.3	415.5
168.5	CARBONDALE		UNDERCLAY	3.2	421.8
165.3	CARBONDALE		GRAY SHALE	15.5	425.0
149.8	CARBONDALE		LIMESTONE	0.5	440.5
149.3	CARBONDALE	TURNER MINE	BLACK SHALE	3.1	441.0
146.2	CARBONDALE	SPRINGFIELD	COAL	5.5	444.1
140.7	CARBONDALE		UNDERCLAY	2.4	449.6

MAPID: 02100301000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 87' N line, 11' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.251559 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.640731 **DATE COLLECTED:** 10 / 0 / 1951

SURFACE ELEVATION (FT.): 603.4 **LOGGED (FT.):** 447.4 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. W-145 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
162.3	CARBONDALE	HERRIN	COAL	6.3	441.1	

MAPID: 02100301000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 87' N line, 11' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.251559 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.640731 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 447.4 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. W-145 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
191.1	MODESTO		MOTTLED SHALE	7.8	411.9	
183.3	CARBONDALE	DANVILLE	BONE COAL	0.5	419.7	
182.8	CARBONDALE		GRAY SHALE	0.6	420.2	
182.2	CARBONDALE		CLAYSTONE	0.9	420.8	
181.3	CARBONDALE	ALLENBY	BLACK SHALE	0.5	421.7	
180.8	CARBONDALE		CLAYSTONE & SHALE	3.3	422.2	
177.5	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	2.5	425.5	
175.0	CARBONDALE	LAWSON	SILTY SHALE	2.2	428.0	
172.8	CARBONDALE	LAWSON	MOTTLED SHALE	2.6	430.2	
170.2	CARBONDALE	LAWSON	BLACK SHALE	1.4	432.8	
168.8	CARBONDALE	LAWSON	DARK GRAY SHALE	1.6	434.2	
167.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	435.8	
162.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	440.8	
162.0	CARBONDALE	HERRIN	COAL	6.4	441.0	

MAPID: 02102509000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.26898 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.627154 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 476.8 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-3 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
140.0	CARBONDALE	HERRIN	COAL	6.8	470.0	

MAPID: 02122877000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** NE NE
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.25385 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.639127 **DATE COLLECTED:** 0 / 0 / 1974
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 448.2 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 438 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
163.3	CARBONDALE	HERRIN	COAL	6.5	441.7	

MAPID: 02102517000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.28796 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.636117 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 462.3 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-8 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
155.0	CARBONDALE	HERRIN	COAL	7.3	455.0	

MAPID: 02102517000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 1650' N line, 330' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.28796 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.636117 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 462.3 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-8 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
191.7	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.6	418.3	
189.2	MODESTO		MOTTLED SHALE	7.3	420.8	
181.9	CARBONDALE	DANVILLE	BLACK SHALE	0.5	428.1	
181.4	CARBONDALE		CLAYSTONE & SHALE	1.7	428.6	
179.7	CARBONDALE		CALCAREOUS SHALE	4.2	430.3	
175.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.1	434.4	
171.5	CARBONDALE	LAWSON	DARK GRAY SHALE	0.8	438.5	
170.7	CARBONDALE	LAWSON	GRAY SHALE	4.0	439.3	
166.7	CARBONDALE	LAWSON	SANDSTONE	1.8	443.3	
165.0	CARBONDALE	LAWSON	GRAY SHALE	1.3	445.0	
163.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.1	446.3	
161.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.3	448.4	
155.3	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	454.7	
155.0	CARBONDALE	HERRIN	COAL	7.3	455.0	

MAPID: 02102519000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 330' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.306756 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.627066 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 449.9 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-7 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
162.0	CARBONDALE	HERRIN	COAL	6.9	443.0	

MAPID: 02102519000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** 330' S line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.306756 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.627066 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 439.9 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO PW-7 **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
223.7	MODESTO	PIASA	LIMESTONE W/ SHALE	20.0	381.3	
203.7	MODESTO		MOTTLED SHALE	3.0	401.3	
200.7	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	13.2	404.3	
187.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.3	417.5	
187.2	CARBONDALE	LAWSON	DARK GRAY SHALE	0.8	417.8	
186.5	CARBONDALE	LAWSON	SILTY SHALE	2.3	418.5	
184.2	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	5.8	420.8	
178.4	CARBONDALE	CONANT	LIMESTONE	0.2	426.6	
178.2	CARBONDALE		GRAY SHALE	0.5	426.8	
177.7	CARBONDALE	BRERETON	LIMESTONE	5.6	427.3	
172.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.2	432.8	
172.0	CARBONDALE	HERRIN	COAL	6.9	433.0	

MAPID: 02102119000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 28 **QUARTERS/FOOTAGES:** 16' S line, 1643' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.320545 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.626045 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 427.4 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. CC297 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
218.4	MODESTO		SILTY SHALE	30.0	373.6	
188.4	CARBONDALE		DARK GRAY SHALE	1.0	403.6	
187.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	404.6	UPPER BENCH
185.6	CARBONDALE	BANKSTON FORK	CLAYSTONE	0.3	406.4	SHALE PARTING
185.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.3	406.7	LOWER BENCH
181.0	CARBONDALE	LAWSON	CLAYSTONE	0.3	411.0	
180.7	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.7	411.3	
180.0	CARBONDALE	LAWSON	CLAYSTONE	0.8	412.0	
179.2	CARBONDALE	LAWSON	SILTSTONE	0.5	412.8	
178.7	CARBONDALE	LAWSON	MOTTLED SHALE	0.3	413.3	
178.4	CARBONDALE	BRERETON	LIMESTONE	2.1	413.6	
176.3	CARBONDALE	ANNA	MOTTLED SHALE	4.3	415.7	
172.0	CARBONDALE	HERRIN	COAL	7.4	420.0	

MAPID: 02102516000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 330' N line, 330' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.327703 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.639559 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 424.3 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO PW-18 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
215.7	MODESTO	PIASA	LIMESTONE/UNDERCLAY	2.9	384.3	
212.8	MODESTO		GRAY SHALE	7.5	387.2	
205.3	CARBONDALE	DANVILLE	COAL	3.8	394.7	
201.6	CARBONDALE		CARBONACEOUS SHALE	0.8	398.4	
200.8	CARBONDALE		CLAYSTONE	0.6	399.2	
200.2	CARBONDALE	ALLENBY	BLACK SHALE	0.5	399.8	
199.7	CARBONDALE		DARK GRAY SHALE	0.5	400.3	
199.2	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	5.2	400.8	
194.1	CARBONDALE	LAWSON	SILTY SHALE	0.8	405.9	
193.2	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	1.7	406.8	
191.6	CARBONDALE	LAWSON	GRAY SHALE	3.3	408.4	
188.2	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	0.9	411.8	
187.3	CARBONDALE	BRERETON	LIMESTONE	5.1	412.7	
182.2	CARBONDALE	ANNA	DARK GRAY SHALE	0.3	417.8	
182.0	CARBONDALE	HERRIN	COAL	6.3	418.0	

MAPID: 02100012000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** NE SE SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.346574 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.61431 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 581.2 **LOGGED (FT.):** 465.6 **LOG TYPE:** Drillers Log

SOURCE: BYRD 7 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
581.2			UNCONSOLIDATED	53.0	0.0	SOIL, CLAY, AND SAND
528.2	BOND		DARK SHALE	27.0	53.0	
501.2	BOND		GRAY SHALE	11.0	80.0	
490.2	BOND		GRAY SHALE	11.0	91.0	
479.2	BOND		LIMESTONE	10.0	102.0	
469.2	BOND		GRAY SHALE	1.0	112.0	
468.2	BOND		BLACK SHALE	5.0	113.0	
463.2	BOND		GRAY SHALE	8.0	118.0	
455.2	BOND		LIMESTONE	12.0	126.0	
443.2	BOND		GREEN SHALE	2.0	138.0	
441.2	BOND		BLACK SHALE	1.5	140.0	
439.7	BOND		GRAY SHALE	4.5	141.5	
435.2	BOND		SANDY SHALE	2.0	146.0	SDY SH W/ LS BANDS
433.2	BOND		SANDY SHALE	25.0	148.0	
408.2	BOND	CARTHAGE	BLUE SHALE	27.0	173.0	
381.2	MODESTO		GRAY SHALE	11.0	200.0	
370.2	MODESTO		DARK GRAY SHALE	4.8	211.0	
365.4	MODESTO		COAL	0.4	215.8	
365.0	MODESTO		CALCAREOUS SHALE	4.8	216.2	
360.2	MODESTO		SANDY SHALE	12.0	221.0	
348.2	MODESTO		SANDY SHALE	35.0	233.0	SDY SH W/ SH PARTINGS
313.2	MODESTO		BLUE SHALE	38.0	268.0	
275.2	MODESTO		SHALE	4.0	306.0	
271.2	MODESTO		SANDY SHALE	3.0	310.0	
268.2	MODESTO		SANDSTONE	5.0	313.0	
263.2	MODESTO		SANDY SHALE	1.0	318.0	
262.2	MODESTO		SANDSTONE	30.0	319.0	
232.2	MODESTO		SANDSTONE	4.0	349.0	
228.2	MODESTO		LIMESTONE	3.0	353.0	
225.2	MODESTO		BLUE SHALE	1.0	356.0	
224.2	MODESTO		DARK SHALE	3.0	357.0	
221.2	MODESTO		BLACK SHALE	1.5	360.0	
219.7	MODESTO		COAL	3.0	361.5	
216.7	MODESTO		UNDERCLAY	1.5	364.5	
215.2	MODESTO		DARK SHALE	4.0	366.0	
211.2	MODESTO		LIMESTONE	6.0	370.0	
205.2	MODESTO		GRAY SHALE	1.0	376.0	
204.2	MODESTO		LIMESTONE	0.5	377.0	
203.7	MODESTO		BLUE SHALE	2.5	377.5	BLU SH W/ LS BANDS

201.2	MODESTO	PIASA	LIMESTONE	10.9	380.0
190.3	MODESTO		BLACK SHALE	0.1	390.9
190.2	CARBONDALE	DANVILLE	COAL	7.6	391.0
182.6	CARBONDALE		UNDERCLAY	0.8	398.6
181.9	CARBONDALE		BLUE SHALE	1.7	399.3
180.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	401.0
177.2	CARBONDALE		BLUE SHALE	7.0	404.0
170.2	CARBONDALE		GRAY SHALE	2.0	411.0
168.2	CARBONDALE		SANDY SHALE	1.0	413.0
167.2	CARBONDALE		DARK SHALE	3.0	414.0
164.2	CARBONDALE	BRERETON	BLUE SHALE	6.0	417.0
158.2	CARBONDALE	BRERETON	LIMESTONE	2.0	423.0
156.2	CARBONDALE	BRERETON	BLUE SHALE	18.0	425.0
138.2	CARBONDALE		BLUE SHALE	3.0	443.0
135.2	CARBONDALE		GRAY SHALE	3.0	446.0
132.2	CARBONDALE		BLUE SHALE	5.0	449.0
127.2	CARBONDALE	ANNA	BLACK SHALE	7.9	454.0
119.3	CARBONDALE	HERRIN	COAL	2.8	461.9
116.6	CARBONDALE		UNDERCLAY	1.0	464.6

MAPID: 02100012000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 31 **QUARTERS/FOOTAGES:** NE SE SE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.346574 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.61431 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 398.6 **LOG TYPE:** Survey Core Study

SOURCE: **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
227.9	MODESTO	PIASA	LIMESTONE	3.0	353.1	
224.9	MODESTO		DARK GRAY SHALE	5.5	356.1	
219.4	CARBONDALE	DANVILLE	COAL	3.0	361.6	
216.4	CARBONDALE		CLAYSTONE	1.5	364.6	
214.9	CARBONDALE		DARK GRAY SHALE	4.0	366.1	
210.9	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	370.1	
204.9	CARBONDALE	LAWSON	GRAY SHALE	1.0	376.1	
203.9	CARBONDALE	LAWSON	LIMESTONE	0.5	377.1	
203.4	CARBONDALE	LAWSON	CALCAREOUS SHALE	2.5	377.6	
200.9	CARBONDALE	BRERETON	LIMESTONE	10.9	380.1	
190.0	CARBONDALE	HERRIN	COAL	7.6	391.0	

MAPID: 02102507000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.343876 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.625215 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 398.8 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-1 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
199.0	CARBONDALE	HERRIN	COAL	7.8	391.0	

MAPID: 02102507000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.343876 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.625215 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 398.8 **LOG TYPE:** Survey Core Study
SOURCE: PAUL WEIR COAL CO PW-1 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
235.7	MODESTO	PIASA	LIMESTONE	3.0	354.3	
232.7	MODESTO		GRAY SHALE	6.0	357.3	
226.7	CARBONDALE	DANVILLE	CARBONACEOUS SHALE	4.0	363.3	
222.7	CARBONDALE	LAWSON	LIMESTONE W/ SHALE	14.1	367.3	
208.7	CARBONDALE	LAWSON	MOTTLED SHALE	0.2	381.3	
208.5	CARBONDALE	LAWSON	SILTSTONE	0.5	381.5	
208.0	CARBONDALE	LAWSON	ROCK	1.6	382.0	
206.3	CARBONDALE	BRERETON	LIMESTONE	3.4	383.7	
202.9	CARBONDALE	ANNA	BLACK SHALE	3.9	387.1	
199.0	CARBONDALE	HERRIN	COAL	7.8	391.0	

MAPID: 02100013000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** NW NW NE

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.297228 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.625288 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 599.3 **LOGGED (FT.):** 456.0 **LOG TYPE:** Drillers Log

