

# Status Report

**Total Records: 1806**

Top 3 County Records		Top 3 Log Type Records		Top 3 Coal Records		Top 3 Member Records	
Hamilton	1806	Electric Log	1185	HERRIN	1544	HERRIN COAL	1544
		Drillers Log	199	SPRINGFIELD	1238	SPRINGFIELD COAL	1238
		Survey Core Study	142	DANVILLE	598	DANVILLE COAL	598

## Data Summary

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

Tabulation of logged intervals only, individual logs will vary.

*Depth and Thickness measurements in feet*

Member	Lithology	Avg. Depth	Min. Depth	Max. Depth	Avg. Thk	Min. Thk	Max. Thk
MCCLEARY'S BLUFF	COAL	70.0	70.0	70.0	-	-	-
FRIENDSVILLE	COAL	177.0	177.0	177.0	-	-	-
LIVINGSTON	LIMESTONE	259.0	259.0	259.0	2.0	2.0	2.0
FLANNIGAN	COAL	287.0	287.0	287.0	1.0	1.0	1.0
MT. CARMEL	SANDSTONE	214.3	123.0	397.0	45.3	24.0	65.0
CARTHAGE	LIMESTONE	254.5	29.2	637.0	7.2	1.5	18.0
WOMAC	COAL	292.6	182.5	356.0	1.2	0.3	2.0
CRAMER	LIMESTONE	694.0	694.0	694.0	2.0	2.0	2.0
MOUND CITY	SHALE	355.3	263.0	408.0	3.2	2.0	4.7
CHAPEL	COAL	428.9	267.4	710.0	1.1	0.3	2.5
TRIVOLI	SANDSTONE	521.3	313.0	804.0	102.0	86.0	126.0
WEST FRANKLIN	LIMESTONE	523.9	252.5	771.0	13.8	2.5	31.0
LAKE CREEK	COAL	824.0	824.0	824.0	2.0	2.0	2.0
POND CREEK	COAL	473.4	386.7	560.0	0.7	0.4	1.0
DEGRAFF	COAL	628.5	412.0	845.0	0.7	0.7	0.8
PIASA	LIMESTONE	725.4	280.0	1011.5	5.9	1.0	18.0
FARMINGTON	SHALE	706.0	623.0	789.0	70.5	63.0	78.0
DANVILLE	COAL	745.6	394.8	1038.5	2.1	0.3	4.2
GALUM	LIMESTONE	862.3	629.2	1036.0	2.5	0.3	5.0
ALLENBY	COAL	837.7	500.5	1054.0	1.0	0.3	7.0
SS BELOW NO. 7	SANDSTONE	718.2	425.0	1010.0	8.2	1.0	21.0
BANKSTON FORK	LIMESTONE	764.1	455.0	1062.0	5.3	0.6	19.0
ANVIL ROCK	SANDSTONE	739.2	469.0	1045.0	15.7	3.7	67.0
LAWSON	SHALE	811.6	475.0	1066.0	33.9	19.0	59.0
CONANT	LIMESTONE	784.7	509.4	1089.6	0.6	0.1	4.3
JAMESTOWN	COAL	846.8	510.4	1105.0	0.9	0.1	11.0
BRERETON	LIMESTONE	834.4	471.0	1113.0	5.0	0.9	12.3
ANNA	SHALE	838.7	474.6	1117.0	2.6	0.2	63.8
ENERGY	SHALE	880.8	669.7	1062.6	3.9	0.4	11.0
HERRIN	COAL	816.6	498.0	1120.0	5.4	1.3	13.0

<b>HIGGINSVILLE</b>	LIMESTONE	<b>950.2</b>	923.4	978.4	<b>3.7</b>	2.6	5.9
<b>VERMILIONVILLE</b>	SANDSTONE	<b>839.7</b>	510.0	1098.0	<b>14.2</b>	4.0	50.0
<b>BRIAR HILL</b>	COAL	<b>876.2</b>	552.0	1150.0	<b>1.4</b>	0.3	5.9
<b>CANTON</b>	SHALE	<b>796.4</b>	568.0	1100.0	<b>9.6</b>	3.0	34.0
<b>ST. DAVID</b>	LIMESTONE	<b>895.2</b>	649.0	1100.5	<b>1.9</b>	0.4	5.0
<b>TURNER MINE</b>	SHALE	<b>918.4</b>	650.0	1102.0	<b>3.6</b>	0.5	8.0
<b>DYKERSBURG</b>	SHALE	<b>947.7</b>	716.0	1105.0	<b>19.0</b>	1.4	74.5
<b>SPRINGFIELD</b>	COAL	<b>900.3</b>	604.0	1210.0	<b>5.4</b>	0.1	11.2
<b>SS BELOW NO. 5</b>	SANDSTONE	<b>916.7</b>	722.0	1180.0	<b>30.3</b>	6.0	138.0
<b>HANOVER</b>	LIMESTONE	<b>908.6</b>	908.6	908.6	<b>1.8</b>	1.8	1.8
<b>EXCELLO</b>	SHALE	<b>874.5</b>	804.0	910.4	<b>4.0</b>	2.0	5.1
<b>HOUCHIN CREEK</b>	COAL	<b>996.7</b>	676.0	1294.0	<b>2.1</b>	0.3	4.0
<b>SURVANT</b>	COAL	<b>918.9</b>	712.0	1095.0	<b>2.4</b>	0.8	5.5
<b>MECCA QUARRY</b>	SHALE	<b>1210.7</b>	1197.0	1224.4	<b>1.7</b>	1.0	2.3
<b>COLCHESTER</b>	COAL	<b>1056.6</b>	772.0	1366.0	<b>0.8</b>	0.5	3.5
<b>DEKOVEN</b>	COAL	<b>1102.5</b>	800.0	1396.0	<b>3.0</b>	0.5	5.0
<b>LOWER DEKOVEN</b>	COAL	<b>1053.6</b>	838.0	1342.5	<b>1.6</b>	0.5	3.5
<b>DAVIS</b>	COAL	<b>1122.9</b>	844.0	1448.0	<b>3.1</b>	1.0	7.5
<b>SEAHORNE LS</b>	LIMESTONE	<b>1075.3</b>	874.0	1195.0	<b>0.5</b>	0.5	0.5
<b>STONEFORT</b>	LIMESTONE	<b>925.0</b>	925.0	925.0	<b>5.0</b>	5.0	5.0
<b>MENARD</b>	LIMESTONE	<b>2400.9</b>	2199.0	2644.0	-	-	-
				<b>Net Coal</b>	<b>35.6</b>		

## Coal Logs

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

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

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

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

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

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

**MAPID:** 06501255000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 21    **QUARTERS/FOOTAGES:** 2310' N line, 990' E line  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.65103    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.24992    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 3342.0    **LOG TYPE:** Electric Log  
**SOURCE:** ROACH A W    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-561.0	CARBONDALE	HERRIN	COAL	6.0	997.0	
-598.0	CARBONDALE	BRIAR HILL	COAL	-	1034.0	
-628.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1064.0	BLACK SHALE & LIMESTONE ROOF
-714.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1150.0	

MAPID: 06501255000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 21 QUARTERS/FOOTAGES: 2310' N line, 990' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.65103 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.24992 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 1003.0 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
-458.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	894.0
-462.0	MODESTO		SHALE	21.0	898.0
-483.0	CARBONDALE	DANVILLE	COAL	2.0	919.0
-485.0	CARBONDALE		SHALE & SANDSTONE	25.0	921.0
-510.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	946.0
-515.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	11.0	951.0
-526.0	CARBONDALE	LAWSON	SANDSTONE	13.0	962.0
-539.0	CARBONDALE	LAWSON	SHALE	16.0	975.0
-555.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	991.0
-556.0	CARBONDALE		BLACK SHALE	1.0	992.0
-557.0	CARBONDALE	BRERETON	LIMESTONE	3.0	993.0
-560.0	CARBONDALE	ANNA	BLACK SHALE	2.0	996.0
-562.0	CARBONDALE	HERRIN	COAL	5.0	998.0

MAPID: 06500041000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 22 QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: DAHLGREN LONGITUDE: -88.644189 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.244309 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 4780.0 LOG TYPE: Electric Log

SOURCE: SEABOARD, KNAPP GRVR0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-525.0	CARBONDALE	HERRIN	COAL	-	1003.0
-629.0	CARBONDALE	SPRINGFIELD	COAL	-	1107.0
-2011.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2489.0

MAPID: 06501588000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 22 QUARTERS/FOOTAGES: 990' S line, 1650' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.635 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.244323 DATE COLLECTED:

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 3364.0 LOG TYPE: Electric Log

SOURCE: BARTMES, ROSS WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-538.0	CARBONDALE	HERRIN	COAL	5.0	975.0	
-596.0	CARBONDALE	BRIAR HILL	COAL	-	1033.0	
-627.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1064.0	BLACK SHALE & LIMESTONE ROOF
-705.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1142.0	

MAPID: 06501588000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 22 QUARTERS/FOOTAGES: 990' S line, 1650' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.635 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.244323 DATE COLLECTED:

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 980.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-438.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	875.0	
-442.0	MODESTO		SHALE	27.0	879.0	
-469.0	CARBONDALE	DANVILLE	COAL	2.0	906.0	
-471.0	CARBONDALE		SHALE & SANDSTONE	19.0	908.0	
-490.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	927.0	
-496.0	CARBONDALE	LAWSON	SHALE	2.0	933.0	
-498.0	CARBONDALE	LAWSON	SANDSTONE	23.0	935.0	
-521.0	CARBONDALE	LAWSON	SHALE	10.0	958.0	
-531.0	CARBONDALE	BRERETON	LIMESTONE	5.0	968.0	
-536.0	CARBONDALE	ANNA	BLACK SHALE	2.0	973.0	
-538.0	CARBONDALE	HERRIN	COAL	5.0	975.0	

MAPID: 06501590000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.612139 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.242647 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 3385.0 LOG TYPE: Electric Log

SOURCE: SKILES OIL CORP WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-540.0	CARBONDALE	HERRIN	COAL	4.0	942.0	
-608.0	CARBONDALE	BRIAR HILL	COAL	-	1010.0	
-634.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1036.0	BLACK SHALE & LIMESTONE ROOF
-734.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1136.0	

MAPID: 06501590000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.612139 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.242647 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 946.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-457.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	859.0	
-461.0	MODESTO		SHALE & SANDSTONE	24.0	863.0	
-485.0	CARBONDALE	DANVILLE	COAL	2.0	887.0	
-487.0	CARBONDALE		SHALE & SANDSTONE	22.0	889.0	
-509.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	911.0	
-513.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	25.0	915.0	
-538.0	CARBONDALE	BRERETON	LIMESTONE	5.0	940.0	
-543.0	CARBONDALE	ANNA	BLACK SHALE	2.0	945.0	
-540.0	CARBONDALE	HERRIN	COAL	4.0	942.0	

MAPID: 06501591000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 25 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.605373 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.231654 DATE COLLECTED:

SURFACE ELEVATION (FT.): 399.0 LOGGED (FT.): 3400.0 LOG TYPE: Electric Log

SOURCE: SUPERIOR OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-527.0	CARBONDALE	HERRIN	COAL	4.0	926.0	
-640.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1039.0	BLACK SHALE & LIMESTONE ROOF
-741.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06501591000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 25 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.605373 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.231654 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 931.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-466.0	CARBONDALE	DANVILLE	COAL	1.0	868.0	
-467.0	CARBONDALE		SHALE & SANDSTONE	27.0	869.0	
-494.0	CARBONDALE	LAWSON	SHALE	2.0	896.0	
-496.0	CARBONDALE	LAWSON	SANDSTONE	10.0	898.0	
-506.0	CARBONDALE	LAWSON	SHALE	13.0	908.0	
-519.0	CARBONDALE	BRERETON	LIMESTONE	4.0	921.0	
-523.0	CARBONDALE	ANNA	BLACK SHALE	1.0	925.0	
-524.0	CARBONDALE	HERRIN	COAL	5.0	926.0	

MAPID: 06500093000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 26 QUARTERS/FOOTAGES: SW NE SW

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.623687 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.231618 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 4120.0 LOG TYPE: Electric Log

SOURCE: D P OC, ZELLRS F L0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-535.0	CARBONDALE	HERRIN	COAL	-	947.0	
-631.0	CARBONDALE	SPRINGFIELD	COAL	-	1043.0	
-2050.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2462.0	

**MAPID:** 06500094000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 26    **QUARTERS/FOOTAGES:** SW NW SW  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.628244    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.231589    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 415.0    **LOGGED (FT.):** 4150.0    **LOG TYPE:** Electric Log  
**SOURCE:** HALL&JORDN, ZELLRS F 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-507.0	CARBONDALE	HERRIN	COAL	-	922.0	
-617.0	CARBONDALE	SPRINGFIELD	COAL	-	1032.0	
-2037.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2452.0	

**MAPID:** 06500095000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 26    **QUARTERS/FOOTAGES:** 0' S line, 0' W line  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.62943    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.227023    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 420.0    **LOGGED (FT.):** 4200.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, ZELLERS M 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-517.0	CARBONDALE	HERRIN	COAL	-	937.0	
-622.0	CARBONDALE	SPRINGFIELD	COAL	-	1042.0	
-2032.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2452.0	



MAPID: 06500095000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 26 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.62943 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.227023 DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 942.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-433.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	853.0	
-439.0	MODESTO		SHALE	30.0	859.0	
-469.0	CARBONDALE	DANVILLE	COAL	2.0	889.0	
-471.0	CARBONDALE		SHALE & SANDSTONE	19.0	891.0	
-490.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	12.0	910.0	
-502.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	5.0	922.0	
-507.0	CARBONDALE	LAWSON	GRAY SHALE	5.0	927.0	
-512.0	CARBONDALE	BRERETON	LIMESTONE	4.0	932.0	
-516.0	CARBONDALE	ANNA	BLACK SHALE	2.0	936.0	
-518.0	CARBONDALE	HERRIN	COAL	4.0	938.0	

MAPID: 06500095000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 26 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.62943 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.227023 DATE COLLECTED:

SURFACE ELEVATION (FT.): 416.0 LOGGED (FT.): 3343.0 LOG TYPE: Electric Log

SOURCE: SINCLAIR WYOMING OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-522.0	CARBONDALE	HERRIN	COAL	4.0	938.0	
-560.0	CARBONDALE	BRIAR HILL	COAL	-	976.0	
-630.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1046.0	BLACK SHALE & LIMESTONE ROOF
-704.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1120.0	

**MAPID:** 06500053000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE SE SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.63985    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.227825    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 420.0    **LOGGED (FT.):** 4200.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-455.0	CARBONDALE	HERRIN	COAL	-	875.0
-565.0	CARBONDALE	SPRINGFIELD	COAL	-	985.0

**MAPID:** 06500054000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE SW SE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.63519    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.229703    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 418.0    **LOGGED (FT.):** 4180.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0005    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-479.0	CARBONDALE	HERRIN	COAL	-	897.0
-589.0	CARBONDALE	SPRINGFIELD	COAL	-	1007.0
-2001.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2419.0

**MAPID:** 06500055000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NW SW SE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.637507    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.229682    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 419.0    **LOGGED (FT.):** 4190.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-456.0	CARBONDALE	HERRIN	COAL	-	875.0
-566.0	CARBONDALE	SPRINGFIELD	COAL	-	985.0

**MAPID:** 06500056000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NW SE SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.642139    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.229636    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 420.0    **LOGGED (FT.):** 4200.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0007    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-455.0	CARBONDALE	HERRIN	COAL	-	875.0
-585.0	CARBONDALE	SPRINGFIELD	COAL	-	1005.0
-1974.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2394.0

**MAPID:** 06500057000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NW SE SE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.632876    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.229724    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 422.0    **LOGGED (FT.):** 4220.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0008    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-493.0	CARBONDALE	HERRIN	COAL	-	915.0
-608.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0

**MAPID:** 06500058000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.630581    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.227924    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 416.0    **LOGGED (FT.):** 4160.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0009    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-515.0	CARBONDALE	HERRIN	COAL	-	931.0
-625.0	CARBONDALE	SPRINGFIELD	COAL	-	1041.0
-2035.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2451.0

**MAPID:** 06500059000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW SE SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.642171    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.227801    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 422.0    **LOGGED (FT.):** 4220.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0010    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-453.0	CARBONDALE	HERRIN	COAL	-	875.0	

**MAPID:** 06500061000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW NE NW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.64198    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.238807    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 442.0    **LOGGED (FT.):** 4420.0    **LOG TYPE:** Electric Log  
**SOURCE:** FIELDS B, KENNEDY A 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-504.0	CARBONDALE	HERRIN	COAL	-	946.0	
-594.0	CARBONDALE	SPRINGFIELD	COAL	-	1036.0	
-1998.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2440.0	

**MAPID:** 06500062000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE SW SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.644452    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.229612    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 439.0    **LOGGED (FT.):** 4390.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, RATCLF COM0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-466.0	CARBONDALE	HERRIN	COAL	-	905.0	
-586.0	CARBONDALE	SPRINGFIELD	COAL	-	1025.0	

**MAPID:** 06500063000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE NE SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.639792    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.231491    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 422.0    **LOGGED (FT.):** 4220.0    **LOG TYPE:** Electric Log  
**SOURCE:** DEKLB ASSN, SCRIVNER C 1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-454.0	CARBONDALE	HERRIN	COAL	-	876.0
-1978.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2400.0

**MAPID:** 06500068000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW NW SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.646734    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.231426    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 439.0    **LOGGED (FT.):** 4390.0    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL, TROTTER M 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-476.0	CARBONDALE	HERRIN	COAL	-	915.0
-591.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0

**MAPID:** 06500069000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NW SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.644384    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.233284    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 437.0    **LOGGED (FT.):** 4370.0    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL, TROTTER M 2    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-498.0	CARBONDALE	HERRIN	COAL	-	935.0
-613.0	CARBONDALE	SPRINGFIELD	COAL	-	1050.0
-1969.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2406.0

MAPID: 06500072000C    VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 3S 5E    SECTION: 27    QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: DAHLGREN    LONGITUDE: -88.63281    GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 38.235207    DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 414.0    LOGGED (FT.): 4140.0    LOG TYPE: Electric Log

SOURCE: SMITH PET, ZELLRS F M0001    WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-476.0	CARBONDALE	HERRIN	COAL	-	890.0	
-596.0	CARBONDALE	SPRINGFIELD	COAL	-	1010.0	
-1996.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2410.0	

MAPID: 06500096000C    VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 3S 5E    SECTION: 27    QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.644352    GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 38.235119    DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 432.0    LOGGED (FT.): 4320.0    LOG TYPE: Electric Log

SOURCE: SEABOARD, GARRISON D0001    WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-508.0	CARBONDALE	HERRIN	COAL	-	940.0	
-603.0	CARBONDALE	SPRINGFIELD	COAL	-	1035.0	
-1970.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2402.0	

MAPID: 06500097000C    VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 3S 5E    SECTION: 27    QUARTERS/FOOTAGES: NE SW NW

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.644316    GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 38.236955    DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 430.0    LOGGED (FT.): 4300.0    LOG TYPE: Electric Log

SOURCE: SEABOARD, GARRISON D0002    WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-515.0	CARBONDALE	HERRIN	COAL	-	945.0	
-610.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0	

**MAPID:** 06500098000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE NW NW  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.644283    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.238791    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 4360.0    **LOG TYPE:** Electric Log  
**SOURCE:** FIELDS B, GARRISON G0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-514.0	CARBONDALE	HERRIN	COAL	-	950.0	
-589.0	CARBONDALE	SPRINGFIELD	COAL	-	1025.0	
-1974.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2410.0	

**MAPID:** 06500099000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.635216    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.227876    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 426.0    **LOGGED (FT.):** 4260.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-484.0	CARBONDALE	HERRIN	COAL	-	910.0	
-589.0	CARBONDALE	SPRINGFIELD	COAL	-	1015.0	

**MAPID:** 06500100000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW SW SE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.637533    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.227852    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 422.0    **LOGGED (FT.):** 4220.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, HALL M F 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-463.0	CARBONDALE	HERRIN	COAL	-	885.0	
-583.0	CARBONDALE	SPRINGFIELD	COAL	-	1005.0	
-2002.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2424.0	

MAPID: 06501060000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 27 QUARTERS/FOOTAGES: 660' N line, 1350' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.642991 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.239731 DATE COLLECTED:

SURFACE ELEVATION (FT.): 434.0 LOGGED (FT.): 4268.0 LOG TYPE: Electric Log

SOURCE: ATHENE DEV. CO., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-516.0	CARBONDALE	HERRIN	COAL	2.0	950.0	
-568.0	CARBONDALE	BRIAR HILL	COAL	-	1002.0	
-599.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1033.0	BLACK SHALE & LIMESTONE ROOF
-689.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1123.0	

MAPID: 06501060000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 27 QUARTERS/FOOTAGES: 660' N line, 1350' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.642991 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.239731 DATE COLLECTED:

SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 952.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-419.0	MODESTO	PIASA	LIMESTONE & SHALE	3.0	854.0	
-422.0	MODESTO		SHALE	25.0	857.0	
-447.0	CARBONDALE	DANVILLE	COAL	2.0	882.0	
-449.0	CARBONDALE		SILTY SHALE	18.0	884.0	
-467.0	CARBONDALE	ALLENBY	COAL	1.0	902.0	
-468.0	CARBONDALE		CLAYSTONE & SHALE	7.0	903.0	
-475.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	910.0	
-479.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	914.0	
-491.0	CARBONDALE	LAWSON	SANDSTONE	9.0	926.0	
-500.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	935.0	
-508.0	CARBONDALE	BRERETON	LIMESTONE	5.0	943.0	
-513.0	CARBONDALE	ANNA	BLACK SHALE	1.0	948.0	
-514.0	CARBONDALE	HERRIN	COAL	3.0	949.0	



MAPID: 0650106000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 27 QUARTERS/FOOTAGES: 660' N line, 1350' W line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.642991 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.239731 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 434.0 LOGGED (FT.): 1265.0 LOG TYPE: Electric Log  
 SOURCE: ATHENE DEVELOP CO INC 1060 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
434.0			UNKNOWN	1183.0	0.0	
-749.0	CARBONDALE	COLCHESTER	COAL	1.0	1183.0	THICKNESS LESS THAN 16"
-750.0	CARBONDALE		UNKNOWN	80.0	1184.0	
-830.0	CARBONDALE	DAVIS	COAL	1.0	1264.0	

MAPID: 06500106000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 28 QUARTERS/FOOTAGES: SE NE SE  
 QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.649047 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.23143 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 4400.0 LOG TYPE: Electric Log  
 SOURCE: MULCAHY C, SCRIVNER 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-500.0	CARBONDALE	HERRIN	COAL	-	940.0	
-610.0	CARBONDALE	SPRINGFIELD	COAL	-	1050.0	
-1970.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2410.0	

MAPID: 06500107000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 28 QUARTERS/FOOTAGES: 330' S line, 330' E line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.649119 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.227745 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 4410.0 LOG TYPE: Electric Log  
 SOURCE: BRACY H W, TENNYSON R0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-477.0	CARBONDALE	HERRIN	COAL	-	918.0	
-592.0	CARBONDALE	SPRINGFIELD	COAL	-	1033.0	
-1982.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2423.0	

MAPID: 06500107000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 28 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.649119 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.227745 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 921.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-384.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	825.0	
-390.0	MODESTO		SHALE	19.0	831.0	
-409.0	CARBONDALE	DANVILLE	COAL	2.0	850.0	
-411.0	CARBONDALE		SHALE & SANDSTONE	29.0	852.0	
-440.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	881.0	
-446.0	CARBONDALE	LAWSON	SHALE	4.0	887.0	
-450.0	CARBONDALE	LAWSON	SANDSTONE	8.0	891.0	
-458.0	CARBONDALE	LAWSON	GRAY SHALE	11.0	899.0	
-469.0	CARBONDALE	BRERETON	LIMESTONE	5.0	910.0	
-474.0	CARBONDALE	ANNA	BLACK SHALE	2.0	915.0	
-476.0	CARBONDALE	HERRIN	COAL	4.0	917.0	

MAPID: 06500107000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 28 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.649119 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.227745 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 3322.0 LOG TYPE: Electric Log

SOURCE: BRACY, H. W. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-477.0	CARBONDALE	HERRIN	COAL	3.0	918.0	
-588.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1029.0	BLACK SHALE & LIMESTONE ROOF
-653.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1094.0	

MAPID: 06501593000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 29 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.683888 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.228038 DATE COLLECTED:

SURFACE ELEVATION (FT.): 453.0 LOGGED (FT.): 3350.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-534.0	CARBONDALE	HERRIN	COAL	5.0	987.0	
-557.0	CARBONDALE	BRIAR HILL	COAL	-	1010.0	
-595.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1048.0	BLACK SHALE & LIMESTONE ROOF
-687.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06501593000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 29 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.683888 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.228038 DATE COLLECTED:

SURFACE ELEVATION (FT.): 453.0 LOGGED (FT.): 994.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-438.5	MODESTO	PIASA	LIMESTONE & SHALE	4.0	891.5	
-442.5	MODESTO		SILTY SHALE	20.0	895.5	
-462.5	CARBONDALE	DANVILLE	COAL	2.0	915.5	
-464.5	CARBONDALE		SHALE & SANDSTONE	21.0	917.5	
-485.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	938.5	
-489.5	CARBONDALE	LAWSON	SILTY SHALE	6.0	942.5	
-495.5	CARBONDALE	LAWSON	SANDSTONE	4.0	948.5	
-499.5	CARBONDALE	LAWSON	SILTY SHALE	24.0	952.5	
-523.5	CARBONDALE	LAWSON	BLACK SHALE	2.0	976.5	
-525.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	978.5	
-526.5	CARBONDALE		BLACK SHALE	1.0	979.5	
-527.5	CARBONDALE	BRERETON	LIMESTONE	4.0	980.5	
-531.5	CARBONDALE	ANNA	BLACK SHALE	3.5	984.5	
-535.0	CARBONDALE	HERRIN	COAL	6.0	988.0	

MAPID: 06500042000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 30 QUARTERS/FOOTAGES: 330' S line, 1980' W line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.696133 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.228154 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 4240.0 LOG TYPE: Electric Log  
 SOURCE: SEABOARD, XAVIER K 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-511.0	CARBONDALE	HERRIN	COAL	3.0	935.0	
-596.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1020.0	
-1952.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2376.0	

MAPID: 06500042000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 30 QUARTERS/FOOTAGES: 330' S line, 1980' W line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.696133 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.228154 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 938.0 LOG TYPE: Drillers Log  
 SOURCE: WELL TYPE: Coal Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-420.0	MODESTO	PIASA	LIMESTONE	4.0	844.0	
-424.0	MODESTO		SILTY SHALE	32.0	848.0	
-456.0	CARBONDALE	DANVILLE	COAL	2.0	880.0	
-458.0	CARBONDALE		CLAYSTONE & SHALE	3.0	882.0	
-461.0	CARBONDALE	GALUM	LIMESTONE	2.0	885.0	
-463.0	CARBONDALE		SHALE & SANDSTONE	15.0	887.0	
-478.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	902.0	
-482.0	CARBONDALE	LAWSON	GRAY SHALE	32.0	906.0	
-514.0	CARBONDALE	BRERETON	LIMESTONE	4.0	938.0	
-518.0	CARBONDALE	ANNA	BLACK SHALE	2.0	942.0	
-510.0	CARBONDALE	HERRIN	COAL	4.0	934.0	

MAPID: 06500042000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 30 QUARTERS/FOOTAGES: 330' S line, 1980' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.696133 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.228154 DATE COLLECTED:

SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 3404.0 LOG TYPE: Electric Log

SOURCE: SEABOARD OIL OF DE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-512.0	CARBONDALE	HERRIN	COAL	4.0	936.0	
-556.0	CARBONDALE	BRIAR HILL	COAL	-	980.0	
-595.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1019.0	BLACK SHALE & LIMESTONE ROOF
-674.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1098.0	

MAPID: 06500042000C VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 30 QUARTERS/FOOTAGES: 330' S line, 1980' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.696133 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 38.228154 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3404.0 LOG TYPE: Survey Sample Study

SOURCE: SEABOARD OIL OF DE WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

MAPID: 06500042000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 3S 5E    SECTION: 30    QUARTERS/FOOTAGES: 330' S line, 1980' W line

QUADRANGLE: DAHLGREN    LONGITUDE: -88.696133    GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N    LATITUDE: 38.228154    DATE COLLECTED: 5 / 0 / 1942

SURFACE ELEVATION (FT.): 424.0    LOGGED (FT.): 1204.0    LOG TYPE: Survey Sample Study

SOURCE: SEABOARD OIL CO OF DELEWARE 1    WELL TYPE: Dry Hole

COMMENT: SAMPLE STUDY CONTROL WELL #8

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
424.0			NO RECORD	136.0	0.0	
288.0			SHALE	69.0	136.0	
219.0			LIMESTONE	4.0	205.0	
215.0			SANDSTONE/SHALE	31.0	209.0	
184.0			SANDSTONE	10.0	240.0	
174.0			SILTSTONE	10.0	250.0	
164.0			SILTSTONE	42.0	260.0	BLACK SHALE SEAMS
122.0			BLACK SHALE	2.0	302.0	WITH LIMESTONE
120.0			SHALE	26.0	304.0	
94.0			BLACK SHALE	10.0	330.0	
84.0			SHALE	10.0	340.0	
74.0			SANDSTONE	10.0	350.0	
64.0			SHALE & SANDSTONE	10.0	360.0	
54.0			SANDSTONE	58.0	370.0	WITH SILTSTONE AND SHALE
-4.0			BLACK SHALE	2.0	428.0	
-6.0			LIMESTONE	4.0	430.0	
-10.0			BLACK SHALE	3.0	434.0	WITH SANDSTONE
-13.0			LIMESTONE	9.0	437.0	
-22.0			BLACK SHALE	4.0	446.0	
-26.0			SANDSTONE	55.0	450.0	
-81.0			SILTSTONE	20.0	505.0	WITH BLACK SHALE
-101.0			SANDSTONE	21.0	525.0	
-122.0			SHALE	10.0	546.0	
-132.0			SANDSTONE	19.0	556.0	
-151.0			LIMESTONE	5.0	575.0	
-156.0			SILTSTONE	6.0	580.0	
-162.0			BLACK SHALE	2.0	586.0	
-164.0			LIMESTONE	4.0	588.0	
-168.0			BLACK SHALE	4.0	592.0	
-172.0			SILTSTONE	104.0	596.0	WITH SHALE
-276.0			COAL	4.0	700.0	THICKNESS ESTIMATED
-280.0			UNDERCLAY	1.0	704.0	
-281.0			SILTSTONE	13.0	705.0	WITH SHALE
-294.0			SANDSTONE	5.0	718.0	
-299.0			COAL	2.0	723.0	THICKNESS ESTIMATED
-301.0			SANDSTONE	5.0	725.0	
-306.0			SHALE & SANDSTONE	52.0	730.0	
-358.0			LIMESTONE	2.0	782.0	

-360.0	SHALE & SANDSTONE	2.0	784.0	
-362.0	LIMESTONE	2.0	786.0	
-364.0	SHALE & SANDSTONE	16.0	788.0	
-380.0	LIMESTONE	4.0	804.0	
-384.0	SHALE	36.0	808.0	
-420.0	LIMESTONE	4.0	844.0	
-424.0	SHALE	22.0	848.0	WITH SILTSTONE
-446.0	COAL	2.0	870.0	WITH UNDERCLAY
-448.0	SHALE	3.0	872.0	
-451.0	LIMESTONE	2.0	875.0	
-453.0	SHALE	3.0	877.0	
-456.0	SANDSTONE	10.0	880.0	
-466.0	SHALE	2.0	890.0	
-468.0	LIMESTONE	16.0	892.0	
-484.0	SHALE	22.0	908.0	
-506.0	LIMESTONE	4.0	930.0	
-510.0	BLACK SHALE	4.0	934.0	WITH COAL
-514.0	BLACK SHALE	12.0	938.0	
-526.0	LIMESTONE	1.0	950.0	
-527.0	BLACK SHALE	3.0	951.0	
-530.0	LIMESTONE	1.0	954.0	
-531.0	BLACK SHALE	25.0	955.0	
-556.0	SANDSTONE	15.0	980.0	
-571.0	BLACK SHALE	2.0	995.0	
-573.0	LIMESTONE	3.0	997.0	
-576.0	BLACK SHALE	12.0	1000.0	WITH CARBONACEOUS SANDSTONE
-588.0	LIMESTONE	2.0	1012.0	
-590.0	COAL	3.0	1014.0	THICKNESS ESTIMATED
-593.0	SHALE	15.0	1017.0	
-608.0	COAL	2.0	1032.0	WITH BLACK SHALE
-610.0	SHALE	42.0	1034.0	COAL STREAKS
-652.0	SHALE	22.0	1076.0	
-674.0	LIMESTONE	4.0	1098.0	
-678.0	BLACK SHALE	8.0	1102.0	
-686.0	SANDSTONE	14.0	1110.0	
-700.0	SANDSTONE	6.0	1124.0	WITH BLACK SHALE
-706.0	SHALE	46.0	1130.0	WITH LIMESTONE
-752.0	SANDSTONE	28.0	1176.0	

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MAPID: 06500025000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 32 QUARTERS/FOOTAGES: 2310' S line, 465' W line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.683541 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.218853 DATE COLLECTED: 0 / 0 / 1938  
 SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 5150.0 LOG TYPE: Electric Log  
 SOURCE: CARP A H, CLARK E F 001A WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-532.0	CARBONDALE	HERRIN	COAL	-	1047.0
-605.0	CARBONDALE	SPRINGFIELD	COAL	-	1120.0
-2000.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2515.0

MAPID: 06500025000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 32 QUARTERS/FOOTAGES: 2310' S line, 465' W line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.683541 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.218853 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 1052.0 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
-445.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	960.0
-449.0	MODESTO		SHALE	20.0	964.0
-469.0	CARBONDALE	DANVILLE	COAL	3.0	984.0
-472.0	CARBONDALE		SHALE & SANDSTONE	15.0	987.0
-487.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	1002.0
-491.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	14.0	1006.0
-505.0	CARBONDALE	LAWSON	SANDSTONE	8.0	1020.0
-513.0	CARBONDALE	LAWSON	SHALE	17.0	1028.0
-530.0	CARBONDALE	BRERETON	LIMESTONE	3.0	1045.0
-533.0	CARBONDALE	HERRIN	COAL	4.0	1048.0