SOURCE: BYRD & SON 2 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
599.3			UNCONSOLIDATED	79.0	0.0	SOIL, CLAY, AND GRAVEL
520.3	BOND		BLUE SHALE	29.0	79.0	
491.3	BOND		SANDSTONE	10.0	108.0	
481.3	BOND		GRAY SHALE	2.0	118.0	
479.3	BOND		SANDSTONE	3.0	120.0	
476.3	BOND		GRAY SHALE	22.0	123.0	
454.3	BOND		LIMESTONE	10.0	145.0	
444.3	BOND		DARK SHALE	9.0	155.0	
435.3	BOND		BLACK SHALE	6.0	164.0	
429.3	BOND		GRAY SHALE	2.0	170.0	
427.3	BOND		GRAY SHALE	9.0	172.0	
418.3	BOND	CARTHAGE	LIMESTONE	2.0	181.0	
416.3			GRAY SHALE	17.0	183.0	
399.3			GRAY SHALE	10.0	200.0	
389.3			GRAY SHALE	16.0	210.0	
373.3			GRAY SHALE	12.0	226.0	GY SH W/ SS PARTINGS
361.3			GRAY SHALE	10.0	238.0	
351.3			SANDY SHALE	7.0	248.0	
344.3			GRAY SHALE	12.0	255.0	GY SH W/ SS PARTINGS
332.3			COAL	0.7	267.0	
331.6			CALCAREOUS SHALE	5.3	267.7	
326.3			GRAY SHALE	65.0	273.0	
261.3			BLUE SHALE	13.0	338.0	
248.3			GRAY SHALE	19.0	351.0	
229.3			GRAY SHALE	19.0	370.0	
210.3			GRAY SHALE	19.0	389.0	
191.3			DARK SHALE	1.0	408.0	
190.3	CARBONDALE	BRERETON	LIMESTONE	19.0	409.0	
171.3	CARBONDALE	ANNA	SHALE	0.5	428.0	
170.8	CARBONDALE	HERRIN	COAL	2.0	428.5	
168.8	CARBONDALE	HERRIN		0.0	430.5	BLUE BAND
168.8	CARBONDALE	HERRIN	COAL	1.9	430.5	
166.9	CARBONDALE	HERRIN		0.0	432.4	BLUE BAND
166.8	CARBONDALE	HERRIN	COAL	0.7	432.5	
166.2	CARBONDALE	HERRIN		0.1	433.1	BLUE BAND
166.1	CARBONDALE	HERRIN	COAL	1.5	433.2	
164.6	CARBONDALE		UNDERCLAY	0.6	434.7	
164.0	CARBONDALE		GRAY SHALE	8.8	435.3	
155.3	CARBONDALE		CALCAREOUS SHALE	2.0	444.0	

153.3	CARBONDALE	TURNER MINE	BLACK SHALE	2.5	446.0
150.8	CARBONDALE	SPRINGFIELD	COAL	4.7	448.5
146.1	CARBONDALE		UNDERCLAY	0.8	453.2
145.3	CARBONDALE		GRAY SHALE	2.0	454.0

MAPID: 02100308000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 13' S line, 6' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289049 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.611586 **DATE COLLECTED:** 8 / 0 / 1951

SURFACE ELEVATION (FT.): 607.4 **LOGGED (FT.):** 468.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. W-141 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
149.2	CARBONDALE	HERRIN	COAL	10.1	458.2	

MAPID: 02100308000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 13' S line, 6' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289049 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.611586 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 465.1 **LOG TYPE:** Survey Core Study

SOURCE: PEABODY COAL CO. W-141 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
198.2	MODESTO		CLAYSTONE & SHALE	15.4	408.8	
182.7	CARBONDALE	DANVILLE	BONE COAL	0.9	424.3	
181.8	CARBONDALE		CLAYSTONE	0.9	425.2	
180.9	CARBONDALE	ALLENBY	BONE COAL	1.7	426.1	
179.2	CARBONDALE		CALCAREOUS SHALE	5.8	427.8	
173.4	CARBONDALE	BANKSTON FORK	NODULAR LIMESTONE	1.9	433.6	UPPER BENCH
171.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.8	435.5	SHALE PARTING
166.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	440.3	LOWER BENCH
164.6	CARBONDALE	LAWSON	CALCAREOUS SHALE	1.3	442.4	
163.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	0.3	443.8	
163.0	CARBONDALE	LAWSON	GRAY SHALE	0.8	444.0	
162.2	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.2	444.8	
161.1	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.2	445.9	
160.9	CARBONDALE	BRERETON	LIMESTONE	4.6	446.1	
156.3	CARBONDALE	ANNA	BLACK SHALE	4.3	450.7	
152.0	CARBONDALE	HERRIN	COAL	10.1	455.0	

MAPID: 02100348000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 213' S line, 30' E line of SE SE
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.289133 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.612138 **DATE COLLECTED:** 7 / 0 / 1952
SURFACE ELEVATION (FT.): 606.9 **LOGGED (FT.):** 465.5 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 196 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
150.6	CARBONDALE	HERRIN	COAL	9.2	456.3	

MAPID: 02102114000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 35 **QUARTERS/FOOTAGES:** 19' S line, 205' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.271013 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.611394 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 469.7 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. CC291 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
189.0	MODESTO		SILTY SHALE	30.0	418.0	
159.0	CARBONDALE		CLAYSTONE	1.0	448.0	
158.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	449.0	
154.0	CARBONDALE	LAWSON	CLAYSTONE	0.8	453.0	
153.3	CARBONDALE	LAWSON	BONE COAL	0.6	453.7	
152.7	CARBONDALE	LAWSON	CLAYSTONE	1.2	454.3	
151.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	1.7	455.5	
149.8	CARBONDALE	LAWSON	SHALE & SANDSTONE	0.9	457.2	
148.9	CARBONDALE	BRERETON	LIMESTONE	0.7	458.1	
148.2	CARBONDALE	ANNA	BLACK SHALE	3.3	458.8	
145.0	CARBONDALE	HERRIN	COAL	7.7	462.0	

MAPID: 02102523000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' E line
QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.254818 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.612625 **DATE COLLECTED:** 0 / 0 / 1968
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 475.8 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COAL CO PW-13 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
142.0	CARBONDALE	HERRIN	COAL	7.8	468.0	

MAPID: 02102523000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 2W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.254818 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.612625 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 475.8 **LOG TYPE:** Drillers Log

SOURCE: PAUL WEIR COAL CO PW-13 **WELL TYPE:** Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
179.5	MODESTO	PIASA	LIMESTONE	2.7	430.5	
176.8	MODESTO		CLAYSTONE & SHALE	7.5	433.2	
169.3	CARBONDALE	DANVILLE	COAL	0.8	440.7	
168.6	CARBONDALE		CLAYSTONE	1.8	441.4	
166.7	CARBONDALE	ALLENBY	BONE COAL	1.6	443.3	
165.2	CARBONDALE		GRAY SHALE	3.5	444.8	
161.7	CARBONDALE	BANKSTON FORK	LIMESTONE	2.1	448.3	UPPER BENCH
159.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.3	450.4	LOWER BENCH
157.2	CARBONDALE	LAWSON	GRAY SHALE	0.5	452.8	
156.7	CARBONDALE	LAWSON	CALCAREOUS SHALE	3.0	453.3	
153.7	CARBONDALE	LAWSON	SANDSTONE	2.3	456.3	
151.4	CARBONDALE	LAWSON	DARK GRAY SHALE	1.9	458.6	
149.5	CARBONDALE	LAWSON	CALCAREOUS SHALE	0.5	460.5	
149.0	CARBONDALE	BRERETON	LIMESTONE	5.9	461.0	
143.1	CARBONDALE	ANNA	BLACK SHALE	1.1	466.9	
142.0	CARBONDALE	HERRIN	COAL	7.8	468.0	

MAPID: 02100004000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** NW SW NW

QUADRANGLE: EDINBURG **LONGITUDE:** -89.385946 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.694195 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 581.3 **LOGGED (FT.):** 876.0 **LOG TYPE:** Drillers Log

SOURCE: TAYLOR & BYRD 6 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
581.3			UNCONSOLIDATED	47.0	0.0	SOIL, CLAY, SAND, AND GRAVEL
534.3	BOND		GRAY SHALE	5.0	47.0	GY SH W/ SS PARTINGS
529.3	BOND		GRAY SHALE	5.0	52.0	GY SH W/ SS PARTINGS
524.3	BOND		GRAY SHALE	7.5	57.0	
516.8	BOND		COAL	1.0	64.5	
515.8	BOND	CARTHAGE	LIMESTONE	15.5	65.5	
500.3	MODESTO		DARK SHALE	4.0	81.0	
496.3	MODESTO		GRAY SHALE	2.0	85.0	
494.3	MODESTO		LIMESTONE	2.0	87.0	
492.3	MODESTO		DARK SHALE	3.0	89.0	
489.3	MODESTO		CALCAREOUS SHALE	10.0	92.0	
479.3	MODESTO		GRAY SHALE	8.0	102.0	
471.3	MODESTO		GRAY SHALE	16.0	110.0	
455.3	MODESTO		SANDY SHALE	10.0	126.0	
445.3	MODESTO		GRAY SHALE	49.9	136.0	
395.4	MODESTO		COAL	1.3	185.9	
394.0	MODESTO		SANDY SHALE	23.8	187.3	
370.3	MODESTO		SANDY SHALE	19.0	211.0	
351.3	MODESTO		GRAY SHALE	39.0	230.0	
312.3	MODESTO		BLUE SHALE	20.0	269.0	BLU SH W/ SS STREAKS
292.3	MODESTO		LIMESTONE	4.0	289.0	
288.3	MODESTO		DARK SHALE	7.0	293.0	
281.3	MODESTO		DARK SHALE	1.0	300.0	
280.3	MODESTO		GRAY SHALE	3.0	301.0	
277.3	MODESTO		GRAY SHALE	2.0	304.0	
275.3	MODESTO		LIMESTONE	2.0	306.0	
273.3	MODESTO		SHALE	3.0	308.0	
270.3	MODESTO		DARK SHALE	6.0	311.0	
264.3	MODESTO	PIASA	LIMESTONE	9.0	317.0	
255.3	MODESTO		DARK SHALE	7.2	326.0	
248.1	CARBONDALE	DANVILLE	COAL	2.8	333.2	
245.3	CARBONDALE		GRAY SHALE	2.0	336.0	
243.3	CARBONDALE		CALCAREOUS SHALE	15.0	338.0	
228.3	CARBONDALE		CALCAREOUS SHALE	7.5	353.0	
220.8	CARBONDALE	BRERETON	LIMESTONE	1.0	360.5	
219.8	CARBONDALE	ANNA	BLACK SHALE	1.0	361.5	
218.8	CARBONDALE	ANNA	LIMESTONE	1.0	362.5	
217.8	CARBONDALE	ANNA	BLACK SHALE	0.3	363.5	
217.5	CARBONDALE	ANNA	LIMESTONE	0.2	363.8	

217.3	CARBONDALE	HERRIN	COAL	5.2	364.0	
212.1	CARBONDALE		UNDERCLAY	0.8	369.2	
211.3	CARBONDALE		GRAY SHALE	18.0	370.0	
193.3	CARBONDALE		CALCAREOUS SHALE	4.0	388.0	
189.3	CARBONDALE		GRAY SHALE	21.0	392.0	
168.3	CARBONDALE	TURNER MINE	BLACK SHALE	7.3	413.0	
161.0	CARBONDALE	SPRINGFIELD	COAL	2.5	420.3	
158.5	CARBONDALE		UNDERCLAY	0.3	422.8	
158.3	CARBONDALE		CALCAREOUS SHALE	9.5	423.0	
148.8	CARBONDALE		COAL	0.5	432.5	
148.3	CARBONDALE		DARK SHALE	1.0	433.0	
147.3	CARBONDALE		COAL	0.3	434.0	
147.0	CARBONDALE		DARK SHALE	6.7	434.3	
140.3	CARBONDALE		COAL	0.3	441.0	
140.0	CARBONDALE		DARK SHALE	2.7	441.3	
137.3	CARBONDALE		GRAY SHALE	15.0	444.0	
122.3	CARBONDALE		SANDSTONE	2.0	459.0	
120.3	CARBONDALE		GRAY SHALE	2.0	461.0	
118.3	CARBONDALE		BLUE SHALE	26.0	463.0	
92.3	CARBONDALE	EXCELLO	BLACK SHALE	5.0	489.0	
87.3	CARBONDALE	HOUCHIN CREEK	COAL	1.6	494.0	
85.7	CARBONDALE		LIMESTONE	1.4	495.6	
84.3	CARBONDALE		DARK SHALE	5.7	497.0	
78.6	CARBONDALE		COAL	2.0	502.7	
76.6	CARBONDALE		DARK SHALE	9.3	504.7	
67.3	CARBONDALE		CALCAREOUS SHALE	8.0	514.0	
59.3	CARBONDALE		GRAY SHALE	5.0	522.0	
54.3	CARBONDALE		BLACK SHALE	5.8	527.0	
48.5	CARBONDALE	SURVANT - UPPER	COAL	2.0	532.8	
46.5	CARBONDALE		DARK SHALE	4.2	534.8	
42.3	CARBONDALE		GRAY SHALE	4.0	539.0	
38.3	CARBONDALE		SANDSTONE	1.0	543.0	
37.3	CARBONDALE		DARK SHALE	4.7	544.0	
32.6	CARBONDALE	SURVANT - LOWER	COAL	2.0	548.7	
30.6	CARBONDALE		CALCAREOUS SHALE	3.3	550.7	
27.3	CARBONDALE		DARK SHALE	13.0	554.0	
14.3	CARBONDALE		SANDSTONE	1.0	567.0	
13.3	CARBONDALE		DARK SHALE	1.0	568.0	
12.3	CARBONDALE		CALCAREOUS SHALE	4.7	569.0	
7.6	CARBONDALE	COLCHESTER	COAL	1.8	573.7	
5.8	SPOON		CALCAREOUS SHALE	0.5	575.5	
5.3	SPOON		GRAY SHALE	1.0	576.0	
4.3	SPOON		SANDSTONE	4.0	577.0	
0.3	SPOON		DARK SHALE	11.0	581.0	
-10.7	SPOON		SANDY SHALE	20.0	592.0	
-30.7	SPOON		DARK SHALE	14.0	612.0	
-44.7	SPOON		SHALE	19.0	626.0	SH W/ SS PARTING
-63.7	SPOON		DARK SHALE	8.0	645.0	

-71.7	SPOON	SANDSTONE	3.0	653.0	
-74.7	SPOON	DARK SHALE	12.0	656.0	
-86.7	SPOON	SANDY SHALE	18.0	668.0	
-104.7	SPOON	SANDSTONE	21.0	686.0	
-125.7	SPOON	DARK SHALE	12.0	707.0	
-137.7	SPOON	DARK SHALE	35.0	719.0	
-172.7	SPOON	SANDSTONE	17.0	754.0	SS W/ SH PARTING
-189.7		CALCAREOUS SHALE	2.0	771.0	
-191.7		CONGLOMERATE	4.0	773.0	
-195.7		CALCAREOUS SHALE	9.0	777.0	
-204.7		CALCAREOUS SHALE	14.0	786.0	
-218.7		LIMESTONE	1.0	800.0	
-219.7		SANDSTONE	5.0	801.0	
-224.7		SANDSTONE	29.0	806.0	SS W/ SH PARTING
-253.7		CALCAREOUS SHALE	2.0	835.0	
-255.7		LIMESTONE	9.0	837.0	
-264.7		SANDSTONE	8.0	846.0	
-272.7		SANDSTONE	19.0	854.0	
-291.7		LIMESTONE	3.0	873.0	

MAPID: 02100004000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 1 **QUARTERS/FOOTAGES:** NW SW NW

QUADRANGLE: EDINBURG **LONGITUDE:** -89.385946 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.694195 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 583.0 **LOGGED (FT.):** 369.2 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
266.0	MODESTO	PIASA	LIMESTONE	9.0	317.0	
257.0	MODESTO		DARK GRAY SHALE	7.2	326.0	
249.8	CARBONDALE	DANVILLE	COAL	2.8	333.2	
247.0	CARBONDALE		CALCAREOUS SHALE	17.0	336.0	
230.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	7.5	353.0	
222.5	CARBONDALE	CONANT	LIMESTONE	1.0	360.5	
221.5	CARBONDALE		BLACK SHALE	1.0	361.5	
220.5	CARBONDALE	BRERETON	LIMESTONE	1.0	362.5	
219.5	CARBONDALE	ANNA	BLACK SHALE	0.5	363.5	
219.0	CARBONDALE	HERRIN	COAL	5.2	364.0	

MAPID: 02100290000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.418596 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.684714 **DATE COLLECTED:** 12 / 0 / 1949
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 464.0 **LOG TYPE:** Electric Log
SOURCE: ASHLAND OIL&REF. CO. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
289.0	CARBONDALE	HERRIN	UNCLASSIFIED	2.5	305.0	
256.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	6.0	338.0	
201.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	393.0	
130.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	464.0	

MAPID: 02100290000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 3 **QUARTERS/FOOTAGES:** 330' S line, 1650' W line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.418596 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.684714 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 343.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.0	MODESTO		LIMESTONE & SHALE	4.0	290.0	
300.0	MODESTO		SHALE	11.0	294.0	
289.0	CARBONDALE	HERRIN	COAL	1.0	305.0	
288.0	CARBONDALE		SHALE	14.0	306.0	
274.0	CARBONDALE		CALCAREOUS SHALE	3.0	320.0	
271.0	CARBONDALE		SHALE	10.0	323.0	
261.0	CARBONDALE	TURNER MINE	BLACK SHALE	4.0	333.0	
256.0	CARBONDALE	SPRINGFIELD	COAL	5.0	338.0	

MAPID: 02101946000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 300' N line, 544' E line of NE SE
QUADRANGLE: EDINBURG **LONGITUDE:** -89.463895 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.675815 **DATE COLLECTED:** 6 / 0 / 1961
SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 418.0 **LOG TYPE:** Electric Log
SOURCE: A & A, INC. **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
352.0	CARBONDALE	DANVILLE	UNCLASSIFIED	-	229.0	
314.0	CARBONDALE	HERRIN	UNCLASSIFIED	3.0	267.0	
285.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	5.5	296.0	
231.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	350.0	
163.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	2.5	418.0	

MAPID: 02102020000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 7 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.470162 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.67206 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 560.0 **LOGGED (FT.):** 276.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
330.0	MODESTO	PIASA	CALCAREOUS SHALE	5.0	230.0	
325.0	MODESTO		SHALE	4.0	235.0	
321.0	CARBONDALE	DANVILLE	COAL	2.0	239.0	
319.0	CARBONDALE		CLAYSTONE & SHALE	10.0	241.0	
309.0	CARBONDALE	LAWSON	SHALE	18.0	251.0	
291.0	CARBONDALE	BRERETON	LIMESTONE	1.0	269.0	
290.0	CARBONDALE	ANNA	BLACK SHALE	1.0	270.0	
289.0	CARBONDALE	HERRIN	COAL	5.0	271.0	

MAPID: 02100201000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 542' S line, 34' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.443264 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.670592 **DATE COLLECTED:** 10 / 0 / 1945
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 327.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 27 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100201000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 8 **QUARTERS/FOOTAGES:** 542' S line, 34' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.443264 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.670592 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 327.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 27 **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

MAPID: 02102235000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 9 **QUARTERS/FOOTAGES:** 990' N line, 330' W line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.442112 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.681069 **DATE COLLECTED:** 6 / 0 / 1965
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 453.0 **LOG TYPE:** Electric Log
SOURCE: M M & S OIL & GAS 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
341.0	CARBONDALE	DANVILLE	UNCLASSIFIED	-	254.0	
306.0	CARBONDALE	HERRIN	UNCLASSIFIED	2.5	289.0	
267.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	5.0	328.0	
210.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	385.0	
142.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	2.5	453.0	

MAPID: 02100001000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 14 **QUARTERS/FOOTAGES:** SE SE NW

QUADRANGLE: EDINBURG **LONGITUDE:** -89.397322 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.662845 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 597.7 **LOGGED (FT.):** 383.9 **LOG TYPE:** Drillers Log

SOURCE: EDINBURG COAL CO. **WELL TYPE:** Coal Test

COMMENT: DATE GIVEN IN LOG IS 1875-1879

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
597.7			UNCONSOLIDATED	19.1	0.0	SOIL, CLAY, AND SAND
578.6	BOND		SANDSTONE	0.2	19.1	
578.4	BOND		SHALE	4.0	19.3	
574.4	BOND		SANDSTONE	4.5	23.3	
569.9	BOND		SANDSTONE	7.5	27.8	
562.4	BOND		SANDY SHALE	10.5	35.3	
551.9	BOND		SHALE	2.4	45.8	
549.5	BOND		BLUE SHALE	2.3	48.2	
547.2	BOND		COAL	1.3	50.5	
545.9	BOND		UNDERCLAY	4.5	51.8	
541.4	BOND		LIMESTONE	8.8	56.3	
532.6	BOND		SHALE	4.0	65.1	
528.6	BOND		LIMESTONE	6.2	69.1	
522.4	BOND		SHALE	1.5	75.3	
520.9	BOND		CONGLOMERATE	9.0	76.8	
511.9	BOND		UNDERCLAY	1.3	85.8	
510.7	BOND		BLACK SHALE	4.0	87.0	
506.7	BOND		COAL	0.5	91.0	
506.2	BOND		UNDERCLAY	1.3	91.5	
504.9	BOND	CARTHAGE	FOSSILIFEROUS LIMESTONE	6.3	92.8	
498.7	BOND	CARTHAGE	LIMESTONE	8.0	99.0	
490.7	BOND	CARTHAGE	FOSSILIFEROUS LIMESTONE	6.3	107.0	
484.4	MODESTO		GRAY SHALE	2.0	113.3	
482.4	MODESTO		SHALE	1.3	115.3	
481.2	MODESTO		DARK SHALE	8.0	116.5	DK SH W/ COAL STREAKS
473.2	MODESTO		SHALE	32.0	124.5	SH AND SOAPSTONE
441.2	MODESTO		SANDSTONE	8.0	156.5	SS W/ DK SH
433.2	MODESTO		LIMESTONE	0.7	164.5	
432.5	MODESTO		SANDY SHALE	50.0	165.2	
382.5	MODESTO		SANDSTONE	9.0	215.2	
373.5	MODESTO		BLACK SHALE	4.0	224.2	
369.5	MODESTO		COAL	1.5	228.2	
368.0	MODESTO		UNDERCLAY	6.2	229.7	
361.9	MODESTO		SANDSTONE	0.7	235.8	
361.2	MODESTO		UNDERCLAY	1.2	236.5	
360.0	MODESTO		GRAY SHALE	27.0	237.7	ERROR IN LOG THICKNESS OR DEPTH
334.0	MODESTO		DARK SHALE	40.0	263.7	

294.0	MODESTO		DARK SHALE	0.9	303.7
293.1	MODESTO		BLACK SHALE	1.7	304.6
291.4	MODESTO	PIASA	LIMESTONE	6.0	306.3
285.4			SHALE	20.0	312.3
265.4	CARBONDALE		SANDSTONE	6.0	332.3
259.4	CARBONDALE		SHALE	8.0	338.3
251.4	CARBONDALE	BRERETON	LIMESTONE	16.0	346.3
235.4	CARBONDALE	ANNA	BLACK SHALE	4.0	362.3
231.4	CARBONDALE	HERRIN	COAL	7.7	366.3
223.8	CARBONDALE		UNDERCLAY	2.0	373.9
221.8	CARBONDALE		LIMESTONE	8.0	375.9

MAPID: 02100587000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 16 **QUARTERS/FOOTAGES:** 2310' N line, 330' W line

QUADRANGLE: EDINBURG **LONGITUDE:** -89.441842 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.662716 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 548.0 **LOGGED (FT.):** 257.0 **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
327.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	221.0	
324.0	MODESTO		SHALE	6.0	224.0	
318.0	CARBONDALE	DANVILLE	BONE COAL	1.0	230.0	
317.0	CARBONDALE		SHALE	8.0	231.0	
309.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	239.0	
305.0	CARBONDALE	LAWSON	SHALE	3.0	243.0	
302.0	CARBONDALE	BRERETON	LIMESTONE	5.0	246.0	
297.0	CARBONDALE	ANNA	BLACK SHALE	2.0	251.0	
294.0	CARBONDALE	HERRIN	COAL	3.0	254.0	

MAPID: 02100419000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 17 **QUARTERS/FOOTAGES:** 28' S line, 2404' W line

QUADRANGLE: EDINBURG **LONGITUDE:** -89.453108 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.654803 **DATE COLLECTED:** 11 / 0 / 1948

SURFACE ELEVATION (FT.): 577.9 **LOGGED (FT.):** 273.6 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 86 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
308.6	CARBONDALE	HERRIN	COAL	4.3	269.3	

MAPID: 02100419000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 17 **QUARTERS/FOOTAGES:** 28' S line, 2404' W line

QUADRANGLE: EDINBURG **LONGITUDE:** -89.453108 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.654803 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 578.0 **LOGGED (FT.):** 273.3 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 86 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
357.3	MODESTO	PIASA	LIMESTONE	3.0	220.7	
354.3	MODESTO		SHALE	29.0	223.7	
325.3	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	4.4	252.7	
320.9	CARBONDALE	LAWSON	DARK GRAY SHALE	2.5	257.1	
318.4	CARBONDALE	LAWSON	SILTY SHALE	4.5	259.6	
313.9	CARBONDALE	BRERETON	LIMESTONE	0.5	264.1	
313.4	CARBONDALE	ANNA	DARK GRAY SHALE	3.4	264.6	
310.0	CARBONDALE	HERRIN	COAL	5.3	268.0	

MAPID: 02101955000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 17 **QUARTERS/FOOTAGES:** 330' N line, 660' W line of SE

QUADRANGLE: EDINBURG **LONGITUDE:** -89.450029 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.66102 **DATE COLLECTED:** 9 / 0 / 1961

SURFACE ELEVATION (FT.): 555.0 **LOGGED (FT.):** 590.0 **LOG TYPE:** Electric Log

SOURCE: SKILES OIL CORP **WELL TYPE:** Producer-Oil

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
295.0	CARBONDALE	HERRIN	UNCLASSIFIED	6.0	260.0	
255.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	-	300.0	CORRELATION UNCERTAIN
214.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	341.0	
144.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	411.0	
-35.0	BASE OF PENN.		UNCLASSIFIED	-	590.0	

MAPID: 02101918000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 18 **QUARTERS/FOOTAGES:** 990' N line, 990' E line

QUADRANGLE: EDINBURG **LONGITUDE:** -89.465382 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.666546 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 544.0 **LOGGED (FT.):** 243.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
344.0	MODESTO	PIASA	CALCAREOUS SHALE	2.0	200.0	
342.0	CARBONDALE		SHALE	22.0	202.0	
320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	224.0	
317.0	CARBONDALE	LAWSON	SHALE	3.0	227.0	
314.0	CARBONDALE	BRERETON	LIMESTONE	7.5	230.0	
306.5	CARBONDALE	ANNA	BLACK SHALE	0.5	237.5	
304.0	CARBONDALE	HERRIN	COAL	3.0	240.0	

MAPID: 02100527000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 19 **QUARTERS/FOOTAGES:** 330' N line, 330' E line

QUADRANGLE: EDINBURG **LONGITUDE:** -89.462857 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.653843 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 303.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
338.0	MODESTO	PIASA	CALCAREOUS SHALE	3.0	254.0	
335.0	MODESTO		SHALE	7.0	257.0	
328.0	CARBONDALE	DANVILLE	COAL	3.0	264.0	
325.0	CARBONDALE		SHALE	8.0	267.0	
317.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	275.0	
313.0	CARBONDALE	LAWSON	SHALE	3.0	279.0	
310.0	CARBONDALE	BRERETON	LIMESTONE	7.0	282.0	
303.0	CARBONDALE	ANNA	BLACK SHALE	3.0	289.0	
295.0	CARBONDALE	HERRIN	COAL	6.0	297.0	

MAPID: 02100401000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 15' N line, 630' E line of NE SW
QUADRANGLE: EDINBURG **LONGITUDE:** -89.454484 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.647563 **DATE COLLECTED:** 10 / 3 / 1947
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 291.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 63 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
307.0	CARBONDALE	HERRIN	COAL	3.0	288.0	