**MAPID:** 06500025000C    **VERSION:** 3    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 32    **QUARTERS/FOOTAGES:** 2310' S line, 465' W line  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.683541    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.218853    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 515.0    **LOGGED (FT.):** 3476.0    **LOG TYPE:** Electric Log  
**SOURCE:** CARPENTER, A. H., ETAL    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-533.0	CARBONDALE	HERRIN	COAL	4.0	1048.0	
-603.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1118.0	BLACK SHALE & LIMESTONE ROOF
-697.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1212.0	

**MAPID:** 06500035000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 32    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.684013    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.218886    **DATE COLLECTED:** 0 / 0 / 1937  
**SURFACE ELEVATION (FT.):** 511.0    **LOGGED (FT.):** 5110.0    **LOG TYPE:** Electric Log  
**SOURCE:** CARP ETAL, CLARK E F 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-529.0	CARBONDALE	HERRIN	COAL	7.0	1040.0	
-607.0	CARBONDALE	SPRINGFIELD	COAL	-	1118.0	

**MAPID:** 06500074000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 33    **QUARTERS/FOOTAGES:** 2310' N line, 1980' E line  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.655077    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.220522    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 4360.0    **LOG TYPE:** Electric Log  
**SOURCE:** D P OC, MILLER C D 1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-484.0	CARBONDALE	HERRIN	COAL	-	920.0	
-576.0	CARBONDALE	SPRINGFIELD	COAL	-	1012.0	
-2021.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2457.0	

MAPID: 06500074000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 33 QUARTERS/FOOTAGES: 2310' N line, 1980' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.655077 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.220522 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 925.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-389.5	MODESTO	PIASA	LIMESTONE & SHALE	4.0	825.5	
-393.5	MODESTO		SHALE	20.0	829.5	
-413.5	CARBONDALE	DANVILLE	COAL	2.0	849.5	
-415.5	CARBONDALE		SHALE & SANDSTONE	19.0	851.5	
-434.5	CARBONDALE	ALLENBY	COAL	1.0	870.5	
-435.5	CARBONDALE		CLAYSTONE	2.0	871.5	
-437.5	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	6.0	873.5	
-443.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	10.0	879.5	
-453.5	CARBONDALE	LAWSON	SANDSTONE	22.0	889.5	
-475.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	911.5	
-476.5	CARBONDALE		CLAYSTONE & SHALE	1.0	912.5	
-477.5	CARBONDALE	BRERETON	LIMESTONE	6.0	913.5	
-483.5	CARBONDALE	ANNA	BLACK SHALE	1.5	919.5	
-485.0	CARBONDALE	HERRIN	COAL	4.0	921.0	

MAPID: 06500074000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 33 QUARTERS/FOOTAGES: 2310' N line, 1980' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.655077 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.220522 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 3383.0 LOG TYPE: Electric Log

SOURCE: D P OIL CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-484.0	CARBONDALE	HERRIN	COAL	5.0	920.0	
-577.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1013.0	BLACK SHALE & LIMESTONE ROOF
-661.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1097.0	

**MAPID:** 06500075000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SE NW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.640003    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.222359    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 4360.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, BRUMLEY J 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-492.0	CARBONDALE	HERRIN	COAL	-	928.0
-604.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0

**MAPID:** 06500076000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SE NW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.642317    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.222355    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 427.0    **LOGGED (FT.):** 4270.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, BRUMLEY J 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-483.0	CARBONDALE	HERRIN	COAL	-	910.0
-599.0	CARBONDALE	SPRINGFIELD	COAL	-	1026.0
-2026.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2453.0

**MAPID:** 06500077000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** 990' N line, 990' E line  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.632992    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.224253    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 431.0    **LOGGED (FT.):** 4310.0    **LOG TYPE:** Electric Log  
**SOURCE:** HALL&JORDN, DEERHAKE F0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-528.0	CARBONDALE	HERRIN	COAL	-	959.0
-646.0	CARBONDALE	SPRINGFIELD	COAL	-	1077.0

MAPID: 06500077000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 34 QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.632992 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.224253 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 962.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-455.0	CARBONDALE	DANVILLE	COAL	1.0	886.0	
-456.0	CARBONDALE		SHALE & SANDSTONE	32.0	887.0	
-488.0	CARBONDALE	LAWSON	SHALE	2.0	919.0	
-490.0	CARBONDALE	LAWSON	SANDSTONE	20.0	921.0	
-510.0	CARBONDALE	LAWSON	SHALE	10.0	941.0	
-520.0	CARBONDALE	BRERETON	LIMESTONE	5.0	951.0	
-525.0	CARBONDALE	ANNA	BLACK SHALE	1.0	956.0	
-526.0	CARBONDALE	HERRIN	COAL	5.0	957.0	

MAPID: 06500077000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 34 QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.632992 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.224253 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 3363.0 LOG TYPE: Electric Log

SOURCE: HALL & JORDAN OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-527.0	CARBONDALE	HERRIN	COAL	4.0	958.0	
-571.0	CARBONDALE	BRIAR HILL	COAL	-	1002.0	
-642.0	CARBONDALE	SPRINGFIELD	COAL	9.0	1073.0	BLACK SHALE & LIMESTONE ROOF
-706.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1137.0	

MAPID: 06500078000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 34 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: DAHLGREN LONGITUDE: -88.635547 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.216948 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 430.0 LOGGED (FT.): 4300.0 LOG TYPE: Electric Log

SOURCE: HALL&JORDN, DEERHAKE F0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-500.0	CARBONDALE	HERRIN	COAL	-	930.0	
-610.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0	
-2028.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2458.0	

MAPID: 06500079000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 34 QUARTERS/FOOTAGES: SW NW SE  
 QUADRANGLE: BUNGAY LONGITUDE: -88.637857 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.216924 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 1279.5 LOG TYPE: Electric Log  
 SOURCE: HALL-JORDAN OIL CO 79 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
429.0			UNKNOWN	1163.0	0.0	
-734.0	CARBONDALE	COLCHESTER	COAL	1.0	1163.0	
-735.0	CARBONDALE		UNKNOWN	39.0	1164.0	
-774.0	CARBONDALE	DEKOVEN	COAL	1.0	1203.0	
-775.0	CARBONDALE		UNKNOWN	72.0	1204.0	
-847.0	CARBONDALE	DAVIS	COAL	3.5	1276.0	

MAPID: 06500079000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 34 QUARTERS/FOOTAGES: SW NW SE  
 QUADRANGLE: BUNGAY LONGITUDE: -88.637857 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.216924 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 4290.0 LOG TYPE: Electric Log  
 SOURCE: HALL&JORDN, DEERHAKE F0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-491.0	CARBONDALE	HERRIN	COAL	-	920.0	
-606.0	CARBONDALE	SPRINGFIELD	COAL	-	1035.0	

MAPID: 06500080000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 34 QUARTERS/FOOTAGES: NE NW NE  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.635259 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.226051 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 423.0 LOGGED (FT.): 4230.0 LOG TYPE: Electric Log  
 SOURCE: HALL&JORDN, DEERHAKE F0004 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-487.0	CARBONDALE	HERRIN	COAL	-	910.0	
-597.0	CARBONDALE	SPRINGFIELD	COAL	-	1020.0	

**MAPID:** 06500082000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW NE NE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.632938    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.226075    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 427.0    **LOGGED (FT.):** 4270.0    **LOG TYPE:** Electric Log  
**SOURCE:** HALL&JORDN, DEERHAKE F0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-513.0	CARBONDALE	HERRIN	COAL	-	940.0	
-638.0	CARBONDALE	SPRINGFIELD	COAL	-	1065.0	
-2031.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2458.0	

**MAPID:** 06500083000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SW NE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.635373    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.22241    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 434.0    **LOGGED (FT.):** 4340.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, GAGE E J 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-511.0	CARBONDALE	HERRIN	COAL	-	945.0	
-636.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0	

**MAPID:** 06500084000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SW NE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.637686    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.222383    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 434.0    **LOGGED (FT.):** 4340.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, GAGE E J 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-501.0	CARBONDALE	HERRIN	COAL	-	935.0	
-616.0	CARBONDALE	SPRINGFIELD	COAL	-	1050.0	

**MAPID:** 06500085000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW SW NE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.637743    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.220564    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 439.0    **LOGGED (FT.):** 4390.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, GAGE E J 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-506.0	CARBONDALE	HERRIN	COAL	-	945.0	
-621.0	CARBONDALE	SPRINGFIELD	COAL	-	1060.0	

**MAPID:** 06500086000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SE NE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.630745    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.222458    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 431.0    **LOGGED (FT.):** 4310.0    **LOG TYPE:** Electric Log  
**SOURCE:** WITT&KROHN, GAGE L H 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-529.0	CARBONDALE	HERRIN	COAL	-	960.0	
-654.0	CARBONDALE	SPRINGFIELD	COAL	-	1085.0	

**MAPID:** 06500087000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SE NE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.633059    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.222434    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 431.0    **LOGGED (FT.):** 4310.0    **LOG TYPE:** Electric Log  
**SOURCE:** WITT&KROHN, GAGE L H 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-524.0	CARBONDALE	HERRIN	COAL	-	955.0	
-639.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0	
-2051.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2482.0	

**MAPID:** 06500088000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE NE NW  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.639893    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.226    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 416.0    **LOGGED (FT.):** 4160.0    **LOG TYPE:** Electric Log  
**SOURCE:** DUNCAN D, HOOK GEO 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-465.0	CARBONDALE	HERRIN	COAL	-	881.0
-580.0	CARBONDALE	SPRINGFIELD	COAL	-	996.0
-2006.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2422.0

**MAPID:** 06500090000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE NE NE  
**QUADRANGLE:** SPRINGERTON    **LONGITUDE:** -88.630681    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.22428    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 427.0    **LOGGED (FT.):** 4270.0    **LOG TYPE:** Electric Log  
**SOURCE:** DUNCAN D, ZELLERS M 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-536.0	CARBONDALE	HERRIN	COAL	-	963.0
-648.0	CARBONDALE	SPRINGFIELD	COAL	-	1075.0

**MAPID:** 06500092000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 5E    **SECTION:** 35    **QUARTERS/FOOTAGES:** 990' N line, 330' W line  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.628368    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.224296    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 431.0    **LOGGED (FT.):** 4310.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, SILLIMAN E0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-534.0	CARBONDALE	HERRIN	COAL	-	965.0
-644.0	CARBONDALE	SPRINGFIELD	COAL	-	1075.0
-2041.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2472.0



MAPID: 06500092000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 35 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.628368 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.224296 DATE COLLECTED:

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 969.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-448.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	875.0	
-453.0	MODESTO		SHALE	20.0	880.0	
-473.0	CARBONDALE	DANVILLE	COAL	1.0	900.0	
-474.0	CARBONDALE		SHALE & SANDSTONE	35.0	901.0	
-509.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	18.0	936.0	
-527.0	CARBONDALE	LAWSON	SHALE	8.0	954.0	
-535.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	962.0	
-538.0	CARBONDALE	HERRIN	COAL	4.0	965.0	

MAPID: 06500092000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 35 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.628368 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.224296 DATE COLLECTED:

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 4215.0 LOG TYPE: Electric Log

SOURCE: EXCHANGE OIL CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-537.0	CARBONDALE	HERRIN	COAL	3.0	964.0	
-575.0	CARBONDALE	BRIAR HILL	COAL	-	1002.0	
-645.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1072.0	BLACK SHALE & LIMESTONE ROOF
-716.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1143.0	

MAPID: 06500108000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 36 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.596471 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.217062 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 4310.0 LOG TYPE: Electric Log

SOURCE: OIL CARRS, ROSE T O 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-519.0	CARBONDALE	HERRIN	COAL	-	950.0
-634.0	CARBONDALE	SPRINGFIELD	COAL	-	1065.0
-2089.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2520.0

MAPID: 06500108000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 36 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.596471 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.217062 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 952.0 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
-424.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	855.0
-429.0	MODESTO		SHALE	30.0	860.0
-459.0	CARBONDALE	DANVILLE	COAL	2.0	890.0
-461.0	CARBONDALE		SHALE & SANDSTONE	20.0	892.0
-481.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	912.0
-487.0	CARBONDALE	LAWSON	SHALE	2.0	918.0
-489.0	CARBONDALE	LAWSON	SANDSTONE	10.0	920.0
-499.0	CARBONDALE	LAWSON	SHALE	12.0	930.0
-511.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	942.0
-515.0	CARBONDALE	ANNA	BLACK SHALE	2.0	946.0
-517.0	CARBONDALE	HERRIN	COAL	4.0	948.0

MAPID: 06500108000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 36 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.596471 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.217062 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 3463.0 LOG TYPE: Electric Log

SOURCE: OIL CARRIERS INC WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-517.0	CARBONDALE	HERRIN	COAL	3.0	948.0	
-634.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1065.0	BLACK SHALE & LIMESTONE ROOF
-713.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1144.0	

MAPID: 06500848000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 3S 5E SECTION: 36 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.596453 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.217059 DATE COLLECTED:

SURFACE ELEVATION (FT.): 413.0 LOGGED (FT.): 1284.0 LOG TYPE: Electric Log

SOURCE: FB DRLG CO COIL CAPITAL CORP 848 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
413.0			UNKNOWN	1180.0	0.0	
-767.0	CARBONDALE	COLCHESTER	COAL	1.0	1180.0	THICKNESS LESS THAN 16"
-768.0	CARBONDALE		UNKNOWN	100.0	1181.0	
-868.0	CARBONDALE	DAVIS	COAL	3.0	1281.0	

MAPID: 06503235000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 19 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.577982 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.244384 DATE COLLECTED:

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 3380.0 LOG TYPE: Electric Log

SOURCE: HURT, JAMES T. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-535.0	CARBONDALE	HERRIN	COAL	3.0	932.0	
-576.0	CARBONDALE	BRIAR HILL	COAL	-	973.0	
-623.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1020.0	BLACK SHALE & LIMESTONE ROOF
-739.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1136.0	

MAPID: 06503235000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 19 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.577982

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.244384

DATE COLLECTED:

SURFACE ELEVATION (FT.): 397.0

LOGGED (FT.): 935.0

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
-474.0	CARBONDALE	DANVILLE	COAL	3.0	871.0
-477.0	CARBONDALE		SHALE & SANDSTONE	25.0	874.0
-502.0	CARBONDALE	LAWSON	SILTY SHALE	26.0	899.0
-528.0	CARBONDALE	BRERETON	LIMESTONE	4.0	925.0
-532.0	CARBONDALE	ANNA	BLACK SHALE	2.0	929.0
-534.0	CARBONDALE	HERRIN	COAL	4.0	931.0

MAPID: 06500540000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 20 QUARTERS/FOOTAGES: 990' N line, 330' E line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.557718

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.253502

DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 419.0

LOGGED (FT.): 4190.0

LOG TYPE: Electric Log

SOURCE: NAT ASSOC, GOOD W H 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-538.0	CARBONDALE	HERRIN	COAL	-	957.0
-613.0	CARBONDALE	SPRINGFIELD	COAL	-	1032.0
-2107.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2526.0

MAPID: 06500540000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 20 QUARTERS/FOOTAGES: 990' N line, 330' E line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.557718

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.253502

DATE COLLECTED:

SURFACE ELEVATION (FT.): 419.0

LOGGED (FT.): 961.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-434.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	853.0	
-440.0	MODESTO		SHALE	27.0	859.0	
-467.0	CARBONDALE	DANVILLE	COAL	2.0	886.0	
-469.0	CARBONDALE		SHALE & SANDSTONE	17.0	888.0	
-486.0	CARBONDALE	LAWSON	SANDSTONE	17.0	905.0	
-503.0	CARBONDALE	LAWSON	SILTY SHALE	6.0	922.0	
-509.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	928.0	
-519.0	CARBONDALE	LAWSON	SHALE	14.0	938.0	
-533.0	CARBONDALE	BRERETON	LIMESTONE	6.0	952.0	
-539.0	CARBONDALE	HERRIN	COAL	3.0	958.0	

MAPID: 06500540000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 20 QUARTERS/FOOTAGES: 990' N line, 330' E line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.557718

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.253502

DATE COLLECTED:

SURFACE ELEVATION (FT.): 419.0

LOGGED (FT.): 3493.0

LOG TYPE: Electric Log

SOURCE: NAT'L. ASSOC. PETRO. CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-539.0	CARBONDALE	HERRIN	COAL	3.0	958.0	
-585.0	CARBONDALE	BRIAR HILL	COAL	-	1004.0	
-613.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1032.0	BLACK SHALE & LIMESTONE ROOF
-747.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1166.0	

MAPID: 06501102000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 21 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.539316 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.255081 DATE COLLECTED:

SURFACE ELEVATION (FT.): 423.0 LOGGED (FT.): 3489.0 LOG TYPE: Electric Log

SOURCE: GLASSCOCK TIDELAND WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-536.0	CARBONDALE	HERRIN	COAL	3.0	959.0	
-587.0	CARBONDALE	BRIAR HILL	COAL	-	1010.0	
-609.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1032.0	BLACK SHALE & LIMESTONE ROOF
-717.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06501102000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 21 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.539316 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.255081 DATE COLLECTED:

SURFACE ELEVATION (FT.): 423.0 LOGGED (FT.): 962.5 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-436.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	859.0	
-441.0	MODESTO		SHALE	35.0	864.0	
-476.0	CARBONDALE	DANVILLE	COAL	3.0	899.0	
-479.0	CARBONDALE		SHALE & SANDSTONE	18.0	902.0	
-497.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	920.0	
-501.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	29.0	924.0	
-530.0	CARBONDALE	BRERETON	LIMESTONE	4.5	953.0	
-535.0	CARBONDALE	HERRIN	COAL	4.5	958.0	

MAPID: 06501102000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 21 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.539316

GEOLOGIST: ELRICK

CONFIDENTIAL: N LATITUDE: 38.255081

DATE COLLECTED:

SURFACE ELEVATION (FT.): 423.0 LOGGED (FT.): 1282.0

LOG TYPE: Electric Log

SOURCE: C.G. GLASSCOCK TIDELAND OIL CO1102

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
423.0			UNKNOWN	1204.0	0.0	
-781.0	CARBONDALE	COLCHESTER	COAL	1.0	1204.0	THICKNESS LESS THAN 16"
-782.0	CARBONDALE		UNKNOWN	45.0	1205.0	
-827.0	CARBONDALE	DEKOVEN	COAL	1.0	1250.0	THICKNESS LESS THAN 16"
-828.0	CARBONDALE		UNKNOWN	28.0	1251.0	
-856.0	CARBONDALE	DAVIS	COAL	3.0	1279.0	

MAPID: 06500043000C VERSION: 1

PROJECT: RI 148

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

QUADRANGLE: WAYNE CITY LONGITUDE: -88.520698

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.254877

DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 4410.0

LOG TYPE: Electric Log

SOURCE: MIDCON PET, RUBIN JAN 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-532.0	CARBONDALE	HERRIN	COAL	-	973.0	
-604.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2117.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2558.0	

MAPID: 06500043000C VERSION: 2

PROJECT: ROOF STUDY

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

QUADRANGLE: WAYNE CITY LONGITUDE: -88.520698 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.254877 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 978.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-471.0	CARBONDALE	DANVILLE	COAL	2.0	912.0	
-473.0	CARBONDALE		SILTY SHALE	18.0	914.0	
-491.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	932.0	
-493.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	934.0	
-501.0	CARBONDALE	LAWSON	SANDSTONE	10.0	942.0	
-511.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	952.0	
-519.0	CARBONDALE	LAWSON	SHALE	6.0	960.0	
-525.0	CARBONDALE	BRERETON	LIMESTONE	6.0	966.0	
-531.0	CARBONDALE	ANNA	SHALE	2.0	972.0	
-533.0	CARBONDALE	HERRIN	COAL	4.0	974.0	

MAPID: 06500043000C VERSION: 3

PROJECT: CIRC 431

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

QUADRANGLE: WAYNE CITY LONGITUDE: -88.520698 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.254877 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 3508.0 LOG TYPE: Electric Log

SOURCE: MID-CONTINENT PETROL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-532.0	CARBONDALE	HERRIN	COAL	4.0	973.0	
-577.0	CARBONDALE	BRIAR HILL	COAL	-	1018.0	
-601.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1042.0	BLACK SHALE ROOF
-715.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1156.0	

MAPID: 06500043000C VERSION: 4

PROJECT: CONTROL

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

QUADRANGLE: WAYNE CITY LONGITUDE: -88.520698 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 38.254877 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3508.0 LOG TYPE: Survey Sample Study

SOURCE: MID-CONTINENT PETROL WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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



MAPID: 06500925000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 23 QUARTERS/FOOTAGES: 330' N line, 2310' W line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.511456 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.254779 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 3506.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-565.0	CARBONDALE	HERRIN	COAL	4.0	967.0	
-614.0	CARBONDALE	BRIAR HILL	COAL	-	1016.0	
-643.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1045.0	BLACK SHALE & LIMESTONE ROOF
-758.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1160.0	

MAPID: 06500925000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 23 QUARTERS/FOOTAGES: 330' N line, 2310' W line

QUADRANGLE: WAYNE CITY LONGITUDE: -88.511456 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.254779 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 972.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-507.0	CARBONDALE	DANVILLE	COAL	2.0	909.0	
-509.0	CARBONDALE		SHALE & SANDSTONE	17.0	911.0	
-526.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	928.0	
-528.0	CARBONDALE	LAWSON	SILTY SHALE	4.0	930.0	
-532.0	CARBONDALE	LAWSON	SANDSTONE	11.0	934.0	
-543.0	CARBONDALE	LAWSON	SILTY SHALE	17.0	945.0	
-560.0	CARBONDALE	BRERETON	LIMESTONE	5.5	962.0	
-565.5	CARBONDALE	ANNA	SHALE	0.5	967.5	
-566.0	CARBONDALE	HERRIN	COAL	4.0	968.0	

MAPID: 06501594000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 26 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.509336 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.229081 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3490.0 LOG TYPE: Electric Log

SOURCE: TULLEY & CARTER WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-597.0	CARBONDALE	HERRIN	COAL	3.0	978.0	
-656.0	CARBONDALE	BRIAR HILL	COAL	-	1037.0	
-681.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1062.0	BLACK SHALE & LIMESTONE ROOF
-791.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1172.0	

MAPID: 06501594000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 26 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.509336 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.229081 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 982.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-529.0	CARBONDALE	DANVILLE	COAL	2.0	910.0	
-531.0	CARBONDALE		SHALE & SANDSTONE	22.0	912.0	
-553.0	CARBONDALE	ALLENBY	BONE COAL	1.0	934.0	
-554.0	CARBONDALE		CLAYSTONE	4.0	935.0	
-558.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	939.0	
-560.0	CARBONDALE	LAWSON	SILTY SHALE	5.0	941.0	
-565.0	CARBONDALE	LAWSON	SANDSTONE	14.0	946.0	
-579.0	CARBONDALE	LAWSON	SHALE	12.0	960.0	
-591.0	CARBONDALE	BRERETON	LIMESTONE	5.0	972.0	
-596.0	CARBONDALE	ANNA	SHALE	1.0	977.0	
-597.0	CARBONDALE	HERRIN	COAL	4.0	978.0	

**MAPID:** 06500408000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE SW NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.534675    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.236721    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 388.0    **LOGGED (FT.):** 3880.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, PEOPLES NB0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-567.0	CARBONDALE	HERRIN	COAL	-	955.0	
-648.0	CARBONDALE	SPRINGFIELD	COAL	-	1036.0	
-2150.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2538.0	

**MAPID:** 06501152000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** 990' N line, 330' E line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.520752    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.238373    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 409.0    **LOGGED (FT.):** 3510.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-560.0	CARBONDALE	HERRIN	COAL	3.0	969.0	
-606.0	CARBONDALE	BRIAR HILL	COAL	-	1015.0	
-633.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1042.0	SHALE & SILTSTONE ROOF
-749.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1158.0	

**MAPID:** 06501152000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** 990' N line, 330' E line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.520752    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.238373    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 409.0    **LOGGED (FT.):** 962.0    **LOG TYPE:** Electric Log  
**SOURCE:**    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-456.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	865.0	
-460.0	MODESTO		SHALE	40.0	869.0	
-500.0	CARBONDALE	DANVILLE	COAL	3.0	909.0	
-503.0	CARBONDALE		SILTY SHALE	19.0	912.0	
-522.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	35.0	931.0	
-557.0	CARBONDALE	BRERETON	LIMESTONE	4.0	966.0	
-561.0	CARBONDALE	ANNA	SHALE	1.0	970.0	
-550.0	CARBONDALE	HERRIN	COAL	3.0	959.0	

MAPID: 06500662000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 30 QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.575701 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.233421 DATE COLLECTED:

SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 3440.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-520.0	CARBONDALE	HERRIN	COAL	4.0	944.0	
-622.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1046.0	SHALE AND SANDSTONE ROOF
-738.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1162.0	

MAPID: 06500662000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 30 QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.575701 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.233421 DATE COLLECTED:

SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 948.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-462.0	CARBONDALE	DANVILLE	COAL	3.0	886.0	
-465.0	CARBONDALE		SILTY SHALE	20.0	889.0	
-485.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	909.0	
-488.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	28.0	912.0	
-516.0	CARBONDALE	BRERETON	LIMESTONE	4.0	940.0	
-520.0	CARBONDALE	HERRIN	COAL	4.0	944.0	

MAPID: 06501595000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 30 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.591602 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.233479 DATE COLLECTED:

SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 3400.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-542.0	CARBONDALE	HERRIN	COAL	4.0	936.0	
-631.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1025.0	BLACK SHALE & LIMESTONE ROOF
-743.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1137.0	

**MAPID:** 06501596000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 6E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 2310' S line, 2310' W line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.5849    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.218853    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 430.0    **LOGGED (FT.):** 3430.0    **LOG TYPE:** Electric Log  
**SOURCE:** BOLIN, D. H.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-500.0	CARBONDALE	HERRIN	COAL	4.0	930.0	
-617.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1047.0	BLACK SHALE & LIMESTONE ROOF
-710.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

**MAPID:** 06500660000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NE SE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.520812    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.21834    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 411.0    **LOGGED (FT.):** 3552.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA PETROLEUM    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-579.0	CARBONDALE	HERRIN	COAL	4.0	990.0	
-639.0	CARBONDALE	BRIAR HILL	COAL	-	1050.0	
-670.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1081.0	BLACK SHALE & LIMESTONE ROOF
-779.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1190.0	

**MAPID:** 06500102000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** 330' S line, 1980' E line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.508307    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.212659    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 381.0    **LOGGED (FT.):** 3810.0    **LOG TYPE:** Electric Log  
**SOURCE:** WHT&BLTN, SCHNUCK 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-609.0	CARBONDALE	HERRIN	COAL	-	990.0	
-709.0	CARBONDALE	SPRINGFIELD	COAL	-	1090.0	
-2177.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2558.0	

MAPID: 06500102000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 35 QUARTERS/FOOTAGES: 330' S line, 1980' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.508307 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.212659 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 994.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-493.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	874.0	
-499.0	MODESTO		SHALE	38.0	880.0	
-537.0	CARBONDALE	DANVILLE	COAL	2.0	918.0	
-539.0	CARBONDALE		SHALE & SANDSTONE	32.0	920.0	
-571.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	952.0	
-577.0	CARBONDALE	LAWSON	SILTY SHALE	2.0	958.0	
-579.0	CARBONDALE	LAWSON	SANDSTONE	8.0	960.0	
-587.0	CARBONDALE	LAWSON	SHALE	16.0	968.0	
-603.0	CARBONDALE	BRERETON	LIMESTONE	6.0	984.0	
-609.0	CARBONDALE	HERRIN	COAL	4.0	990.0	

MAPID: 06500102000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 35 QUARTERS/FOOTAGES: 330' S line, 1980' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.508307 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.212659 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3452.0 LOG TYPE: Electric Log

SOURCE: WHITE & BOLTON WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-609.0	CARBONDALE	HERRIN	COAL	3.0	990.0	
-673.0	CARBONDALE	BRIAR HILL	COAL	-	1054.0	
-706.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1087.0	BLACK SHALE & LIMESTONE ROOF
-812.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1193.0	

MAPID: 06501066000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 36 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.486286 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.216078 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3469.0 LOG TYPE: Electric Log

SOURCE: COY OIL, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-592.0	CARBONDALE	HERRIN	COAL	2.0	970.0	
-662.0	CARBONDALE	BRIAR HILL	COAL	-	1040.0	
-690.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1068.0	BLACK SHALE & LIMESTONE ROOF
-775.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1153.0	

MAPID: 06501066000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 6E SECTION: 36 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.486286 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.216078 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 972.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-522.0	CARBONDALE	DANVILLE	COAL	3.0	900.0	
-525.0	CARBONDALE		SHALE	31.0	903.0	
-556.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	934.0	
-558.0	CARBONDALE	LAWSON	SILTY SHALE	5.0	936.0	
-563.0	CARBONDALE	LAWSON	SANDSTONE	14.0	941.0	
-577.0	CARBONDALE	LAWSON	SHALE	10.0	955.0	
-587.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	965.0	
-588.0	CARBONDALE		CLAYSTONE	2.0	966.0	
-590.0	CARBONDALE	HERRIN	COAL	4.0	968.0	

MAPID: 06501783000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 1650' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.469407 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.241721 DATE COLLECTED:

SURFACE ELEVATION (FT.): 396.0 LOGGED (FT.): 3424.0 LOG TYPE: Electric Log

SOURCE: JENKINS, GORDON T. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-534.0	CARBONDALE	HERRIN	COAL	3.0	930.0	
-610.0	CARBONDALE	BRIAR HILL	COAL	-	1006.0	
-641.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1037.0	BLACK SHALE & LIMESTONE ROOF
-726.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1122.0	

MAPID: 06501783000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 1650' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.469407 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.241721 DATE COLLECTED:

SURFACE ELEVATION (FT.): 396.0 LOGGED (FT.): 932.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-434.0	MODESTO	PIASA	LIMESTONE & SHALE	2.0	830.0	
-436.0	MODESTO		SHALE	34.0	832.0	
-470.0	CARBONDALE	DANVILLE	COAL	1.0	866.0	
-471.0	CARBONDALE		SHALE & SANDSTONE	25.0	867.0	
-496.0	CARBONDALE	ALLENBY	BONE COAL	1.0	892.0	
-497.0	CARBONDALE		CLAYSTONE & SHALE	3.0	893.0	
-500.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	896.0	
-502.0	CARBONDALE	LAWSON	SILTY SHALE	4.0	898.0	
-506.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	902.0	
-516.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	912.0	
-526.0	CARBONDALE	BRERETON	LIMESTONE	5.0	922.0	
-531.0	CARBONDALE	ANNA	BLACK SHALE	2.0	927.0	
-533.0	CARBONDALE	HERRIN	COAL	3.0	929.0	



**MAPID:** 06500109000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE NW NE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.450551    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.254754    **DATE COLLECTED:** 0 / 0 / 1939  
**SURFACE ELEVATION (FT.):** 382.0    **LOGGED (FT.):** 3820.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, BARKER 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-513.0	CARBONDALE	HERRIN	COAL	-	895.0	
-613.0	CARBONDALE	SPRINGFIELD	COAL	-	995.0	
-2077.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2459.0	

**MAPID:** 06500823000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.446088    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.245845    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 382.0    **LOGGED (FT.):** 1281.0    **LOG TYPE:** Electric Log  
**SOURCE:** CALSTAR BET.CO    823    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
382.0			UNKNOWN	1191.0	0.0	
-809.0	CARBONDALE	COLCHESTER	COAL	1.0	1191.0	THICKNESS LESS THAN 16"
-810.0	CARBONDALE		UNKNOWN	50.0	1192.0	
-860.0	CARBONDALE	DEKOVEN	COAL	1.0	1242.0	
-861.0	CARBONDALE		UNKNOWN	35.0	1243.0	
-896.0	CARBONDALE	DAVIS	COAL	3.0	1278.0	

**MAPID:** 06501597000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** 990' S line, 2310' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.453063    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.243846    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 3405.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-536.0	CARBONDALE	HERRIN	COAL	2.0	926.0	
-603.0	CARBONDALE	BRIAR HILL	COAL	-	993.0	
-634.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1024.0	BLACK SHALE & LIMESTONE ROOF
-710.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1100.0	

MAPID: 06501597000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 20 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.453063 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.243846 DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 928.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-491.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	881.0	
-499.0	CARBONDALE	LAWSON	SANDSTONE	12.0	889.0	
-511.0	CARBONDALE	LAWSON	SHALE	18.0	901.0	
-529.0	CARBONDALE	BRERETON	LIMESTONE	5.0	919.0	
-534.0	CARBONDALE	ANNA	BLACK SHALE	2.0	924.0	
-536.0	CARBONDALE	HERRIN	COAL	2.0	926.0	

MAPID: 06501597000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 20 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.453063 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.243846 DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 1251.0 LOG TYPE: Electric Log

SOURCE: TEXAS COMPANY, THE 1597 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
390.0			UNKNOWN	1164.0	0.0	
-774.0	CARBONDALE	COLCHESTER	COAL	1.0	1164.0	THICKNESS LESS THAN 16"
-775.0	CARBONDALE		UNKNOWN	45.0	1165.0	
-820.0	CARBONDALE	DEKOVEN	COAL	1.0	1210.0	
-821.0	CARBONDALE		UNKNOWN	37.0	1211.0	
-858.0	CARBONDALE	DAVIS	COAL	3.0	1248.0	

MAPID: 06500110000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 21 QUARTERS/FOOTAGES: 300' S line, 660' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.442704 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.242172 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 3820.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, PRVDNT INS0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-525.0	CARBONDALE	HERRIN	COAL	-	907.0	
-628.0	CARBONDALE	SPRINGFIELD	COAL	-	1010.0	
-2096.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2478.0	

**MAPID:** 06500110000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** 300' S line, 660' W line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.442704    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.242172    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 382.0    **LOGGED (FT.):** 911.0    **LOG TYPE:** Electric Log  
**SOURCE:**    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-451.0	CARBONDALE	DANVILLE	COAL	2.0	833.0	
-453.0	CARBONDALE		SHALE & SANDSTONE	30.0	835.0	
-483.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	865.0	
-493.0	CARBONDALE	LAWSON	SANDSTONE	15.0	875.0	
-508.0	CARBONDALE	LAWSON	SHALE	15.0	890.0	
-523.0	CARBONDALE	HERRIN	COAL	6.0	905.0	