MAPID: 02101435000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 20 **QUARTERS/FOOTAGES:** 1650' N line, 1650' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.448784 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.650152 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 294.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
345.0	CARBONDALE		SHALE	25.0	246.0	
320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	271.0	
316.0	CARBONDALE	LAWSON	SHALE	7.0	275.0	
309.0	CARBONDALE	BRERETON	LIMESTONE	6.0	282.0	
303.0	CARBONDALE	ANNA	BLACK SHALE	2.0	288.0	
301.0	CARBONDALE	HERRIN	COAL	4.0	290.0	

MAPID: 02100721000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1650' N line, 990' W line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.439357 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.650109 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 554.0 **LOGGED (FT.):** 265.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
324.0	MODESTO		SHALE	15.0	230.0	
309.0	CARBONDALE		CALCAREOUS SHALE	10.0	245.0	
299.0	CARBONDALE	LAWSON	SHALE	5.0	255.0	
294.0	CARBONDALE	HERRIN	COAL	5.0	260.0	

MAPID: 02100404000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 156' N line, 159' E line of NW NW
QUADRANGLE: EDINBURG **LONGITUDE:** -89.420142 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.654155 **DATE COLLECTED:** 11 / 6 / 1947
SURFACE ELEVATION (FT.): 594.4 **LOGGED (FT.):** 319.4 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 66 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
281.4	CARBONDALE	HERRIN	COAL	6.4	313.0	

MAPID: 02100406000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 2013' S line, 39' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.40552 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.64623 **DATE COLLECTED:** 12 / 30 / 1947
SURFACE ELEVATION (FT.): 589.8 **LOGGED (FT.):** 346.9 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 71 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
249.7	CARBONDALE	HERRIN	COAL	6.8	340.1	

MAPID: 02100406000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 22 **QUARTERS/FOOTAGES:** 2013' S line, 39' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.40552 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.64623 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 590.0 **LOGGED (FT.):** 351.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 71 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
292.2	MODESTO	PIASA	LIMESTONE	1.0	297.8	
291.2	MODESTO		MOTTLED SHALE	26.0	298.8	
265.2	CARBONDALE	ALLENBY	BLACK SHALE	1.5	324.8	
263.7	CARBONDALE		CLAYSTONE & SHALE	4.3	326.3	
259.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	330.6	
257.7	CARBONDALE	LAWSON	GRAY SHALE	1.0	332.3	
256.7	CARBONDALE	LAWSON	SANDSTONE	1.5	333.3	
255.2	CARBONDALE	LAWSON	SHALE	0.8	334.8	
254.3	CARBONDALE	LAWSON	SANDSTONE	1.1	335.7	
253.2	CARBONDALE	LAWSON	SHALE	0.7	336.8	
252.6	CARBONDALE	BRERETON	LIMESTONE	2.3	337.4	
250.3	CARBONDALE	ANNA	BLACK SHALE	5.3	339.7	
245.0	CARBONDALE	HERRIN	COAL	6.8	345.0	

MAPID: 02102532000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 2590' S line, 2035' W line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.398162 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.647769 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 358.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
281.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	311.0	
273.0	CARBONDALE		SHALE	11.0	319.0	
262.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	8.0	330.0	
254.0	CARBONDALE	LAWSON	SHALE	6.0	338.0	
248.0	CARBONDALE	BRERETON	LIMESTONE	6.0	344.0	
242.0	CARBONDALE	ANNA	BLACK SHALE	1.0	350.0	
241.0	CARBONDALE	HERRIN	COAL	7.0	351.0	

MAPID: 02100287000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 24 **QUARTERS/FOOTAGES:** 330' S line, 2310' W line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.37836 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.641478 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 396.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
251.0	MODESTO	PIASA	LIMESTONE & SHALE	9.0	350.0	
242.0	CARBONDALE		SHALE	14.0	359.0	
228.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	373.0	
224.0	CARBONDALE	LAWSON	SILTY SHALE	5.0	377.0	
219.0	CARBONDALE	BRERETON	LIMESTONE	5.0	382.0	
214.0	CARBONDALE	ANNA	BLACK SHALE	2.0	387.0	
211.0	CARBONDALE	HERRIN	COAL	6.0	390.0	

MAPID: 02100407000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** 1390' N line, 80' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.386794 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.636695 **DATE COLLECTED:** 1 / 16 / 1948
SURFACE ELEVATION (FT.): 602.7 **LOGGED (FT.):** 364.1 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 72 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
245.5	CARBONDALE	HERRIN	COAL	6.9	357.2	

MAPID: 02100407000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** 1390' N line, 80' E line

QUADRANGLE: EDINBURG **LONGITUDE:** -89.386794 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.636695 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 603.0 **LOGGED (FT.):** 363.9 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 72 **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
303.2	MODESTO	PIASA	LIMESTONE	1.8	299.8	
301.3	MODESTO		MOTTLED SHALE	24.7	301.7	
276.7	CARBONDALE	GALUM	LIMESTONE	1.0	326.3	
275.7	CARBONDALE		DARK GRAY SHALE	3.3	327.3	
272.3	CARBONDALE	ALLENBY	BONE COAL	0.2	330.7	
272.2	CARBONDALE		DARK GRAY SHALE	5.8	330.8	
266.3	CARBONDALE	BANKSTON FORK	LIMESTONE	1.4	336.7	UPPER BENCH
264.9	CARBONDALE	BANKSTON FORK	DARK GRAY SHALE	1.5	338.1	SHALE PARTING
263.4	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	339.6	LOWER BENCH
262.9	CARBONDALE	LAWSON	SILTY SHALE	1.3	340.1	
261.6	CARBONDALE	LAWSON	DARK GRAY SHALE	9.3	341.4	
252.3	CARBONDALE	BRERETON	LIMESTONE	6.2	350.7	
246.2	CARBONDALE	ANNA	BLACK SHALE	0.2	356.8	
246.0	CARBONDALE	HERRIN	COAL	6.9	357.0	

MAPID: 02123479000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** NE NW SW

QUADRANGLE: EDINBURG **LONGITUDE:** -89.401544 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.632461 **DATE COLLECTED:** 9 / 21 / 1979

SURFACE ELEVATION (FT.): **LOGGED (FT.):** 27.0 **LOG TYPE:** Drillers Log

SOURCE: ERWIN 89542 **WELL TYPE:** Coal Test

COMMENT: NO ELEVATION GIVEN IN LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
-			CLAY	8.0	0.0	
-			CLAY	5.0	8.0	
-			SAND	2.0	13.0	SAND W/ WATER
-			CLAY	6.0	15.0	HARD GRAY CLAY
-	CARBONDALE	HERRIN	COAL	2.0	21.0	
-	CARBONDALE		BLUE SHALE	4.0	23.0	

MAPID: 02100403000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 28 **QUARTERS/FOOTAGES:** 1' N line, 400' W line of NE NW
QUADRANGLE: EDINBURG **LONGITUDE:** -89.436749 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.640488 **DATE COLLECTED:** 9 / 20 / 1947
SURFACE ELEVATION (FT.): 545.0 **LOGGED (FT.):** 276.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 65 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
279.0	CARBONDALE	HERRIN	COAL	10.0	266.0	

MAPID: 02100202000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** 630' S line, 1840' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.449196 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.627836 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 586.0 **LOGGED (FT.):** 294.0 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02100420000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 29 **QUARTERS/FOOTAGES:** 28' N line, 624' E line of NE NE
QUADRANGLE: EDINBURG **LONGITUDE:** -89.445103 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.640374 **DATE COLLECTED:** 0 / 0 / 1948
SURFACE ELEVATION (FT.): 565.0 **LOGGED (FT.):** 286.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 89 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
285.2	CARBONDALE	HERRIN	COAL	7.0	279.8	

MAPID: 02100512000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 31 **QUARTERS/FOOTAGES:** 1650' S line, 2310' E line
QUADRANGLE: KINCAID **LONGITUDE:** -89.469434 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.616193 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 366.0 **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	CARBONDALE		SHALE	25.0	319.0	
253.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	344.0	
249.0	CARBONDALE	LAWSON	SHALE	6.0	348.0	
243.0	CARBONDALE	BRERETON	LIMESTONE	5.0	354.0	
238.0	CARBONDALE	ANNA	BLACK SHALE	1.0	359.0	
237.0	CARBONDALE	HERRIN	COAL	6.0	360.0	

MAPID: 02100881000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW SE

QUADRANGLE: KINCAID **LONGITUDE:** -89.413105 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.616141 **DATE COLLECTED:** 10 / 0 / 1957

SURFACE ELEVATION (FT.): 565.0 **LOGGED (FT.):** 431.0 **LOG TYPE:** Electric Log

SOURCE: SOIL TESTING SERVICE **WELL TYPE:** Producer-Oil

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
265.0	CARBONDALE	HERRIN	UNCLASSIFIED	0.0	300.0	
245.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	320.0	CORRELATION UNCERTAIN
198.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	0.0	367.0	
134.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	0.0	431.0	

MAPID: 02100964000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 34 **QUARTERS/FOOTAGES:** 1650' S line, 1650' W line

QUADRANGLE: KINCAID **LONGITUDE:** -89.417948 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.616211 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 557.0 **LOGGED (FT.):** 302.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
305.0	MODESTO		SHALE	20.0	252.0	
285.0	CARBONDALE	DANVILLE	COAL	1.0	272.0	
284.0	CARBONDALE		SHALE	6.0	273.0	
278.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	10.0	279.0	
268.0	CARBONDALE	BRERETON	LIMESTONE	4.0	289.0	
264.0	CARBONDALE	ANNA	BLACK SHALE	4.0	293.0	
260.0	CARBONDALE	HERRIN	COAL	5.0	297.0	

MAPID: 02100002000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 35 **QUARTERS/FOOTAGES:** NE NE NW

QUADRANGLE: KINCAID **LONGITUDE:** -89.396725 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.625186 **DATE COLLECTED:** 0 / 0 / 1912

SURFACE ELEVATION (FT.): 554.8 **LOGGED (FT.):** 349.4 **LOG TYPE:** Drillers Log

SOURCE: PEABODY COAL CO. 14 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
554.8			UNCLASSIFIED	40.0	0.0	LOG READS 'STAND PIPE'
514.8	BOND		UNCLASSIFIED	40.5	40.0	LOG READS 'CASING'
474.3	BOND	CARTHAGE	LIMESTONE	16.0	80.5	
458.3	MODESTO		CALCAREOUS SHALE	20.0	96.5	
438.3	MODESTO		LIMESTONE	6.0	116.5	
432.3	MODESTO		SANDSTONE	4.0	122.5	
428.3	MODESTO		SANDY SHALE	49.0	126.5	
379.3	MODESTO		COAL	1.0	175.5	
378.3	MODESTO		UNDERCLAY	4.0	176.5	
374.3	MODESTO		SHALE	102.0	180.5	
272.3	MODESTO		BLACK SHALE	2.0	282.5	
270.3	CARBONDALE	DANVILLE	COAL	0.4	284.5	
269.9	CARBONDALE		SHALE	8.0	284.9	
261.9	CARBONDALE		UNDERCLAY	5.0	292.9	
256.9	CARBONDALE		CONGLOMERATE	3.0	297.9	
253.9	CARBONDALE		SHALE	10.0	300.9	
243.9	CARBONDALE	BRERETON	LIMESTONE	23.0	310.9	
220.9	CARBONDALE	ANNA	BLACK SHALE	3.0	333.9	
217.9	CARBONDALE	HERRIN	COAL	5.5	336.9	
212.4	CARBONDALE		UNDERCLAY	4.0	342.4	
208.4	CARBONDALE		SHALE	3.0	346.4	

MAPID: 02100486000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 3W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: TAYLORVILLE **LONGITUDE:** -89.371174 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.612339 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 373.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
268.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	334.0	
262.0	MODESTO		SHALE	8.0	340.0	
254.0	CARBONDALE	DANVILLE	COAL	1.0	348.0	
253.0	CARBONDALE		SHALE	6.0	349.0	
247.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	355.0	
243.0	CARBONDALE	LAWSON	SHALE	11.0	359.0	
232.0	CARBONDALE	BRERETON	LIMESTONE	4.0	370.0	
228.0	CARBONDALE	ANNA	BLACK SHALE	1.0	374.0	
232.0	CARBONDALE	HERRIN	COAL	3.0	370.0	

MAPID: 02100003000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:**

QUADRANGLE: EDINBURG **LONGITUDE:** -89.487425 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.633727 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 548.8 **LOGGED (FT.):** 287.8 **LOG TYPE:** Drillers Log

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

COMMENT: NO LOCATION IN SECTION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
548.8			CLAY	19.8	0.0	
529.0	BOND		CALCAREOUS SHALE	4.0	19.8	
525.0	BOND		SHALE	3.0	23.8	
522.0	BOND	CARTHAGE	LIMESTONE	5.0	26.8	
517.0	BOND	CARTHAGE	SHALE	4.0	31.8	
513.0	BOND	CARTHAGE	LIMESTONE	8.0	35.8	
505.0	MODESTO		SANDSTONE	65.0	43.8	
440.0	MODESTO		SANDY SHALE	20.0	108.8	
420.0	MODESTO		SANDSTONE	17.0	128.8	
403.0	MODESTO		SANDY SHALE	22.0	145.8	
381.0	MODESTO		LIMESTONE	6.0	167.8	
375.0	MODESTO		COAL	1.0	173.8	
374.0	MODESTO		SANDSTONE	21.0	174.8	
353.0	MODESTO		SHALE	22.0	195.8	
331.0	MODESTO		UNDERCLAY	2.0	217.8	
329.0	MODESTO	PIASA	LIMESTONE	6.0	219.8	
323.0	MODESTO		SHALE	5.0	225.8	
318.0	CARBONDALE		UNDERCLAY	2.0	230.8	
316.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	30.0	232.8	
286.0	CARBONDALE	ANVIL ROCK	SANDSTONE	10.0	262.8	
276.0	CARBONDALE		SHALE	3.0	272.8	
273.0	CARBONDALE	BRERETON	LIMESTONE	1.0	275.8	
272.0	CARBONDALE	ANNA	BLACK SHALE	2.0	276.8	
270.0	CARBONDALE	HERRIN	COAL	7.0	278.8	
263.0	CARBONDALE		UNDERCLAY	2.0	285.8	

MAPID: 02100003000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 25 **QUARTERS/FOOTAGES:**
QUADRANGLE: EDINBURG **LONGITUDE:** -89.487425 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.633727 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 549.0 **LOGGED (FT.):** 286.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
329.0	MODESTO	PIASA	LIMESTONE	6.0	220.0	
323.0	MODESTO		SHALE	5.0	226.0	
318.0	CARBONDALE		CLAYSTONE	2.0	231.0	
316.0	CARBONDALE		SILTY SHALE	30.0	233.0	
286.0	CARBONDALE	LAWSON	SANDSTONE	10.0	263.0	
276.0	CARBONDALE	LAWSON	SHALE	3.0	273.0	
273.0	CARBONDALE	BRERETON	LIMESTONE	1.0	276.0	
272.0	CARBONDALE	ANNA	BLACK SHALE	2.0	277.0	
270.0	CARBONDALE	HERRIN	COAL	7.0	279.0	

MAPID: 02100902000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2422' N line, 10' W line
QUADRANGLE: NEW CITY **LONGITUDE:** -89.516108 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.634456 **DATE COLLECTED:** 0 / 0 / 1957
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 312.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 269 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
287.5	CARBONDALE	HERRIN	COAL	7.3	305.5	

MAPID: 02100902000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2422' N line, 10' W line
QUADRANGLE: NEW CITY **LONGITUDE:** -89.516108 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.634456 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 593.0 **LOGGED (FT.):** 313.3 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 269 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
337.4	MODESTO	PIASA	LIMESTONE W/ SHALE	14.0	255.6	
323.4	MODESTO		MOTTLED SHALE	11.9	269.6	
311.4	CARBONDALE	ALLENBY	DARK GRAY SHALE	0.2	281.6	
311.3	CARBONDALE		CLAYSTONE	4.4	281.7	
306.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.6	286.1	UPPER BENCH
304.3	CARBONDALE	BANKSTON FORK	SILTY SHALE	3.3	288.7	SHALE PARTING
301.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.6	292.0	LOWER BENCH
298.4	CARBONDALE	LAWSON	GRAY SHALE	0.3	294.6	
298.2	CARBONDALE	LAWSON	SILTSTONE	4.3	294.8	
293.8	CARBONDALE	ANNA	BLACK SHALE	6.8	299.2	
287.0	CARBONDALE	HERRIN	COAL	7.3	306.0	

MAPID: 02100203000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 188' N line, 42' E line
QUADRANGLE: NEW CITY **LONGITUDE:** -89.51631 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.640622 **DATE COLLECTED:** 9 / 25 / 1945
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 294.3 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 26 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100203000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 27 **QUARTERS/FOOTAGES:** 188' N line, 42' E line
QUADRANGLE: NEW CITY **LONGITUDE:** -89.51631 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.640622 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 294.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 26 **WELL TYPE:** Coal Test
COMMENT: GOOD DESCRIPTION

MAPID: 02100239000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 76' N line, 603' E line
QUADRANGLE: NEW CITY **LONGITUDE:** -89.518273 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.626373 **DATE COLLECTED:** 5 / 31 / 1946
SURFACE ELEVATION (FT.): 586.7 **LOGGED (FT.):** 293.8 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 35 **WELL TYPE:** Coal Test
COMMENT:

MAPID: 02100239000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 34 **QUARTERS/FOOTAGES:** 76' N line, 603' E line
QUADRANGLE: NEW CITY **LONGITUDE:** -89.518273 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.626373 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 294.0 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 35 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

MAPID: 02102058000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 35 **QUARTERS/FOOTAGES:** 15' S line, 903' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512474 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.612208 **DATE COLLECTED:** 10 / 0 / 1962
SURFACE ELEVATION (FT.): 596.1 **LOGGED (FT.):** 318.6 **LOG TYPE:** Drillers Log
SOURCE: PEABODY COAL CO. 287 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
284.7	CARBONDALE	HERRIN	COAL	7.2	311.4	

MAPID: 02102058000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 35 **QUARTERS/FOOTAGES:** 15' S line, 903' W line
QUADRANGLE: PAWNEE **LONGITUDE:** -89.512474 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.612208 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 318.2 **LOG TYPE:** Survey Core Study
SOURCE: PEABODY COAL CO. 287 **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
324.3	MODESTO		GRAY SHALE	20.0	271.7	
304.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.3	291.7	
300.0	CARBONDALE	LAWSON	MOTTLED SHALE	2.3	296.0	
297.7	CARBONDALE	LAWSON	SILTSTONE	3.5	298.3	
294.2	CARBONDALE	LAWSON	MOTTLED SHALE	1.3	301.8	
292.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	303.2	
292.5	CARBONDALE		SHALE & SILTSTONE	1.8	303.5	
290.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.8	305.3	
285.0	CARBONDALE	HERRIN	COAL	7.2	311.0	

MAPID: 02125595000C **VERSION:** 1 **PROJECT:** NCRDS17

COUNTY: CHRISTIAN **TWP/RNG:** 14N 4W **SECTION:** 35 **QUARTERS/FOOTAGES:**

QUADRANGLE: PAWNEE **LONGITUDE:** -89.506428 **GEOLOGIST:** JMCBETH

CONFIDENTIAL: N **LATITUDE:** 39.619368 **DATE COLLECTED:** 3 / 28 / 1979

SURFACE ELEVATION (FT.): 589.3 **LOGGED (FT.):** 307.5 **LOG TYPE:** Drillers Log

SOURCE: PEABODY CC310C **WELL TYPE:** Coal Test

COMMENT: MINE #10

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
589.3	PLEISTOCENE		UNCONSOLIDATED	3.0	0.0	
586.3	PLEISTOCENE		SAND	3.0	3.0	
583.3	PLEISTOCENE		CLAY	5.8	6.0	
577.5	PLEISTOCENE		SAND	1.4	11.8	
576.1	PLEISTOCENE		CLAY	0.6	13.2	
575.5	PLEISTOCENE		SAND	0.7	13.8	
574.8	PLEISTOCENE		CLAY	1.5	14.5	
573.3	PLEISTOCENE		SAND	0.7	16.0	
572.6			GRAY SHALE	2.3	16.7	
570.3			LIMESTONE	4.3	19.0	
566.0			GRAY SHALE	0.3	23.3	
565.7			LIMESTONE	2.6	23.6	
563.1			GRAY SHALE	0.5	26.2	
562.6			LIMESTONE	2.4	26.7	
560.2			SHALE	2.5	29.1	DARK
557.7			GRAY SHALE	0.8	31.6	
556.9			LIMESTONE	0.1	32.4	
556.8			GRAY SHALE	9.8	32.5	
547.0			LIMESTONE	2.6	42.3	
544.4			GRAY SHALE	0.7	44.9	
543.7			SHALE	2.0	45.6	DARK
541.7			GRAY SHALE	2.4	47.6	
539.3			SHALE	1.7	50.0	DARK
537.6			GRAY SHALE	9.7	51.7	WITH SAND
527.9			SANDSTONE	4.5	61.4	
523.4			GRAY SHALE	0.1	65.9	
523.3			SANDSTONE	1.4	66.0	
521.9			GRAY SHALE	1.7	67.4	
520.2			SANDSTONE	1.4	69.1	
518.8			GRAY SHALE	0.9	70.5	
517.9			SANDSTONE	12.7	71.4	
505.2			GRAY SHALE	41.9	84.1	WITH SAND
463.3			SHALE	2.3	126.0	DARK
461.0			COAL	1.6	128.3	
459.4			SHALE	0.2	129.9	DARK
459.2			GRAY SHALE	5.6	130.1	
453.6			LIMESTONE	3.3	135.7	WITH SAND
450.3			GRAY SHALE	0.2	139.0	WITH SAND
450.1			SANDSTONE	11.2	139.2	

438.9			GRAY SHALE	9.6	150.4	WITH SAND
429.3			GRAY SHALE	73.4	160.0	
355.9			LIMESTONE	0.4	233.4	
355.5			GRAY SHALE	2.9	233.8	
352.6			COAL	0.2	236.7	
352.4			GRAY SHALE	8.0	236.9	
344.4			SHALE	3.3	244.9	DARK
341.1			GRAY SHALE	5.6	248.2	
335.5			LIMESTONE	0.9	253.8	
334.6			GRAY SHALE	0.3	254.7	
334.3			LIMESTONE	1.7	255.0	
332.6			GRAY SHALE	2.8	256.7	
329.8			SHALE	0.5	259.5	DARK
329.3			GRAY SHALE	6.5	260.0	
322.8	SHELBURN	PIASA	LIMESTONE	7.9	266.5	
314.9	SHELBURN		GRAY SHALE	2.4	274.4	
312.5	SHELBURN		SHALE	0.5	276.8	DARK; COAL STREAKS
312.0	SHELBURN		GRAY SHALE	1.6	277.3	
310.4	SHELBURN	BANKSTON FORK	LIMESTONE	2.6	278.9	
307.8	SHELBURN		GRAY SHALE	1.9	281.5	
305.9	SHELBURN	BRERETON	LIMESTONE	2.2	283.4	
303.7	CARBONDALE	ANNA	SHALE	4.2	285.6	DARK
299.5	CARBONDALE	HERRIN	COAL	7.2	289.8	
292.3	CARBONDALE		GRAY SHALE	5.0	297.0	
287.3	CARBONDALE		LIMESTONE	0.4	302.0	
286.9	CARBONDALE		GRAY SHALE	0.8	302.4	
286.1	CARBONDALE		LIMESTONE	1.2	303.2	
284.9	CARBONDALE		GRAY SHALE	2.3	304.4	WITH LS
282.6	CARBONDALE		GRAY SHALE	0.8	306.7	

MAPID: 02100727000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 2 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.161575 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.776311 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 337.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
322.0	MODESTO	PIASA	CALCAREOUS SHALE	9.0	283.0	
313.0	MODESTO		SILTY SHALE	13.0	292.0	
300.0	CARBONDALE	DANVILLE	COAL	2.0	305.0	
298.0	CARBONDALE		SHALE	6.0	307.0	
292.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	12.0	313.0	
280.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	6.0	325.0	
272.0	CARBONDALE	HERRIN	COAL	4.0	333.0	

MAPID: 02100655000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 3 **QUARTERS/FOOTAGES:** 990' N line, 330' W line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.19637 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.783487 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **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	THICKNESS (FT.) OVERBURDEN	COMMENT
321.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	279.0	
317.0	MODESTO		SHALE	8.0	283.0	
309.0	CARBONDALE	DANVILLE	COAL	1.5	291.0	
307.5	CARBONDALE		SHALE	6.5	292.5	
301.0	CARBONDALE	ALLENBY	BONE COAL	1.0	299.0	
300.0	CARBONDALE	LAWSON	SHALE	4.0	300.0	
296.0	CARBONDALE	BRERETON	LIMESTONE	5.0	304.0	
291.0	CARBONDALE	ANNA	BLACK SHALE	4.0	309.0	
287.0	CARBONDALE	HERRIN	COAL	3.0	313.0	

MAPID: 02100729000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 4 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.205773 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.774521 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 594.0 **LOGGED (FT.):** 325.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
315.0	MODESTO	PIASA	LIMESTONE	4.0	279.0	
311.0	MODESTO		SHALE	15.0	283.0	
296.0	CARBONDALE	ALLENBY	BONE COAL	1.0	298.0	
295.0	CARBONDALE		SHALE	3.0	299.0	
292.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	14.0	302.0	
278.0	CARBONDALE	BRERETON	LIMESTONE	5.0	316.0	
272.0	CARBONDALE	HERRIN	COAL	3.0	322.0	

MAPID: 02102310000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 5 **QUARTERS/FOOTAGES:** 600' N line, 25' W line of SW

QUADRANGLE: NIANTIC **LONGITUDE:** -89.234871 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.777445 **DATE COLLECTED:** 3 / 17 / 1953

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 380.0 **LOG TYPE:** Drillers Log

SOURCE: SUN OIL CO. CH-15-53 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
601.0			UNCONSOLIDATED	82.0	0.0	GLACIAL DRIFT
519.0			CLAY	15.0	82.0	
504.0	BOND	CARTHAGE	LIMESTONE	10.0	97.0	
494.0	MODESTO		GRAY SHALE	22.0	107.0	
472.0	MODESTO		SANDY SHALE	58.0	129.0	
414.0	MODESTO		BLACK SHALE	2.0	187.0	
412.0	MODESTO		COAL	2.0	189.0	
410.0	MODESTO		GRAY SHALE	4.0	191.0	
406.0	MODESTO		SANDY SHALE	72.0	195.0	
334.0	MODESTO		GREEN SHALE	15.0	267.0	
319.0	MODESTO		SANDY SHALE	8.0	282.0	
311.0	MODESTO		SHALE	3.0	290.0	
308.0	MODESTO		GRAY SHALE	14.0	293.0	
294.0	MODESTO		SANDY SHALE	1.0	307.0	
293.0	MODESTO		SANDSTONE	6.0	308.0	
287.0	MODESTO	PIASA	LIMESTONE	6.0	314.0	
281.0	MODESTO	PIASA	GREEN SHALE	2.0	320.0	
279.0	CARBONDALE	DANVILLE	COAL	2.0	322.0	
277.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	34.0	324.0	
243.0	CARBONDALE	ANNA	BLACK SHALE	2.0	358.0	
241.0	CARBONDALE	HERRIN	COAL	6.0	360.0	
235.0	CARBONDALE		LIMESTONE	4.0	366.0	
231.0	CARBONDALE		GRAY SHALE	10.0	370.0	

MAPID: 02102310000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 5 **QUARTERS/FOOTAGES:** 600' N line, 25' W line of SW