**MAPID:** 06500110000C    **VERSION:** 3    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** 300' S line, 660' W line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.442704    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.242172    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 382.0    **LOGGED (FT.):** 5416.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-530.0	CARBONDALE	HERRIN	COAL	2.0	912.0	
-595.0	CARBONDALE	BRIAR HILL	COAL	-	977.0	
-625.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1007.0	BLACK SHALE & LIMESTONE ROOF
-708.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1090.0	

**MAPID:** 06500111000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 23    **QUARTERS/FOOTAGES:** 2310' S line, 990' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.392347    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.247339    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 378.0    **LOGGED (FT.):** 3780.0    **LOG TYPE:** Electric Log  
**SOURCE:** CHERRY&KD, LECH FHRER0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-712.0	CARBONDALE	SPRINGFIELD	COAL	-	1090.0	
-2122.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2500.0	

MAPID: 06500111000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 23 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.392347 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.247339 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 1005.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-535.0	CARBONDALE	DANVILLE	COAL	3.0	913.0	
-538.0	CARBONDALE		SHALE & SANDSTONE	30.0	916.0	
-568.0	CARBONDALE	ALLENBY	BONE COAL	1.0	946.0	
-569.0	CARBONDALE		CLAYSTONE & SHALE	5.0	947.0	
-574.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	952.0	
-577.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	13.0	955.0	
-590.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	968.0	
-600.0	CARBONDALE	LAWSON	GRAY SHALE	12.0	978.0	
-612.0	CARBONDALE	JAMESTOWN	COAL	1.0	990.0	
-613.0	CARBONDALE		CLAYSTONE	3.0	991.0	
-616.0	CARBONDALE	BRERETON	LIMESTONE	4.0	994.0	
-620.0	CARBONDALE	ANNA	BLACK SHALE	1.0	998.0	
-621.0	CARBONDALE	HERRIN	COAL	6.0	999.0	

MAPID: 06500111000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 23 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.392347 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.247339 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3470.0 LOG TYPE: Electric Log

SOURCE: CHERRY, KIDD & BARRON WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-675.0	CARBONDALE	BRIAR HILL	COAL	-	1053.0	
-704.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1082.0	SHALE & SILTSTONE ROOF
-797.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1175.0	

MAPID: 06500044000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 24 QUARTERS/FOOTAGES: 1980' N line, 990' E line  
 QUADRANGLE: SPRINGERTON LONGITUDE: -88.373959 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.250049 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 374.0 LOGGED (FT.): 3740.0 LOG TYPE: Electric Log  
 SOURCE: CHERRY&KD, GARDNER R 0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-571.0	CARBONDALE	HERRIN	COAL	6.0	945.0
-654.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1028.0

MAPID: 06500044000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 24 QUARTERS/FOOTAGES: 1980' N line, 990' E line  
 QUADRANGLE: SPRINGERTON LONGITUDE: -88.373959 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.250049 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 954.0 LOG TYPE: Drillers Log  
 SOURCE: WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-493.5	CARBONDALE	DANVILLE	BONE COAL	0.5	870.5
-494.0	CARBONDALE		SILTY SHALE	29.0	871.0
-523.0	CARBONDALE	ALLENBY	BONE COAL	1.0	900.0
-524.0	CARBONDALE		BLACK SHALE	1.0	901.0
-525.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	902.0
-533.0	CARBONDALE	LAWSON	SANDSTONE	10.0	910.0
-543.0	CARBONDALE	LAWSON	SILTSTONE	12.0	920.0
-555.0	CARBONDALE	LAWSON	GRAY SHALE	6.0	932.0
-561.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	938.0
-562.0	CARBONDALE		BLACK SHALE	1.0	939.0
-563.0	CARBONDALE	BRERETON	LIMESTONE	6.0	940.0
-569.0	CARBONDALE	ANNA	BLACK SHALE	2.0	946.0
-571.0	CARBONDALE	HERRIN	COAL	6.0	948.0

MAPID: 06500044000C    VERSION: 3

PROJECT: CONTROL

COUNTY: HAMILTON    TWP/RNG: 3S 7E    SECTION: 24    QUARTERS/FOOTAGES: 1980' N line, 990' E line

QUADRANGLE: SPRINGERTON    LONGITUDE: -88.373959    GEOLOGIST: HINES

CONFIDENTIAL: N    LATITUDE: 38.250049    DATE COLLECTED:

SURFACE ELEVATION (FT.):    LOGGED (FT.): 3254.0    LOG TYPE: Survey Sample Study

SOURCE: CHERRY, KIDD & BARRON    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

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MAPID: 06500044000C    VERSION: 4

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 3S 7E    SECTION: 24    QUARTERS/FOOTAGES: 1980' N line, 990' E line

QUADRANGLE: SPRINGERTON    LONGITUDE: -88.373959    GEOLOGIST: MCCracken

CONFIDENTIAL: N    LATITUDE: 38.250049    DATE COLLECTED: 11 / 0 / 1942

SURFACE ELEVATION (FT.): 377.0    LOGGED (FT.): 1048.0    LOG TYPE: Survey Sample Study

SOURCE: CHERRY & KIDD    3    WELL TYPE: Dry Hole

COMMENT: SAMPLE STUDY CONTROL WELL #93

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
377.0			NO RECORD	272.0	0.0	
105.0			LIMESTONE	6.0	272.0	
99.0			SANDSTONE	18.0	278.0	
81.0			LIMESTONE & SHALE	14.0	296.0	
67.0			BLACK SHALE	2.0	310.0	
65.0			SHALE	18.0	312.0	WITH LIMESTONE
47.0			SANDSTONE	102.0	330.0	
-55.0			BLACK SHALE	2.0	432.0	WITH COAL
-57.0			UNDERCLAY	2.0	434.0	
-59.0			SANDSTONE	11.0	436.0	
-70.0			LIMESTONE	5.0	447.0	
-75.0			SANDSTONE	8.0	452.0	
-83.0			SILTSTONE	80.0	460.0	
-163.0			SHALE	4.0	540.0	
-167.0			BLACK SHALE	4.0	544.0	COAL
-171.0			UNDERCLAY	2.0	548.0	
-173.0			LIMESTONE	2.0	550.0	
-175.0			SANDSTONE	18.0	552.0	
-193.0			LIMESTONE	2.0	570.0	
-195.0			SANDSTONE	48.0	572.0	
-243.0			SHALE	10.0	620.0	
-253.0			SILTSTONE	10.0	630.0	
-263.0			SANDSTONE	42.0	640.0	
-305.0			LIMESTONE	2.0	682.0	
-307.0			SANDSTONE	49.0	684.0	
-356.0			LIMESTONE	5.0	733.0	
-361.0			SHALE	24.0	738.0	
-385.0			SANDSTONE	6.0	762.0	
-391.0			LIMESTONE	8.0	768.0	
-399.0			SHALE	6.0	776.0	
-405.0			LIMESTONE	16.0	782.0	
-421.0			SHALE	6.0	798.0	
-427.0			SANDSTONE	14.0	804.0	
-441.0			SHALE	53.0	818.0	
-494.0			COAL	-	871.0	STREAK
-494.0			SHALE	9.0	871.0	
-503.0			SILTSTONE	20.0	880.0	
-523.0			BLACK SHALE	2.0	900.0	COAL STREAK
-525.0			SHALE	8.0	902.0	

-533.0	SANDSTONE	10.0	910.0	
-543.0	SILTSTONE	12.0	920.0	
-555.0	SHALE	6.0	932.0	
-561.0	COAL	2.0	938.0	WITH BLACK SHALE
-563.0	LIMESTONE	6.0	940.0	
-569.0	BLACK SHALE	2.0	946.0	
-571.0	COAL	6.0	948.0	THICKNESS ESTIMATED
-577.0	UNDERCLAY	2.0	954.0	
-579.0	SANDSTONE	24.0	956.0	
-603.0	SILTSTONE	20.0	980.0	
-623.0	BLACK SHALE	2.0	1000.0	
-625.0	COAL	2.0	1002.0	THICKNESS ESTIMATED
-627.0	UNDERCLAY	2.0	1004.0	
-629.0	SILTSTONE	14.0	1006.0	
-643.0	SHALE	10.0	1020.0	
-653.0	BLACK SHALE	1.0	1030.0	
-654.0	COAL	3.0	1031.0	THICKNESS ESTIMATED
-657.0	UNDERCLAY	2.0	1034.0	
-659.0	SHALE	4.0	1036.0	
-663.0	SILTSTONE	8.0	1040.0	

**MAPID:** 06500112000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 24    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** SPRINGERTON    **LONGITUDE:** -88.371651    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.249231    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 374.0    **LOGGED (FT.):** 3740.0    **LOG TYPE:** Electric Log  
**SOURCE:** CHERRY&K&S, GARDNER 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	OVERBURDEN	COMMENT
-561.0	CARBONDALE	HERRIN	COAL	-	935.0	
-656.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	



**MAPID:** 06500113000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 24    **QUARTERS/FOOTAGES:** NE SE NE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.371633    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.25102    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 375.0    **LOGGED (FT.):** 3750.0    **LOG TYPE:** Electric Log  
**SOURCE:** CHERRY&K&S, GARDNER 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-575.0	CARBONDALE	HERRIN	COAL	-	950.0	
-660.0	CARBONDALE	SPRINGFIELD	COAL	-	1035.0	
-2087.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2462.0	

**MAPID:** 06500114000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 24    **QUARTERS/FOOTAGES:** SE NE NE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.371619    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.252812    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 382.0    **LOGGED (FT.):** 3820.0    **LOG TYPE:** Electric Log  
**SOURCE:** RBNSN PUCK, MCCULLOUGH0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-573.0	CARBONDALE	HERRIN	COAL	-	955.0	
-658.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0	

**MAPID:** 06500115000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 24    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** SPRINGERTON    **LONGITUDE:** -88.371665    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.247442    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 378.0    **LOGGED (FT.):** 3258.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-556.0	CARBONDALE	HERRIN	COAL	4.0	934.0	
-610.0	CARBONDALE	BRIAR HILL	COAL	-	988.0	
-646.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1024.0	SHALE & SILTSTONE ROOF
-720.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1098.0	

**MAPID:** 06500115000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 24    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** SPRINGERTON    **LONGITUDE:** -88.371665    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.247442    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 378.0    **LOGGED (FT.):** 3780.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, POORMN A J00B1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-557.0	CARBONDALE	HERRIN	COAL	-	935.0	
-647.0	CARBONDALE	SPRINGFIELD	COAL	-	1025.0	
-2114.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2492.0	

**MAPID:** 06500116000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 24    **QUARTERS/FOOTAGES:** SE NE SE  
**QUADRANGLE:** SPRINGERTON    **LONGITUDE:** -88.371679    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.245651    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 379.0    **LOGGED (FT.):** 3790.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, POORMN A J00B2    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-546.0	CARBONDALE	HERRIN	COAL	-	925.0	
-646.0	CARBONDALE	SPRINGFIELD	COAL	-	1025.0	
-2101.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2480.0	

**MAPID:** 06501787000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** HAMILTON    **TWP/RNG:** 3S 7E    **SECTION:** 24    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.376276    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.245632    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 376.0    **LOGGED (FT.):** 1269.5    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS COMPANY, THE    1787    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
376.0			UNKNOWN	1187.0	0.0	
-811.0	CARBONDALE	COLCHESTER	COAL	1.0	1187.0	THICKNESS LESS THAN 16"
-812.0	CARBONDALE		UNKNOWN	46.0	1188.0	
-858.0	CARBONDALE	DEKOVEN	COAL	2.5	1234.0	
-860.5	CARBONDALE		UNKNOWN	29.5	1236.5	
-890.0	CARBONDALE	DAVIS	COAL	3.5	1266.0	

MAPID: 06500117000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 25 QUARTERS/FOOTAGES: SE NE SE  
 QUADRANGLE: SPRINGERTON LONGITUDE: -88.371807 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.231054 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 1227.5 LOG TYPE: Electric Log  
 SOURCE: MAGNOLIA PETROLEUM CO. 117 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.0			UNKNOWN	1150.0	0.0	
-771.0	CARBONDALE	COLCHESTER	COAL	1.0	1150.0	THICKNESS LESS THAN 16"
-772.0	CARBONDALE		UNKNOWN	41.0	1151.0	
-813.0	CARBONDALE	DEKOVEN	COAL	2.0	1192.0	
-815.0	CARBONDALE		UNKNOWN	30.0	1194.0	
-845.0	CARBONDALE	DAVIS	COAL	3.5	1224.0	

MAPID: 06500117000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 25 QUARTERS/FOOTAGES: SE NE SE  
 QUADRANGLE: SPRINGERTON LONGITUDE: -88.371807 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.231054 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3790.0 LOG TYPE: Electric Log  
 SOURCE: MAGNOLIA, FYIE ANNA 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-524.0	CARBONDALE	HERRIN	COAL	-	903.0	
-607.0	CARBONDALE	SPRINGFIELD	COAL	-	986.0	
-2043.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2422.0	

MAPID: 06500118000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 25 QUARTERS/FOOTAGES: SE NW SE  
 QUADRANGLE: BUNGAY LONGITUDE: -88.376435 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.230998 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3790.0 LOG TYPE: Electric Log  
 SOURCE: MAGNOLIA, FYIE ANNA 0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-531.0	CARBONDALE	HERRIN	COAL	-	910.0	
-626.0	CARBONDALE	SPRINGFIELD	COAL	-	1005.0	
-2066.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2445.0	

MAPID: 06500507000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 25 QUARTERS/FOOTAGES: 660' S line, 660' E line  
 QUADRANGLE: SPRINGERTON LONGITUDE: -88.372978 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.228264 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3800.0 LOG TYPE: Electric Log  
 SOURCE: MAGNOLIA, FYIE ANNA 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-515.0	CARBONDALE	HERRIN	COAL	-	895.0	
-600.0	CARBONDALE	SPRINGFIELD	COAL	-	980.0	
-2042.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2422.0	

MAPID: 06500507000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 25 QUARTERS/FOOTAGES: 660' S line, 660' E line  
 QUADRANGLE: SPRINGERTON LONGITUDE: -88.372978 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.228264 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 1002.0 LOG TYPE: Electric Log  
 SOURCE: WELL TYPE: Oil and Gas Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-540.0	CARBONDALE	DANVILLE	COAL	1.0	920.0	
-541.0	CARBONDALE		SHALE & SANDSTONE	33.0	921.0	
-574.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	954.0	
-578.0	CARBONDALE	LAWSON	SILTY SHALE	31.0	958.0	
-609.0	CARBONDALE	BRERETON	LIMESTONE	7.0	989.0	
-616.0	CARBONDALE	ANNA	BLACK SHALE	2.0	996.0	
-618.0	CARBONDALE	HERRIN	COAL	4.0	998.0	

MAPID: 06500507000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 25 QUARTERS/FOOTAGES: 660' S line, 660' E line  
 QUADRANGLE: SPRINGERTON LONGITUDE: -88.372978 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.228264 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3248.0 LOG TYPE: Electric Log  
 SOURCE: MAGNOLIA PETROLEUM WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-517.0	CARBONDALE	HERRIN	COAL	3.0	897.0	
-558.0	CARBONDALE	BRIAR HILL	COAL	-	938.0	
-597.0	CARBONDALE	SPRINGFIELD	COAL	5.0	977.0	BLACK SHALE & LIMESTONE ROOF
-690.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1070.0	

MAPID: 06501600000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 26 QUARTERS/FOOTAGES: 2310' S line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.40669 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.232678 DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3530.0 LOG TYPE: Electric Log

SOURCE: FLOYD & HENSON INC WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-618.0	CARBONDALE	HERRIN	COAL	2.0	993.0	
-673.0	CARBONDALE	BRIAR HILL	COAL	-	1048.0	
-705.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1080.0	BLACK SHALE & LIMESTONE ROOF
-785.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1160.0	

MAPID: 06501600000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 26 QUARTERS/FOOTAGES: 2310' S line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.40669 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.232678 DATE COLLECTED:

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 996.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-534.0	CARBONDALE	DANVILLE	COAL	2.0	911.0	
-536.0	CARBONDALE		SHALE & SANDSTONE	28.0	913.0	
-564.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	941.0	
-570.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	947.0	
-577.0	CARBONDALE	LAWSON	SANDSTONE	10.0	954.0	
-587.0	CARBONDALE	LAWSON	SILTY SHALE	16.0	964.0	
-603.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	980.0	
-604.0	CARBONDALE		CLAYSTONE	3.0	981.0	
-607.0	CARBONDALE	BRERETON	LIMESTONE	6.0	984.0	
-613.0	CARBONDALE	ANNA	BLACK SHALE	2.0	990.0	
-615.0	CARBONDALE	HERRIN	COAL	4.0	992.0	

MAPID: 06501603000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 29 QUARTERS/FOOTAGES: 990' S line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.46266 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.229029 DATE COLLECTED:

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3440.0 LOG TYPE: Electric Log

SOURCE: REASOR G L WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-556.0	CARBONDALE	HERRIN	COAL	5.0	933.0	
-601.0	CARBONDALE	BRIAR HILL	COAL	-	978.0	
-629.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1006.0	BLACK SHALE & LIMESTONE ROOF
-701.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1078.0	

MAPID: 06501603000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 29 QUARTERS/FOOTAGES: 990' S line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.46266 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.229029 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 940.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-479.5	CARBONDALE	DANVILLE	COAL	3.0	860.5	
-482.5	CARBONDALE		SHALE & SANDSTONE	20.0	863.5	
-502.5	CARBONDALE	ALLENBY	COAL	1.5	883.5	
-504.0	CARBONDALE		CLAYSTONE & SHALE	7.0	885.0	
-511.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	892.0	
-515.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	12.0	896.0	
-527.0	CARBONDALE	LAWSON	SANDSTONE	10.0	908.0	
-537.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	918.0	
-547.0	CARBONDALE	JAMESTOWN	COAL	1.0	928.0	
-548.0	CARBONDALE		CLAYSTONE	2.0	929.0	
-550.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	931.0	
-552.0	CARBONDALE	ANNA	BLACK SHALE	2.0	933.0	
-554.0	CARBONDALE	HERRIN	COAL	5.0	935.0	

MAPID: 06501788000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE  
 QUADRANGLE: BUNGAY LONGITUDE: -88.453236 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.236534 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 1273.0 LOG TYPE: Electric Log  
 SOURCE: DP LAWHEAD & GREO CULLUM 1788 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
395.0			UNKNOWN	1189.0	0.0	
-794.0	CARBONDALE	COLCHESTER	COAL	1.0	1189.0	THICKNESS LESS THAN 16"
-795.0	CARBONDALE		UNKNOWN	48.0	1190.0	
-843.0	CARBONDALE	DEKOVEN	COAL	2.0	1238.0	
-845.0	CARBONDALE		UNKNOWN	30.0	1240.0	
-875.0	CARBONDALE	LOWER DEKOVEN	COAL	0.5	1270.0	
-875.5	CARBONDALE		UNKNOWN	0.5	1270.5	
-876.0	CARBONDALE	DAVIS	COAL	2.0	1271.0	

MAPID: 06501605000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 30 QUARTERS/FOOTAGES: 2310' N line, 2310' W line  
 QUADRANGLE: BUNGAY LONGITUDE: -88.474147 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.234444 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 391.0 LOGGED (FT.): 3457.0 LOG TYPE: Electric Log  
 SOURCE: LA GRANGE PETR WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-583.0	CARBONDALE	HERRIN	COAL	6.0	974.0	
-625.0	CARBONDALE	BRIAR HILL	COAL	-	1016.0	
-657.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1048.0	BLACK SHALE & LIMESTONE ROOF
-739.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1130.0	

MAPID: 06501605000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 30 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.474147 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.234444 DATE COLLECTED:

SURFACE ELEVATION (FT.): 391.0 LOGGED (FT.): 980.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-507.0	CARBONDALE	DANVILLE	COAL	3.0	898.0	
-510.0	CARBONDALE		SHALE & SANDSTONE	24.0	901.0	
-534.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	925.0	
-537.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	38.0	928.0	
-575.0	CARBONDALE	BRERETON	LIMESTONE	6.0	966.0	
-581.0	CARBONDALE	ANNA	BLACK SHALE	2.0	972.0	
-583.0	CARBONDALE	HERRIN	COAL	6.0	974.0	

MAPID: 06500706000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 31 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.474646 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.217894 DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3453.0 LOG TYPE: Electric Log

SOURCE: KEWANEE OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-545.0	CARBONDALE	HERRIN	COAL	4.0	920.0	
-615.0	CARBONDALE	BRIAR HILL	COAL	-	990.0	
-647.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1022.0	BLACK SHALE & LIMESTONE ROOF
-731.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1106.0	



MAPID: 06500706000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 31 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.474646

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.217894

DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0

LOGGED (FT.): 925.5

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
-503.5	CARBONDALE	DANVILLE	COAL	2.0	878.5
-505.5	CARBONDALE	ALLENBY	COAL	1.0	880.5
-506.5	CARBONDALE		CLAYSTONE & SHALE	3.0	881.5
-509.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	884.5
-511.5	CARBONDALE	LAWSON	SILTY SHALE	30.0	886.5
-541.5	CARBONDALE	BRERETON	LIMESTONE	4.5	916.5
-546.0	CARBONDALE	HERRIN	COAL	4.5	921.0

MAPID: 06500119000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 32 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.458189

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.218028

DATE COLLECTED: 0 / 0 / 1938

SURFACE ELEVATION (FT.): 380.0

LOGGED (FT.): 3800.0

LOG TYPE: Electric Log

SOURCE: WEINERT H, HAMI CO LC0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-572.0	CARBONDALE	HERRIN	COAL	-	952.0
-667.0	CARBONDALE	SPRINGFIELD	COAL	-	1047.0
-2119.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2499.0

MAPID: 06500119000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 32 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.458189

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.218028

DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0

LOGGED (FT.): 858.0

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
-429.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	812.0
-435.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	818.0
-465.0	CARBONDALE	BRERETON	LIMESTONE	5.0	848.0
-470.0	CARBONDALE	ANNA	SHALE	2.0	853.0
-472.0	CARBONDALE	HERRIN	COAL	3.0	855.0

MAPID: 06500119000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 32 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.458189 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.218028 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3483.0 LOG TYPE: Electric Log

SOURCE: WEINERT, H. H., ESTATE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	3.0	965.0	
-	CARBONDALE	SPRINGFIELD	COAL	6.0	1052.0	BLACK SHALE & LIMESTONE ROOF
-	CARBONDALE	HOUCHIN CREEK	COAL	-	1123.0	

MAPID: 06501607000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 1650' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.376469 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.22549 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3233.0 LOG TYPE: Electric Log

SOURCE: CHERRY, KIDD & BARRON WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-537.0	CARBONDALE	HERRIN	COAL	3.0	916.0	
-588.0	CARBONDALE	BRIAR HILL	COAL	-	967.0	
-619.0	CARBONDALE	SPRINGFIELD	COAL	4.0	998.0	BLACK SHALE & LIMESTONE ROOF
-707.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1086.0	

MAPID: 06501607000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 3S 7E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 1650' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.376469 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.22549 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 920.0 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
-466.5	CARBONDALE	DANVILLE	COAL	2.5	845.5
-469.0	CARBONDALE		SHALE & SANDSTONE	20.0	848.0
-489.0	CARBONDALE	ALLENBY	BONE COAL	1.0	868.0
-490.0	CARBONDALE		CLAYSTONE & SHALE	5.0	869.0
-495.0	CARBONDALE	LAWSON	GRAY SHALE	7.0	874.0
-502.0	CARBONDALE	LAWSON	SANDSTONE	12.0	881.0
-514.0	CARBONDALE	LAWSON	GRAY SHALE	16.0	893.0
-530.0	CARBONDALE	BRERETON	LIMESTONE	5.0	909.0
-535.0	CARBONDALE	ANNA	BLACK SHALE	2.0	914.0
-537.0	CARBONDALE	HERRIN	COAL	4.0	916.0

MAPID: 06500045000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 1 QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.594354 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.204315 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 4400.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, RAWLS RBRT0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-525.0	CARBONDALE	HERRIN	COAL	5.0	965.0
-625.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1065.0
-2066.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2506.0

MAPID: 06500045000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 1    QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.594354

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.204315

DATE COLLECTED:

SURFACE ELEVATION (FT.): 440.0

LOGGED (FT.): 971.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-484.0	CARBONDALE	ALLENBY	BONE COAL	1.0	924.0	
-485.0	CARBONDALE		GRAY SHALE	3.0	925.0	
-488.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	928.0	
-491.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	931.0	
-499.0	CARBONDALE	LAWSON	SANDSTONE	10.0	939.0	
-509.0	CARBONDALE	LAWSON	GRAY SHALE	10.0	949.0	
-519.0	CARBONDALE	BRERETON	LIMESTONE	6.0	959.0	
-525.0	CARBONDALE	ANNA	BLACK SHALE	2.0	965.0	
-527.0	CARBONDALE	HERRIN	COAL	4.0	967.0	

MAPID: 06500045000C    VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 1    QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.594354

GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.204315

DATE COLLECTED:

SURFACE ELEVATION (FT.): 440.0

LOGGED (FT.): 4389.0

LOG TYPE: Electric Log

SOURCE: TEXACO, INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-527.0	CARBONDALE	HERRIN	COAL	4.0	967.0	
-583.0	CARBONDALE	BRIAR HILL	COAL	-	1023.0	
-628.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1068.0	BLACK SHALE & LIMESTONE ROOF
-702.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1142.0	

MAPID: 06500045000C    VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 1    QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.594354

GEOLOGIST: HINES

CONFIDENTIAL: N    LATITUDE: 38.204315

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 4389.0

LOG TYPE: Survey Sample Study

SOURCE: TEXAS COMPANY, THE

WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

MAPID: 06501276000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 1 QUARTERS/FOOTAGES: 1650' N line, 990' E line of NE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.596603 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.207944 DATE COLLECTED:

SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 5260.0 LOG TYPE: Electric Log

SOURCE: KEWANEE OIL & GAS WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-533.0	CARBONDALE	HERRIN	COAL	4.0	957.0	
-578.0	CARBONDALE	BRIAR HILL	COAL	-	1002.0	
-634.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1058.0	BLACK SHALE & LIMESTONE ROOF
-706.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1130.0	

MAPID: 06500169000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 2 QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.612552 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.204526 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 448.0 LOGGED (FT.): 4480.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA, KARCHR UNT0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-536.0	CARBONDALE	HERRIN	COAL	-	984.0	
-672.0	CARBONDALE	SPRINGFIELD	COAL	-	1120.0	
-2128.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2576.0	

MAPID: 06500169000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 2    QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.612552

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.204526

DATE COLLECTED:

SURFACE ELEVATION (FT.): 448.0

LOGGED (FT.): 994.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-446.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	894.0	
-450.0	MODESTO		SILTY SHALE	26.0	898.0	
-476.0	CARBONDALE	DANVILLE	COAL	2.0	924.0	
-478.0	CARBONDALE		SILTY SHALE	26.0	926.0	
-504.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	952.0	
-506.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	19.0	954.0	
-525.0	CARBONDALE	LAWSON	GRAY SHALE	11.0	973.0	
-536.0	CARBONDALE	BRERETON	LIMESTONE	5.0	984.0	
-541.0	CARBONDALE	HERRIN	COAL	5.0	989.0	

MAPID: 06500169000C    VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 2    QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.612552

GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.204526

DATE COLLECTED:

SURFACE ELEVATION (FT.): 448.0

LOGGED (FT.): 3460.0

LOG TYPE: Electric Log

SOURCE: MAGNOLIA PETROLEUM

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-542.0	CARBONDALE	HERRIN	COAL	4.0	990.0	
-671.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1119.0	BLACK SHALE & LIMESTONE ROOF
-746.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1194.0	

MAPID: 06500170000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 3 QUARTERS/FOOTAGES: 1883' S line, 1646' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.635179 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.203063 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 5530.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, AYDT R W 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-527.0	CARBONDALE	HERRIN	COAL	-	1080.0
-642.0	CARBONDALE	SPRINGFIELD	COAL	-	1195.0
-2078.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2631.0

MAPID: 06500170000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 3 QUARTERS/FOOTAGES: 1883' S line, 1646' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.635179 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.203063 DATE COLLECTED:

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 1090.0 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
-443.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	996.0
-449.0	MODESTO		SHALE	24.0	1002.0
-473.0	CARBONDALE	DANVILLE	COAL	2.0	1026.0
-475.0	CARBONDALE		SHALE & SANDSTONE	17.0	1028.0
-492.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	5.0	1045.0
-497.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	11.0	1050.0
-508.0	CARBONDALE	LAWSON	GRAY SHALE	18.0	1061.0
-526.0	CARBONDALE	BRERETON	LIMESTONE	5.0	1079.0
-531.0	CARBONDALE	ANNA	SHALE	1.0	1084.0
-532.0	CARBONDALE	HERRIN	COAL	5.0	1085.0

MAPID: 06500170000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 3 QUARTERS/FOOTAGES: 1883' S line, 1646' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.635179 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.203063 DATE COLLECTED:

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 3596.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL CO., THE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-533.0	CARBONDALE	HERRIN	COAL	4.0	1086.0	
-641.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1194.0	BLACK SHALE & LIMESTONE ROOF
-721.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1274.0	

MAPID: 06501526000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 4 QUARTERS/FOOTAGES: 1650' N line, 330' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.648597 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.207722 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 3555.0 LOG TYPE: Electric Log

SOURCE: REZNIK JOE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-543.0	CARBONDALE	HERRIN	COAL	4.0	1086.0	
-607.0	CARBONDALE	BRIAR HILL	COAL	-	1150.0	
-635.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1178.0	BLACK SHALE & LIMESTONE ROOF
-727.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1270.0	



MAPID: 06501526000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 4 QUARTERS/FOOTAGES: 1650' N line, 330' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.648597 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.207722 DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0 LOGGED (FT.): 1090.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-460.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	1003.0	
-465.0	MODESTO		SHALE	20.0	1008.0	
-485.0	CARBONDALE	DANVILLE	COAL	2.0	1028.0	
-487.0	CARBONDALE		SHALE & SANDSTONE	15.0	1030.0	
-502.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	1045.0	
-507.0	CARBONDALE	LAWSON	SILTY SHALE	29.0	1050.0	
-536.0	CARBONDALE	BRERETON	LIMESTONE	6.0	1079.0	
-542.0	CARBONDALE	ANNA	SHALE	1.0	1085.0	
-543.0	CARBONDALE	HERRIN	COAL	4.0	1086.0	

MAPID: 06501527000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 6 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.702481 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.20274 DATE COLLECTED:

SURFACE ELEVATION (FT.): 458.0 LOGGED (FT.): 3416.0 LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-484.0	CARBONDALE	HERRIN	COAL	5.0	942.0	
-532.0	CARBONDALE	BRIAR HILL	COAL	-	990.0	
-557.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1015.0	BLACK SHALE & LIMESTONE ROOF
-653.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1111.0	

MAPID: 06501527000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 6 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.702481

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.20274

DATE COLLECTED:

SURFACE ELEVATION (FT.): 458.0 LOGGED (FT.): 946.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-403.0	MODESTO	PIASA	CALCAREOUS SHALE	1.0	861.0	
-404.0	MODESTO		SHALE	21.0	862.0	
-425.0	CARBONDALE	DANVILLE	COAL	2.0	883.0	
-427.0	CARBONDALE		SHALE & SANDSTONE	18.0	885.0	
-445.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	903.0	
-452.0	CARBONDALE	LAWSON	SHALE	6.0	910.0	
-458.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	3.0	916.0	
-461.0	CARBONDALE	LAWSON	GRAY SHALE	13.0	919.0	
-474.0	CARBONDALE	BRERETON	LIMESTONE	5.0	932.0	
-479.0	CARBONDALE	ANNA	BLACK SHALE	5.0	937.0	
-484.0	CARBONDALE	HERRIN	COAL	4.0	942.0	

MAPID: 06501527000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 6 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.702481

GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.20274

DATE COLLECTED:

SURFACE ELEVATION (FT.): 458.0 LOGGED (FT.): 1270.0

LOG TYPE: Electric Log

SOURCE: E.A. OBERING 1527

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.0			UNKNOWN	1187.0	0.0	
-729.0	CARBONDALE	COLCHESTER	COAL	1.0	1187.0	THICKNESS LESS THAN 16"
-730.0	CARBONDALE		UNKNOWN	39.0	1188.0	
-769.0	CARBONDALE	DEKOVEN	COAL	3.0	1227.0	
-772.0	CARBONDALE		UNKNOWN	37.0	1230.0	
-809.0	CARBONDALE	DAVIS	COAL	3.0	1267.0	

MAPID: 06501528000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 10 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.644161 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.193302 DATE COLLECTED:

SURFACE ELEVATION (FT.): 552.0 LOGGED (FT.): 3539.0 LOG TYPE: Electric Log

SOURCE: BOLIN, D. H. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-552.0	CARBONDALE	HERRIN	COAL	4.0	1104.0	
-598.0	CARBONDALE	BRIAR HILL	COAL	-	1150.0	
-649.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1201.0	BLACK SHALE & LIMESTONE ROOF
-742.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1294.0	

MAPID: 06501528000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 10 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.644161 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.193302 DATE COLLECTED:

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 1109.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-456.5	MODESTO	PIASA	LIMESTONE & SHALE	4.0	1011.5	
-460.5	MODESTO		SHALE	23.0	1015.5	
-483.5	CARBONDALE	DANVILLE	COAL	2.0	1038.5	
-485.5	CARBONDALE		SHALE & SANDSTONE	21.0	1040.5	
-506.5	CARBONDALE	LAWSON	SILTY SHALE	8.0	1061.5	
-514.5	CARBONDALE	LAWSON	SANDSTONE	11.0	1069.5	
-525.5	CARBONDALE	LAWSON	SHALE	13.0	1080.5	
-538.5	CARBONDALE	LAWSON	CLAYSTONE	2.0	1093.5	
-540.5	CARBONDALE	BRERETON	LIMESTONE	10.0	1095.5	
-550.5	CARBONDALE	ANNA	BLACK SHALE	0.5	1105.5	
-551.0	CARBONDALE	HERRIN	COAL	3.0	1106.0	

MAPID: 06501528000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 10 QUARTERS/FOOTAGES: 1650' N line, 990' W line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.644161 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.193302 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 1452.0 LOG TYPE: Electric Log  
 SOURCE: D.H. BOLIN 1528 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
555.0			UNKNOWN	1366.0	0.0	
-811.0	CARBONDALE	COLCHESTER	COAL	1.0	1366.0	THICKNESS LESS THAN 16"
-812.0	CARBONDALE		UNKNOWN	29.0	1367.0	
-841.0	CARBONDALE	DEKOVEN	COAL	2.0	1396.0	
-843.0	CARBONDALE		UNKNOWN	50.0	1398.0	
-893.0	CARBONDALE	DAVIS	COAL	4.0	1448.0	

MAPID: 06500638000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 12 QUARTERS/FOOTAGES: 2310' S line, 2310' E line  
 QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.60139 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.189812 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 3462.0 LOG TYPE: Electric Log  
 SOURCE: STRICKLAND, FRANK L. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-553.0	CARBONDALE	HERRIN	COAL	4.0	985.0	
-666.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1098.0	BLACK SHALE & LIMESTONE ROOF
-761.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1193.0	

MAPID: 06500638000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 12 QUARTERS/FOOTAGES: 2310' S line, 2310' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.60139

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.189812

DATE COLLECTED:

SURFACE ELEVATION (FT.): 432.0

LOGGED (FT.): 990.0

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
-452.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	884.0
-456.0	MODESTO		SHALE	27.0	888.0
-483.0	CARBONDALE	DANVILLE	COAL	1.0	915.0
-484.0	CARBONDALE		SHALE & SANDSTONE	26.0	916.0
-510.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.5	942.0
-512.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	29.0	944.5
-541.5	CARBONDALE	BRERETON	LIMESTONE	8.0	973.5
-554.0	CARBONDALE	HERRIN	COAL	4.0	986.0

MAPID: 06525494000C VERSION: 1

PROJECT:

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 13 QUARTERS/FOOTAGES: 582' N, 2149' E, SW/c

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.604292 GEOLOGIST: NELSON

CONFIDENTIAL: N LATITUDE: 38.170458 DATE COLLECTED: 9 / 25 / 2008

SURFACE ELEVATION (FT.): 415.0 LOGGED (FT.): 1073.0 LOG TYPE: Gamma Ray Density

SOURCE: WHITE OAK RESOURCES 19 WELL TYPE: Coal Test

COMMENT: GAMMA RAY, DENSITY, RESISTIVITY LOGS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
345.0	MATTOON	MCCLEARY'S BLUFF	COAL	-	70.0	
238.0	MATTOON	FRIENDSVILLE	COAL	-	177.0	
128.0	BOND	FLANNIGAN	COAL	1.0	287.0	
94.0	BOND		SHALE	3.0	321.0	FITHIAN SHALE
18.0	BOND	MT. CARMEL	SANDSTONE	47.0	397.0	
-29.0	BOND	CARTHAGE	LIMESTONE	6.0	444.0	
-35.0	PATOKA		SHALE	4.0	450.0	STARK SHALE
-180.0	PATOKA		SHALE	4.0	595.0	HUSHPUCKNEY SHALE
-279.0	PATOKA	CRAMER	LIMESTONE	2.0	694.0	
-295.0	PATOKA	CHAPEL	COAL	2.0	710.0	UPPER
-307.0	PATOKA	CHAPEL	COAL	-	722.0	BASE
-389.0	PATOKA	TRIVOLI	SANDSTONE	-	804.0	
-409.0	SHELburn	LAKE CREEK	COAL	2.0	824.0	
-432.0	SHELburn		SHALE	3.0	847.0	ATTILA SHALE
-442.0	SHELburn	PIASA	LIMESTONE	6.0	857.0	
-473.0	SHELburn	DANVILLE	COAL	2.0	888.0	
-498.0	SHELburn	BANKSTON FORK	LIMESTONE	6.0	913.0	
-540.0	CARBONDALE	HERRIN	COAL	4.0	955.0	
-602.0	CARBONDALE	VERMILIONVILLE	SANDSTONE	28.0	1017.0	
-643.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1058.0	

MAPID: 06500737000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.615234 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.169803 DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 3448.0 LOG TYPE: Electric Log

SOURCE: BOLIN, D. H. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-532.0	CARBONDALE	HERRIN	COAL	4.0	960.0	
-630.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1058.0	BLACK SHALE ROOF
-714.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1142.0	

MAPID: 06500737000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.615234

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.169803

DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0

LOGGED (FT.): 964.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-439.5	MODESTO	PIASA	LIMESTONE & SHALE	3.0	867.5	
-442.5	MODESTO		SHALE	29.0	870.5	
-471.5	CARBONDALE	DANVILLE	COAL	1.5	899.5	
-473.0	CARBONDALE		SILTY SHALE	18.0	901.0	
-491.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	919.0	
-495.0	CARBONDALE	LAWSON	SHALE	3.0	923.0	
-498.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	926.0	
-513.0	CARBONDALE	LAWSON	SHALE	9.0	941.0	
-522.0	CARBONDALE	LAWSON	CLAYSTONE	3.0	950.0	
-525.0	CARBONDALE	BRERETON	LIMESTONE	6.0	953.0	
-531.0	CARBONDALE	ANNA	BLACK SHALE	1.0	959.0	
-532.0	CARBONDALE	HERRIN	COAL	4.0	960.0	

MAPID: 06524000000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 15 QUARTERS/FOOTAGES: NE NW

QUADRANGLE: DAHLGREN LONGITUDE: -88.640954

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.181541

DATE COLLECTED: 4 / 23 / 1978

SURFACE ELEVATION (FT.): 507.0

LOGGED (FT.): 1171.0

LOG TYPE: Other Core Study

SOURCE: OLD BEN COAL CORP. JH-11

WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-555.8	CARBONDALE	JAMESTOWN	COAL	1.0	1062.8	
-564.2	CARBONDALE	HERRIN	COAL	4.6	1071.2	REMOVED BY CO.

MAPID: 06500508000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 17 QUARTERS/FOOTAGES: 2310' S line, 330' E line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.667585 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.175028 DATE COLLECTED: 0 / 0 / 1944  
 SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 4520.0 LOG TYPE: Electric Log  
 SOURCE: GULF REF, MCGTH MNFD0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-488.0	CARBONDALE	HERRIN	COAL	-	940.0
-576.0	CARBONDALE	SPRINGFIELD	COAL	-	1028.0
-2058.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2510.0

MAPID: 06500508000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 17 QUARTERS/FOOTAGES: 2310' S line, 330' E line  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.667585 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.175028 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 943.0 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
-398.0	MODESTO	PIASA	CALCAREOUS SHALE	6.0	850.0
-404.0	MODESTO		SHALE	18.0	856.0
-422.0	CARBONDALE	DANVILLE	COAL	1.0	874.0
-423.0	CARBONDALE		SHALE & SANDSTONE	23.0	875.0
-446.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	898.0
-452.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	904.0
-462.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	914.0
-474.0	CARBONDALE	LAWSON	SHALE	8.0	926.0
-482.0	CARBONDALE	LAWSON	CLAYSTONE	4.0	934.0
-486.0	CARBONDALE	HERRIN	COAL	5.0	938.0



MAPID: 06500508000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 17 QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.667585 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.175028 DATE COLLECTED:

SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 3515.0 LOG TYPE: Electric Log

SOURCE: GULF REFINING CO-EPD WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-486.0	CARBONDALE	HERRIN	COAL	4.0	938.0	
-574.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1026.0	BLACK SHALE ROOF
-661.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1113.0	

MAPID: 06500502000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 19 QUARTERS/FOOTAGES: 1746' S line, 1087' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.700382 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.159394 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 5240.0 LOG TYPE: Electric Log

SOURCE: MIDSUN OC, HALL MARY 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-450.0	CARBONDALE	HERRIN	COAL	-	974.0	
-531.0	CARBONDALE	SPRINGFIELD	COAL	-	1055.0	
-1996.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2520.0	

MAPID: 06500502000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 19 QUARTERS/FOOTAGES: 1746' S line, 1087' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.700382

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.159394

DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0

LOGGED (FT.): 981.0

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
-367.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	891.0
-372.0	MODESTO		SHALE	15.0	896.0
-387.0	CARBONDALE	DANVILLE	COAL	3.0	911.0
-390.0	CARBONDALE		SHALE & SANDSTONE	15.0	914.0
-405.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	929.0
-409.0	CARBONDALE	LAWSON	SILTY SHALE	5.0	933.0
-414.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	938.0
-429.0	CARBONDALE	LAWSON	SHALE	12.0	953.0
-441.0	CARBONDALE	LAWSON	CLAYSTONE	3.0	965.0
-444.0	CARBONDALE	BRERETON	LIMESTONE	8.0	968.0
-452.0	CARBONDALE	HERRIN	COAL	5.0	976.0

MAPID: 06500502000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 19 QUARTERS/FOOTAGES: 1746' S line, 1087' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.700382

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.159394

DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0

LOGGED (FT.): 3521.0

LOG TYPE: Electric Log

SOURCE: MID-SUN OIL CORP

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-452.0	CARBONDALE	HERRIN	COAL	4.0	976.0
-496.0	CARBONDALE	BRIAR HILL	COAL	-	1020.0
-530.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1054.0
-620.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1144.0

BLACK SHALE & LIMESTONE  
ROOF

MAPID: 06501529000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.62187 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.155351 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 3464.0 LOG TYPE: Electric Log

SOURCE: TWAIN, MARK OIL PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-503.0	CARBONDALE	HERRIN	COAL	4.0	934.0	
-595.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1026.0	BLACK SHALE & LIMESTONE ROOF
-675.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1106.0	

MAPID: 06501529000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.62187 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.155351 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 938.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-407.0	MODESTO	PIASA	CALCAREOUS SHALE	8.0	838.0	
-415.0	MODESTO		SHALE	24.0	846.0	
-439.0	CARBONDALE	DANVILLE	COAL	2.0	870.0	
-441.0	CARBONDALE		SILTY SHALE	15.0	872.0	
-456.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	887.0	
-463.0	CARBONDALE	LAWSON	SILTY SHALE	9.0	894.0	
-472.0	CARBONDALE	LAWSON	SANDSTONE	8.0	903.0	
-480.0	CARBONDALE	LAWSON	SHALE	12.0	911.0	
-492.0	CARBONDALE	LAWSON	CLAYSTONE	4.0	923.0	
-496.0	CARBONDALE	BRERETON	LIMESTONE	5.0	927.0	
-501.0	CARBONDALE	ANNA	BLACK SHALE	2.0	932.0	
-503.0	CARBONDALE	HERRIN	COAL	4.0	934.0	

MAPID: 06501529000C    VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 23    QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.62187    GEOLOGIST: STRAAYER

CONFIDENTIAL: N    LATITUDE: 38.155351    DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0    LOGGED (FT.): 1290.0    LOG TYPE: Electric Log

SOURCE: MART TWAIN OIL DR CO    1529    WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
431.0			UNKNOWN	1198.0	0.0	
-767.0	CARBONDALE	COLCHESTER	COAL	1.0	1198.0	THICKNESS LESS THAN 16"
-768.0	CARBONDALE		UNKNOWN	87.0	1199.0	
-855.0	CARBONDALE	DAVIS	COAL	4.0	1286.0	

MAPID: 06500001000C    VERSION: 1

PROJECT: NCRDS87

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 25    QUARTERS/FOOTAGES: 2590' N line, 2145' E line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.601017    GEOLOGIST: WEIBEL

CONFIDENTIAL: N    LATITUDE: 38.147269    DATE COLLECTED:

SURFACE ELEVATION (FT.): 409.9    LOGGED (FT.): 919.8    LOG TYPE: Drillers Log

SOURCE: DELAFIELD COAL CO.    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
409.9			UNCONSOLIDATED	13.0	0.0
396.9			SHALE	7.5	13.0
389.4			SANDSTONE	9.5	20.5
379.9			SHALE	9.5	30.0
370.4			COAL	0.8	39.5
369.6			UNDERCLAY	3.0	40.3
366.6			SANDSTONE	19.7	43.3
346.9			SHALE	66.5	63.0
280.4			SANDSTONE	33.5	129.5
246.9	BOND		SHALE & SANDSTONE	45.0	163.0
201.9	BOND		SHALE	62.7	208.0
139.2	BOND		COAL	1.0	270.7
138.2	BOND		SHALE	1.0	271.7
137.2	BOND		LIMESTONE	10.0	272.7
127.2	BOND		SHALE	23.8	282.7
103.5	BOND		LIMESTONE	1.0	306.4
102.5	BOND		BLACK SHALE	3.6	307.4
98.9	BOND		SHALE	39.0	311.0
59.9	BOND		SANDSTONE	76.5	350.0
-16.6	BOND	CARTHAGE	LIMESTONE	11.5	426.5
-28.1	MODESTO		BLACK SHALE	6.0	438.0
-34.1	MODESTO		SHALE & SANDSTONE	10.0	444.0
-44.1	MODESTO		COAL	0.3	454.0
-44.4	MODESTO		UNDERCLAY	3.0	454.3
-47.4	MODESTO		SHALE	1.0	457.3
-48.4	MODESTO		SHALE & SANDSTONE	145.0	458.3
-193.4	MODESTO		COAL	4.3	603.3
-197.7	MODESTO		SHALE & SANDSTONE	38.7	607.6
-236.4	MODESTO		LIMESTONE	2.0	646.3
-238.4	MODESTO		SHALE	4.0	648.3
-242.4	MODESTO		SANDSTONE	17.0	652.3
-259.4	MODESTO		BLACK SHALE	2.5	669.3
-261.9	MODESTO		COAL	0.5	671.8
-262.4	MODESTO		SHALE	10.0	672.3
-272.4	MODESTO		LIMESTONE	1.0	682.3
-273.4	MODESTO		SANDSTONE	60.0	683.3
-333.4	MODESTO		SHALE	45.0	743.3
-378.4	MODESTO		BLACK SHALE	2.0	788.3
-380.4	MODESTO		COAL	0.5	790.3

-380.9	MODESTO		SANDSTONE	4.0	790.8
-384.9	MODESTO		LIMESTONE	4.7	794.8
-389.5	MODESTO		BLACK SHALE	1.0	799.4
-390.5	MODESTO		COAL	1.0	800.4
-391.5	MODESTO		UNDERCLAY	2.0	801.4
-393.5	MODESTO		SHALE	7.9	803.4
-401.4	MODESTO	PIASA	LIMESTONE	8.0	811.3
-409.4	MODESTO		SHALE	25.0	819.3
-434.4	CARBONDALE	DANVILLE	COAL	2.0	844.3
-436.4	CARBONDALE		SHALE	22.0	846.3
-458.4	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	868.3
-464.4	CARBONDALE		SHALE	33.0	874.3
-497.4	CARBONDALE	ANNA	BLACK SHALE	0.5	907.3
-497.9	CARBONDALE		DARK SHALE	2.0	907.8
-499.9	CARBONDALE		LIMESTONE	4.0	909.8
-503.9	CARBONDALE	HERRIN	COAL	5.3	913.8
-509.2	CARBONDALE		UNDERCLAY	0.8	919.1

**MAPID:** 06500001000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 5E    **SECTION:** 25    **QUARTERS/FOOTAGES:** 2590' N line, 2145' E line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.601017    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.147269    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 410.0    **LOGGED (FT.):** 919.3    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-401.5	MODESTO	PIASA	LIMESTONE	8.0	811.5
-409.5	MODESTO		GRAY SHALE	25.0	819.5
-434.5	CARBONDALE	DANVILLE	COAL	2.0	844.5
-436.5	CARBONDALE		SILTY SHALE	22.0	846.5
-458.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	868.5
-464.5	CARBONDALE	LAWSON	GRAY SHALE	2.0	874.5
-466.5	CARBONDALE	LAWSON	SANDSTONE	31.0	876.5
-497.5	CARBONDALE	JAMESTOWN	BLACK SHALE	0.5	907.5
-498.0	CARBONDALE		GRAY SHALE	2.0	908.0
-500.0	CARBONDALE	BRERETON	LIMESTONE	4.0	910.0
-504.0	CARBONDALE	HERRIN	COAL	5.3	914.0

MAPID: 06500001000C VERSION: 3

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 25 QUARTERS/FOOTAGES: 2590' N line, 2145' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.601017 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.147269 DATE COLLECTED: 0 / 0 / 1906

SURFACE ELEVATION (FT.): 409.9 LOGGED (FT.): 4099.0 LOG TYPE: Drillers Log

SOURCE: DELAFIELD, CRRY MLDNG WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-504.1	CARBONDALE	HERRIN	COAL	5.3	914.0	

MAPID: 06500509000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.612959 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.153549 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 416.0 LOGGED (FT.): 4160.0 LOG TYPE: Electric Log

SOURCE: BIGGS&JNSN, BARR W T 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-529.0	CARBONDALE	HERRIN	COAL	-	945.0	
-622.0	CARBONDALE	SPRINGFIELD	COAL	-	1038.0	
-2154.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2570.0	

MAPID: 06500509000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.612959 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.153549 DATE COLLECTED:

SURFACE ELEVATION (FT.): 416.0 LOGGED (FT.): 952.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-430.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	846.0	
-438.0	MODESTO		SHALE	28.0	854.0	
-466.0	CARBONDALE	DANVILLE	COAL	2.0	882.0	
-468.0	CARBONDALE		CALCAREOUS SHALE	18.0	884.0	
-486.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	902.0	
-491.0	CARBONDALE	LAWSON	SILTY SHALE	9.0	907.0	
-500.0	CARBONDALE	LAWSON	SANDSTONE	10.0	916.0	
-510.0	CARBONDALE	LAWSON	SHALE	10.0	926.0	
-520.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	936.0	
-520.5	CARBONDALE		GRAY SHALE	3.5	936.5	
-524.0	CARBONDALE	BRERETON	LIMESTONE	10.0	940.0	
-534.0	CARBONDALE	HERRIN	COAL	2.0	950.0	

MAPID: 06500509000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.612959 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.153549 DATE COLLECTED:

SURFACE ELEVATION (FT.): 416.0 LOGGED (FT.): 3516.0 LOG TYPE: Electric Log

SOURCE: BARR, W. T. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-532.0	CARBONDALE	HERRIN	COAL	4.0	948.0	
-619.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1035.0	BLACK SHALE & LIMESTONE ROOF
-704.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1120.0	



MAPID: 06500637000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 27 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.64707 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.149655 DATE COLLECTED:

SURFACE ELEVATION (FT.): 466.0 LOGGED (FT.): 3470.0 LOG TYPE: Electric Log

SOURCE: CLAUDE NEON LTS INC WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-474.0	CARBONDALE	HERRIN	COAL	4.0	940.0	
-511.0	CARBONDALE	BRIAR HILL	COAL	-	977.0	
-543.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1009.0	BLACK SHALE & LIMESTONE ROOF
-628.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1094.0	

MAPID: 06500637000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 27 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: DAHLGREN LONGITUDE: -88.64707 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.149655 DATE COLLECTED:

SURFACE ELEVATION (FT.): 466.0 LOGGED (FT.): 944.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-376.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	842.0	
-382.0	MODESTO		SHALE	24.0	848.0	
-406.0	CARBONDALE	DANVILLE	COAL	2.0	872.0	
-408.0	CARBONDALE		SILTY SHALE	12.0	874.0	
-420.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	8.0	886.0	
-428.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	30.0	894.0	
-458.0	CARBONDALE	LAWSON	SHALE	10.0	924.0	
-468.0	CARBONDALE	BRERETON	LIMESTONE	6.0	934.0	
-474.0	CARBONDALE	HERRIN	COAL	4.0	940.0	

**MAPID:** 06500120000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 5E    **SECTION:** 29    **QUARTERS/FOOTAGES:** SW NW SW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.683955    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.144329    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 515.0    **LOGGED (FT.):** 3475.0    **LOG TYPE:** Electric Log  
**SOURCE:** YOUNGBLOOD ETAL    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-405.0	CARBONDALE	HERRIN	COAL	5.0	920.0	
-509.0	CARBONDALE	BRIAR HILL	COAL	-	1024.0	
-535.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1050.0	BLACK SHALE & LIMESTONE ROOF
-619.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1134.0	

**MAPID:** 06500120000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 5E    **SECTION:** 29    **QUARTERS/FOOTAGES:** SW NW SW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.683955    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.144329    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 515.0    **LOGGED (FT.):** 5150.0    **LOG TYPE:** Electric Log  
**SOURCE:** YNGBLD&F&G, THOMPSON L0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-455.0	CARBONDALE	HERRIN	COAL	-	970.0	
-535.0	CARBONDALE	SPRINGFIELD	COAL	-	1050.0	
-2025.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2540.0	

**MAPID:** 06501530000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 5E    **SECTION:** 29    **QUARTERS/FOOTAGES:** 1650' N line, 1650' E line  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.672492    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.149782    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 527.0    **LOGGED (FT.):** 3460.0    **LOG TYPE:** Electric Log  
**SOURCE:** KAUFMAN, E.H.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-457.0	CARBONDALE	HERRIN	COAL	6.0	984.0	
-511.0	CARBONDALE	BRIAR HILL	COAL	-	1038.0	
-536.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1063.0	BLACK SHALE & LIMESTONE ROOF
-618.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1145.0	

MAPID: 06501530000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 29 QUARTERS/FOOTAGES: 1650' N line, 1650' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.672492 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.149782 DATE COLLECTED:

SURFACE ELEVATION (FT.): 527.0 LOGGED (FT.): 990.0 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
-359.0	MODESTO	PIASA	LIMESTONE & SHALE	9.0	886.0
-368.0	MODESTO		SHALE	17.0	895.0
-385.0	CARBONDALE	DANVILLE	COAL	2.0	912.0
-387.0	CARBONDALE		SHALE & SANDSTONE	22.0	914.0
-409.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	936.0
-415.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	23.0	942.0
-438.0	CARBONDALE	LAWSON	SHALE	10.0	965.0
-448.0	CARBONDALE	LAWSON	BLACK SHALE	3.0	975.0
-451.0	CARBONDALE	BRERETON	LIMESTONE	4.0	978.0
-455.0	CARBONDALE	ANNA	BLACK SHALE	2.0	982.0
-457.0	CARBONDALE	HERRIN	COAL	6.0	984.0

MAPID: 06501530000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 29 QUARTERS/FOOTAGES: 1650' N line, 1650' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.672492 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.149782 DATE COLLECTED:

SURFACE ELEVATION (FT.): 527.0 LOGGED (FT.): 1336.0 LOG TYPE: Electric Log

SOURCE: E.H. KAUFMAN 1530 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
527.0			UNKNOWN	1236.0	0.0
-709.0	CARBONDALE	COLCHESTER	COAL	1.0	1236.0
-710.0	CARBONDALE		UNKNOWN	96.0	1237.0
-806.0	CARBONDALE	DAVIS	COAL	3.0	1333.0

MAPID: 06503755000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 29 QUARTERS/FOOTAGES: 1680' N line, 990' W line of NW

QUADRANGLE: DAHLGREN LONGITUDE: -88.681576 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.149718 DATE COLLECTED: 1 / 7 / 1971

SURFACE ELEVATION (FT.): LOGGED (FT.): 60.8 LOG TYPE: Drillers Log

SOURCE: ARCH MINERALS F.RAWLS #5 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			COAL	1.8	51.0	

MAPID: 06500738000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 31 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.688762 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.129813 DATE COLLECTED:

SURFACE ELEVATION (FT.): 520.0 LOGGED (FT.): 3463.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-456.0	CARBONDALE	HERRIN	COAL	4.0	976.0	
-510.0	CARBONDALE	BRIAR HILL	COAL	-	1030.0	
-533.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1053.0	SHALE & SILTSTONE ROOF
-614.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1134.0	

MAPID: 06500738000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 31 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: DAHLGREN

LONGITUDE: -88.688762

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.129813

DATE COLLECTED:

SURFACE ELEVATION (FT.): 520.0

LOGGED (FT.): 990.0

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
-360.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	880.0
-366.0	MODESTO		SHALE	17.0	886.0
-383.0	CARBONDALE	DANVILLE	COAL	1.5	903.0
-384.5	CARBONDALE		SHALE & SANDSTONE	25.0	904.5
-409.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	929.5
-413.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	36.0	933.5
-449.5	CARBONDALE	CONANT	LIMESTONE & SHALE	0.5	969.5
-450.0	CARBONDALE	JAMESTOWN	COAL	1.0	970.0
-451.0	CARBONDALE		CLAYSTONE	2.0	971.0
-453.0	CARBONDALE	BRERETON	LIMESTONE	6.5	973.0
-459.5	CARBONDALE	ANNA	BLACK SHALE	4.0	979.5
-465.0	CARBONDALE	HERRIN	COAL	5.0	985.0

MAPID: 06523898000C    VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 4S 5E    SECTION: 31    QUARTERS/FOOTAGES: SE SE

QUADRANGLE: DAHLGREN    LONGITUDE: -88.685615    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.128698    DATE COLLECTED: 9 / 2 / 1976

SURFACE ELEVATION (FT.): 508.0    LOGGED (FT.): 1064.8    LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY    EN-14    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
508.0			UNCLASSIFIED	880.0	0.0	
-372.0	MODESTO	PIASA	LIMESTONE	4.0	880.0	
-376.0	MODESTO		SHALE	13.0	884.0	
-389.0	CARBONDALE	DANVILLE	COAL	1.0	897.0	
-390.0	CARBONDALE		SHALE	25.0	898.0	
-415.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	923.0	
-420.0	CARBONDALE		SHALE	22.0	928.0	
-442.0	CARBONDALE		SHALE	14.3	950.0	LIGHT BEGIN CORE
-456.3	CARBONDALE	CONANT	LIMESTONE	0.3	964.3	
-456.5	CARBONDALE	JAMESTOWN	COAL	1.3	964.5	
-457.9	CARBONDALE		BLACK SHALE	0.7	965.9	
-458.5	CARBONDALE	BRERETON	LIMESTONE	5.5	966.5	LIGHT
-464.1	CARBONDALE	ANNA	BLACK SHALE	1.7	972.1	
-465.8	CARBONDALE	HERRIN	COAL	5.8	973.8	
-471.5	CARBONDALE		UNDERCLAY	2.3	979.5	
-473.8	CARBONDALE		SANDSTONE	1.2	981.8	
-475.0	CARBONDALE		SANDY SHALE	4.0	983.0	END CORE
-479.0	CARBONDALE		SHALE	33.0	987.0	NOT CORED
-512.0	CARBONDALE	BRIAR HILL	COAL	1.0	1020.0	NOT CORED
-513.0	CARBONDALE		SHALE	9.0	1021.0	NOT CORED
-522.0	CARBONDALE		SANDSTONE/SHALE	6.1	1030.0	BEGIN CORE
-528.1	CARBONDALE		SHALE	5.9	1036.1	DARK
-534.0	CARBONDALE	ST. DAVID	LIMESTONE	0.4	1042.0	
-534.5	CARBONDALE		SHALE	8.1	1042.5	
-542.6	CARBONDALE	SPRINGFIELD	COAL	4.4	1050.6	
-547.0	CARBONDALE		UNDERCLAY	5.4	1055.0	
-552.4	CARBONDALE		SANDSTONE	4.4	1060.4	
-556.8				0.0	1064.8	

MAPID: 06523898000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 31 QUARTERS/FOOTAGES: SE SE

QUADRANGLE: DAHLGREN LONGITUDE: -88.685615 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.128698 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 522.0 LOGGED (FT.): 1055.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-14 WELL TYPE: Coal Test

COMMENT: SUMMER 1976;LOC:MIDDLE OF E 1/4 SESE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-452.4	CARBONDALE	HERRIN	COAL	3.7	974.4	REMARKS SAY "APPROX"
-528.6	CARBONDALE	SPRINGFIELD	COAL	4.4	1050.6	

MAPID: 06500636000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 34 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.638277 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.129901 DATE COLLECTED:

SURFACE ELEVATION (FT.): 476.0 LOGGED (FT.): 3478.0 LOG TYPE: Electric Log

SOURCE: SUPERIOR OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-526.0	CARBONDALE	HERRIN	COAL	7.0	1002.0	
-548.0	CARBONDALE	BRIAR HILL	COAL	-	1024.0	
-576.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1052.0	BLACK SHALE & LIMESTONE ROOF
-658.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1134.0	

MAPID: 06500636000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 34 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: DAHLGREN LONGITUDE: -88.638277 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.129901 DATE COLLECTED:

SURFACE ELEVATION (FT.): 476.0 LOGGED (FT.): 998.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-410.5	MODESTO	PIASA	CALCAREOUS SHALE	12.0	886.5	
-422.5	MODESTO		SHALE	22.0	898.5	
-444.5	CARBONDALE	DANVILLE	COAL	1.5	920.5	
-446.0	CARBONDALE		SHALE & SANDSTONE	22.0	922.0	
-468.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	8.0	944.0	
-476.0	CARBONDALE	LAWSON	SILTY SHALE	14.0	952.0	
-490.0	CARBONDALE	LAWSON	SANDSTONE	15.0	966.0	
-505.0	CARBONDALE	LAWSON	SHALE	6.0	981.0	
-511.0	CARBONDALE	BRERETON	LIMESTONE	6.0	987.0	
-517.0	CARBONDALE	ANNA	BLACK SHALE	2.0	993.0	
-519.0	CARBONDALE	HERRIN	COAL	3.0	995.0	

MAPID: 06500121000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 36 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: BUNGAY LONGITUDE: -88.599405 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.126097 DATE COLLECTED:

SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 3537.0 LOG TYPE: Electric Log

SOURCE: MID-SUN OIL CORP WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-527.0	CARBONDALE	HERRIN	COAL	2.0	992.0	
-621.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1086.0	BLACK SHALE & LIMESTONE ROOF
-703.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1168.0	



MAPID: 06500121000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 36 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: BUNGAY LONGITUDE: -88.599405 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.126097 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 4650.0 LOG TYPE: Electric Log

SOURCE: MIDSUN OC, MAULDING 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-525.0	CARBONDALE	HERRIN	COAL	-	990.0	
-625.0	CARBONDALE	SPRINGFIELD	COAL	-	1090.0	
-2131.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2596.0	

MAPID: 06501770000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.606208 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.138922 DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 3388.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-547.0	CARBONDALE	HERRIN	COAL	6.0	975.0	
-590.0	CARBONDALE	BRIAR HILL	COAL	-	1018.0	
-636.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1064.0	BLACK SHALE & LIMESTONE ROOF
-712.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06501770000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 5E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.606208

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.138922

DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0

LOGGED (FT.): 1001.0

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
-462.0	MODESTO	PIASA	CALCAREOUS SHALE	6.0	890.0
-468.0	MODESTO		SHALE	27.0	896.0
-495.0	CARBONDALE	DANVILLE	COAL	2.0	923.0
-497.0	CARBONDALE		SHALE & SANDSTONE	23.0	925.0
-520.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	948.0
-524.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	952.0
-534.0	CARBONDALE	LAWSON	SANDSTONE	16.0	962.0
-550.0	CARBONDALE	LAWSON	GRAY SHALE	16.0	978.0
-566.0	CARBONDALE	ANNA	BLACK SHALE	2.0	994.0
-568.0	CARBONDALE	HERRIN	COAL	5.0	996.0

MAPID: 06500122000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 1 QUARTERS/FOOTAGES: SW NW NW

QUADRANGLE: BUNGAY LONGITUDE: -88.500553

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.209867

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 379.0

LOGGED (FT.): 3790.0

LOG TYPE: Electric Log

SOURCE: WICKWR&PWR, PATTERSN R0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-606.0	CARBONDALE	HERRIN	COAL	-	985.0
-711.0	CARBONDALE	SPRINGFIELD	COAL	-	1090.0
-2151.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2530.0

MAPID: 06501815000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 1 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE

QUADRANGLE: BUNGAY LONGITUDE: -88.484212 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.203418 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3475.0 LOG TYPE: Electric Log

SOURCE: SUN PRODUCTION COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-591.0	CARBONDALE	HERRIN	COAL	3.0	969.0	
-654.0	CARBONDALE	BRIAR HILL	COAL	-	1032.0	
-681.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1059.0	BLACK SHALE & LIMESTONE ROOF
-764.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1142.0	

MAPID: 06501816000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 1 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.493532 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.204007 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 973.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-457.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	835.0	
-462.0	MODESTO		SHALE	51.0	840.0	
-513.0	CARBONDALE	DANVILLE	COAL	2.0	891.0	
-515.0	CARBONDALE		SHALE & SANDSTONE	33.0	893.0	
-548.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	24.0	926.0	
-572.0	CARBONDALE	LAWSON	SHALE	10.0	950.0	
-582.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.0	960.0	
-585.0	CARBONDALE	BRERETON	LIMESTONE	6.0	963.0	
-591.0	CARBONDALE	ANNA	BLACK SHALE	1.0	969.0	
-592.0	CARBONDALE	HERRIN	COAL	3.0	970.0	

MAPID: 06500123000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 2 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: BUNGAY LONGITUDE: -88.512023 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.204496 DATE COLLECTED:

SURFACE ELEVATION (FT.): 387.0 LOGGED (FT.): 5490.0 LOG TYPE: Electric Log

SOURCE: EASON OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-581.0	CARBONDALE	HERRIN	COAL	2.0	968.0	
-633.0	CARBONDALE	BRIAR HILL	COAL	-	1020.0	
-663.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1050.0	SHALE & SILTSTONE ROOF
-757.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1144.0	

MAPID: 06500123000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 2 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: BUNGAY LONGITUDE: -88.512023 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.204496 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 3890.0 LOG TYPE: Electric Log

SOURCE: EASON OC, LITTLE H C0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-576.0	CARBONDALE	HERRIN	COAL	-	965.0	
-666.0	CARBONDALE	SPRINGFIELD	COAL	-	1055.0	
-2153.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2542.0	

MAPID: 06500124000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 2 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: BUNGAY LONGITUDE: -88.512037 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.206319 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 387.0 LOGGED (FT.): 3870.0 LOG TYPE: Electric Log

SOURCE: HLLMN&BREL, MOORE J R 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-585.0	CARBONDALE	HERRIN	COAL	-	972.0	
-671.0	CARBONDALE	SPRINGFIELD	COAL	-	1058.0	
-2143.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2530.0	

MAPID: 06500125000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 2 QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: BUNGAY LONGITUDE: -88.502868 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.209914 DATE COLLECTED: 0 / 0 / 1939

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log

SOURCE: KINGWOODOC, SCHNUCK 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-604.0	CARBONDALE	HERRIN	COAL	-	985.0
-704.0	CARBONDALE	SPRINGFIELD	COAL	-	1085.0
-2155.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2536.0

MAPID: 06503289000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 2 QUARTERS/FOOTAGES: 990' N line, 1963' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.513237 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.209126 DATE COLLECTED:

SURFACE ELEVATION (FT.): 399.0 LOGGED (FT.): 1008.0 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
-485.5	MODESTO	PIASA	LIMESTONE & SHALE	5.0	884.5
-490.5	MODESTO		SHALE	41.0	889.5
-531.5	CARBONDALE	DANVILLE	COAL	1.5	930.5
-533.0	CARBONDALE		SHALE & SANDSTONE	19.0	932.0
-552.0	CARBONDALE	ALLENBY	BONE COAL	7.0	951.0
-559.0	CARBONDALE		CLAYSTONE & SHALE	5.0	958.0
-564.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	963.0
-568.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	21.0	967.0
-589.0	CARBONDALE	LAWSON	GRAY SHALE	7.0	988.0
-596.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	995.0
-597.0	CARBONDALE		SHALE	2.0	996.0
-599.0	CARBONDALE	BRERETON	LIMESTONE	4.0	998.0
-603.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1002.0
-605.0	CARBONDALE	HERRIN	COAL	4.0	1004.0

**MAPID:** 06500126000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 3    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.525857    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.206395    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 434.0    **LOGGED (FT.):** 4340.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, WILLAMS JW0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-576.0	CARBONDALE	HERRIN	COAL	-	1010.0	
-671.0	CARBONDALE	SPRINGFIELD	COAL	-	1105.0	
-2186.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2620.0	

**MAPID:** 06500127000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 3    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.521259    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.206364    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 428.0    **LOGGED (FT.):** 4280.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, WILLMS WES0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-666.0	CARBONDALE	SPRINGFIELD	COAL	-	1094.0	
-2186.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2614.0	

**MAPID:** 06501531000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 3    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW SE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.525889    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.199106    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 396.0    **LOGGED (FT.):** 3426.0    **LOG TYPE:** Electric Log  
**SOURCE:** SOHIO PETROLEUM CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-564.0	CARBONDALE	HERRIN	COAL	6.0	960.0	
-626.0	CARBONDALE	BRIAR HILL	COAL	-	1022.0	
-660.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1056.0	SHALE & SILTSTONE ROOF
-762.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1158.0	

MAPID: 06501825000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 3 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.532753

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.202795

DATE COLLECTED:

SURFACE ELEVATION (FT.): 426.0

LOGGED (FT.): 1005.0

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
-481.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	907.0
-486.0	MODESTO		SHALE	38.0	912.0
-524.0	CARBONDALE	DANVILLE	COAL	4.0	950.0
-528.0	CARBONDALE		SHALE & SANDSTONE	8.0	954.0
-536.0	CARBONDALE	ALLENBY	BONE COAL	1.0	962.0
-537.0	CARBONDALE		CLAYSTONE & SHALE	6.0	963.0
-543.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	24.0	969.0
-567.0	CARBONDALE	BRERETON	LIMESTONE	6.0	993.0
-573.0	CARBONDALE	ANNA	BLACK SHALE	1.0	999.0
-575.0	CARBONDALE	HERRIN	COAL	4.0	1001.0

MAPID: 06500722000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 6 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.585173

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.201313

DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0

LOGGED (FT.): 3460.0

LOG TYPE: Electric Log

SOURCE: OBERING ERNEST A

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-445.0	CARBONDALE	DANVILLE	COAL	-	878.0
-455.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	888.0
-469.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	902.0
-480.0	CARBONDALE	ANVIL ROCK	SANDSTONE & BLACK SHALE	14.0	913.0
-513.0	CARBONDALE	HERRIN	COAL	4.0	946.0
-527.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	50.0	960.0
-579.0	CARBONDALE	BRIAR HILL	COAL	-	1012.0
-593.0	CARBONDALE	CANTON	SILTSTONE & SHALE	11.0	1026.0
-621.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1054.0
-695.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1128.0

BLACK SHALE & LIMESTONE  
ROOF

MAPID: 06500722000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 6 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.585173

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.201313

DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0

LOGGED (FT.): 949.5

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
-416.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	849.0
-420.0	MODESTO		SHALE	27.0	853.0
-447.0	CARBONDALE	DANVILLE	COAL	1.5	880.0
-448.5	CARBONDALE		SHALE & SANDSTONE	18.0	881.5
-466.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	27.0	899.5
-493.5	CARBONDALE	LAWSON	SHALE	13.0	926.5
-506.5	CARBONDALE	BRERETON	LIMESTONE	5.5	939.5
-512.0	CARBONDALE	ANNA	BLACK SHALE	1.0	945.0
-513.0	CARBONDALE	HERRIN	COAL	3.5	946.0

MAPID: 06500722000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 6 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.585173

GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.201313

DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0

LOGGED (FT.): 1295.0

LOG TYPE: Electric Log

SOURCE: E A OBERLING

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
433.0			UNKNOWN	1194.0	0.0
-761.0	CARBONDALE	COLCHESTER	COAL	1.0	1194.0
-762.0	CARBONDALE		UNKNOWN	58.0	1195.0
-820.0	CARBONDALE	DEKOVEN	COAL	1.0	1253.0
-821.0	CARBONDALE		UNKNOWN	36.0	1254.0
-857.0	CARBONDALE	LOWER DEKOVEN	COAL	1.5	1290.0
-858.5	CARBONDALE		UNKNOWN	0.5	1291.5
-859.0	CARBONDALE	DAVIS	COAL	3.0	1292.0



MAPID: 06500513000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 7 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.585226 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.192202 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 4250.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA, KAUFMAN 00A1 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-550.0	CARBONDALE	HERRIN	COAL	-	975.0
-655.0	CARBONDALE	SPRINGFIELD	COAL	-	1080.0
-2103.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2528.0

MAPID: 06500513000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 7 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.585226 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.192202 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 979.0 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
-442.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	867.0
-448.0	MODESTO		SILTY SHALE	27.0	873.0
-475.0	CARBONDALE	DANVILLE	COAL	2.0	900.0
-477.0	CARBONDALE		SILTY SHALE	28.0	902.0
-505.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	930.0
-511.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	936.0
-541.0	CARBONDALE	BRERETON	LIMESTONE	6.0	966.0
-547.0	CARBONDALE	ANNA	BLACK SHALE	2.0	972.0
-549.0	CARBONDALE	HERRIN	COAL	5.0	974.0

MAPID: 06500513000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 7 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.585226 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.192202 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 3453.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA PETROLEUM WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-549.0	CARBONDALE	HERRIN	COAL	5.0	974.0	
-605.0	CARBONDALE	BRIAR HILL	COAL	-	1030.0	
-655.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1080.0	BLACK SHALE & LIMESTONE ROOF
-711.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1136.0	

MAPID: 06500513000C VERSION: 4

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 7 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.585226 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.192202 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 1309.0 LOG TYPE: Electric Log

SOURCE: MAGROTA PETROLEUM CO 513 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
425.0			UNKNOWN	1210.0	0.0	
-785.0	CARBONDALE	COLCHESTER	COAL	1.0	1210.0	
-786.0	CARBONDALE		UNKNOWN	95.0	1211.0	
-881.0	CARBONDALE	DAVIS	COAL	3.0	1306.0	POSSIBLE SPLIT PRESENT

MAPID: 06500643000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE NE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.523588 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.19727 DATE COLLECTED:

SURFACE ELEVATION (FT.): 385.0 LOGGED (FT.): 3507.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-585.0	CARBONDALE	HERRIN	COAL	2.0	970.0	
-637.0	CARBONDALE	BRIAR HILL	COAL	-	1022.0	
-665.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1050.0	BLACK SHALE & LIMESTONE ROOF
-767.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1152.0	

MAPID: 06501184000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 10 QUARTERS/FOOTAGES: 990' N line, 2310' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.528205 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.195479 DATE COLLECTED:

SURFACE ELEVATION (FT.): 387.0 LOGGED (FT.): 979.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-473.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	860.0	
-478.0	MODESTO		SHALE	38.0	865.0	
-516.0	CARBONDALE	DANVILLE	COAL	2.0	903.0	
-518.0	CARBONDALE		SHALE & SANDSTONE	24.0	905.0	
-542.0	CARBONDALE	ALLENBY	COAL	1.0	929.0	
-543.0	CARBONDALE		SHALE	7.0	930.0	
-550.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	937.0	
-555.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.0	942.0	
-558.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	945.0	
-568.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	955.0	
-576.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	5.0	963.0	
-581.0	CARBONDALE	BRERETON	LIMESTONE	5.5	968.0	
-586.5	CARBONDALE	ANNA	BLACK SHALE	1.5	973.5	
-588.0	CARBONDALE	HERRIN	COAL	4.0	975.0	

MAPID: 06501533000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.507416 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.188029 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3471.0 LOG TYPE: Electric Log

SOURCE: STANFORD OIL & GAS WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-609.0	CARBONDALE	HERRIN	COAL	4.0	988.0	
-661.0	CARBONDALE	BRIAR HILL	COAL	-	1040.0	
-689.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1068.0	BLACK SHALE & LIMESTONE ROOF
-773.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1152.0	

MAPID: 06501534000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 11 QUARTERS/FOOTAGES: 1190' N line, 2310' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.509634 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.194821 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 1283.0 LOG TYPE: Electric Log

SOURCE: M E DAVIS 1534 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
381.0			UNKNOWN	1209.0	0.0	
-828.0	CARBONDALE	COLCHESTER	COAL	1.0	1209.0	THICKNESS
-829.0	CARBONDALE		UNKNOWN	42.0	1210.0	
-871.0	CARBONDALE	DEKOVEN	COAL	1.0	1252.0	
-872.0	CARBONDALE		UNKNOWN	27.0	1253.0	
-899.0	CARBONDALE	DAVIS	COAL	3.0	1280.0	

MAPID: 06501534000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 11 QUARTERS/FOOTAGES: 1190' N line, 2310' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.509634 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.194821 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 982.0 LOG TYPE: Electric Log

SOURCE: FAIR DESCRIPTION WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-469.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	850.0	
-475.0	MODESTO		SHALE	46.0	856.0	
-521.0	CARBONDALE	DANVILLE	COAL	2.0	902.0	
-523.0	CARBONDALE		SHALE & SANDSTONE	21.0	904.0	
-544.0	CARBONDALE	ALLENBY	COAL	1.0	925.0	
-545.0	CARBONDALE		CLAYSTONE & SHALE	4.0	926.0	
-549.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	930.0	
-553.0	CARBONDALE	LAWSON	SILTY SHALE	6.0	934.0	
-559.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	940.0	
-573.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	954.0	
-585.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	966.0	
-586.0	CARBONDALE		CLAYSTONE & SHALE	3.0	967.0	
-589.0	CARBONDALE	BRERETON	LIMESTONE	6.0	970.0	
-595.0	CARBONDALE	ANNA	BLACK SHALE	2.0	976.0	
-597.0	CARBONDALE	HERRIN	COAL	4.0	978.0	

MAPID: 06500500000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 12 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.484395 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.190782 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3790.0 LOG TYPE: Electric Log

SOURCE: PHILLIPS, LEACH B K 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-583.0	CARBONDALE	HERRIN	COAL	-	962.0
-691.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0
-2139.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2518.0

MAPID: 06501362000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 12 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.495844 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.189513 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 958.0 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
-445.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	821.0
-450.0	MODESTO		SHALE	50.0	826.0
-500.0	CARBONDALE	DANVILLE	COAL	2.0	876.0
-502.0	CARBONDALE		SHALE & SANDSTONE	24.0	878.0
-526.0	CARBONDALE	ALLENBY	COAL	1.0	902.0
-527.0	CARBONDALE		CLAYSTONE & SHALE	8.0	903.0
-535.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	17.0	911.0
-552.0	CARBONDALE	LAWSON	SILTY SHALE	16.0	928.0
-568.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	944.0
-568.5	CARBONDALE		CLAYSTONE & SHALE	1.5	944.5
-570.0	CARBONDALE	BRERETON	LIMESTONE	6.0	946.0
-576.0	CARBONDALE	HERRIN	COAL	6.0	952.0

MAPID: 06501535000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 12 QUARTERS/FOOTAGES: 990' N line, 330' E line of NE SE

QUADRANGLE: BUNGAY

LONGITUDE: -88.484439

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 38.187138

DATE COLLECTED:

SURFACE ELEVATION (FT.): 377.0

LOGGED (FT.): 3425.0

LOG TYPE: Electric Log

SOURCE: PHILLIPS PETROLEUM CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-590.0	CARBONDALE	HERRIN	COAL	3.0	967.0	
-657.0	CARBONDALE	BRIAR HILL	COAL	-	1034.0	
-696.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1073.0	SHALE & SILTSTONE ROOF
-758.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1135.0	

MAPID: 06500546000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 13 QUARTERS/FOOTAGES: NW NW NE

QUADRANGLE: WALPOLE

LONGITUDE: -88.491426

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N

LATITUDE: 38.182053

DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 381.0

LOGGED (FT.): 3810.0

LOG TYPE: Electric Log

SOURCE: PHILLIPS, HOLLA 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-593.0	CARBONDALE	HERRIN	COAL	-	974.0	
-689.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0	
-2157.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2538.0	

MAPID: 06501537000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 13 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE SE

QUADRANGLE: BUNGAY

LONGITUDE: -88.484554

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 38.172598

DATE COLLECTED:

SURFACE ELEVATION (FT.): 388.0

LOGGED (FT.): 3461.0

LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-578.0	CARBONDALE	HERRIN	COAL	4.0	966.0	
-632.0	CARBONDALE	BRIAR HILL	COAL	-	1020.0	
-672.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1060.0	SHALE & SILTSTONE ROOF
-728.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1116.0	

MAPID: 06503678000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 13 QUARTERS/FOOTAGES: 1370' N line, 2540' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.492826 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.179244 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 381.7 LOGGED (FT.): 1090.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COAL CO. C-3-15 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-591.3	CARBONDALE	HERRIN	COAL	-	973.0	"PT 1" - SEE CORE DESC
-599.3	CARBONDALE	HERRIN	COAL	-	981.0	"PT 2, 63" RECOVERED - SEE CORE DESC"
-691.3	CARBONDALE	SPRINGFIELD	COAL	7.3	1073.0	LOGBOOK SAYS "1073' ?"

MAPID: 06503678000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 13 QUARTERS/FOOTAGES: 1370' N line, 2540' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.492826 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.179244 DATE COLLECTED:

SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 985.3 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COAL CO. C-3-15 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-518.6	CARBONDALE	DANVILLE	COAL	1.0	900.6	
-519.6	CARBONDALE		SHALE & SANDSTONE	21.0	901.6	
-540.6	CARBONDALE	ALLENBY	COAL	1.0	922.6	
-541.6	CARBONDALE		SHALE	6.0	923.6	
-547.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	929.6	
-551.6	CARBONDALE	LAWSON	SHALE	10.0	933.6	
-561.6	CARBONDALE	LAWSON	SANDSTONE	14.0	943.6	
-575.6	CARBONDALE	LAWSON	SHALE	10.0	957.6	
-585.6	CARBONDALE	JAMESTOWN	BONE COAL	0.5	967.6	
-586.1	CARBONDALE		SHALE	4.5	968.1	
-590.6	CARBONDALE	BRERETON	LIMESTONE	6.0	972.6	
-596.6	CARBONDALE	ANNA	BLACK SHALE	0.4	978.6	
-597.0	CARBONDALE	HERRIN	COAL	6.3	979.0	

**MAPID:** 06500510000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 14    **QUARTERS/FOOTAGES:** 1980' N line, 1980' E line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.508632    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.177998    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 384.0    **LOGGED (FT.):** 3840.0    **LOG TYPE:** Electric Log  
**SOURCE:** LECH&HLBRT, LEACH GLPN0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-702.0	CARBONDALE	SPRINGFIELD	COAL	-	1086.0
-2191.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2575.0

**MAPID:** 06500510000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 14    **QUARTERS/FOOTAGES:** 1980' N line, 1980' E line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.508632    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.177998    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 384.0    **LOGGED (FT.):** 1005.0    **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
-483.5	MODESTO	PIASA	LIMESTONE & SHALE	6.0	867.5
-489.5	MODESTO		SHALE	46.0	873.5
-535.5	CARBONDALE	DANVILLE	COAL	1.5	919.5
-537.0	CARBONDALE		SILTY SHALE	30.0	921.0
-567.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	951.0
-572.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	956.0
-602.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	6.0	986.0
-608.0	CARBONDALE	BRERETON	LIMESTONE	6.0	992.0
-614.0	CARBONDALE	ANNA	BLACK SHALE	2.0	998.0
-616.0	CARBONDALE	HERRIN	COAL	5.0	1000.0

**MAPID:** 06500510000C    **VERSION:** 3    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 14    **QUARTERS/FOOTAGES:** 1980' N line, 1980' E line  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.508632    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.177998    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 384.0    **LOGGED (FT.):** 3563.0    **LOG TYPE:** Electric Log  
**SOURCE:** HALBERT & LEACH    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-666.0	CARBONDALE	BRIAR HILL	COAL	-	1050.0
-706.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1090.0
-772.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1156.0

BLACK SHALE & LIMESTONE ROOF



**MAPID:** 06500002000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 15    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** BOYLESTON    **LONGITUDE:** -88.521259    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.177134    **DATE COLLECTED:** 0 / 0 / 1908  
**SURFACE ELEVATION (FT.):** 384.4    **LOGGED (FT.):** 3844.0    **LOG TYPE:** Drillers Log  
**SOURCE:** HAWLEY M A, SCHULTZ    **WELL TYPE:** Coal Test  
**COMMENT:** SURFACE ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-630.6	CARBONDALE	HERRIN	COAL	8.0	1015.0	
-725.6	CARBONDALE	SPRINGFIELD	COAL	6.0	1110.0	

**MAPID:** 06500528000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 16    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.555982    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.175613    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 417.0    **LOGGED (FT.):** 3552.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA PETROLEUM    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-637.0	CARBONDALE	HERRIN	COAL	6.0	1054.0	
-693.0	CARBONDALE	BRIAR HILL	COAL	-	1110.0	
-730.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1147.0	SHALE & SILTSTONE ROOF
-792.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1209.0	

**MAPID:** 06500528000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 16    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.555982    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.175613    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 417.0    **LOGGED (FT.):** 4170.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, HAAS A G 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-638.0	CARBONDALE	HERRIN	COAL	-	1055.0	
-728.0	CARBONDALE	SPRINGFIELD	COAL	-	1145.0	
-2197.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2614.0	

MAPID: 06503303000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 16 QUARTERS/FOOTAGES: 2310' S line, 2310' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.546809

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.175532

DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.0

LOGGED (FT.): 1028.0

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
-514.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	906.0
-520.0	MODESTO		SILTY SHALE	37.0	912.0
-557.0	CARBONDALE	DANVILLE	COAL	2.0	949.0
-559.0	CARBONDALE		SILTY SHALE	25.0	951.0
-584.0	CARBONDALE	ALLENBY	BONE COAL	1.0	976.0
-585.0	CARBONDALE		CLAYSTONE & SHALE	5.0	977.0
-590.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	982.0
-594.0	CARBONDALE	LAWSON	SILTY SHALE	14.0	986.0
-608.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	7.0	1000.0
-615.0	CARBONDALE	LAWSON	SHALE	4.0	1007.0
-619.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1011.0
-620.0	CARBONDALE		CLAYSTONE	3.0	1012.0
-623.0	CARBONDALE	BRERETON	LIMESTONE	6.0	1015.0
-629.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1021.0
-631.0	CARBONDALE	HERRIN	COAL	5.0	1023.0

MAPID: 06501539000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 18 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.579033

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.171816

DATE COLLECTED:

SURFACE ELEVATION (FT.): 411.0

LOGGED (FT.): 3495.0

LOG TYPE: Electric Log

SOURCE: NATION BEN H

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-598.0	CARBONDALE	HERRIN	COAL	6.0	1009.0
-655.0	CARBONDALE	BRIAR HILL	COAL	-	1066.0
-692.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1103.0
-767.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1178.0

SHALE & SILTSTONE  
ROOF

MAPID: 06501539000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 18 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.579033 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.171816 DATE COLLECTED:

SURFACE ELEVATION (FT.): 411.0 LOGGED (FT.): 1016.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-490.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	901.0	
-496.0	MODESTO		SHALE	29.0	907.0	
-525.0	CARBONDALE	DANVILLE	COAL	2.0	936.0	
-527.0	CARBONDALE		SILTY SHALE	24.0	938.0	
-551.0	CARBONDALE	ALLENBY	BONE COAL	1.0	962.0	
-552.0	CARBONDALE		CLAYSTONE & SHALE	5.0	963.0	
-557.0	CARBONDALE	LAWSON	SILTY SHALE	9.0	968.0	
-566.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	977.0	
-576.0	CARBONDALE	LAWSON	GRAY SHALE	17.0	987.0	
-593.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	1004.0	
-596.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1007.0	
-598.0	CARBONDALE	HERRIN	COAL	7.0	1009.0	

MAPID: 06501540000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 21 QUARTERS/FOOTAGES: 1650' N line, 660' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.541028 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.164526 DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 3532.0 LOG TYPE: Electric Log

SOURCE: LINDSAY, THEODORE R. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-630.0	CARBONDALE	HERRIN	COAL	2.0	1025.0	
-680.0	CARBONDALE	BRIAR HILL	COAL	-	1075.0	
-709.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1104.0	SHALE & SILTSTONE ROOF
-785.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1180.0	

MAPID: 06501540000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 21 QUARTERS/FOOTAGES: 1650' N line, 660' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.541028 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.164526 DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 1027.5 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-499.0	MODESTO	PIASA	LIMESTONE	4.0	894.0	
-503.0	MODESTO		SHALE	40.0	898.0	
-543.0	CARBONDALE	DANVILLE	COAL	2.0	938.0	
-545.0	CARBONDALE		SHALE & SANDSTONE	26.0	940.0	
-571.0	CARBONDALE	ALLENBY	BONE COAL	1.0	966.0	
-572.0	CARBONDALE		CLAYSTONE & SHALE	5.0	967.0	
-577.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	972.0	
-580.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	35.0	975.0	
-615.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1010.0	
-616.0	CARBONDALE		CLAYSTONE & SHALE	5.0	1011.0	
-621.0	CARBONDALE	BRERETON	LIMESTONE	9.0	1016.0	
-630.0	CARBONDALE	ANNA	BLACK SHALE	0.5	1025.0	
-630.0	CARBONDALE	HERRIN	COAL	2.5	1025.0	

MAPID: 06501540000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 21 QUARTERS/FOOTAGES: 1650' N line, 660' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.541028 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.164526 DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 1347.0 LOG TYPE: Electric Log

SOURCE: THEODONE R LINDSAY 1540 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
395.0			UNKNOWN	1255.0	0.0	
-860.0	CARBONDALE	COLCHESTER	COAL	1.0	1255.0	THICKNESS LESS THAN 16"
-861.0	CARBONDALE		UNKNOWN	64.0	1256.0	
-925.0	CARBONDALE	DEKOVEN	COAL	0.5	1320.0	THICKNESS LESS THAN 16"
-925.5	CARBONDALE		UNKNOWN	22.0	1320.5	
-947.5	CARBONDALE	LOWER DEKOVEN	COAL	1.0	1342.5	THICKNESS LESS THAN 16"
-948.5	CARBONDALE		UNKNOWN	1.0	1343.5	
-949.5	CARBONDALE	DAVIS	COAL	2.5	1344.5	

MAPID: 06500723000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 22 QUARTERS/FOOTAGES: 1650' N line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.521284 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.164329 DATE COLLECTED:

SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 3587.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-538.0	CARBONDALE	DANVILLE	COAL	-	990.0	
-552.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	20.0	1004.0	
-580.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	1032.0	
-593.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	1045.0	
-630.0	CARBONDALE	HERRIN	COAL	5.0	1082.0	
-646.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	5.0	1098.0	
-681.0	CARBONDALE	BRIAR HILL	COAL	-	1133.0	
-710.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1162.0	BLACK SHALE & LIMESTONE ROOF
-788.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1240.0	

MAPID: 06500723000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 22 QUARTERS/FOOTAGES: 1650' N line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.521284 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.164329 DATE COLLECTED:

SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 1086.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-495.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	947.0	
-500.0	MODESTO		SHALE	42.0	952.0	
-542.0	CARBONDALE	DANVILLE	COAL	2.0	994.0	
-544.0	CARBONDALE		SHALE & SANDSTONE	30.0	996.0	
-574.0	CARBONDALE	ALLENBY	BONE COAL	1.0	1026.0	
-575.0	CARBONDALE		CLAYSTONE & SHALE	7.0	1027.0	
-582.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	1034.0	
-584.0	CARBONDALE	LAWSON	SHALE	3.0	1036.0	
-587.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	21.0	1039.0	
-608.0	CARBONDALE	LAWSON	SHALE	10.0	1060.0	
-618.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1070.0	
-619.0	CARBONDALE		CLAYSTONE & SHALE	5.0	1071.0	
-624.0	CARBONDALE	BRERETON	LIMESTONE	4.0	1076.0	
-628.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1080.0	
-630.0	CARBONDALE	HERRIN	COAL	4.0	1082.0	

MAPID: 06501196000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.502886 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.155066 DATE COLLECTED:

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 3573.0 LOG TYPE: Electric Log

SOURCE: MOHAWK DRILLING CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-625.0	CARBONDALE	HERRIN	COAL	4.0	1062.0	
-673.0	CARBONDALE	BRIAR HILL	COAL	-	1110.0	
-713.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1150.0	SHALE & SILTSTONE ROOF
-771.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1208.0	

MAPID: 06501196000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.502886 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.155066 DATE COLLECTED:

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 1066.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-483.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	920.0	
-488.0	MODESTO		SHALE	54.0	925.0	
-542.0	CARBONDALE	DANVILLE	COAL	1.5	979.0	
-543.5	CARBONDALE		SHALE & SANDSTONE	25.0	980.5	
-568.5	CARBONDALE	ALLENBY	BONE COAL	0.5	1005.5	
-569.0	CARBONDALE		CLAYSTONE & SHALE	6.0	1006.0	
-575.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	1012.0	
-578.0	CARBONDALE	LAWSON	SHALE	5.0	1015.0	
-583.0	CARBONDALE	LAWSON	SANDSTONE	11.0	1020.0	
-594.0	CARBONDALE	LAWSON	SILTY SHALE	19.0	1031.0	
-613.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	1050.0	
-613.5	CARBONDALE		CLAYSTONE	3.0	1050.5	
-616.5	CARBONDALE	BRERETON	LIMESTONE	7.0	1053.5	
-623.5	CARBONDALE	ANNA	BLACK SHALE	0.5	1060.5	
-624.0	CARBONDALE	HERRIN	COAL	5.0	1061.0	

MAPID: 06501542000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 24 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.484737 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.167329 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 3496.0 LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-596.0	CARBONDALE	HERRIN	COAL	6.0	994.0	
-646.0	CARBONDALE	BRIAR HILL	COAL	-	1044.0	
-684.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1082.0	SHALE & SILTSTONE ROOF
-742.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06503677000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 24 QUARTERS/FOOTAGES: 128' N line, 344' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.500508 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.168416 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 391.6 LOGGED (FT.): 1119.9 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COAL CO. C3-14 WELL TYPE: Coal Test

COMMENT: GAMMA-NEUTRON & RESISTIVITY LOGS INCL.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-616.4	CARBONDALE	HERRIN	COAL	8.0	1008.0	COAL REMOVED BY CO.
-699.4	CARBONDALE	SPRINGFIELD	COAL	5.2	1091.0	COAL REMOVED BY CO.

MAPID: 06503677000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 24 QUARTERS/FOOTAGES: 128' N line, 344' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.500508 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.168416 DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 1018.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COAL CO. C3-14 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-527.8	CARBONDALE	DANVILLE	COAL	3.0	919.8	
-530.8	CARBONDALE		SHALE & SANDSTONE	25.0	922.8	
-555.8	CARBONDALE	ALLENBY	BONE COAL	0.5	947.8	
-556.3	CARBONDALE		CLAYSTONE	4.5	948.3	
-560.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	952.8	UPPER BENCH
-564.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.5	956.8	SHALE PARTING
-566.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.5	958.3	LOWER BENCH
-570.8	CARBONDALE	LAWSON	SILTY SHALE	11.0	962.8	
-581.8	CARBONDALE	LAWSON	SANDSTONE	4.0	973.8	
-585.8	CARBONDALE	LAWSON	SILTY SHALE	2.0	977.8	
-587.8	CARBONDALE	LAWSON	SANDSTONE	9.0	979.8	
-596.8	CARBONDALE	LAWSON	SILTY SHALE	8.0	988.8	
-604.8	CARBONDALE	JAMESTOWN	BONE COAL	0.5	996.8	
-605.3	CARBONDALE		CLAYSTONE	3.0	997.3	
-608.3	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.3	1000.3	
-612.6	CARBONDALE	ANNA	BLACK SHALE	5.0	1004.6	
-617.6	CARBONDALE	ENERGY	GRAY SHALE	0.4	1009.6	
-618.0	CARBONDALE	HERRIN	COAL	8.0	1010.0	

MAPID: 06500639000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.507602 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.140468 DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 1425.0 LOG TYPE: Electric Log

SOURCE: GULF REFINING CO. 639 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.0			UNKNOWN	1336.0	0.0	
-856.0	CARBONDALE	COLCHESTER	COAL	1.0	1336.0	THINNER THAN 16"
-857.0	CARBONDALE		UNKNOWN	41.0	1337.0	
-898.0	CARBONDALE	DEKOVEN	COAL	2.5	1378.0	
-900.5	CARBONDALE		UNKNOWN	41.5	1380.5	
-942.0	CARBONDALE	DAVIS	COAL	3.0	1422.0	



MAPID: 06500639000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.507602 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.140468 DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 3668.0 LOG TYPE: Electric Log

SOURCE: GULF REFINING CO-EPD WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-639.0	CARBONDALE	HERRIN	COAL	7.0	1119.0	
-666.0	CARBONDALE	BRIAR HILL	COAL	-	1146.0	
-698.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1178.0	BLACK SHALE & LIMESTONE ROOF
-782.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1262.0	

MAPID: 06503676000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 26 QUARTERS/FOOTAGES: 2595' S line, 1249' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.506152 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.146718 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 467.9 LOGGED (FT.): 1041.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-13 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-560.1	CARBONDALE	HERRIN	COAL	-	1028.0	COAL RMVD, CORE 50' SHALLOW TO E-LOG?