QUADRANGLE: NIANTIC **LONGITUDE:** -89.234871 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.777445 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 601.0 **LOGGED (FT.):** 324.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.0	MODESTO		MOTTLED SHALE	3.0	290.0	
308.0	CARBONDALE		GRAY SHALE	14.0	293.0	
294.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	7.0	307.0	
287.0	CARBONDALE	BRERETON	LIMESTONE	6.0	314.0	
281.0	CARBONDALE	ANNA	MOTTLED SHALE	2.0	320.0	
279.0	CARBONDALE	HERRIN	COAL	2.0	322.0	

MAPID: 02100732000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 7 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.236042 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.76188 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 322.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
317.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	283.0	
314.0	CARBONDALE		SHALE	21.0	286.0	
293.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	307.0	
290.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	7.0	310.0	
283.0	CARBONDALE	BRERETON	LIMESTONE	3.0	317.0	
279.0	CARBONDALE	HERRIN	COAL	1.0	321.0	

MAPID: 02101555000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 10 **QUARTERS/FOOTAGES:** 330' S line, 1740' E line
QUADRANGLE: NIANTIC **LONGITUDE:** -89.184958 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.758033 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 582.0 **LOGGED (FT.):** 310.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
318.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	264.0	
312.0	MODESTO		SHALE	12.0	270.0	
300.0	CARBONDALE	DANVILLE	BONE COAL	1.0	282.0	
299.0	CARBONDALE		SHALE	6.0	283.0	
293.0	CARBONDALE	ALLENBY	BONE COAL	1.0	289.0	
292.0	CARBONDALE		SHALE	4.0	290.0	
288.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	10.0	294.0	
278.0	CARBONDALE	ANNA	SHALE	3.0	304.0	
275.0	CARBONDALE	HERRIN	COAL	3.0	307.0	

MAPID: 02100735000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line
QUADRANGLE: NIANTIC **LONGITUDE:** -89.168526 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.770781 **DATE COLLECTED:** 1 / 0 / 1955
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 840.0 **LOG TYPE:** Electric Log
SOURCE: GALLAGHER EDW P **WELL TYPE:** Producer-Oil
COMMENT: ELEV. IS SURF,NOT LOG DATUM: DEPTHS OFF

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
530.0	BOND	CARTHAGE	UNCLASSIFIED	10.0	80.0	
278.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	332.0	
245.0	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	5.0	365.0	
200.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	410.0	
119.0	CARBONDALE	SURVANT	UNCLASSIFIED	-	491.0	COAL? LITHOLOGY UNCERTAIN
94.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	516.0	
-230.0	BASE OF PENN.		UNCLASSIFIED	-	840.0	

MAPID: 02100735000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 11 **QUARTERS/FOOTAGES:** 330' N line, 2310' E line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.168526 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.770781 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 338.0 **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
314.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	296.0	
310.0	MODESTO		SHALE	12.0	300.0	
298.0	CARBONDALE	DANVILLE	BONE COAL	1.0	312.0	
297.0	CARBONDALE		SHALE	7.0	313.0	
290.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	320.0	
287.0	CARBONDALE	LAWSON	SHALE	9.0	323.0	
278.0	CARBONDALE	HERRIN	COAL	6.0	332.0	

MAPID: 02102170000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 13 **QUARTERS/FOOTAGES:** 990' N line, 990' W line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.156308 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.754604 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 365.0 **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
287.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	320.0	
283.0	MODESTO		SHALE	14.0	324.0	
269.0	CARBONDALE	DANVILLE	BONE COAL	1.0	338.0	
268.0	CARBONDALE		SHALE	7.0	339.0	
261.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.0	346.0	
257.0	CARBONDALE	LAWSON	SANDSTONE	6.0	350.0	
251.0	CARBONDALE	LAWSON	SHALE	3.0	356.0	
248.0	CARBONDALE	HERRIN	COAL	6.0	359.0	

MAPID: 02101579000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 15 **QUARTERS/FOOTAGES:** 1650' S line, 2310' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.186804 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.747254 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 612.0 **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	THICKNESS (FT.) OVERBURDEN	COMMENT
307.0	MODESTO	PIASA	LIMESTONE	5.0	305.0	
302.0	MODESTO		SHALE	11.0	310.0	
291.0	CARBONDALE	DANVILLE	COAL	1.0	321.0	
290.0	CARBONDALE		SHALE	9.0	322.0	
281.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	331.0	
269.0	CARBONDALE	BRERETON	LIMESTONE	6.0	343.0	
263.0	CARBONDALE	ANNA	BLACK SHALE	1.0	349.0	
263.0	CARBONDALE	HERRIN	COAL	2.0	349.0	

MAPID: 02100742000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 17 **QUARTERS/FOOTAGES:** 2310' S line, 2310' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.224208 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.749192 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 602.0 **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	THICKNESS (FT.) OVERBURDEN	COMMENT
300.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	302.0	
297.0	CARBONDALE		SHALE	24.0	305.0	
273.0	CARBONDALE	LAWSON	SHALE	7.0	329.0	
266.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	7.0	336.0	
260.0	CARBONDALE	HERRIN	COAL	2.0	342.0	

MAPID: 02101488000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2056' N line, 1650' W line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.245606 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.751675 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 332.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
315.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	290.0	
312.0	CARBONDALE		SHALE	18.0	293.0	
294.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	311.0	
292.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	313.0	
285.0	CARBONDALE	BRERETON	LIMESTONE	7.0	320.0	
278.0	CARBONDALE	ANNA	BLACK SHALE	1.0	327.0	
276.0	CARBONDALE	HERRIN	COAL	3.0	329.0	

MAPID: 02101498000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 19 **QUARTERS/FOOTAGES:** 872' N line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.250162 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.740484 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 330.5 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
313.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	300.0	
309.0	CARBONDALE		SHALE	17.0	304.0	
292.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	321.0	
288.0	CARBONDALE	LAWSON	SHALE	5.0	325.0	
283.0	CARBONDALE	BRERETON	LIMESTONE	5.0	330.0	
278.0	CARBONDALE	ANNA	BLACK SHALE	1.5	335.0	
286.0	CARBONDALE	HERRIN	COAL	3.5	327.0	

MAPID: 02100749000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 21 **QUARTERS/FOOTAGES:** 1650' N line, 990' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.200638 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.738146 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 340.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
309.0	MODESTO	PIASA	LIMESTONE	5.0	296.0	
304.0	MODESTO		SHALE	9.0	301.0	
295.0	CARBONDALE	DANVILLE	BONE COAL	1.0	310.0	
294.0	CARBONDALE		SHALE	8.0	311.0	
286.0	CARBONDALE	ALLENBY	BONE COAL	1.0	319.0	
285.0	CARBONDALE	LAWSON	SHALE	9.0	320.0	
276.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	329.0	
273.0	CARBONDALE	ANNA	BLACK SHALE	3.0	332.0	
270.0	CARBONDALE	HERRIN	COAL	5.0	335.0	

MAPID: 02100947000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 30 **QUARTERS/FOOTAGES:** 990' S line, 2310' E line

QUADRANGLE: STONINGTON **LONGITUDE:** -89.242575 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.716427 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 609.0 **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	THICKNESS (FT.) OVERBURDEN	COMMENT
301.0	MODESTO		SHALE	20.0	308.0	
281.0	CARBONDALE	DANVILLE	BONE COAL	1.0	328.0	
280.0	CARBONDALE		SHALE	7.0	329.0	
273.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	336.0	
270.0	CARBONDALE	LAWSON	SHALE	3.0	339.0	
267.0	CARBONDALE	BRERETON	LIMESTONE	7.0	342.0	
260.0	CARBONDALE	HERRIN	COAL	2.0	349.0	

MAPID: 02101003000C **VERSION:** 1 **PROJECT:** IDMM-GWQX

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 31 **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE

QUADRANGLE: STONINGTON **LONGITUDE:** -89.242565 **GEOLOGIST:** C TREWORGY

CONFIDENTIAL: N **LATITUDE:** 39.705541 **DATE COLLECTED:** 5 / 0 / 1958

SURFACE ELEVATION (FT.): 609.0 **LOGGED (FT.):** 500.0 **LOG TYPE:** Electric Log

SOURCE: MASON & GLENWOOD **WELL TYPE:** Producer-Oil

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
278.0	CARBONDALE	HERRIN	UNCLASSIFIED	-	331.0	
245.5	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	4.0	363.5	
202.0	CARBONDALE	HOUCHIN CREEK	UNCLASSIFIED	-	407.0	
109.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	500.0	

MAPID: 02102316000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 31 **QUARTERS/FOOTAGES:** 1300' N line, 685' W line of NW

QUADRANGLE: STONINGTON **LONGITUDE:** -89.248924 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.710098 **DATE COLLECTED:** 4 / 18 / 1957

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 370.0 **LOG TYPE:** Drillers Log

SOURCE: SUN OIL CO. CH-1-57 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
610.0			UNCONSOLIDATED	3.0	0.0	
607.0			UNCONSOLIDATED	132.0	3.0	SAND AND GRAVEL
475.0	BOND	CARTHAGE	LIMESTONE	1.0	135.0	
474.0	BOND	CARTHAGE	GREEN SHALE	1.0	136.0	
473.0	MODESTO		SANDY SHALE	69.0	137.0	
404.0	MODESTO		COAL	2.0	206.0	
402.0	MODESTO		GRAY SHALE	5.0	208.0	
397.0	MODESTO		SANDSTONE	12.0	213.0	
385.0	MODESTO		SANDY SHALE	25.0	225.0	
360.0	MODESTO		GRAY SHALE	40.0	250.0	
320.0	MODESTO		LIMESTONE	2.0	290.0	
318.0	MODESTO		DARK GRAY SHALE	8.0	292.0	
310.0	MODESTO		BLACK SHALE	2.0	300.0	
308.0	MODESTO		GRAY SHALE	3.0	302.0	
305.0	MODESTO		SANDSTONE	10.0	305.0	
295.0	MODESTO		GRAY SHALE	2.0	315.0	
293.0	MODESTO	PIASA	LIMESTONE	5.0	317.0	
288.0	CARBONDALE		GRAY SHALE	3.0	322.0	
285.0	CARBONDALE		SHALE	2.0	325.0	
283.0	CARBONDALE		BLACK SHALE	3.0	327.0	
280.0	CARBONDALE		GRAY SHALE	5.0	330.0	
275.0	CARBONDALE		BLACK SHALE	1.0	335.0	
274.0	CARBONDALE		GRAY SHALE	2.0	336.0	
272.0	CARBONDALE		SANDSTONE	9.0	338.0	
263.0	CARBONDALE		GRAY SHALE	3.0	347.0	
260.0	CARBONDALE	BRERETON	LIMESTONE	8.0	350.0	
252.0	CARBONDALE	HERRIN	COAL	5.0	358.0	
247.0	CARBONDALE		UNDERCLAY	2.0	363.0	
245.0	CARBONDALE		GRAY SHALE	5.0	365.0	

MAPID: 02102316000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 31 **QUARTERS/FOOTAGES:** 1300' N line, 685' W line of NW

QUADRANGLE: STONINGTON **LONGITUDE:** -89.248924 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.710098 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 363.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
293.0	MODESTO	PIASA	LIMESTONE	5.0	317.0	
288.0	MODESTO		MOTTLED SHALE	5.0	322.0	
283.0	CARBONDALE	DANVILLE	BLACK SHALE	3.0	327.0	
280.0	CARBONDALE		GRAY SHALE	5.0	330.0	
275.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	335.0	
274.0	CARBONDALE		GRAY SHALE	2.0	336.0	
272.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	12.0	338.0	
260.0	CARBONDALE	BRERETON	LIMESTONE	8.0	350.0	
252.0	CARBONDALE	HERRIN	COAL	5.0	358.0	

MAPID: 02123247000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 15N 1W **SECTION:** 34 **QUARTERS/FOOTAGES:** 198' N line, 161' W line of NW NW

QUADRANGLE: STONINGTON **LONGITUDE:** -89.196325 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.713009 **DATE COLLECTED:** 11 / 14 / 1979

SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 402.9 **LOG TYPE:**

SOURCE: NICOR M-10 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
254.0	CARBONDALE	HERRIN	COAL	6.5	366.0	
221.6	CARBONDALE	SPRINGFIELD	COAL	4.5	398.4	

MAPID: 02100750000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 10 **QUARTERS/FOOTAGES:** 2310' N line, 990' E line

QUADRANGLE: MT. AUBURN **LONGITUDE:** -89.292302 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.765467 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 340.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
311.0	MODESTO	PIASA	LIMESTONE	5.0	306.0	
306.0	CARBONDALE	LAWSON	SHALE	18.0	311.0	
288.0	CARBONDALE	BRERETON	LIMESTONE	3.0	329.0	
285.0	CARBONDALE	ANNA	BLACK SHALE	2.0	332.0	
283.0	CARBONDALE	HERRIN	COAL	6.0	334.0	

MAPID: 02100751000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 11 **QUARTERS/FOOTAGES:** 2310' N line, 990' E line

QUADRANGLE: MT. AUBURN **LONGITUDE:** -89.273561 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.765454 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 320.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
324.0	MODESTO	PIASA	LIMESTONE	3.0	286.0	
321.0	CARBONDALE	LAWSON	SHALE	19.0	289.0	
302.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	308.0	
298.0	CARBONDALE	ANNA	BLACK SHALE	3.0	312.0	
294.0	CARBONDALE	HERRIN	COAL	4.0	316.0	

MAPID: 02100752000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 12 **QUARTERS/FOOTAGES:** 510' N line, 2310' E line

QUADRANGLE: MT. AUBURN **LONGITUDE:** -89.259784 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.770588 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 662.0 **LOGGED (FT.):** 366.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
328.0	MODESTO	PIASA	LIMESTONE	5.0	334.0	
323.0	CARBONDALE	LAWSON	SHALE	21.0	339.0	
302.0	CARBONDALE	HERRIN	COAL	6.0	360.0	

MAPID: 02100753000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 13 **QUARTERS/FOOTAGES:** 2310' N line, 990' E line