MAPID: 06503676000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 26 QUARTERS/FOOTAGES: 2595' S line, 1249' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.506152 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.146718 DATE COLLECTED:

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 1085.5 LOG TYPE: Electric Log

SOURCE: AYRSHIRE COLLIERIES C3-13 WELL TYPE: Oil and Gas Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-533.0	CARBONDALE	DANVILLE	COAL	2.0	1001.0
-535.0	CARBONDALE		SHALE & SANDSTONE	23.5	1003.0
-558.5	CARBONDALE	ALLENBY	BONE COAL	0.5	1026.5
-559.0	CARBONDALE		SHALE	6.0	1027.0
-565.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	1033.0
-569.0	CARBONDALE	LAWSON	SHALE	2.0	1037.0
-571.0	CARBONDALE	LAWSON	SANDSTONE	21.0	1039.0
-592.0	CARBONDALE	LAWSON	SHALE	9.0	1060.0
-601.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	1069.0
-601.5	CARBONDALE		CLAYSTONE	3.5	1069.5
-605.0	CARBONDALE	BRERETON	LIMESTONE	6.5	1073.0
-611.5	CARBONDALE	ANNA	BLACK SHALE	1.5	1079.5
-613.0	CARBONDALE	HERRIN	COAL	4.5	1081.0

MAPID: 06500003000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.535209 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.140596 DATE COLLECTED: 0 / 0 / 1906

SURFACE ELEVATION (FT.): 417.8 LOGGED (FT.): 4178.0 LOG TYPE: Drillers Log

SOURCE: ELMGROVECC, DALLY JOE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-602.2	CARBONDALE	HERRIN	COAL	7.5	1020.0
-679.2	CARBONDALE	SPRINGFIELD	COAL	5.1	1097.0

MAPID: 06500003000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.535209

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.140596

DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0

LOGGED (FT.): 1027.5

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-546.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	963.0
-547.0	CARBONDALE		SHALE	8.0	964.0
-555.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	972.0
-559.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	976.0
-567.0	CARBONDALE	LAWSON	SANDSTONE	12.0	984.0
-579.0	CARBONDALE	LAWSON	SILTY SHALE	17.5	996.0
-596.5	CARBONDALE	BRERETON	LIMESTONE	5.5	1013.5
-602.0	CARBONDALE	HERRIN	COAL	8.5	1019.0

MAPID: 06500003000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.535209

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.140596

DATE COLLECTED:

SURFACE ELEVATION (FT.): 418.0

LOGGED (FT.): 1294.0

LOG TYPE: Drillers Log

SOURCE: ELM GROVE COAL

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-601.0	CARBONDALE	HERRIN	COAL	8.5	1019.0
-646.0	CARBONDALE	BRIAR HILL	COAL	1.2	1064.0
-679.0	CARBONDALE	SPRINGFIELD	COAL	5.1	1097.0
-764.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1182.0

MAPID: 06500003000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 4S 6E    SECTION: 27    QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.535209    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.140596    DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 417.8    LOGGED (FT.): 1294.0    LOG TYPE: Drillers Log

SOURCE: ELM GROVE COAL CO.    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
417.8	PLEISTOCENE		UNCONSOLIDATED	1.0	0.0	
416.8	PLEISTOCENE		CLAY	6.0	1.0	
410.8	PLEISTOCENE		HARD PAN	7.0	7.0	
403.8	BOND		SHALE	19.0	14.0	BLUE-BLACK
384.8	BOND		COAL	0.3	33.0	
384.5	BOND		SHALE	1.3	33.3	LIGHT
383.3	BOND		SHALE	17.5	34.5	
365.8	BOND		COAL	1.6	52.0	
364.2	BOND		UNDERCLAY	2.4	53.6	
361.8	BOND		SANDSTONE	38.5	56.0	
323.3	BOND		COAL	1.8	94.5	
321.5	BOND		SHALE	2.8	96.3	
318.8	BOND		SANDSTONE	39.0	99.0	
279.8	BOND		SHALE	64.0	138.0	
215.8	BOND		SHALE	30.0	202.0	BLUE
185.8	BOND		SHALE	30.0	232.0	BLUE
155.8	BOND		SHALE	33.0	262.0	BLUE
122.8	BOND		COAL	1.5	295.0	
121.3	BOND		UNDERCLAY	1.5	296.5	
119.8	BOND		SHALE	10.0	298.0	
109.8	BOND		SHALE	110.0	308.0	
-0.2	BOND	CARTHAGE	LIMESTONE	4.0	418.0	
-4.2	MODESTO		SHALE	40.0	422.0	
-44.2	MODESTO		SHALE	39.0	462.0	BLUE
-83.2	MODESTO		SANDSTONE	3.0	501.0	
-86.2	MODESTO		SHALE	82.0	504.0	
-168.2	MODESTO		SHALE	16.0	586.0	BLUE
-184.2	MODESTO		LIMESTONE	2.0	602.0	
-186.2	MODESTO		SHALE	8.0	604.0	
-194.2	MODESTO		SHALE	4.0	612.0	BLACK
-198.2	MODESTO		SHALE	79.0	616.0	
-277.2	MODESTO		SHALE	7.0	695.0	
-284.2	MODESTO		SANDSTONE	30.0	702.0	
-314.2	MODESTO		LIMESTONE	4.0	732.0	CARLINVILLE LIMESTONE NOTED IN LOG
-318.2	MODESTO		SHALE	2.0	736.0	
-320.2	MODESTO		SHALE	16.0	738.0	
-336.2	MODESTO		SANDSTONE	107.0	754.0	
-443.2	MODESTO		SHALE	24.0	861.0	BLUE
-467.2	MODESTO		COAL	0.5	885.0	

-467.7	MODESTO		UNDERCLAY	4.0	885.5	
-471.7	MODESTO		SHALE	69.5	889.5	
-541.2	MODESTO		SANDSTONE	4.0	959.0	
-545.2	CARBONDALE		SHALE	1.0	963.0	BLACK; NO.7 HORIZON? - CPK
-546.2	CARBONDALE		SHALE	4.0	964.0	
-550.2	CARBONDALE		SHALE	4.0	968.0	GREEN
-554.2	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	972.0	
-558.2	CARBONDALE		SHALE	8.0	976.0	
-566.2	CARBONDALE		SANDSTONE	12.0	984.0	
-578.2	CARBONDALE		SHALE	17.5	996.0	
-595.7	CARBONDALE	BRERETON	LIMESTONE	5.5	1013.5	
-601.2	CARBONDALE	HERRIN	COAL	8.5	1019.0	
-609.7	CARBONDALE		UNDERCLAY	1.2	1027.5	
-610.9	CARBONDALE		SHALE	7.3	1028.7	
-618.2	CARBONDALE		SANDSTONE	28.0	1036.0	
-646.2	CARBONDALE	BRIAR HILL	COAL	1.2	1064.0	
-647.4	CARBONDALE		SANDSTONE	18.8	1065.2	
-666.2	CARBONDALE		SHALE	13.0	1084.0	BLUE
-679.2	CARBONDALE	SPRINGFIELD	COAL	5.1	1097.0	
-684.3	CARBONDALE		UNDERCLAY	0.9	1102.1	
-685.2	CARBONDALE		SANDSTONE	14.0	1103.0	
-699.2	CARBONDALE		SHALE	6.0	1117.0	
-705.2	CARBONDALE		SANDSTONE	9.0	1123.0	
-714.2	CARBONDALE		SHALE	43.0	1132.0	
-757.2	CARBONDALE		SANDSTONE	7.0	1175.0	
-764.2	CARBONDALE		LIMESTONE	3.0	1182.0	
-767.2	CARBONDALE		SHALE	3.0	1185.0	BLACK
-770.2	CARBONDALE		SANDSTONE	9.0	1188.0	
-779.2	CARBONDALE		SHALE	3.0	1197.0	BLACK
-782.2	CARBONDALE		LIMESTONE	2.0	1200.0	
-784.2	CARBONDALE		SANDSTONE	44.0	1202.0	
-828.2	CARBONDALE		SHALE	15.0	1246.0	
-843.2	CARBONDALE		SANDSTONE	33.0	1261.0	

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**MAPID:** 06501543000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.530637    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.140571    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 3513.0    **LOG TYPE:** Electric Log  
**SOURCE:** GEORGE & WRATHER OIL    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	5.0	1011.0	
-	CARBONDALE	BRIAR HILL	COAL	-	1058.0	
-	CARBONDALE	SPRINGFIELD	COAL	5.0	1089.0	SHALE & SILTSTONE ROOF
-	CARBONDALE	HOUCHIN CREEK	COAL	-	1166.0	

**MAPID:** 06500511000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 28    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.544382    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.140606    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 408.0    **LOGGED (FT.):** 3502.0    **LOG TYPE:** Electric Log  
**SOURCE:** LAYTON W M    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-606.0	CARBONDALE	HERRIN	COAL	5.0	1014.0	
-654.0	CARBONDALE	BRIAR HILL	COAL	-	1062.0	
-678.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1086.0	BLACK SHALE & LIMESTONE ROOF
-756.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1164.0	

**MAPID:** 06500511000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 6E    **SECTION:** 28    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.544382    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.140606    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 408.0    **LOGGED (FT.):** 4080.0    **LOG TYPE:** Electric Log  
**SOURCE:** LAYTON ETL, JUERGN ETL0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-604.0	CARBONDALE	HERRIN	COAL	-	1012.0	
-678.0	CARBONDALE	SPRINGFIELD	COAL	-	1086.0	
-2162.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2570.0	

MAPID: 06500511000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 28 QUARTERS/FOOTAGES: SE SW SE  
 QUADRANGLE: WALPOLE LONGITUDE: -88.544382 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.140606 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 408.0 LOGGED (FT.): 1340.0 LOG TYPE: Electric Log  
 SOURCE: W.M. LAGTON ETAL 511 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
408.0			UNKNOWN	1253.0	0.0	
-845.0	CARBONDALE	COLCHESTER	COAL	1.0	1253.0	THINNER THAN 16"
-846.0	CARBONDALE		UNKNOWN	52.0	1254.0	
-898.0	CARBONDALE	DEKOVEN	COAL	4.0	1306.0	
-902.0	CARBONDALE		UNKNOWN	26.0	1310.0	
-928.0	CARBONDALE	DAVIS	COAL	4.0	1336.0	

MAPID: 06503228000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 28 QUARTERS/FOOTAGES: 990' N line, 1650' W line  
 QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.551084 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.151666 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3554.0 LOG TYPE: Electric Log  
 SOURCE: LOHMANN-JOHNSON DRLG. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-613.0	CARBONDALE	HERRIN	COAL	5.0	1006.0	
-659.0	CARBONDALE	BRIAR HILL	COAL	-	1052.0	
-687.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1080.0	SHALE & SILTSTONE ROOF
-761.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1154.0	

MAPID: 06503228000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 28 QUARTERS/FOOTAGES: 990' N line, 1650' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.551084 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.151666 DATE COLLECTED:

SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 1011.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-535.0	CARBONDALE	DANVILLE	COAL	2.0	928.0	
-537.0	CARBONDALE		SILTY SHALE	21.0	930.0	
-558.0	CARBONDALE	ALLENBY	BONE COAL	1.0	951.0	
-559.0	CARBONDALE		CLAYSTONE & SHALE	4.0	952.0	
-563.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	956.0	
-568.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	32.0	961.0	
-600.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	993.0	
-601.0	CARBONDALE		CLAYSTONE & SHALE	5.0	994.0	
-606.0	CARBONDALE	BRERETON	LIMESTONE	5.0	999.0	
-611.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1004.0	
-613.0	CARBONDALE	HERRIN	COAL	5.0	1006.0	

MAPID: 06500128000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 29 QUARTERS/FOOTAGES: 660' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.567264 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.141537 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 4020.0 LOG TYPE: Electric Log

SOURCE: RYAN OC, MITCHELL 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-583.0	CARBONDALE	HERRIN	COAL	-	985.0	
-643.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2178.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2580.0	



MAPID: 06500128000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 29 QUARTERS/FOOTAGES: 660' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.567264 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.141537 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 992.0 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
-455.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	857.0
-460.0	MODESTO		SHALE	44.0	862.0
-504.0	CARBONDALE	DANVILLE	COAL	2.0	906.0
-506.0	CARBONDALE		SHALE	23.0	908.0
-529.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	8.0	931.0
-537.0	CARBONDALE	LAWSON	SHALE	2.0	939.0
-539.0	CARBONDALE	LAWSON	SANDSTONE	20.0	941.0
-559.0	CARBONDALE	LAWSON	GRAY SHALE	18.0	961.0
-577.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	979.0
-581.0	CARBONDALE	ANNA	BLACK SHALE	2.0	983.0
-583.0	CARBONDALE	HERRIN	COAL	7.0	985.0

MAPID: 06500128000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 29 QUARTERS/FOOTAGES: 660' S line, 2310' W line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.567264 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.141537 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 3522.0 LOG TYPE: Electric Log

SOURCE: RYAN OIL CO., ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-498.0	CARBONDALE	DANVILLE	COAL	-	900.0
-526.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	928.0
-539.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	17.0	941.0
-582.0	CARBONDALE	HERRIN	COAL	7.0	984.0
-595.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	7.0	997.0
-628.0	CARBONDALE	BRIAR HILL	COAL	-	1030.0
-640.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1042.0
-650.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	16.0	1052.0
-718.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1120.0

BLACK SHALE & LIMESTONE  
ROOF

MAPID: 06500046000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 33 QUARTERS/FOOTAGES: 2310' S line, 1980' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.545594 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.131502 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 4120.0 LOG TYPE: Electric Log

SOURCE: WISER OC, ECHOLS W C0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-591.0	CARBONDALE	HERRIN	COAL	6.0	1003.0	
-666.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1078.0	
-2164.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2576.0	

MAPID: 06500046000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 33 QUARTERS/FOOTAGES: 2310' S line, 1980' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.545594 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.131502 DATE COLLECTED:

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 1007.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-513.0	CARBONDALE	DANVILLE	COAL	1.0	925.0	
-514.0	CARBONDALE		SHALE & SANDSTONE	20.0	926.0	
-534.0	CARBONDALE	ALLENBY	BLACK SHALE	3.0	946.0	
-537.0	CARBONDALE		CLAYSTONE	1.0	949.0	
-538.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	950.0	
-544.0	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	10.0	956.0	
-554.0	CARBONDALE	LAWSON	SILTSTONE	26.0	966.0	
-580.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	6.0	992.0	
-586.0	CARBONDALE	ANNA	BLACK SHALE	2.0	998.0	
-588.0	CARBONDALE	HERRIN	COAL	7.0	1000.0	

MAPID: 06500046000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 33 QUARTERS/FOOTAGES: 2310' S line, 1980' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.545594 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.131502 DATE COLLECTED:

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 3505.0 LOG TYPE: Electric Log

SOURCE: WISER OIL CO., THE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-594.0	CARBONDALE	HERRIN	COAL	5.0	1006.0	
-635.0	CARBONDALE	BRIAR HILL	COAL	-	1047.0	
-667.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1079.0	BLACK SHALE & LIMESTONE ROOF
-737.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1149.0	

MAPID: 06500046000C VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 33 QUARTERS/FOOTAGES: 2310' S line, 1980' E line

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.545594 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 38.131502 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3505.0 LOG TYPE: Survey Sample Study

SOURCE: WISER OIL CO., THE WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

MAPID: 06500046000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 4S 6E    SECTION: 33    QUARTERS/FOOTAGES: 2310' S line, 1980' E line

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.545594    GEOLOGIST: MCCracken

CONFIDENTIAL: N    LATITUDE: 38.131502    DATE COLLECTED: 5 / 0 / 1943

SURFACE ELEVATION (FT.): 412.0    LOGGED (FT.): 1114.0    LOG TYPE: Survey Sample Study

SOURCE: WISER OIL COMPANY    1    WELL TYPE: Dry Hole

COMMENT: COAL DIVISION CONTROL WELL #157

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
412.0			NO RECORD	140.0	0.0	
272.0			SHALE	23.0	140.0	
249.0			SANDSTONE	3.0	163.0	
246.0			SHALE	4.0	166.0	
242.0			SANDSTONE	30.0	170.0	WITH SILTSTONE
212.0			SHALE	88.0	200.0	
124.0			BLACK SHALE	1.0	288.0	
123.0			COAL	1.0	289.0	THICKNESS ESTIMATED
122.0			UNDERCLAY	2.0	290.0	
120.0			SHALE	12.0	292.0	
108.0			SANDSTONE	41.0	304.0	WITH SILTSTONE
67.0			BLACK SHALE	1.0	345.0	
66.0			SANDSTONE	50.0	346.0	WITH SILTSTONE
16.0			SHALE	4.0	396.0	
12.0			SANDSTONE	22.0	400.0	
-10.0			COAL	1.0	422.0	THICKNESS ESTIMATED
-11.0			SANDSTONE	3.0	423.0	
-14.0			SHALE	13.0	426.0	CARBONACEOUS
-27.0			LIMESTONE	7.0	439.0	
-34.0			BLACK SHALE	2.0	446.0	
-36.0			SHALE	18.0	448.0	CARBONACEOUS
-54.0			UNDERCLAY	4.0	466.0	
-58.0			SANDSTONE	37.0	470.0	
-95.0			SHALE	76.0	507.0	
-171.0			BLACK SHALE	4.0	583.0	
-175.0			SHALE	8.0	587.0	
-183.0			SANDSTONE	69.0	595.0	
-252.0			LIMESTONE	2.0	664.0	
-254.0			SANDSTONE	34.0	666.0	
-288.0			SHALE	19.0	700.0	CARBONACEOUS
-307.0			BLACK SHALE	2.0	719.0	THIN COAL
-309.0			SHALE	13.0	721.0	CARBONACEOUS
-322.0			SANDSTONE	60.0	734.0	
-382.0			SHALE	5.0	794.0	CARBONACEOUS
-387.0			SANDSTONE	28.0	799.0	
-415.0			SHALE	2.0	827.0	CARBONACEOUS
-417.0			SANDSTONE/SHALE	3.0	829.0	
-420.0			SHALE	32.0	832.0	CARBONACEOUS

-452.0			BLACK SHALE	3.0	864.0	
-455.0			UNDERCLAY	1.0	867.0	
-456.0			SHALE	8.0	868.0	CARBONACEOUS
-464.0			LIMESTONE	3.0	876.0	
-467.0			SANDSTONE	2.0	879.0	
-469.0			SHALE	43.0	881.0	WITH BLACK SHALE IN UPPER 20 FEET
-512.0	CARBONDALE	DANVILLE	COAL	2.0	924.0	THICKNESS ESTIMATED
-514.0	CARBONDALE		UNDERCLAY	1.0	926.0	
-515.0	CARBONDALE		SANDSTONE	7.0	927.0	
-522.0	CARBONDALE		SHALE	12.0	934.0	CARBONACEOUS
-534.0	CARBONDALE		BLACK SHALE	3.0	946.0	
-537.0	CARBONDALE		UNDERCLAY	1.0	949.0	
-538.0	CARBONDALE		LIMESTONE	6.0	950.0	
-544.0	CARBONDALE		SANDSTONE	36.0	956.0	WITH SILTSTONE
-580.0	CARBONDALE	BRERETON	LIMESTONE	6.0	992.0	
-586.0	CARBONDALE	ANNA	BLACK SHALE	2.0	998.0	
-588.0	CARBONDALE	HERRIN	COAL	7.0	1000.0	THICKNESS ESTIMATED
-595.0	CARBONDALE		UNDERCLAY	1.0	1007.0	
-596.0	CARBONDALE		SANDSTONE	30.0	1008.0	
-626.0	CARBONDALE		SHALE	7.0	1038.0	
-633.0	CARBONDALE		BLACK SHALE	1.0	1045.0	
-634.0	CARBONDALE		COAL	1.0	1046.0	THICKNESS ESTIMATED
-635.0	CARBONDALE		SHALE	15.0	1047.0	CARBONACEOUS
-650.0	CARBONDALE		LIMESTONE	2.0	1062.0	
-652.0	CARBONDALE		BLACK SHALE	4.0	1064.0	
-656.0	CARBONDALE		SHALE	4.0	1068.0	CARBONACEOUS
-660.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.0	1072.0	
-661.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1073.0	THICKNESS ESTIMATED
-665.0	CARBONDALE		UNDERCLAY	1.0	1077.0	
-666.0	CARBONDALE		SILTSTONE	16.0	1078.0	WITH SANDSTONE
-682.0	CARBONDALE		SHALE	20.0	1094.0	

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MAPID: 06500724000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 36 QUARTERS/FOOTAGES: 1650' N line, 1650' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.489258 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.134826 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 1128.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-480.0	MODESTO	PIASA	LIMESTONE & SHALE	5.5	958.0	
-485.5	MODESTO		SILTY SHALE	65.0	963.5	
-550.5	CARBONDALE	DANVILLE	COAL	1.5	1028.5	
-552.0	CARBONDALE		SILTY SHALE	24.0	1030.0	
-576.0	CARBONDALE	ALLENBY	COAL	1.0	1054.0	
-577.0	CARBONDALE		CLAYSTONE & SHALE	7.0	1055.0	
-584.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	1062.0	
-588.0	CARBONDALE	LAWSON	SHALE	4.5	1066.0	
-592.5	CARBONDALE	LAWSON	COAL	0.5	1070.5	
-593.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	34.0	1071.0	
-627.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1105.0	
-628.0	CARBONDALE		CLAYSTONE & SHALE	7.0	1106.0	
-635.0	CARBONDALE	BRERETON	LIMESTONE	4.0	1113.0	
-639.0	CARBONDALE	ANNA	BLACK SHALE	3.0	1117.0	
-642.0	CARBONDALE	HERRIN	COAL	8.0	1120.0	

MAPID: 06501545000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 6E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.487007 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.125695 DATE COLLECTED:

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 3620.0 LOG TYPE: Electric Log

SOURCE: LOBREE & JOBE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-599.0	CARBONDALE	HERRIN	COAL	6.0	1104.0	
-636.0	CARBONDALE	BRIAR HILL	COAL	-	1141.0	
-705.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1210.0	SHALE AND SANDSTONE ROOF
-739.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1244.0	

MAPID: 06500129000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 1 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: SPRINGERTON LONGITUDE: -88.37206 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.210979 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3800.0 LOG TYPE: Electric Log

SOURCE: GRAY W W, GRAY W W 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-525.0	CARBONDALE	HERRIN	COAL	-	905.0	
-607.0	CARBONDALE	SPRINGFIELD	COAL	-	987.0	
-2066.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2446.0	

MAPID: 06500705000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 1 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SW

QUADRANGLE: BUNGAY LONGITUDE: -88.383879 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.204098 DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3390.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-501.0	CARBONDALE	DANVILLE	COAL	-	876.0	
-505.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	880.0	
-523.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	898.0	
-538.0	CARBONDALE	ANVIL ROCK	SILTSTONE	10.0	913.0	
-575.0	CARBONDALE	HERRIN	COAL	5.0	950.0	
-585.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	14.0	960.0	
-631.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	6.0	1006.0	
-655.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1030.0	SHALE & SILTSTONE ROOF
-751.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1126.0	

MAPID: 06501546000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 1 QUARTERS/FOOTAGES: 990' N line, 330' E line

QUADRANGLE: SPRINGERTON LONGITUDE: -88.372064 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.209146 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 911.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-453.5	CARBONDALE	DANVILLE	COAL	1.0	831.5	
-454.5	CARBONDALE		SHALE & SANDSTONE	29.0	832.5	
-483.5	CARBONDALE	ALLENBY	COAL	1.0	861.5	
-484.5	CARBONDALE		CLAYSTONE & SHALE	7.0	862.5	
-491.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	869.5	
-492.5	CARBONDALE	LAWSON	SHALE	27.0	870.5	
-519.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	897.5	
-520.5	CARBONDALE		CLAYSTONE & SHALE	2.5	898.5	
-523.0	CARBONDALE	BRERETON	LIMESTONE	4.0	901.0	
-527.0	CARBONDALE	ANNA	BLACK SHALE	2.0	905.0	
-529.0	CARBONDALE	HERRIN	COAL	4.0	907.0	

MAPID: 06501549000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 2 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE SW

QUADRANGLE: BUNGAY LONGITUDE: -88.400277 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.202351 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 3470.0 LOG TYPE: Electric Log

SOURCE: REA R L WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-586.0	CARBONDALE	HERRIN	COAL	3.0	962.0	
-641.0	CARBONDALE	BRIAR HILL	COAL	-	1017.0	
-675.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1051.0	SHALE & SILTSTONE ROOF
-754.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1130.0	



MAPID: 0650155000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 2 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.407299

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.20718

DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0

LOGGED (FT.): 993.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-541.5	CARBONDALE	DANVILLE	BONE COAL	0.5	920.5	
-542.0	CARBONDALE		SHALE	13.0	921.0	
-555.0	CARBONDALE	ALLENBY	COAL	1.0	934.0	
-556.0	CARBONDALE		CLAYSTONE & SHALE	6.0	935.0	
-562.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	5.0	941.0	
-567.0	CARBONDALE	LAWSON	SANDSTONE	10.0	946.0	
-577.0	CARBONDALE	LAWSON	SHALE	20.0	956.0	
-597.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	976.0	
-598.0	CARBONDALE		CLAYSTONE & SHALE	4.0	977.0	
-602.0	CARBONDALE	BRERETON	LIMESTONE	5.0	981.0	
-607.0	CARBONDALE	ANNA	BLACK SHALE	2.0	986.0	
-609.0	CARBONDALE	HERRIN	COAL	5.0	988.0	

MAPID: 06501551000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.409718

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.198606

DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0

LOGGED (FT.): 3467.0

LOG TYPE: Electric Log

SOURCE: TEXACO, INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-594.0	CARBONDALE	HERRIN	COAL	3.0	973.0	
-648.0	CARBONDALE	BRIAR HILL	COAL	-	1027.0	
-679.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1058.0	BLACK SHALE & LIMESTONE ROOF
-761.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06501551000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.409718 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.198606 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 977.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-520.0	CARBONDALE	DANVILLE	COAL	3.0	899.0	
-523.0	CARBONDALE		SHALE & SANDSTONE	22.0	902.0	
-545.0	CARBONDALE	ALLENBY	COAL	1.0	924.0	
-546.0	CARBONDALE		CLAYSTONE & SHALE	6.0	925.0	
-552.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	931.0	
-553.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	932.0	
-560.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	939.0	
-574.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	953.0	
-584.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	963.0	
-585.0	CARBONDALE		CLAYSTONE & SHALE	4.0	964.0	
-589.0	CARBONDALE	BRERETON	LIMESTONE	4.0	968.0	
-593.0	CARBONDALE	ANNA	BLACK SHALE	2.0	972.0	
-595.0	CARBONDALE	HERRIN	COAL	3.0	974.0	

MAPID: 06501552000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 4 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.427993 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.198013 DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3507.0 LOG TYPE: Electric Log

SOURCE: CALVERT & WILLIS, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-609.0	CARBONDALE	HERRIN	COAL	5.0	984.0	
-665.0	CARBONDALE	BRIAR HILL	COAL	-	1040.0	
-705.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1080.0	SHALE & SILTSTONE ROOF
-767.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1142.0	

MAPID: 06501552000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 4 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.427993 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.198013 DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 990.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-531.0	CARBONDALE	DANVILLE	BONE COAL	1.0	906.0	
-532.0	CARBONDALE		SHALE & SANDSTONE	22.0	907.0	
-554.0	CARBONDALE	ALLENBY	COAL	1.0	929.0	
-555.0	CARBONDALE		CLAYSTONE & SHALE	3.0	930.0	
-558.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	933.0	
-563.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	37.0	938.0	
-600.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	975.0	
-601.0	CARBONDALE		CLAYSTONE & SHALE	3.0	976.0	
-604.0	CARBONDALE	BRERETON	LIMESTONE	5.0	979.0	
-609.0	CARBONDALE	ANNA	BLACK SHALE	2.0	984.0	
-611.0	CARBONDALE	HERRIN	COAL	4.0	986.0	

MAPID: 06500656000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 5 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.462929 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.206996 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 3515.0 LOG TYPE: Electric Log

SOURCE: AETNA OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-588.0	CARBONDALE	HERRIN	COAL	3.0	964.0	
-656.0	CARBONDALE	BRIAR HILL	COAL	-	1032.0	
-686.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1062.0	BLACK SHALE & LIMESTONE ROOF
-764.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06500656000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 5 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.462929 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.206996 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 968.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-523.0	CARBONDALE	DANVILLE	BONE COAL	1.0	899.0	
-524.0	CARBONDALE		SILTY SHALE	20.0	900.0	
-544.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	920.0	
-548.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	22.0	924.0	
-570.0	CARBONDALE	LAWSON	SHALE	10.0	946.0	
-580.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	956.0	
-581.0	CARBONDALE		CLAYSTONE & SHALE	3.0	957.0	
-584.0	CARBONDALE	BRERETON	LIMESTONE	4.0	960.0	
-588.0	CARBONDALE	HERRIN	COAL	4.0	964.0	

MAPID: 06500130000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 6 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.465313 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.20043 DATE COLLECTED: 0 / 0 / 1939

SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3800.0 LOG TYPE: Electric Log

SOURCE: HELMRH&PYN, HAMI CO LB0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-582.0	CARBONDALE	HERRIN	COAL	-	962.0	
-682.0	CARBONDALE	SPRINGFIELD	COAL	-	1062.0	
-2157.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2537.0	

MAPID: 06501188000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 6 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: BUNGAY LONGITUDE: -88.477165 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.202483 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3513.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-572.0	CARBONDALE	HERRIN	COAL	4.0	950.0	
-632.0	CARBONDALE	BRIAR HILL	COAL	-	1010.0	
-665.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1043.0	BLACK SHALE & LIMESTONE ROOF
-742.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1120.0	

MAPID: 06501553000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 6 QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.47214 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.21061 DATE COLLECTED:

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 950.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-429.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	806.0	
-433.0	MODESTO		SHALE	65.0	810.0	
-498.0	CARBONDALE	DANVILLE	COAL	1.5	875.0	
-499.5	CARBONDALE		SHALE & SANDSTONE	21.5	876.5	
-521.0	CARBONDALE	ALLENBY	BONE COAL	1.0	898.0	
-522.0	CARBONDALE		CLAYSTONE & SHALE	3.0	899.0	
-525.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	902.0	
-529.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	23.0	906.0	
-552.0	CARBONDALE	LAWSON	SHALE	5.0	929.0	
-557.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	934.0	
-558.0	CARBONDALE		CLAYSTONE & SHALE	3.0	935.0	
-561.0	CARBONDALE	BRERETON	LIMESTONE	6.0	938.0	
-567.0	CARBONDALE	ANNA	BLACK SHALE	2.0	944.0	
-569.0	CARBONDALE	HERRIN	COAL	4.0	946.0	

MAPID: 06500517000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 7 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: WALPOLE LONGITUDE: -88.479616 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.191499 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3770.0 LOG TYPE: Electric Log

SOURCE: PHILLIPS, WILMA 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-591.0	CARBONDALE	HERRIN	COAL	-	968.0	
-681.0	CARBONDALE	SPRINGFIELD	COAL	-	1058.0	
-2137.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2514.0	

MAPID: 06500708000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.467709 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.184187 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3471.0 LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-521.0	CARBONDALE	DANVILLE	COAL	-	900.0	
-527.0	CARBONDALE	SS BELOW NO. 7		6.0	906.0	
-541.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	920.0	
-547.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	11.0	926.0	
-593.0	CARBONDALE	HERRIN	COAL	6.0	972.0	
-601.0	CARBONDALE	VERMILIONVILLE	SILTSTONE & SHALE	22.0	980.0	
-651.0	CARBONDALE	BRIAR HILL	COAL	-	1030.0	
-655.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	3.0	1034.0	
-683.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1062.0	SHALE & SILTSTONE ROOF
-753.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1132.0	

MAPID: 06500708000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.467709 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.184187 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 978.0 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
-524.0	CARBONDALE	DANVILLE	COAL	1.5	903.0
-525.5	CARBONDALE		SHALE & SANDSTONE	19.0	904.5
-544.5	CARBONDALE	ALLENBY	BONE COAL	0.5	923.5
-545.0	CARBONDALE		CLAYSTONE & SHALE	6.0	924.0
-551.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	930.0
-555.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	16.0	934.0
-571.0	CARBONDALE	LAWSON	SHALE	12.0	950.0
-583.0	CARBONDALE	BRERETON	LIMESTONE	6.0	962.0
-589.0	CARBONDALE	ANNA	BLACK SHALE	4.0	968.0
-593.0	CARBONDALE	HERRIN	COAL	6.0	972.0

MAPID: 06500131000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 1980' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.45723 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.196614 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 3840.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, ADAMS N 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-586.0	CARBONDALE	HERRIN	COAL	-	970.0
-686.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0
-2142.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2526.0

MAPID: 06500131000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 1980' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.45723 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.196614 DATE COLLECTED:

SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 976.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-418.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	802.0	
-422.0	MODESTO		SHALE	96.0	806.0	
-518.0	CARBONDALE	DANVILLE	COAL	2.0	902.0	
-520.0	CARBONDALE		SHALE & SANDSTONE	30.0	904.0	
-550.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	934.0	
-556.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	17.0	940.0	
-573.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	5.0	957.0	
-578.0	CARBONDALE	BRERETON	LIMESTONE	6.0	962.0	
-584.0	CARBONDALE	ANNA	BLACK SHALE	2.0	968.0	
-586.0	CARBONDALE	HERRIN	COAL	6.0	970.0	

MAPID: 06500131000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 1980' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.45723 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.196614 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3558.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	4.0	960.0	
-	CARBONDALE	BRIAR HILL	COAL	-	1032.0	
-	CARBONDALE	SPRINGFIELD	COAL	5.0	1066.0	BLACK SHALE & LIMESTONE ROOF
-	CARBONDALE	HOUCHIN CREEK	COAL	-	1147.0	



MAPID: 06500132000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 9 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.428106 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.185316 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3800.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, EPPERSON C0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-570.0	CARBONDALE	HERRIN	COAL	-	950.0	
-680.0	CARBONDALE	SPRINGFIELD	COAL	-	1060.0	
-2138.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2518.0	

MAPID: 06501554000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 9 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.437439 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.189047 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 2345.0 LOG TYPE: Electric Log

SOURCE: DUNCAN, WALTER WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-583.0	CARBONDALE	HERRIN	COAL	4.0	962.0	
-639.0	CARBONDALE	BRIAR HILL	COAL	-	1018.0	
-682.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1061.0	SHALE & SILTSTONE ROOF
-739.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1118.0	

MAPID: 06501554000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 9 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.437439 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.189047 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 966.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-501.5	CARBONDALE	DANVILLE	COAL	1.5	880.5	
-503.0	CARBONDALE		SHALE & SANDSTONE	30.0	882.0	
-533.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	912.0	
-535.0	CARBONDALE	LAWSON	SILTY SHALE	15.0	914.0	
-550.0	CARBONDALE	LAWSON	SANDSTONE	10.0	929.0	
-560.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	15.0	939.0	
-575.0	CARBONDALE	BRERETON	LIMESTONE	6.0	954.0	
-581.0	CARBONDALE	ANNA	BLACK SHALE	2.0	960.0	
-583.0	CARBONDALE	HERRIN	COAL	4.0	962.0	

MAPID: 06501554000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 9 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.437439 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.189047 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 1266.0 LOG TYPE: Electric Log

SOURCE: WALTER DUNCAN 1554 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.0			UNKNOWN	1185.0	0.0	
-806.0	CARBONDALE	COLCHESTER	COAL	1.0	1185.0	THICKNESS LESS THAN 16"
-807.0	CARBONDALE		UNKNOWN	47.0	1186.0	
-854.0	CARBONDALE	DEKOVEN	COAL	2.5	1233.0	
-856.5	CARBONDALE		UNKNOWN	27.5	1235.5	
-884.0	CARBONDALE	DAVIS	COAL	3.0	1263.0	

MAPID: 06501556000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 10 QUARTERS/FOOTAGES: 1650' N line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.418797 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.192824 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 3447.0 LOG TYPE: Electric Log

SOURCE: CUNNINGHAM E J WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-614.0	CARBONDALE	HERRIN	COAL	6.0	990.0	
-664.0	CARBONDALE	BRIAR HILL	COAL	-	1040.0	
-704.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1080.0	SHALE & SILTSTONE ROOF
-767.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1143.0	

MAPID: 06501556000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 10 QUARTERS/FOOTAGES: 1650' N line, 2310' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.418797 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.192824 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 998.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-531.0	CARBONDALE	DANVILLE	COAL	1.5	907.0	
-532.5	CARBONDALE		SHALE & SANDSTONE	24.0	908.5	
-556.5	CARBONDALE	ALLENBY	BONE COAL	1.0	932.5	
-557.5	CARBONDALE		CLAYSTONE & SHALE	4.0	933.5	
-561.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	937.5	
-565.5	CARBONDALE	LAWSON	SHALE	18.0	941.5	
-583.5	CARBONDALE	LAWSON	SANDSTONE	17.0	959.5	
-600.5	CARBONDALE	LAWSON	SHALE	3.0	976.5	
-603.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	979.5	
-604.5	CARBONDALE		CLAYSTONE & SHALE	4.0	980.5	
-608.5	CARBONDALE	BRERETON	LIMESTONE	5.0	984.5	
-613.5	CARBONDALE	ANNA	BLACK SHALE	2.5	989.5	
-616.0	CARBONDALE	HERRIN	COAL	6.0	992.0	

**MAPID:** 06500133000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 11    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.391332    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.184131    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 404.0    **LOGGED (FT.):** 4040.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, THOMAS GEO0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-536.0	CARBONDALE	HERRIN	COAL	-	940.0	
-626.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	
-2121.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2525.0	

**MAPID:** 06501558000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.40506    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.195003    **DATE COLLECTED:** 9 / 0 / 1952  
**SURFACE ELEVATION (FT.):** 379.0    **LOGGED (FT.):** 1279.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS COMPANY, THE    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.0			UNKNOWN	1193.0	0.0	
-814.0	CARBONDALE	COLCHESTER	COAL	1.0	1193.0	THICKNESS LESS THAN 16"
-815.0	CARBONDALE		UNKNOWN	49.0	1194.0	
-864.0	CARBONDALE	DEKOVEN	COAL	2.0	1243.0	
-866.0	CARBONDALE		UNKNOWN	31.0	1245.0	
-897.0	CARBONDALE	DAVIS	COAL	3.0	1276.0	