QUADRANGLE: MT. AUBURN **LONGITUDE:** -89.255034 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.751 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 348.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
301.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	305.0	
297.0	CARBONDALE		SHALE	21.0	309.0	
276.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	330.0	
271.0	CARBONDALE	LAWSON	SHALE	3.0	335.0	
268.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.0	338.0	
263.0	CARBONDALE	ANNA	SHALE	1.0	343.0	
261.0	CARBONDALE	HERRIN	COAL	3.0	345.0	

MAPID: 02100276000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 14 **QUARTERS/FOOTAGES:** 1650' S line, 1650' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.275954 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.747255 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 353.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
302.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	315.0	
298.0	CARBONDALE	LAWSON	SHALE	20.0	319.0	
278.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	7.0	339.0	
271.0	CARBONDALE	ANNA	SHALE	1.0	346.0	
266.0	CARBONDALE	HERRIN	COAL	2.0	351.0	

MAPID: 02100278000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' S line, 330' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.290074 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.743602 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 598.0 **LOGGED (FT.):** 338.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
299.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	299.0	
294.0	CARBONDALE		SHALE	16.0	304.0	
278.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	320.0	
273.0	CARBONDALE	LAWSON	SHALE	2.0	325.0	
271.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	7.0	327.0	
262.0	CARBONDALE	HERRIN	COAL	2.0	336.0	

MAPID: 02101538000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 15 **QUARTERS/FOOTAGES:** 330' S line, 990' E line of SE

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.292434 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.743582 **DATE COLLECTED:** 5 / 0 / 1953

SURFACE ELEVATION (FT.): 596.0 **LOGGED (FT.):** 920.0 **LOG TYPE:** Drillers Log

SOURCE: CLIFFORD PERARDI 1 **WELL TYPE:** Coal Test

COMMENT: COAL ONLY TO 346'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
596.0			UNCONSOLIDATED	65.0	0.0	SOIL, CLAY, AND SAND
531.0	BOND		SANDSTONE	3.0	65.0	SS W/ SH
528.0	BOND		SANDY SHALE	22.0	68.0	
506.0	BOND	CARTHAGE	LIMESTONE	11.0	90.0	
495.0	MODESTO		GRAY SHALE	9.0	101.0	
486.0	MODESTO		SHALE	5.0	110.0	
481.0	MODESTO		SANDSTONE	10.0	115.0	
471.0	MODESTO		DARK GRAY SHALE	5.0	125.0	
466.0	MODESTO		GRAY SHALE	21.0	130.0	
445.0	MODESTO		SANDSTONE	6.0	151.0	SS AND SH
439.0	MODESTO		GRAY SHALE	33.0	157.0	
406.0	MODESTO		SANDSTONE	50.0	190.0	
356.0	MODESTO		SHALE	10.0	240.0	
346.0	MODESTO		GRAY SHALE	10.0	250.0	
336.0	MODESTO		DARK SHALE	10.0	260.0	
326.0	MODESTO		SHALE	5.0	270.0	
321.0	MODESTO		GRAY SHALE	5.0	275.0	
316.0	MODESTO		SHALE	3.0	280.0	
313.0	MODESTO	PIASA	LIMESTONE	4.0	283.0	
309.0	MODESTO		BLUE SHALE	16.0	287.0	
293.0	CARBONDALE	DANVILLE	COAL	2.0	303.0	
291.0	CARBONDALE		GRAY SHALE	3.0	305.0	
288.0	CARBONDALE		LIMESTONE	7.0	308.0	
281.0	CARBONDALE		DARK GRAY SHALE	3.0	315.0	
278.0	CARBONDALE		BLACK SHALE	2.0	318.0	
276.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	320.0	
271.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	17.0	325.0	
254.0	CARBONDALE	ANNA	GRAY SHALE	3.0	342.0	
251.0	CARBONDALE	HERRIN	COAL	1.0	345.0	
250.0	CARBONDALE		SHALE	9.0	346.0	
241.0	CARBONDALE		LIMESTONE	5.0	355.0	

MAPID: 02102764000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1000' N line, 800' W line
QUADRANGLE: MT. AUBURN **LONGITUDE:** -89.3241 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.754438 **DATE COLLECTED:** 10 / 9 / 1973
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 378.5 **LOG TYPE:** Drillers Log
SOURCE: PIAMCO INC. M **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
415.0	MODESTO	CHAPEL	COAL	1.5	195.0	
274.0	CARBONDALE	HERRIN	COAL	2.0	336.0	
237.0	CARBONDALE	SPRINGFIELD	COAL	5.5	373.0	

MAPID: 02102764000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 16 **QUARTERS/FOOTAGES:** 1000' N line, 800' W line
QUADRANGLE: MT. AUBURN **LONGITUDE:** -89.3241 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.754438 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 338.0 **LOG TYPE:** Drillers Log
SOURCE: PIAMCO INC. M **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
301.0	MODESTO	PIASA	LIMESTONE	4.0	309.0	
297.0	MODESTO		MOTTLED SHALE	5.0	313.0	
292.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	318.0	
290.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	320.0	
282.0	CARBONDALE	BRERETON	LIMESTONE	7.0	328.0	
275.0	CARBONDALE	ANNA	BLACK SHALE	1.0	335.0	
274.0	CARBONDALE	HERRIN	COAL	2.0	336.0	

MAPID: 02100754000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 18 **QUARTERS/FOOTAGES:** 2160' N line, 2410' W line
QUADRANGLE: MT. AUBURN **LONGITUDE:** -89.36017 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.751142 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 614.0 **LOGGED (FT.):** 340.0 **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
302.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	312.0	
297.0	CARBONDALE	LAWSON	SHALE	12.0	317.0	
285.0	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	5.0	329.0	
279.0	CARBONDALE	HERRIN	COAL	5.0	335.0	

MAPID: 02123252000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 19 **QUARTERS/FOOTAGES:** 1742' S line, 70' E line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.345954 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.732796 **DATE COLLECTED:** 0 / 0 / 1979
SURFACE ELEVATION (FT.): 595.0 **LOGGED (FT.):** 332.1 **LOG TYPE:**
SOURCE: NICOR R-4 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
266.5	CARBONDALE	HERRIN	COAL	3.6	328.5	

MAPID: 02102765000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 30' S line, 60' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.345321 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.728078 **DATE COLLECTED:** 10 / 5 / 1973
SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 399.7 **LOG TYPE:** Drillers Log
SOURCE: PIAMCO INC. N **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
380.0	MODESTO	CHAPEL	COAL	1.5	217.0	
234.5	CARBONDALE	HERRIN	COAL	5.0	362.5	
202.2	CARBONDALE	SPRINGFIELD	COAL	4.9	394.8	

MAPID: 02102765000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 20 **QUARTERS/FOOTAGES:** 30' S line, 60' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.345321 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.728078 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 597.0 **LOGGED (FT.):** 368.0 **LOG TYPE:** Drillers Log
SOURCE: PIAMCO INC. N **WELL TYPE:** Coal Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
265.0	MODESTO	PIASA	LIMESTONE	3.0	332.0	
262.0	MODESTO		MOTTLED SHALE	7.0	335.0	
255.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	342.0	
253.0	CARBONDALE		GRAY SHALE	5.0	344.0	
248.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	349.0	
244.5	CARBONDALE	LAWSON	GRAY SHALE	4.5	352.5	
240.0	CARBONDALE	BRERETON	LIMESTONE	4.5	357.0	
235.5	CARBONDALE	ANNA	BLACK SHALE	1.0	361.5	
234.0	CARBONDALE	HERRIN	COAL	5.0	363.0	

MAPID: 02102317000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 21 **QUARTERS/FOOTAGES:** 30' S line, 1295' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.312741 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.728265 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 601.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
297.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	304.0	
291.0	MODESTO		MOTTLED SHALE	20.0	310.0	
271.0	CARBONDALE	DANVILLE	COAL	2.0	330.0	
269.0	CARBONDALE		GRAY SHALE	6.0	332.0	
263.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	338.0	
258.0	CARBONDALE	LAWSON	GRAY SHALE	4.0	343.0	
254.0	CARBONDALE	BRERETON	LIMESTONE	3.0	347.0	
251.0	CARBONDALE	ANNA	BLACK SHALE	1.0	350.0	
247.0	CARBONDALE	HERRIN	COAL	2.0	354.0	

MAPID: 02100262000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 22 **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SE SE

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.289961 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.728965 **DATE COLLECTED:** 4 / 0 / 1949

SURFACE ELEVATION (FT.): 591.0 **LOGGED (FT.):** 1980.0 **LOG TYPE:** Drillers Log

SOURCE: FRANK A. BRIDGE 1-A **WELL TYPE:** Coal Test

COMMENT: COAL ONLY 455'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
591.0			UNCONSOLIDATED	95.0	0.0	CLAY, SAND, AND GRAVEL
496.0			DARK SHALE	20.0	95.0	
476.0			GRAY SHALE	8.0	115.0	
468.0			GREEN SHALE	10.0	123.0	
458.0			LIGHT SHALE	7.0	133.0	
451.0			DARK SHALE	65.0	140.0	
386.0			LIGHT SHALE	20.0	205.0	
366.0			DARK SHALE	55.0	225.0	
311.0			BROWN SHALE	5.0	280.0	
306.0			GRAY SHALE	45.0	285.0	
261.0	CARBONDALE	BRERETON	LIMESTONE	4.0	330.0	
257.0	CARBONDALE	ANNA	DARK SHALE	11.0	334.0	
246.0	CARBONDALE	HERRIN	COAL	2.0	345.0	
244.0	CARBONDALE		DARK SHALE	6.0	347.0	
238.0	CARBONDALE		LIMESTONE	2.0	353.0	
236.0	CARBONDALE		DARK SHALE	12.0	355.0	
224.0	CARBONDALE		LIMESTONE	5.0	367.0	
219.0	CARBONDALE		GRAY SHALE	6.0	372.0	
213.0	CARBONDALE		GRAY SHALE	17.0	378.0	
196.0	CARBONDALE		DARK SHALE	10.0	395.0	
186.0	CARBONDALE		LIGHT SHALE	15.0	405.0	
171.0	CARBONDALE		LIMESTONE	5.0	420.0	
166.0	CARBONDALE		LIGHT SHALE	10.0	425.0	
156.0	CARBONDALE		DARK SHALE	18.0	435.0	
138.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	453.0	
136.0	CARBONDALE		DARK SHALE	10.0	455.0	
126.0	CARBONDALE		LIMESTONE	10.0	465.0	

MAPID: 02100755000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 23 **QUARTERS/FOOTAGES:** 330' S line, 990' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.285243 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.728987 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 607.0 **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.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
284.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	323.0	
280.0	CARBONDALE		SHALE	15.0	327.0	
265.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	342.0	
262.0	CARBONDALE	LAWSON	SHALE	6.0	345.0	
256.0	CARBONDALE	HERRIN	COAL	5.0	351.0	

MAPID: 02100756000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 24 **QUARTERS/FOOTAGES:** 990' S line, 330' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.252416 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.731188 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 352.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
292.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	313.0	
289.0	CARBONDALE		SHALE	16.0	316.0	
273.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	332.0	
268.0	CARBONDALE	LAWSON	SHALE	4.0	337.0	
264.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	341.0	
260.0	CARBONDALE	ANNA	BLACK SHALE	3.0	345.0	
256.0	CARBONDALE	HERRIN	COAL	3.0	349.0	

MAPID: 02101567000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 25 **QUARTERS/FOOTAGES:** 1650' S line, 330' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.252547 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.718237 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 342.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
305.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	297.0	
298.0	MODESTO		SHALE	15.0	304.0	
283.0	CARBONDALE	DANVILLE	COAL	2.0	319.0	
281.0	CARBONDALE		SHALE	3.0	321.0	
278.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	324.0	
275.0	CARBONDALE	LAWSON	SHALE	3.0	327.0	
272.0	CARBONDALE	BRERETON	LIMESTONE	6.0	330.0	
266.0	CARBONDALE	ANNA	BLACK SHALE	1.0	336.0	
264.0	CARBONDALE	HERRIN	COAL	4.0	338.0	

MAPID: 02100266000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** SE SE NE

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.271371 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.72185 **DATE COLLECTED:** 4 / 0 / 1939

SURFACE ELEVATION (FT.): 605.0 **LOGGED (FT.):** 333.0 **LOG TYPE:** Drillers Log

SOURCE: GEORGE W. NELMS 1 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
605.0			UNCONSOLIDATED	90.0	0.0	SOIL, CLAY, AND GRAVEL
515.0	MODESTO		BLUE SHALE	18.0	90.0	
497.0	MODESTO		LIMESTONE	10.0	108.0	
487.0	MODESTO		CALCAREOUS SHALE	20.0	118.0	
467.0	CARBONDALE		SANDSTONE	10.0	138.0	
457.0	CARBONDALE		SANDY SHALE	17.0	148.0	
440.0	CARBONDALE		MUDSTONE	45.0	165.0	LOG SAYS 'MUD'
395.0	CARBONDALE		COAL	2.0	210.0	
393.0	CARBONDALE		SANDSTONE	38.0	212.0	SS AND SH
355.0	CARBONDALE		MUDSTONE	62.0	250.0	LOG SAYS 'MUD'
293.0	CARBONDALE		SANDY SHALE	8.0	312.0	
285.0	CARBONDALE		LIMESTONE	5.0	320.0	
280.0	CARBONDALE		SHALE	2.0	325.0	
278.0	CARBONDALE		SANDY SHALE	3.0	327.0	
275.0	CARBONDALE		SHALE	1.0	330.0	
274.0	CARBONDALE		LIMESTONE	2.0	331.0	

MAPID: 02100269000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 331' S line, 331' E line of NW SW

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.28548 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.718112 **DATE COLLECTED:** 8 / 0 / 1943

SURFACE ELEVATION (FT.): 617.0 **LOGGED (FT.):** 2000.0 **LOG TYPE:** Drillers Log