**MAPID:** 06501558000C    **VERSION:** 2    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.40506    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.195003    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 379.0    **LOGGED (FT.):** 3460.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-594.0	CARBONDALE	HERRIN	COAL	5.0	973.0	
-635.0	CARBONDALE	BRIAR HILL	COAL	-	1014.0	
-667.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1046.0	SHALE & SILTSTONE ROOF
-746.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1125.0	

MAPID: 06501861000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 11 QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.3933 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.195114 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 943.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-486.0	CARBONDALE	DANVILLE	COAL	2.5	865.0	
-488.5	CARBONDALE		SHALE & SANDSTONE	22.0	867.5	
-510.5	CARBONDALE	ALLENBY	BONE COAL	1.0	889.5	
-511.5	CARBONDALE		CLAYSTONE & SHALE	4.0	890.5	
-515.5	CARBONDALE	LAWSON	SILTY SHALE	8.0	894.5	
-523.5	CARBONDALE	LAWSON	SANDSTONE	19.0	902.5	
-542.5	CARBONDALE	LAWSON	SHALE	7.0	921.5	
-549.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	928.5	
-550.5	CARBONDALE		CLAYSTONE & SHALE	3.0	929.5	
-553.5	CARBONDALE	BRERETON	LIMESTONE	4.0	932.5	
-557.5	CARBONDALE	ANNA	BLACK SHALE	2.5	936.5	
-560.0	CARBONDALE	HERRIN	COAL	4.0	939.0	

MAPID: 06500652000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SE NW

QUADRANGLE: BUNGAY LONGITUDE: -88.38401 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.193188 DATE COLLECTED:

SURFACE ELEVATION (FT.): 391.0 LOGGED (FT.): 3499.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-563.0	CARBONDALE	HERRIN	COAL	5.0	954.0	
-613.0	CARBONDALE	BRIAR HILL	COAL	-	1004.0	
-652.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1043.0	BLACK SHALE & LIMESTONE ROOF
-736.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1127.0	

MAPID: 06501867000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 12 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.3866 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.187746 DATE COLLECTED:

SURFACE ELEVATION (FT.): 419.0 LOGGED (FT.): 984.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-488.0	CARBONDALE	DANVILLE	COAL	3.0	907.0	
-491.0	CARBONDALE		SILTY SHALE	15.0	910.0	
-506.0	CARBONDALE	ALLENBY	BONE COAL	0.5	925.0	
-506.5	CARBONDALE	LAWSON	SILTY SHALE	15.0	925.5	
-521.5	CARBONDALE	LAWSON	SANDSTONE	23.0	940.5	
-544.5	CARBONDALE	LAWSON	SHALE	7.0	963.5	
-551.5	CARBONDALE	JAMESTOWN	BONE COAL	0.5	970.5	
-552.0	CARBONDALE		CLAYSTONE & SHALE	2.0	971.0	
-554.0	CARBONDALE	BRERETON	LIMESTONE	4.0	973.0	
-558.0	CARBONDALE	ANNA	BLACK SHALE	3.0	977.0	
-561.0	CARBONDALE	HERRIN	COAL	4.0	980.0	

MAPID: 06501561000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 13 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW NW

QUADRANGLE: BUNGAY LONGITUDE: -88.38666 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.178641 DATE COLLECTED:

SURFACE ELEVATION (FT.): 456.0 LOGGED (FT.): 3522.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-548.0	CARBONDALE	HERRIN	COAL	4.0	1004.0	
-602.0	CARBONDALE	BRIAR HILL	COAL	-	1058.0	
-641.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1097.0	SHALE & SILTSTONE ROOF
-718.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1174.0	

MAPID: 06503674000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 13 QUARTERS/FOOTAGES: 1400' N line, 1423' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.385244 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.179312 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 464.3 LOGGED (FT.): 1139.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C1-27 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-577.7	CARBONDALE	HERRIN	COAL	4.8	1042.0
-655.7	CARBONDALE	SPRINGFIELD	COAL	4.8	1120.0

MAPID: 06503674000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 13 QUARTERS/FOOTAGES: 1400' N line, 1423' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.385244 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.179312 DATE COLLECTED:

SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 1047.7 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C1-27 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-497.0	CARBONDALE	DANVILLE	COAL	3.0	961.0
-500.0	CARBONDALE		SILTY SHALE	14.5	964.0
-514.5	CARBONDALE	ALLENBY	BONE COAL	0.5	978.5
-515.0	CARBONDALE		CLAYSTONE	3.0	979.0
-518.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	982.0
-521.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	985.0
-531.0	CARBONDALE	LAWSON	SANDSTONE	32.0	995.0
-563.0	CARBONDALE	LAWSON	SHALE	2.0	1027.0
-565.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	1029.0
-565.5	CARBONDALE		CLAYSTONE	3.5	1029.5
-569.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.5	1033.0
-573.5	CARBONDALE	ANNA	BLACK SHALE	4.5	1037.5
-578.0	CARBONDALE	HERRIN	COAL	5.7	1042.0

MAPID: 06503674000C    VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON    TWP/RNG: 4S 7E    SECTION: 13    QUARTERS/FOOTAGES: 1400' N line, 1423' W line

QUADRANGLE: BUNGAY    LONGITUDE: -88.385244    GEOLOGIST: MCBETH

CONFIDENTIAL: N    LATITUDE: 38.179312    DATE COLLECTED:

SURFACE ELEVATION (FT.): 464.3    LOGGED (FT.): 1139.3    LOG TYPE:

SOURCE: AYRSHIRE    C1-27    WELL TYPE:

COMMENT: CARMI 1 BOX#75 COMP.CORE W/ISGS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.3			UNCLASSIFIED	960.6	0.0	THICK AND DEPTH FROM E-LOG
-496.3	CARBONDALE	DANVILLE	COAL	0.6	960.6	THICK AND DEPTH FROM E-LOG
-496.9	CARBONDALE		UNCLASSIFIED	71.8	961.2	THICK AND DEPTH FROM E-LOG
-568.7	CARBONDALE	BRERETON	LIMESTONE	2.5	1033.0	THICK FROM CORE
-571.2	CARBONDALE	ANNA	BLACK SHALE	3.4	1035.5	THICK FROM CORE
-574.6	CARBONDALE	ANNA	LIMESTONE	0.7	1038.9	PROBABLY A CONCRETION
-575.3	CARBONDALE	ANNA	BLACK SHALE	0.4	1039.6	THICK FOM CORE
-575.7	CARBONDALE	HERRIN	COAL	2.4	1040.0	THICK FOM CORE
-578.1	CARBONDALE	HERRIN	SHALE	0.1	1042.4	THICK FROM CORE
-578.2	CARBONDALE	HERRIN	COAL	3.2	1042.5	THICK FROM CORE
-581.4	CARBONDALE		SILTSTONE	0.1	1045.7	
-581.4	CARBONDALE		SANDSTONE	3.0	1045.7	THICK FROM CORE
-584.4	CARBONDALE		UNCLASSIFIED	39.3	1048.7	THICK FROM E-LOG
-623.7	CARBONDALE	BRIAR HILL	COAL	3.0	1088.0	FROM E-LOG LITHOLOGY PICK UNCERTAIN
-626.7	CARBONDALE		UNCLASSIFIED	9.5	1091.0	
-636.2	CARBONDALE	ST. DAVID	LIMESTONE	1.5	1100.5	FROM E-LOGS, LITHOLOGY PICK UNCERTAIN
-637.7	CARBONDALE	TURNER MINE	BLACK SHALE	3.0	1102.0	FROM E-LOGS, LITHOLOGY PICK UNCERTAIN
-640.7	CARBONDALE	DYKERSBURG	SHALE	15.4	1105.0	THICK FROM E-LOG
-656.1	CARBONDALE	SPRINGFIELD	COAL	4.7	1120.4	THICK FROM CORE
-660.8	CARBONDALE		UNDERCLAY	2.6	1125.1	THICK FROM CORE
-663.4	CARBONDALE		SILTSTONE	1.4	1127.7	THICK FROM CORE
-664.8	CARBONDALE		SANDSTONE	7.5	1129.1	THICK FROM CORE
-672.3	CARBONDALE		SILTSTONE	2.7	1136.6	THICK FROM CORE



MAPID: 06500512000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 14 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: WALPOLE LONGITUDE: -88.405385 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.173051 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 418.0 LOGGED (FT.): 4180.0 LOG TYPE: Electric Log

SOURCE: GILL DRC, SNEED COMM0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-556.0	CARBONDALE	HERRIN	COAL	-	974.0	
-634.0	CARBONDALE	SPRINGFIELD	COAL	-	1052.0	
-2092.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2510.0	

MAPID: 06501562000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 14 QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.393677 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.180459 DATE COLLECTED:

SURFACE ELEVATION (FT.): 423.0 LOGGED (FT.): 3469.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-547.0	CARBONDALE	HERRIN	COAL	4.0	970.0	
-610.0	CARBONDALE	BRIAR HILL	COAL	-	1033.0	
-640.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1063.0	SHALE & SILTSTONE ROOF
-727.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1150.0	

MAPID: 06501562000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 4S 7E    SECTION: 14    QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: BUNGAY    LONGITUDE: -88.393677    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.180459    DATE COLLECTED:

SURFACE ELEVATION (FT.): 423.0    LOGGED (FT.): 975.0    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
-477.0	CARBONDALE	DANVILLE	COAL	3.0	900.0
-480.0	CARBONDALE		CLAYSTONE & SHALE	4.0	903.0
-484.0	CARBONDALE	GALUM	LIMESTONE	3.0	907.0
-487.0	CARBONDALE		SILTY SHALE	10.0	910.0
-497.0	CARBONDALE	ALLENBY	BONE COAL	0.5	920.0
-497.5	CARBONDALE		CLAYSTONE & SHALE	3.0	920.5
-500.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	923.5
-503.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	16.0	926.5
-519.5	CARBONDALE	LAWSON	SANDSTONE	13.0	942.5
-532.5	CARBONDALE	LAWSON	SHALE	6.0	955.5
-538.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	961.5
-539.5	CARBONDALE		CLAYSTONE	2.0	962.5
-541.5	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.5	964.5
-546.0	CARBONDALE	ANNA	BLACK SHALE	2.0	969.0
-548.0	CARBONDALE	HERRIN	COAL	4.0	971.0

MAPID: 06590209000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 14 QUARTERS/FOOTAGES: 576' S line, 642' E line of NE NE

QUADRANGLE: BUNGAY LONGITUDE: -88.392459 GEOLOGIST: MCBETH

CONFIDENTIAL: N LATITUDE: 38.181149 DATE COLLECTED:

SURFACE ELEVATION (FT.): 419.8 LOGGED (FT.): 1095.0 LOG TYPE: Drillers Log

SOURCE: AMAX C1-65 WELL TYPE: Coal Test

COMMENT: CARMI 1 BOX#75 CORE NOT COMPLETE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
419.8			UNCLASSIFIED	910.0	0.0	
-490.2	CARBONDALE	DANVILLE	COAL	2.0	910.0	THICK AND DEPTH FROM G-R LOG
-492.2	CARBONDALE		UNCLASSIFIED	54.0	912.0	THICK AND DEPTH FROM G-R LOG
-546.2	CARBONDALE	BRERETON	LIMESTONE	1.5	966.0	THICK AND DEPTH FROM G-R LOG
-547.7	CARBONDALE	ANNA	BLACK SHALE	2.9	967.5	THICK AND DEPTH FROM G-R LOG
-550.6	CARBONDALE	HERRIN	COAL	4.3	970.4	LOG & E-LOG DIFFER BY 13, DEPTH FR. G-R
-554.9	CARBONDALE		UNCLASSIFIED	56.3	974.7	
-611.2	CARBONDALE	BRIAR HILL	COAL	2.0	1031.0	THICK & DEPTH FROM G-R LOG
-613.2	CARBONDALE		UNCLASSIFIED	15.5	1033.0	THICK & DEPTH FROM G-R LOG
-628.7	CARBONDALE	TURNER MINE	BLACK SHALE	2.5	1048.5	THICK & DEPTH FROM G-R LOG
-631.2	CARBONDALE	DYKERSBURG	GRAY SHALE	12.8	1051.0	THICK & DEPTH FROM G-R LOG
-644.0	CARBONDALE	SPRINGFIELD	COAL	5.7	1063.8	DEPTH FROM G-R LOG
-649.7	CARBONDALE		UNCLASSIFIED	25.5	1069.5	BOTTOM FR. DRILLER'S LOG

MAPID: 06500704000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: BUNGAY LONGITUDE: -88.421232 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.172764 DATE COLLECTED:

SURFACE ELEVATION (FT.): 415.0 LOGGED (FT.): 3470.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-487.0	CARBONDALE	DANVILLE	COAL	-	902.0	
-514.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	20.0	929.0	
-557.0	CARBONDALE	HERRIN	COAL	4.0	972.0	
-571.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	45.0	986.0	
-617.0	CARBONDALE	BRIAR HILL	COAL	-	1032.0	
-652.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1067.0	SHALE & SILTSTONE ROOF
-725.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1140.0	

MAPID: 06501911000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 15 QUARTERS/FOOTAGES: 990' S line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.410065

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.171168

DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0

LOGGED (FT.): 986.0

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
-490.5	CARBONDALE	DANVILLE	COAL	1.5	907.5
-492.0	CARBONDALE		SILTY SHALE	19.0	909.0
-511.0	CARBONDALE	ALLENBY	BONE COAL	1.0	928.0
-512.0	CARBONDALE		CLAYSTONE & SHALE	7.0	929.0
-519.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	4.0	936.0
-523.0	CARBONDALE	LAWSON	SHALE	7.0	940.0
-530.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	947.0
-544.0	CARBONDALE	LAWSON	SHALE	8.0	961.0
-552.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	969.0
-553.0	CARBONDALE		CLAYSTONE	5.0	970.0
-558.0	CARBONDALE	BRERETON	LIMESTONE	4.0	975.0
-562.0	CARBONDALE	ANNA	BLACK SHALE	3.0	979.0
-565.0	CARBONDALE	HERRIN	COAL	4.0	982.0

MAPID: 06500134000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 16 QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: BUNGAY LONGITUDE: -88.442318

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.169169

DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 391.0

LOGGED (FT.): 3910.0

LOG TYPE: Electric Log

SOURCE: TEXAS CO, ERNEST H M0002

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-549.0	CARBONDALE	HERRIN	COAL	-	940.0
-619.0	CARBONDALE	SPRINGFIELD	COAL	-	1010.0
-2115.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2506.0

**MAPID:** 06500135000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 16    **QUARTERS/FOOTAGES:** SE SE SW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.437563    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.169125    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 417.0    **LOGGED (FT.):** 4170.0    **LOG TYPE:** Electric Log  
**SOURCE:** TIDE WATER, LYNCH J A 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-553.0	CARBONDALE	HERRIN	COAL	-	970.0	
-618.0	CARBONDALE	SPRINGFIELD	COAL	-	1035.0	
-2097.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2514.0	

**MAPID:** 06500136000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 16    **QUARTERS/FOOTAGES:** SW SE SW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.439941    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.169147    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 406.0    **LOGGED (FT.):** 4060.0    **LOG TYPE:** Electric Log  
**SOURCE:** TIDE WATER, LYNCH J A 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-544.0	CARBONDALE	HERRIN	COAL	-	950.0	
-614.0	CARBONDALE	SPRINGFIELD	COAL	-	1020.0	

**MAPID:** 06501076000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 16    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.437483    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.179969    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 381.0    **LOGGED (FT.):** 3438.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA PETROLEUM    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-543.0	CARBONDALE	HERRIN	COAL	5.0	924.0	
-596.0	CARBONDALE	BRIAR HILL	COAL	-	977.0	
-639.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1020.0	SHALE & SILTSTONE ROOF
-689.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1070.0	

MAPID: 06501943000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 16 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.440028

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.174623

DATE COLLECTED:

SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 939.0

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
-484.0	CARBONDALE	DANVILLE	COAL	2.0	868.0
-486.0	CARBONDALE		SILTY SHALE	16.0	870.0
-502.0	CARBONDALE	ALLENBY	BONE COAL	1.0	886.0
-503.0	CARBONDALE		CLAYSTONE & SHALE	4.0	887.0
-507.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	891.0
-510.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	894.0
-518.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	902.0
-532.0	CARBONDALE	LAWSON	SHALE	7.0	916.0
-539.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	923.0
-540.0	CARBONDALE		CLAYSTONE & SHALE	4.0	924.0
-544.0	CARBONDALE	BRERETON	LIMESTONE	4.0	928.0
-548.0	CARBONDALE	ANNA	BLACK SHALE	2.0	932.0
-550.0	CARBONDALE	HERRIN	COAL	5.0	934.0

MAPID: 06500137000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 17 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: BUNGAY LONGITUDE: -88.45393

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.169358

DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 3900.0

LOG TYPE: Electric Log

SOURCE: TEXAS CO, FLANNIGN R0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-565.0	CARBONDALE	HERRIN	COAL	-	955.0
-655.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0
-2113.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2503.0

MAPID: 06500138000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 17 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.446982 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.172834 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 385.0 LOGGED (FT.): 3850.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA, ODELL R 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-555.0	CARBONDALE	HERRIN	COAL	-	940.0	
-650.0	CARBONDALE	SPRINGFIELD	COAL	-	1035.0	
-2133.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2518.0	

MAPID: 06500139000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 17 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: BUNGAY LONGITUDE: -88.456214 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.171223 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 3890.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, FLANNIGN R0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-576.0	CARBONDALE	HERRIN	COAL	-	965.0	
-671.0	CARBONDALE	SPRINGFIELD	COAL	-	1060.0	
-2121.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2510.0	

MAPID: 06500521000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 17 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: WALPOLE LONGITUDE: -88.458527 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.169449 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 3900.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, FLANNIGN R0005 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-578.0	CARBONDALE	HERRIN	COAL	-	968.0	
-676.0	CARBONDALE	SPRINGFIELD	COAL	-	1066.0	
-2110.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2500.0	

MAPID: 06500522000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 17 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.447009 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.171029 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 386.0 LOGGED (FT.): 3860.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, FLANNIGN R0004 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-548.0	CARBONDALE	HERRIN	COAL	-	934.0	
-619.0	CARBONDALE	SPRINGFIELD	COAL	-	1005.0	

MAPID: 06500792000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: BUNGAY LONGITUDE: -88.453834 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.180263 DATE COLLECTED:

SURFACE ELEVATION (FT.): 385.0 LOGGED (FT.): 3476.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA PETROLEUM WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-583.0	CARBONDALE	HERRIN	COAL	4.0	968.0	
-645.0	CARBONDALE	BRIAR HILL	COAL	-	1030.0	
-689.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1074.0	SHALE & SILTSTONE ROOF
-747.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1132.0	



MAPID: 06500973000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 17 QUARTERS/FOOTAGES: 1650' N line, 2310' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.453822 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.178427 DATE COLLECTED:

SURFACE ELEVATION (FT.): 385.0 LOGGED (FT.): 966.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-515.5	CARBONDALE	DANVILLE	COAL	1.5	900.5	
-517.0	CARBONDALE		SHALE	19.0	902.0	
-536.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	921.0	
-540.0	CARBONDALE	LAWSON	SILTY SHALE	4.0	925.0	
-544.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	9.0	929.0	
-553.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	938.0	
-565.0	CARBONDALE	BRERETON	LIMESTONE	8.0	950.0	
-573.0	CARBONDALE	ANNA	BLACK SHALE	2.0	958.0	
-575.0	CARBONDALE	HERRIN	COAL	6.0	960.0	

MAPID: 06501972000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 18 QUARTERS/FOOTAGES: 1650' S line, 1650' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.470039 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.173175 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 980.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-512.5	CARBONDALE	DANVILLE	COAL	1.0	893.5	
-513.5	CARBONDALE		SILTY SHALE	23.0	894.5	
-536.5	CARBONDALE	ALLENBY	BONE COAL	1.0	917.5	
-537.5	CARBONDALE		CLAYSTONE & SHALE	6.0	918.5	
-543.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	924.5	
-546.5	CARBONDALE	LAWSON	SILTY SHALE	30.0	927.5	
-576.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	957.5	
-577.5	CARBONDALE		CLAYSTONE & SHALE	6.0	958.5	
-583.5	CARBONDALE	BRERETON	LIMESTONE	6.0	964.5	
-589.5	CARBONDALE	ANNA	BLACK SHALE	3.5	970.5	
-593.0	CARBONDALE	HERRIN	COAL	6.0	974.0	

MAPID: 06501569000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: BUNGAY LONGITUDE: -88.47271 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.162258 DATE COLLECTED:

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 3543.0 LOG TYPE: Electric Log

SOURCE: NATION BEN H WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-622.0	CARBONDALE	HERRIN	COAL	6.0	1034.0	
-678.0	CARBONDALE	BRIAR HILL	COAL	-	1090.0	
-720.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1132.0	SHALE & SILTSTONE ROOF
-768.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1180.0	

MAPID: 06501570000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 19 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.465441 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.167731 DATE COLLECTED:

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 1004.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-521.0	CARBONDALE	DANVILLE	COAL	2.0	918.0	
-523.0	CARBONDALE		SHALE & SANDSTONE	28.0	920.0	
-551.0	CARBONDALE	ALLENBY	BONE COAL	0.5	948.0	
-551.5	CARBONDALE	LAWSON	SHALE	37.0	948.5	
-588.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	985.5	
-589.5	CARBONDALE		CLAYSTONE & SHALE	6.0	986.5	
-595.5	CARBONDALE	BRERETON	LIMESTONE	6.0	992.5	
-601.5	CARBONDALE	ANNA	BLACK SHALE	1.5	998.5	
-603.0	CARBONDALE	HERRIN	COAL	4.0	1000.0	

**MAPID:** 06500047000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** 1985' N line, 330' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.447069    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.162838    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 425.0    **LOGGED (FT.):** 4250.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, MINTON S 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-540.0	CARBONDALE	HERRIN	COAL	6.0	965.0	
-620.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2119.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2544.0	

**MAPID:** 06500047000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** 1985' N line, 330' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.447069    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.162838    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 425.0    **LOGGED (FT.):** 969.0    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-494.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	919.0	
-498.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	923.0	
-528.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	953.0	
-529.0	CARBONDALE		CLAYSTONE	1.0	954.0	
-530.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.0	955.0	
-535.0	CARBONDALE	ANNA	BLACK SHALE	3.0	960.0	
-538.0	CARBONDALE	HERRIN	COAL	6.0	963.0	

**MAPID:** 06500047000C    **VERSION:** 3    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** 1985' N line, 330' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.447069    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.162838    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 425.0    **LOGGED (FT.):** 3531.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-538.0	CARBONDALE	HERRIN	COAL	6.0	963.0	
-577.0	CARBONDALE	BRIAR HILL	COAL	-	1002.0	
-614.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1039.0	SHALE & SILTSTONE ROOF
-678.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1103.0	

**MAPID:** 06500047000C    **VERSION:** 4    **PROJECT:** CONTROL  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** 1985' N line, 330' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.447069    **GEOLOGIST:** HINES  
**CONFIDENTIAL:** N    **LATITUDE:** 38.162838    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 3531.0    **LOG TYPE:** Survey Sample Study  
**SOURCE:** TEXAS COMPANY, THE    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

**MAPID:** 06500140000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE NE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.456246    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.167587    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 392.0    **LOGGED (FT.):** 3920.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, DREW COMM 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-558.0	CARBONDALE	HERRIN	COAL	-	950.0	
-658.0	CARBONDALE	SPRINGFIELD	COAL	-	1050.0	
-2112.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2504.0	

**MAPID:** 06500141000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.447076    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.160218    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 432.0    **LOGGED (FT.):** 4320.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, MINTON S 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-528.0	CARBONDALE	HERRIN	COAL	-	960.0	
-613.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2108.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2540.0	

**MAPID:** 06500142000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** SW SE NE  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.449375    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.16205    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 417.0    **LOGGED (FT.):** 4170.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, MINTON S 0005    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-548.0	CARBONDALE	HERRIN	COAL	-	965.0	
-623.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0	

**MAPID:** 06500143000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.447051    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.167421    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 392.0    **LOGGED (FT.):** 3920.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, MINTON COM0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-543.0	CARBONDALE	HERRIN	COAL	-	935.0	
-633.0	CARBONDALE	SPRINGFIELD	COAL	-	1025.0	
-2106.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2498.0	

**MAPID:** 06500144000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE SE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.456271    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.163957    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 394.0    **LOGGED (FT.):** 3940.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, PEOPLES NB0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-556.0	CARBONDALE	HERRIN	COAL	-	950.0	
-646.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0	
-2111.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2505.0	

**MAPID:** 06500145000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.451697    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.158465    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 392.0    **LOGGED (FT.):** 3920.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, SNEED J 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-548.0	CARBONDALE	HERRIN	COAL	-	940.0	
-638.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	
-2096.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2488.0	

**MAPID:** 06500146000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** SW NE SE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.449389    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.158441    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 419.0    **LOGGED (FT.):** 4190.0    **LOG TYPE:** Electric Log  
**SOURCE:** DUNCAN W, THOMPSON M0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-541.0	CARBONDALE	HERRIN	COAL	-	960.0	
-611.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	

**MAPID:** 06500147000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.451697    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.158465    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 399.0    **LOGGED (FT.):** 3990.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, TRAVIS G L0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-549.0	CARBONDALE	HERRIN	COAL	-	948.0	
-631.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	

**MAPID:** 06500148000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE SE SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.447087    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.156617    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 412.0    **LOGGED (FT.):** 4120.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, TRAVIS G L0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-533.0	CARBONDALE	HERRIN	COAL	-	945.0	
-608.0	CARBONDALE	SPRINGFIELD	COAL	-	1020.0	
-2116.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2528.0	

**MAPID:** 06500149000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** NE SW SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.451709    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.15666    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 414.0    **LOGGED (FT.):** 4140.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, TRAVIS G L0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-556.0	CARBONDALE	HERRIN	COAL	-	970.0	
-631.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2122.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2536.0	

**MAPID:** 06500150000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 20    **QUARTERS/FOOTAGES:** SW NW SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.454008    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.158489    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 398.0    **LOGGED (FT.):** 3980.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, TRAVIS G L0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-552.0	CARBONDALE	HERRIN	COAL	-	950.0	
-637.0	CARBONDALE	SPRINGFIELD	COAL	-	1035.0	
-2138.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2536.0	

MAPID: 06500198000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 20 QUARTERS/FOOTAGES: SE SW NE  
 QUADRANGLE: MACEDONIA LONGITUDE: -88.451679 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.162082 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 3940.0 LOG TYPE: Electric Log  
 SOURCE: GULF REF, SNEED J 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-556.0	CARBONDALE	HERRIN	COAL	-	950.0	
-616.0	CARBONDALE	SPRINGFIELD	COAL	-	1010.0	

MAPID: 06500933000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 20 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SW  
 QUADRANGLE: BUNGAY LONGITUDE: -88.460965 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.154919 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 3518.0 LOG TYPE: Electric Log  
 SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-596.0	CARBONDALE	HERRIN	COAL	5.0	998.0	
-644.0	CARBONDALE	BRIAR HILL	COAL	-	1046.0	
-685.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1087.0	SHALE & SILTSTONE ROOF
-742.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1144.0	

MAPID: 06500151000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 21 QUARTERS/FOOTAGES: NE NW NW  
 QUADRANGLE: BUNGAY LONGITUDE: -88.442334 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.167358 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 404.0 LOGGED (FT.): 4040.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, ERNEST H M0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-546.0	CARBONDALE	HERRIN	COAL	-	950.0	
-616.0	CARBONDALE	SPRINGFIELD	COAL	-	1020.0	
-2112.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2516.0	



**MAPID:** 06500152000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** SW NW NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.444718    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.165585    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 408.0    **LOGGED (FT.):** 4080.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, ERNEST H M0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-547.0	CARBONDALE	HERRIN	COAL	-	955.0	
-602.0	CARBONDALE	SPRINGFIELD	COAL	-	1010.0	

**MAPID:** 06500153000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** NE NE NW  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.437576    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.167306    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 427.0    **LOGGED (FT.):** 4270.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, LEDBETTR D0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-543.0	CARBONDALE	HERRIN	COAL	-	970.0	
-618.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2109.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2536.0	

**MAPID:** 06500154000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.439998    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.161922    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 430.0    **LOGGED (FT.):** 3392.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-534.0	CARBONDALE	HERRIN	COAL	4.0	964.0	
-575.0	CARBONDALE	BRIAR HILL	COAL	-	1005.0	
-610.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1040.0	SHALE & SILTSTONE ROOF
-682.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1112.0	

**MAPID:** 06500154000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.439998    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.161922    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 430.0    **LOGGED (FT.):** 4300.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, LEDBETTR D0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-530.0	CARBONDALE	HERRIN	COAL	-	960.0	
-610.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0	
-2106.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2536.0	

**MAPID:** 06500155000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** SW NE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.439969    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.165531    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 428.0    **LOGGED (FT.):** 4280.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, LEDBETTR D0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-542.0	CARBONDALE	HERRIN	COAL	-	970.0	
-617.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	

**MAPID:** 06500156000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 21    **QUARTERS/FOOTAGES:** SE SW NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.442365    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.161955    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 417.0    **LOGGED (FT.):** 4170.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, MINTON S 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-528.0	CARBONDALE	HERRIN	COAL	-	945.0	
-613.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	
-2099.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2516.0	

MAPID: 06500157000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 21 QUARTERS/FOOTAGES: NE NW SW

QUADRANGLE: BUNGAY LONGITUDE: -88.442378 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.160152 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 439.0 LOGGED (FT.): 4390.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, MINTON S 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-531.0	CARBONDALE	HERRIN	COAL	-	970.0	
-606.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2099.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2538.0	

MAPID: 06500905000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.430616 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.158174 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 1340.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. 905 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
436.0			UNKNOWN	1254.0	0.0	
-818.0	CARBONDALE	COLCHESTER	COAL	1.0	1254.0	THICKNESS LESS THAN 16"
-819.0	CARBONDALE		UNKNOWN	40.0	1255.0	
-859.0	CARBONDALE	DEKOVEN	COAL	3.0	1295.0	
-862.0	CARBONDALE		UNKNOWN	39.0	1298.0	
-901.0	CARBONDALE	DAVIS	COAL	3.0	1337.0	

MAPID: 06501987000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 21 QUARTERS/FOOTAGES: 2310' S line, 990' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.430477 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.160015 DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.0 LOGGED (FT.): 1044.0 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
-515.0	CARBONDALE	DANVILLE	COAL	2.0	964.0
-517.0	CARBONDALE		SILTY SHALE	17.0	966.0
-534.0	CARBONDALE	ALLENBY	BONE COAL	1.0	983.0
-535.0	CARBONDALE		CLAYSTONE & SHALE	7.0	984.0
-542.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	991.0
-554.0	CARBONDALE	LAWSON	SANDSTONE	12.0	1003.0
-566.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	1015.0
-576.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1025.0
-577.0	CARBONDALE		CLAYSTONE & SHALE	6.0	1026.0
-583.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	1032.0
-587.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1036.0
-589.0	CARBONDALE	HERRIN	COAL	6.0	1038.0

MAPID: 06501145000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 22 QUARTERS/FOOTAGES: 990' N line, 330' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.410113 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.165702 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 1008.0 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
-501.5	CARBONDALE	DANVILLE	COAL	1.0	932.5
-502.5	CARBONDALE		SHALE	19.0	933.5
-521.5	CARBONDALE	ALLENBY	BONE COAL	0.5	952.5
-522.0	CARBONDALE		CLAYSTONE & SHALE	7.0	953.0
-529.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	960.0
-531.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	962.0
-541.0	CARBONDALE	LAWSON	SANDSTONE	15.0	972.0
-556.0	CARBONDALE	LAWSON	SHALE	5.0	987.0
-561.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	992.0
-562.0	CARBONDALE		CLAYSTONE & SHALE	3.0	993.0
-565.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	996.0
-569.0	CARBONDALE	ANNA	BLACK SHALE	3.0	1000.0
-572.0	CARBONDALE	HERRIN	COAL	5.0	1003.0

MAPID: 06501573000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 22 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW NE

QUADRANGLE: BUNGAY LONGITUDE: -88.414607 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.163814 DATE COLLECTED:

SURFACE ELEVATION (FT.): 426.0 LOGGED (FT.): 3309.0 LOG TYPE: Electric Log

SOURCE: OLDFIELD ORA A WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-620.0	CARBONDALE	BRIAR HILL	COAL	-	1046.0	
-654.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1080.0	BLACK SHALE & LIMESTONE ROOF
-730.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1156.0	

MAPID: 06500535000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 23 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.398528 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.162217 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 4020.0 LOG TYPE: Electric Log

SOURCE: KINGWOODOC, LAND G L 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-534.0	CARBONDALE	HERRIN	COAL	-	936.0	
-620.0	CARBONDALE	SPRINGFIELD	COAL	-	1022.0	
-2112.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2514.0	

MAPID: 06501577000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SW

QUADRANGLE: BUNGAY LONGITUDE: -88.405504 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.154904 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 3446.0 LOG TYPE: Electric Log

SOURCE: ROCK HILL & PURE OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-552.0	CARBONDALE	HERRIN	COAL	5.0	950.0	
-594.0	CARBONDALE	BRIAR HILL	COAL	-	992.0	
-630.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1028.0	SHALE & SILTSTONE ROOF
-709.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1107.0	

MAPID: 06502014000C    VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 4S 7E    SECTION: 23    QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: BUNGAY

LONGITUDE: -88.393754

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.167705

DATE COLLECTED:

SURFACE ELEVATION (FT.): 437.0

LOGGED (FT.): 1002.0

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
-485.5	CARBONDALE	DANVILLE	COAL	2.5	922.5
-488.0	CARBONDALE		SHALE	15.0	925.0
-503.0	CARBONDALE	ALLENBY	BONE COAL	0.5	940.0
-503.5	CARBONDALE	LAWSON	SHALE	24.0	940.5
-527.5	CARBONDALE	LAWSON	SANDSTONE	15.0	964.5
-542.5	CARBONDALE	LAWSON	SHALE	5.0	979.5
-547.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	984.5
-548.5	CARBONDALE		CLAYSTONE & SHALE	4.0	985.5
-552.5	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	989.5
-556.5	CARBONDALE	ANNA	BLACK SHALE	2.5	993.5
-559.0	CARBONDALE	HERRIN	COAL	6.0	996.0

MAPID: 06590208000C    VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON    TWP/RNG: 4S 7E    SECTION: 23    QUARTERS/FOOTAGES: 55' N line, 49' W line of NE NW