SOURCE: W.A. WAINRIGHT 1 **WELL TYPE:** Coal Test

COMMENT: COAL ONLY TO 392'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
617.0			UNCONSOLIDATED	120.0	0.0	SOIL, CLAY, AND SAND
497.0			LIMESTONE	10.0	120.0	
487.0			SHALE	70.0	130.0	
417.0			SANDY SHALE	122.0	200.0	
295.0			SANDSTONE	66.0	322.0	SS AND SH
229.0	CARBONDALE	HERRIN	COAL	4.0	388.0	
225.0	CARBONDALE		SANDY SHALE	38.0	392.0	
187.0	CARBONDALE		LIMESTONE	2.0	430.0	

MAPID: 02100758000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 26 **QUARTERS/FOOTAGES:** 330' N line, 330' W line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.287615 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.727145 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 602.0 **LOGGED (FT.):** 362.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
276.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	326.0	
273.0	CARBONDALE		SHALE	14.0	329.0	
259.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	343.0	
253.0	CARBONDALE	LAWSON	SHALE	5.0	349.0	
248.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.0	354.0	
243.0	CARBONDALE	HERRIN	COAL	3.0	359.0	

MAPID: 02100158000C **VERSION:** 1 **PROJECT:** NCRDS93

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** 295' N line, 313' E line of SE NW NE

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.294769 **GEOLOGIST:** HOKE

CONFIDENTIAL: N **LATITUDE:** 39.725449 **DATE COLLECTED:** 8 / 0 / 1943

SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 874.0 **LOG TYPE:** Drillers Log

SOURCE: MID-ILLINOIS PETROLEUM CO. 2 **WELL TYPE:** Coal Test

COMMENT: COAL ONLY TO 651'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
608.0			NO RECORD	446.0	0.0	NO RECORD IN LOG
162.0			GRAY SHALE	17.0	446.0	
145.0			GRAY SHALE	3.0	463.0	
142.0			COAL	3.0	466.0	
139.0			GRAY SHALE	21.0	469.0	
118.0			GRAY SHALE	10.0	490.0	
108.0			GRAY SILTSTONE	6.0	500.0	
102.0			GRAY SHALE	11.0	506.0	
91.0			BLACK SHALE	1.0	517.0	
90.0			COAL	1.0	518.0	
89.0			UNDERCLAY	2.0	519.0	
87.0			GRAY SHALE	4.0	521.0	
83.0			SANDSTONE	5.0	525.0	
78.0			LIMESTONE	1.0	530.0	
77.0			BLACK SHALE	3.0	531.0	
74.0			UNDERCLAY	1.0	534.0	
73.0			GRAY SILTSTONE	7.0	535.0	
66.0			GRAY SHALE	6.0	542.0	
60.0			GRAY SILTSTONE	8.0	548.0	
52.0			GRAY SHALE	5.0	556.0	
47.0			BLACK SHALE	5.0	561.0	
42.0			UNDERCLAY	2.0	566.0	
40.0			GRAY SHALE	4.0	568.0	
36.0			SANDSTONE	14.0	572.0	
22.0			GRAY SHALE	3.0	586.0	
19.0			COAL	1.0	589.0	
18.0			UNDERCLAY	4.0	590.0	
14.0			GRAY SILTSTONE	2.0	594.0	
12.0			SANDSTONE	10.0	596.0	
2.0			GRAY SHALE	17.0	606.0	
-15.0			GRAY SILTSTONE	20.0	623.0	
-35.0			DARK GRAY SHALE	6.0	643.0	
-41.0			BLACK SHALE	1.0	649.0	
-42.0			COAL	1.0	650.0	
-43.0			UNDERCLAY	3.0	651.0	

MAPID: 02100158000C **VERSION:** 2 **PROJECT:** CONTROL

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 27 **QUARTERS/FOOTAGES:** 295' N line, 313' E line of SE NW NE
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.294769 **GEOLOGIST:** HINES
CONFIDENTIAL: N **LATITUDE:** 39.725449 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 1928.0 **LOG TYPE:** Survey Sample Study
SOURCE: MID-IL PETRO. CO. **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: 02100759000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 29 **QUARTERS/FOOTAGES:** 990' S line, 1650' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.339754 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.716161 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 564.0 **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
267.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	297.0	
264.0	CARBONDALE		SHALE	10.0	300.0	
254.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	9.0	310.0	
245.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	6.0	319.0	
239.0	CARBONDALE	ANNA	SHALE	1.0	325.0	
238.0	CARBONDALE	HERRIN	COAL	2.0	326.0	

MAPID: 02100760000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 30 **QUARTERS/FOOTAGES:** 330' N line, 1260' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.364115 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.726957 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 566.0 **LOGGED (FT.):** 314.0 **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
281.0	MODESTO	PIASA	LIMESTONE	5.0	285.0	
276.0	CARBONDALE	LAWSON	SHALE	14.0	290.0	
262.0	CARBONDALE	BRERETON	CALCAREOUS SHALE	7.0	304.0	
254.0	CARBONDALE	HERRIN	COAL	2.0	312.0	

MAPID: 02102254000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 2053' N line, 1980' E line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.333802 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.707827 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 587.0 **LOGGED (FT.):** 369.0 **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 & SHALE	3.0	334.0	
250.0	CARBONDALE		SHALE	10.0	337.0	
240.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	7.0	347.0	
233.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	7.0	354.0	
222.0	CARBONDALE	HERRIN	COAL	4.0	365.0	

MAPID: 02123253000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 32 **QUARTERS/FOOTAGES:** 30' S line, 2430' E line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.335535 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.698931 **DATE COLLECTED:** 11 / 30 / 1979
SURFACE ELEVATION (FT.): 592.0 **LOGGED (FT.):** 401.5 **LOG TYPE:**
SOURCE: NICOR R-3 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
228.3	CARBONDALE	HERRIN	COAL	4.2	363.7	
195.5	CARBONDALE	SPRINGFIELD	COAL	5.0	396.5	

MAPID: 02101549000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 34 **QUARTERS/FOOTAGES:** 2310' S line, 990' W line
QUADRANGLE: GROVE CITY **LONGITUDE:** -89.304591 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.705364 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 578.0 **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
274.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	304.0	
268.0	CARBONDALE		SHALE	16.0	310.0	
252.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	326.0	
248.0	CARBONDALE	LAWSON	SHALE	7.0	330.0	
241.0	CARBONDALE	BRERETON	LIMESTONE	3.0	337.0	
238.0	CARBONDALE	ANNA	BLACK SHALE	1.0	340.0	
237.0	CARBONDALE	HERRIN	COAL	4.0	341.0	

MAPID: 02102025000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 35 **QUARTERS/FOOTAGES:** 330' N line, 2005' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.277506 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.712723 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 604.0 **LOGGED (FT.):** 361.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
270.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	334.0	
267.0	MODESTO		SHALE	7.0	337.0	
260.0	CARBONDALE	DANVILLE	BONE COAL	1.0	344.0	
259.0	CARBONDALE		SHALE	3.0	345.0	
256.0	CARBONDALE	ALLENBY	BONE COAL	1.0	348.0	
255.0	CARBONDALE	LAWSON	SHALE	8.0	349.0	
247.0	CARBONDALE	HERRIN	COAL	4.0	357.0	

MAPID: 02101550000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 2W **SECTION:** 36 **QUARTERS/FOOTAGES:** 990' N line, 990' E line

QUADRANGLE: GROVE CITY **LONGITUDE:** -89.254925 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.71095 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 352.0 **LOG TYPE:** Electric Log

SOURCE: **WELL TYPE:** Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
304.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	302.0	
296.0	CARBONDALE		SHALE	18.0	310.0	
278.0	CARBONDALE	LAWSON	SILTY SHALE	15.0	328.0	
263.0	CARBONDALE	BRERETON	LIMESTONE	7.0	343.0	
256.0	CARBONDALE	HERRIN	COAL	2.0	350.0	

MAPID: 02101033000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 15N 3W **SECTION:** 23 **QUARTERS/FOOTAGES:** 330' S line, 330' E line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.388681 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.728689 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 570.0 **LOGGED (FT.):** 295.0 **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	4.0	270.0	
296.0	CARBONDALE	LAWSON	SHALE	16.0	274.0	
280.0	CARBONDALE	BRERETON	LIMESTONE	4.0	290.0	
277.0	CARBONDALE	HERRIN	COAL	2.0	293.0	

MAPID: 02123254000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 15N 3W **SECTION:** 26 **QUARTERS/FOOTAGES:** 2464' S line, 1925' W line
QUADRANGLE: EDINBURG **LONGITUDE:** -89.399145 **GEOLOGIST:** JACOBSON
CONFIDENTIAL: N **LATITUDE:** 39.720357 **DATE COLLECTED:** 12 / 6 / 1979
SURFACE ELEVATION (FT.): 581.0 **LOGGED (FT.):** 325.8 **LOG TYPE:**
SOURCE: NICOR R-5 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
258.5	CARBONDALE	SPRINGFIELD	COAL	3.3	322.5	

MAPID: 02100764000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 16N 1W **SECTION:** 27 **QUARTERS/FOOTAGES:** 2310' N line, 2310' E line
QUADRANGLE: NIANTIC **LONGITUDE:** -89.187927 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.808858 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 608.0 **LOGGED (FT.):** 285.0 **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
374.0	MODESTO	PIASA	LIMESTONE W/ SHALE	10.0	234.0	
364.0	MODESTO		SHALE	14.0	244.0	
350.0	CARBONDALE	DANVILLE	BONE COAL	1.0	258.0	
349.0	CARBONDALE	LAWSON	SHALE	7.0	259.0	
342.0	CARBONDALE	BRERETON	LIMESTONE	10.0	266.0	
324.0	CARBONDALE	HERRIN	COAL	1.0	284.0	

MAPID: 02102321000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 16N 1W **SECTION:** 28 **QUARTERS/FOOTAGES:** 50' S line, 1335' W line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.212934 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.800981 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 606.0 **LOGGED (FT.):** 301.0 **LOG TYPE:** Drillers Log

SOURCE: **WELL TYPE:** Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
356.0	MODESTO	PIASA	LIMESTONE AND SANDSTONE	10.0	250.0	
346.0	MODESTO		CLAYSTONE	10.0	260.0	
336.0	CARBONDALE	DANVILLE	BLACK SHALE	2.0	270.0	
334.0	CARBONDALE		SHALE	6.0	272.0	
328.0	CARBONDALE	ALLENBY	COAL	1.0	278.0	
327.0	CARBONDALE		SHALE	7.0	279.0	
320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	286.0	
316.0	CARBONDALE	LAWSON	GRAY SHALE	6.0	290.0	
310.0	CARBONDALE	BRERETON	LIMESTONE	4.0	296.0	
306.0	CARBONDALE	HERRIN	COAL	1.0	300.0	

MAPID: 02102766000C **VERSION:** 1 **PROJECT:** EIA-DOE

COUNTY: CHRISTIAN **TWP/RNG:** 16N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2620' N line, 1925' W line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.229439 **GEOLOGIST:** JACOBSON

CONFIDENTIAL: N **LATITUDE:** 39.807973 **DATE COLLECTED:** 3 / 27 / 1973

SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 364.5 **LOG TYPE:** Drillers Log

SOURCE: PIAMCO INC. I-11 **WELL TYPE:** Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
305.0	CARBONDALE	HERRIN	COAL	5.0	302.0	
247.5	CARBONDALE	SPRINGFIELD	COAL	5.0	359.5	

MAPID: 02102766000C **VERSION:** 2 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 16N 1W **SECTION:** 29 **QUARTERS/FOOTAGES:** 2620' N line, 1925' W line
QUADRANGLE: NIANTIC **LONGITUDE:** -89.229439 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.807973 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 307.0 **LOG TYPE:** Drillers Log
SOURCE: PIAMCO INC. I-11 **WELL TYPE:** Coal Test
COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
365.0	CARBONDALE		SILTY SHALE	34.0	242.0	
331.0	CARBONDALE	BANKSTON FORK	LIMESTONE AND SANDSTONE	8.0	276.0	UPPER BENCH
323.0	CARBONDALE	BANKSTON FORK	GRAY SHALE	2.0	284.0	SHALE PARTING
321.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	286.0	LOWER BENCH
320.0	CARBONDALE	LAWSON	SILTY SHALE	9.0	287.0	
311.0	CARBONDALE	ANNA	BLACK SHALE	1.0	296.0	
310.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	10.0	297.0	

MAPID: 02101815000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 16N 1W **SECTION:** 35 **QUARTERS/FOOTAGES:** 2310' S line, 990' E line
QUADRANGLE: NIANTIC **LONGITUDE:** -89.164204 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.792921 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 329.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	THICKNESS (FT.) OVERBURDEN	COMMENT
337.0	MODESTO	PIASA	LIMESTONE W/ SHALE	12.0	274.0	
325.0	MODESTO		SHALE	12.0	286.0	
313.0	CARBONDALE	DANVILLE	COAL	2.0	298.0	
311.0	CARBONDALE		SHALE	6.0	300.0	
305.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	306.0	
301.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	310.0	
291.0	CARBONDALE	BRERETON	LIMESTONE	8.0	320.0	
283.0	CARBONDALE	HERRIN	COAL	1.0	328.0	

MAPID: 02100763000C **VERSION:** 1 **PROJECT:** ROOF STUDY

COUNTY: CHRISTIAN **TWP/RNG:** 16N 1W **SECTION:** 36 **QUARTERS/FOOTAGES:** 330' S line, 990' E line

QUADRANGLE: NIANTIC **LONGITUDE:** -89.145089 **GEOLOGIST:**

CONFIDENTIAL: N **LATITUDE:** 39.787665 **DATE COLLECTED:**

SURFACE ELEVATION (FT.): 608.0 **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	THICKNESS (FT.) OVERBURDEN	COMMENT
314.0	MODESTO	PIASA	LIMESTONE W/ SHALE	10.0	294.0	
304.0	MODESTO		SHALE	14.0	304.0	
290.0	CARBONDALE	DANVILLE	COAL	1.5	318.0	
288.5	CARBONDALE	LAWSON	SILTY SHALE	26.0	319.5	
262.5	CARBONDALE	BRERETON	LIMESTONE	9.0	345.5	
258.0	CARBONDALE	HERRIN	COAL	1.0	350.0	