QUADRANGLE: BUNGAY    LONGITUDE: -88.40412    GEOLOGIST: MCBETH

CONFIDENTIAL: N    LATITUDE: 38.168356    DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.7    LOGGED (FT.): 1289.0    LOG TYPE: Drillers Log

SOURCE: AMAX    C1-64    WELL TYPE: Coal Test

COMMENT: CARMI 1 BOX#75 CORE NOT COMPLETE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
431.7			UNCLASSIFIED	898.5	0.0	
-466.8	CARBONDALE	DANVILLE	COAL	2.5	898.5	THICK & DEPTH FROM G-R LOG
-469.3	CARBONDALE		UNCLASSIFIED	53.5	901.0	THICK & DEPTH FROM G-R LOG
-522.8	CARBONDALE	BRERETON	LIMESTONE	3.5	954.5	THICK & DEPTH FROM G-R LOG
-526.3	CARBONDALE	ANNA	BLACK SHALE	1.8	958.0	
-528.1	CARBONDALE	ANNA	LIMESTONE	0.5	959.8	NONFOSSILIFEROUS
-528.6	CARBONDALE	ANNA	BLACK SHALE	0.5	960.3	SIDERITE BANDS NEAR BASE
-529.1	CARBONDALE	HERRIN	COAL	4.3	960.8	
-533.4	CARBONDALE		LIMESTONE	1.0	965.1	
-534.4	CARBONDALE		CLAYSTONE	3.9	966.1	
-538.3	CARBONDALE		UNCLASSIFIED	46.5	970.0	
-584.8	CARBONDALE	BRIAR HILL	COAL	2.0	1016.5	THICK & DEPTH FROM G-R LOG
-586.8	CARBONDALE		UNCLASSIFIED	14.5	1018.5	THICK & DEPTH FROM G-R LOG
-601.3	CARBONDALE	ST. DAVID	LIMESTONE	2.0	1033.0	THICK & DEPTH FROM G-R LOG
-603.3	CARBONDALE	TURNER MINE	BLACK SHALE	3.2	1035.0	DEPTH FROM G-R LOG
-606.5	CARBONDALE	DYKERSBURG	GRAY SHALE	8.7	1038.2	
-615.2	CARBONDALE	SPRINGFIELD	COAL	5.5	1046.9	
-620.7	CARBONDALE		CLAYSTONE	4.8	1052.4	
-625.5	CARBONDALE		UNCLASSIFIED	70.8	1057.2	
-696.3	CARBONDALE		BLACK SHALE	4.0	1128.0	THICK & DEPTH FROM G-R LOG
-700.3	CARBONDALE	HOUCHIN CREEK	COAL	4.0	1132.0	THICK & DEPTH FROM G-R LOG
-704.3	CARBONDALE		UNCLASSIFIED	61.0	1136.0	THICK & DEPTH FROM G-R LOG
-765.3	CARBONDALE	MECCA QUARRY	BLACK SHALE	1.0	1197.0	THICK & DEPTH FROM G-R LOG
-766.3	CARBONDALE	COLCHESTER	COAL	3.0	1198.0	THICK & DEPTH FROM G-R LOG
-769.3	CARBONDALE		UNCLASSIFIED	44.4	1201.0	THICK & DEPTH FROM G-R LOG
-813.7	CARBONDALE	DEKOVEN	COAL	2.4	1245.4	THICK & DEPTH FROM G-R LOG
-816.1	CARBONDALE		UNCLASSIFIED	22.2	1247.8	
-838.3	CARBONDALE		GRAY SHALE	9.9	1270.0	
-848.2	CARBONDALE		BLACK SHALE	1.9	1279.9	
-850.1	CARBONDALE	LOWER DEKOVEN	COAL	1.5	1281.8	
-851.6	CARBONDALE		SHALE	0.5	1283.3	DARK GRAY; SLICKEN SIDES
-852.1	CARBONDALE	DAVIS	COAL	3.8	1283.8	
-855.9	TRADEWATER		CLAYSTONE	1.3	1287.6	

MAPID: 06500975000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 24 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.389138 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.167737 DATE COLLECTED:

SURFACE ELEVATION (FT.): 415.0 LOGGED (FT.): 3345.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-549.0	CARBONDALE	HERRIN	COAL	6.0	964.0	
-589.0	CARBONDALE	BRIAR HILL	COAL	-	1004.0	
-623.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1038.0	SHALE & SILTSTONE ROOF
-703.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1118.0	

MAPID: 06503292000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 24 QUARTERS/FOOTAGES: 1650' N line, 2310' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.379721 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.164065 DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 967.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-503.5	CARBONDALE	DANVILLE	COAL	2.5	895.5	
-506.0	CARBONDALE		SILTY SHALE	18.0	898.0	
-524.0	CARBONDALE	ALLENBY	BONE COAL	1.0	916.0	
-525.0	CARBONDALE		CLAYSTONE & SHALE	7.0	917.0	
-532.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	1.0	924.0	
-533.0	CARBONDALE	LAWSON	SILTY SHALE	26.0	925.0	
-559.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	951.0	
-560.0	CARBONDALE		CLAYSTONE & SHALE	2.0	952.0	
-562.0	CARBONDALE	BRERETON	LIMESTONE	4.0	954.0	
-566.0	CARBONDALE	ANNA	BLACK SHALE	3.0	958.0	
-569.0	CARBONDALE	HERRIN	COAL	6.0	961.0	



MAPID: 06590205000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 24 QUARTERS/FOOTAGES: 771' N line, 748' W line of NE SE

QUADRANGLE: SPRINGERTON LONGITUDE: -88.373798 GEOLOGIST: MCBETH

CONFIDENTIAL: N LATITUDE: 38.159153 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.6 LOGGED (FT.): 1095.0 LOG TYPE: Drillers Log

SOURCE: AMAX C1-59 WELL TYPE: Coal Test

COMMENT: CARM1 1 BOX#75 CORE NOT COMPLETE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.6			UNCLASSIFIED	944.0	0.0	
-564.4	CARBONDALE	BRERETON	LIMESTONE	1.1	944.0	
-565.5	CARBONDALE	BRERETON	LIMESTONE	3.7	945.1	
-569.2	CARBONDALE	HERRIN	COAL	4.2	948.8	
-573.4	CARBONDALE		PYRITE	0.2	953.0	
-573.6	CARBONDALE		UNDERCLAY	0.8	953.2	
-574.4	CARBONDALE		UNCLASSIFIED	51.0	954.0	THICK & DEPTH FROM G-R LOG
-625.4	CARBONDALE	BRIAR HILL	COAL	2.0	1005.0	THICK & DEPTH FROM G-R LOG
-627.4	CARBONDALE		UNCLASSIFIED	18.0	1007.0	THICK & DEPTH FROM G-R LOG
-645.4	CARBONDALE	ST. DAVID	LIMESTONE	5.0	1025.0	THICK & DEPTH FROM G-R LOG
-650.4	CARBONDALE	TURNER MINE	BLACK SHALE	1.8	1030.0	
-652.2	CARBONDALE	DYKERSBURG	GRAY SHALE	18.9	1031.8	
-671.1	CARBONDALE	SPRINGFIELD	COAL	7.8	1050.7	
-678.9	CARBONDALE		CLAYSTONE	0.4	1058.5	
-679.3	CARBONDALE		UNCLASSIFIED	36.1	1058.9	

MAPID: 06590206000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 24 QUARTERS/FOOTAGES: 184' S line, 498' W line of NW SW  
 QUADRANGLE: BUNGAY LONGITUDE: -88.388781 GEOLOGIST: MCBETH  
 CONFIDENTIAL: N LATITUDE: 38.158256 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 1081.0 LOG TYPE: Drillers Log  
 SOURCE: AMAX C1-61 WELL TYPE: Coal Test  
 COMMENT: CARM1 1 BOX#75 CORE NOT COMPLETE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
389.0			UNCLASSIFIED	914.0	0.0	
-525.0	CARBONDALE		SHALE	1.2	914.0	DARK OCC. PLANT FOSSILS
-526.2	CARBONDALE		SANDSTONE	11.8	915.2	
-538.0	CARBONDALE		SHALE	1.4	927.0	
-539.4	CARBONDALE	JAMESTOWN	COAL	0.3	928.4	MOSTLY DULL
-539.7	CARBONDALE		SHALE	1.4	928.7	TOP .6' SLICKENSIDED
-541.1	CARBONDALE	BRERETON	LIMESTONE	2.2	930.1	
-543.3	CARBONDALE	ANNA	BLACK SHALE	3.4	932.3	
-546.7	CARBONDALE	HERRIN	COAL	4.5	935.7	
-551.2	CARBONDALE		UNDERCLAY	2.1	940.2	
-553.3	CARBONDALE	HIGGINSVILLE	LIMESTONE	2.6	942.3	
-555.9	CARBONDALE		UNCLASSIFIED	69.5	944.9	
-625.4	CARBONDALE	ST. DAVID	LIMESTONE	2.0	1014.4	THICK FROM G-R LOG
-627.4	CARBONDALE	TURNER MINE	BLACK SHALE	3.5	1016.4	BOTTOM .3'=LS NODULE
-630.9	CARBONDALE	DYKERSBURG	GRAY SHALE	15.1	1019.9	
-646.0	CARBONDALE	SPRINGFIELD	COAL	6.2	1035.0	
-652.2	CARBONDALE		UNDERCLAY	2.5	1041.2	
-654.7	CARBONDALE		CLAYSTONE	2.3	1043.7	
-657.0	CARBONDALE		UNCLASSIFIED	35.0	1046.0	

MAPID: 06501325000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 25 QUARTERS/FOOTAGES: 990' N line, 330' W line  
 QUADRANGLE: BUNGAY LONGITUDE: -88.389482 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.151393 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 3504.0 LOG TYPE: Electric Log  
 SOURCE: MISKELL J H WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-541.0	CARBONDALE	HERRIN	COAL	4.0	948.0	
-605.0	CARBONDALE	BRIAR HILL	COAL	-	1012.0	
-651.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1058.0	SHALE & SILTSTONE ROOF
-713.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1120.0	

MAPID: 06501325000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 25 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.389482 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.151393 DATE COLLECTED:

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 953.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-474.5	CARBONDALE	DANVILLE	COAL	1.5	881.5	
-476.0	CARBONDALE		SILTY SHALE	19.0	883.0	
-495.0	CARBONDALE	ALLENBY	COAL	1.0	902.0	
-496.0	CARBONDALE	LAWSON	SILTY SHALE	21.0	903.0	
-517.0	CARBONDALE	LAWSON	SANDSTONE	10.0	924.0	
-527.0	CARBONDALE	LAWSON	SHALE	5.0	934.0	
-532.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.0	939.0	
-534.0	CARBONDALE	BRERETON	LIMESTONE	4.0	941.0	
-538.0	CARBONDALE	ANNA	BLACK SHALE	3.0	945.0	
-541.0	CARBONDALE	HERRIN	COAL	5.0	948.0	

MAPID: 06503658000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 25 QUARTERS/FOOTAGES: 55' S line, 157' W line of NE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.37608 GEOLOGIST: MCBETH

CONFIDENTIAL: N LATITUDE: 38.143336 DATE COLLECTED:

SURFACE ELEVATION (FT.): 410.6 LOGGED (FT.): 1074.7 LOG TYPE:

SOURCE: AYRSHIRE C1-21 WELL TYPE:

COMMENT: CARMI 1 BOX#75 COMP.CORE W/ISGS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
410.6			UNCLASSIFIED	942.4	0.0	
-531.8	CARBONDALE	BRERETON	LIMESTONE	1.6	942.4	THICK AND DEPTH FROM E-LOG
-533.4	CARBONDALE	ANNA	SHALE	4.6	944.0	THICK AND DEPTH FROM E-LOG
-538.0	CARBONDALE	HERRIN	COAL	4.6	948.6	THICK AND DEPTH FROM E-LOG
-542.6	CARBONDALE		UNCLASSIFIED	76.6	953.2	THICK AND DEPTH FROM E-LOG
-619.2	CARBONDALE		GRAY SHALE	33.7	1029.8	THICK AND DEPTH FROM E-LOG
-652.9	CARBONDALE	SPRINGFIELD	COAL	7.7	1063.5	THICK FROM CORE
-660.6	CARBONDALE		BLACK SHALE	0.3	1071.2	THICK FROM CORE
-660.9	CARBONDALE		UNDERCLAY	3.2	1071.5	THICK FROM CORE

MAPID: 06503658000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 25 QUARTERS/FOOTAGES: 55' S line, 157' W line of NE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.37608 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.143336 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 410.7 LOGGED (FT.): 1076.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C1-21 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-651.0	CARBONDALE	SPRINGFIELD	COAL	8.5	1061.7	COAL REMOVED BY CO.

MAPID: 06590207000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 25 QUARTERS/FOOTAGES: 79' N line, 37' W line of SW NE

QUADRANGLE: BUNGAY LONGITUDE: -88.381133 GEOLOGIST: NORTH

CONFIDENTIAL: N LATITUDE: 38.150233 DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.7 LOGGED (FT.): 1108.0 LOG TYPE: Drillers Log

SOURCE: AMAX C1-72 WELL TYPE: Coal Test

COMMENT: CARM1 1BOX #75 CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
392.7			UNCLASSIFIED	883.0	0.0	DEPTHS FROM G-LOG
-490.3	CARBONDALE	DANVILLE	COAL	1.5	883.0	FROM G-LOG
-491.8	CARBONDALE		UNCLASSIFIED	57.0	884.5	
-548.8	CARBONDALE	BRERETON	LIMESTONE	3.0	941.5	FROM G-LOG, GRAY
-551.9	CARBONDALE	ANNA	BLACK SHALE	2.6	944.6	THICKNESS FROM COAL
-554.5	CARBONDALE	ANNA	LIMESTONE	0.8	947.2	GRAY
-555.3	CARBONDALE	ANNA	BLACK SHALE	0.5	948.0	THICKNESS FROM CORE
-555.8	CARBONDALE	HERRIN	COAL	4.1	948.5	THICKNESS FROM CORE
-559.9	CARBONDALE		UNDERCLAY	1.4	952.6	THICKNESS FROM CORE
-561.3	CARBONDALE	HIGGINSVILLE	LIMESTONE	2.9	954.0	THICKNESS FROM CORE
-564.3	CARBONDALE		CLAYSTONE	0.8	957.0	THICKNESS FROM CORE
-565.1	CARBONDALE		UNCLASSIFIED	51.2	957.8	
-616.3	CARBONDALE	BRIAR HILL	COAL	1.5	1009.0	FROM G-LOG
-617.8	CARBONDALE		UNCLASSIFIED	10.5	1010.5	
-628.3	CARBONDALE	ST. DAVID	LIMESTONE	4.0	1021.0	FROM G-LOG
-632.3	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	1025.0	FROM G-LOG
-637.3	CARBONDALE	DYKERSBURG	GRAY SHALE	32.5	1030.0	FROM G-LOG
-669.8	CARBONDALE	SPRINGFIELD	COAL	7.6	1062.5	THICKNESS FROM CORE
-677.4	CARBONDALE		UNDERCLAY	4.8	1070.1	THICKNESS FROM CORE
-682.2	CARBONDALE		UNCLASSIFIED	33.1	1074.9	

**MAPID:** 06500158000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** NW NW SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.398758    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.145866    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 418.0    **LOGGED (FT.):** 4180.0    **LOG TYPE:** Electric Log  
**SOURCE:** OIL MANGMT, KEITH JACB0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-532.0	CARBONDALE	HERRIN	COAL	-	950.0	
-632.0	CARBONDALE	SPRINGFIELD	COAL	-	1050.0	
-2134.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2552.0	

**MAPID:** 06500159000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** SW NE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.403252    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.151299    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 405.0    **LOGGED (FT.):** 3513.0    **LOG TYPE:** Electric Log  
**SOURCE:** WOOD RIVER DEVELOP    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-510.0	CARBONDALE	HERRIN	COAL	4.0	915.0	
-563.0	CARBONDALE	BRIAR HILL	COAL	-	968.0	
-604.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1009.0	SHALE & SILTSTONE ROOF
-675.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1080.0	

**MAPID:** 06500159000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** SW NE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.403252    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.151299    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 405.0    **LOGGED (FT.):** 4050.0    **LOG TYPE:** Electric Log  
**SOURCE:** WOOD RIVER, LAWRENCE A0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-510.0	CARBONDALE	HERRIN	COAL	-	915.0	
-605.0	CARBONDALE	SPRINGFIELD	COAL	-	1010.0	
-2133.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2538.0	

MAPID: 06500160000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 26 QUARTERS/FOOTAGES: SW SE SW  
 QUADRANGLE: BUNGAY LONGITUDE: -88.403418 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.140425 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 418.0 LOGGED (FT.): 4180.0 LOG TYPE: Electric Log  
 SOURCE: MAGNOLIA, PETERS E 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-518.0	CARBONDALE	HERRIN	COAL	-	936.0
-622.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0
-2121.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2539.0

MAPID: 06500161000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 26 QUARTERS/FOOTAGES: SW SW SW  
 QUADRANGLE: DAHLGREN LONGITUDE: -88.407997 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.140446 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 4360.0 LOG TYPE: Electric Log  
 SOURCE: OHIO OIL, YORK MARCO0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-524.0	CARBONDALE	HERRIN	COAL	-	960.0
-619.0	CARBONDALE	SPRINGFIELD	COAL	-	1055.0
-2132.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2568.0

MAPID: 06500478000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 26 QUARTERS/FOOTAGES: 2310' S line, 1650' W line  
 QUADRANGLE: BUNGAY LONGITUDE: -88.403289 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.145896 DATE COLLECTED: 0 / 0 / 1944  
 SURFACE ELEVATION (FT.): 421.0 LOGGED (FT.): 4210.0 LOG TYPE: Electric Log  
 SOURCE: OHIO OIL, YORK E D 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-535.0	CARBONDALE	HERRIN	COAL	4.0	956.0
-625.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1046.0
-2119.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2540.0

MAPID: 06500478000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 26 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.403289 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.145896 DATE COLLECTED:

SURFACE ELEVATION (FT.): 421.0 LOGGED (FT.): 952.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-454.0	CARBONDALE	DANVILLE	COAL	1.0	875.0	
-455.0	CARBONDALE		CARBONACEOUS SANDSTONE	24.0	876.0	
-479.0	CARBONDALE	ALLENBY	COAL	1.0	900.0	
-480.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	901.0	
-482.0	CARBONDALE	LAWSON	SANDSTONE	6.0	903.0	
-488.0	CARBONDALE	LAWSON	CALCAREOUS SANDSTONE	13.0	909.0	
-501.0	CARBONDALE	LAWSON	SANDSTONE	9.0	922.0	
-510.0	CARBONDALE	LAWSON	SILTSTONE	5.0	931.0	
-515.0	CARBONDALE	JAMESTOWN	COAL	1.0	936.0	
-516.0	CARBONDALE		CARBONACEOUS SHALE	4.0	937.0	
-520.0	CARBONDALE	BRERETON	LIMESTONE	3.0	941.0	
-523.0	CARBONDALE	ANNA	BLACK SHALE	4.0	944.0	
-527.0	CARBONDALE	HERRIN	COAL	4.0	948.0	

MAPID: 06500478000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 26 QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.403289 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.145896 DATE COLLECTED:

SURFACE ELEVATION (FT.): 421.0 LOGGED (FT.): 3307.0 LOG TYPE: Electric Log

SOURCE: OJIO OIL CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-527.0	CARBONDALE	HERRIN	COAL	5.0	948.0	
-572.0	CARBONDALE	BRIAR HILL	COAL	-	993.0	
-616.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1037.0	SHALE & SILTSTONE ROOF
-691.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1112.0	

MAPID: 06500478000C    VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON    TWP/RNG: 4S 7E    SECTION: 26    QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY    LONGITUDE: -88.403289    GEOLOGIST: HINES

CONFIDENTIAL: N    LATITUDE: 38.145896    DATE COLLECTED:

SURFACE ELEVATION (FT.):    LOGGED (FT.): 3307.0    LOG TYPE: Survey Sample Study

SOURCE: OJIO OIL CO    WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

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MAPID: 06500478000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 4S 7E    SECTION: 26    QUARTERS/FOOTAGES: 2310' S line, 1650' W line

QUADRANGLE: BUNGAY    LONGITUDE: -88.403289    GEOLOGIST: MCCracken

CONFIDENTIAL: N    LATITUDE: 38.145896    DATE COLLECTED: 5 / 0 / 1944

SURFACE ELEVATION (FT.): 421.0    LOGGED (FT.): 2134.0    LOG TYPE: Survey Sample Study

SOURCE: OHIO OIL CO.    2    WELL TYPE: Dry Hole

COMMENT: COAL DIVISION CONTROL WELL #183

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
421.0			NO RECORD	215.0	0.0	
206.0			SHALE	18.0	215.0	CARBONACEOUS
188.0			BLACK SHALE	1.0	233.0	
187.0			COAL	1.0	234.0	THICKNESS ESTIMATED
186.0			SANDSTONE	242.0	235.0	WITH CARBONACEOUS SILTSTONE
-56.0			SHALE	32.0	477.0	CARBONACEOUS
-88.0			BLACK SHALE	11.0	509.0	
-99.0			COAL	1.0	520.0	THICKNESS ESTIMATED
-100.0			SHALE	14.0	521.0	CARBONACEOUS
-114.0			SANDSTONE	62.0	535.0	WITH CARBONACEOUS SILTSTONE
-176.0			SANDSTONE/SHALE	5.0	597.0	
-181.0			BLACK SHALE	3.0	602.0	
-184.0			COAL	2.0	605.0	THICKNESS ESTIMATED
-186.0			SANDSTONE	30.0	607.0	CARBONACEOUS
-216.0	BOND	CARTHAGE	LIMESTONE	6.0	637.0	
-222.0	MODESTO		SANDSTONE	188.0	643.0	
-410.0	MODESTO		SHALE	42.0	831.0	CARBONACEOUS
-452.0	MODESTO		BLACK SHALE	8.0	873.0	
-460.0	MODESTO		COAL	1.0	881.0	THICKNESS ESTIMATED
-461.0	MODESTO		SHALE	10.0	882.0	CARBONACEOUS
-471.0	MODESTO		SHALE & SANDSTONE	9.0	892.0	CARBONACEOUS
-480.0	MODESTO		SHALE	4.0	901.0	CARBONACEOUS
-484.0	MODESTO		BLACK SHALE	1.0	905.0	
-485.0	CARBONDALE	DANVILLE	COAL	1.0	906.0	THICKNESS ESTIMATED
-486.0	CARBONDALE		LIMESTONE	2.0	907.0	
-488.0	CARBONDALE		SANDSTONE	28.0	909.0	
-516.0	CARBONDALE		SILTSTONE	5.0	937.0	CARBONACEOUS
-521.0	CARBONDALE		BLACK SHALE	2.0	942.0	WITH COAL
-523.0	CARBONDALE		SHALE	3.0	944.0	CARBONACEOUS
-526.0	CARBONDALE		LIMESTONE	3.0	947.0	
-529.0	CARBONDALE		BLACK SHALE	6.0	950.0	
-535.0	CARBONDALE	HERRIN	COAL	4.0	956.0	THICKNESS ESTIMATED
-539.0	CARBONDALE		UNDERCLAY	1.0	960.0	
-540.0	CARBONDALE		SANDSTONE	5.0	961.0	CARBONACEOUS
-545.0	CARBONDALE		SANDSTONE	31.0	966.0	WITH SILTSTONE
-576.0	CARBONDALE		SILTSTONE	5.0	997.0	WITH SHALE
-581.0	CARBONDALE		BLACK SHALE	6.0	1002.0	WITH COAL
-587.0	CARBONDALE		SHALE	9.0	1008.0	

-596.0	CARBONDALE		LIMESTONE	2.0	1017.0	
-598.0	CARBONDALE		BLACK SHALE	4.0	1019.0	WITH COAL
-602.0	CARBONDALE		SHALE	10.0	1023.0	
-612.0	CARBONDALE		NO RECORD	5.0	1033.0	
-617.0	CARBONDALE		SILTSTONE	4.0	1038.0	CARBONACEOUS
-621.0	CARBONDALE		SHALE	2.0	1042.0	CARBONACEOUS
-623.0	CARBONDALE		BLACK SHALE	1.0	1044.0	
-624.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1045.0	THICKNESS ESTIMATED
-628.0	CARBONDALE		SHALE	70.0	1049.0	CARBONACEOUS
-698.0	CARBONDALE		BLACK SHALE	1.0	1119.0	
-699.0	CARBONDALE		SHALE	3.0	1120.0	CARBONACEOUS
-702.0	CARBONDALE		BLACK SHALE	7.0	1123.0	
-709.0	CARBONDALE		SHALE	5.0	1130.0	CARBONACEOUS
-714.0	CARBONDALE		SANDSTONE	4.0	1135.0	CARBONACEOUS
-718.0	CARBONDALE		SILTSTONE	14.0	1139.0	CARBONACEOUS
-732.0	CARBONDALE		SHALE	13.0	1153.0	CARBONACEOUS
-745.0	CARBONDALE		COAL	1.0	1166.0	THICKNESS ESTIMATED
-746.0			SILTSTONE	17.0	1167.0	WITH CARBONACEOUS SHALE
-763.0			NO RECORD	6.0	1184.0	
-769.0			SILTSTONE	14.0	1190.0	CARBONACEOUS
-783.0			SHALE	4.0	1204.0	CARBONACEOUS
-787.0			BLACK SHALE	1.0	1208.0	
-788.0			COAL	2.0	1209.0	THICKNESS ESTIMATED
-790.0			UNDERCLAY	1.0	1211.0	
-791.0			SHALE	2.0	1212.0	CARBONACEOUS
-793.0			BLACK SHALE	6.0	1214.0	
-799.0			SHALE	3.0	1220.0	CARBONACEOUS
-802.0			BLACK SHALE	2.0	1223.0	
-804.0			COAL	2.0	1225.0	THICKNESS ESTIMATED
-806.0			SHALE & SANDSTONE	6.0	1227.0	CARBONACEOUS
-812.0			SANDSTONE	9.0	1233.0	COAL STREAK
-821.0			SILTSTONE	13.0	1242.0	CARBONACEOUS
-834.0			BLACK SHALE	8.0	1255.0	COAL STREAK
-842.0			COAL	2.0	1263.0	THICKNESS ESTIMATED
-844.0			SHALE	3.0	1265.0	CARBONACEOUS
-847.0			LIMESTONE	2.0	1268.0	
-849.0			SANDSTONE	13.0	1270.0	
-862.0			SHALE	6.0	1283.0	CARBONACEOUS
-868.0			BLACK SHALE	12.0	1289.0	COAL STREAK AT 1292'
-880.0			SANDSTONE	10.0	1301.0	WITH SILTSTONE
-890.0			SANDSTONE/SHALE	19.0	1311.0	CARBONACEOUS
-909.0			SHALE	3.0	1330.0	CARBOANCEOUS
-912.0			BLACK SHALE	1.0	1333.0	
-913.0			COAL	1.0	1334.0	THICKNESS ESTIMATED
-914.0			SHALE	10.0	1335.0	

-924.0	SILTSTONE	55.0	1345.0	CARBONACEOUS
-979.0	SHALE	9.0	1400.0	
-988.0	SANDSTONE	10.0	1409.0	
-998.0	SANDSTONE/SHALE	9.0	1419.0	
-1007.0	SANDSTONE	41.0	1428.0	
-1048.0	SHALE	3.0	1469.0	
-1051.0	BLACK SHALE	4.0	1472.0	
-1055.0	SHALE	16.0	1476.0	
-1071.0	BLACK SHALE	10.0	1492.0	CARBONACEOUS
-1081.0	SHALE	24.0	1502.0	
-1105.0	SANDSTONE	32.0	1526.0	
-1137.0	SHALE	4.0	1558.0	CARBONACEOUS
-1141.0	SANDSTONE	95.0	1562.0	WITH SILTSTONE
-1236.0	NO RECORD	5.0	1657.0	
-1241.0	SANDSTONE	72.0	1662.0	
-1313.0	SANDSTONE/SHALE	16.0	1734.0	
-1329.0	BLACK SHALE	3.0	1750.0	
-1332.0	COAL	1.0	1753.0	THICKNESS ESTIMATED
-1333.0	SILTSTONE	4.0	1754.0	CARBONACEOUS
-1337.0	SHALE	13.0	1758.0	CARBONACEOUS
-1350.0	SANDSTONE	19.0	1771.0	
-1369.0	SILTSTONE	5.0	1790.0	WITH CARBONACEOUS SHALE
-1374.0	SHALE	11.0	1795.0	CARBONACEOUS
-1385.0	SANDSTONE	51.0	1806.0	CARBONACEOUS
-1436.0	SANDSTONE/SHALE	5.0	1857.0	DARK GRAY TO BLACK
-1441.0	SHALE	30.0	1862.0	CARBONACEOUS
-1471.0	SANDSTONE	30.0	1892.0	
-1501.0	SANDSTONE/SHALE	18.0	1922.0	
-1519.0	SHALE	35.0	1940.0	COAL FRAGMENTS IN UPPER 5'
-1554.0	NO RECORD	13.0	1975.0	
-1567.0	SHALE & SANDSTONE	34.0	1988.0	
-1601.0	SANDSTONE	8.0	2022.0	
-1609.0	SHALE	16.0	2030.0	CARBONACEOUS
-1625.0	SANDSTONE	5.0	2046.0	
-1630.0	SHALE	5.0	2051.0	CARBONACEOUS
-1635.0	SHALE & SANDSTONE	13.0	2056.0	
-1648.0	SHALE	13.0	2069.0	CARBONACEOUS
-1661.0	SHALE & SANDSTONE	5.0	2082.0	
-1666.0	SANDSTONE	47.0	2087.0	

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**MAPID:** 0650048000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** NE SW SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.40568    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.142244    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 438.0    **LOGGED (FT.):** 4380.0    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL, YORK MARCO0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-517.0	CARBONDALE	HERRIN	COAL	-	955.0
-602.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0
-2112.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2550.0

**MAPID:** 06500518000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.407911    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.145857    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 433.0    **LOGGED (FT.):** 4330.0    **LOG TYPE:** Electric Log  
**SOURCE:** NAT ASSOC, PETERS I 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-533.0	CARBONDALE	HERRIN	COAL	-	966.0
-611.0	CARBONDALE	SPRINGFIELD	COAL	-	1044.0

**MAPID:** 06500533000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** NW SW NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.407856    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.149465    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 424.0    **LOGGED (FT.):** 4240.0    **LOG TYPE:** Electric Log  
**SOURCE:** NAT ASSOC, REBSTOCK 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-530.0	CARBONDALE	HERRIN	COAL	-	954.0
-618.0	CARBONDALE	SPRINGFIELD	COAL	-	1042.0
-2116.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2540.0

**MAPID:** 06500543000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.403307    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.147674    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 413.0    **LOGGED (FT.):** 4130.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, REBSTOCK C0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-537.0	CARBONDALE	HERRIN	COAL	-	950.0	
-617.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	
-2121.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2534.0	

**MAPID:** 06501368000C    **VERSION:** 1    **PROJECT:** AVAIL  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW NE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.39637    **GEOLOGIST:** STRAAYER  
**CONFIDENTIAL:** N    **LATITUDE:** 38.153168    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 394.0    **LOGGED (FT.):** 1244.0    **LOG TYPE:** Electric Log  
**SOURCE:** CE BIEHM DRILLING & PRODUCING 1368    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
394.0			UNKNOWN	1158.0	0.0	
-764.0	CARBONDALE	COLCHESTER	COAL	1.0	1158.0	THICKNESS LESS THAN 16"
-765.0	CARBONDALE		UNKNOWN	36.0	1159.0	
-801.0	CARBONDALE	DEKOVEN	COAL	1.0	1195.0	
-802.0	CARBONDALE		UNKNOWN	45.0	1196.0	
-847.0	CARBONDALE	DAVIS	COAL	3.0	1241.0	

**MAPID:** 06502028000C    **VERSION:** 1    **PROJECT:** NCRDS97  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** SE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.40215    **GEOLOGIST:** C.KOROSE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.148585    **DATE COLLECTED:** 6 / 0 / 1941  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 35.9    **LOG TYPE:** Drillers Log  
**SOURCE:** ILL. DEPT. OF MINES & MIN. 1    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	21.2	0.0	
-			SHALE	2.3	21.2	
-			COAL	1.7	23.5	
-			UNDERCLAY	5.4	25.2	
-			SANDSTONE	0.4	30.6	
-			UNDERCLAY	4.9	31.0	

MAPID: 06590202000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 26 QUARTERS/FOOTAGES: 54' N line, 122' W line of NW SW SW

QUADRANGLE: BUNGAY LONGITUDE: -88.408675 GEOLOGIST: MCBETH

CONFIDENTIAL: N LATITUDE: 38.143004 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.4 LOGGED (FT.): 1094.0 LOG TYPE: Drillers Log

SOURCE: AMAX C1-55 WELL TYPE: Coal Test

COMMENT: CARM1 1 BOX#75 CORE NOT COMPLETE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
431.4			UNCLASSIFIED	956.2	0.0	
-524.8	CARBONDALE	BRERETON	LIMESTONE	4.0	956.2	THICKNESS FROM G-R LOG
-528.8	CARBONDALE	ANNA	BLACK SHALE	3.8	960.2	
-532.6	CARBONDALE	HERRIN	COAL	5.3	964.0	
-537.9	CARBONDALE		UNDERCLAY	1.8	969.3	
-539.7	CARBONDALE		CLAYSTONE	2.8	971.1	
-542.6	CARBONDALE		UNCLASSIFIED	35.0	974.0	
-577.6	CARBONDALE	BRIAR HILL	COAL	1.5	1009.0	THICK AND DEPTH FROM G-R LOG
-579.1	CARBONDALE		UNCLASSIFIED	8.5	1010.5	THICK AND DEPTH FROM G-R LOG
-587.6	CARBONDALE	ST. DAVID	LIMESTONE	3.0	1019.0	THICK AND DEPTH FROM G-R LOG
-590.6	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	1022.0	THICK AND DEPTH FROM G-R LOG
-592.6	CARBONDALE	DYKERSBURG	GRAY SHALE	24.9	1024.0	TOP FROM G-R LOG
-617.5	CARBONDALE	SPRINGFIELD	COAL	6.3	1048.9	
-623.8	CARBONDALE		UNDERCLAY	1.5	1055.2	
-625.3	CARBONDALE		CLAYSTONE	1.1	1056.7	
-626.4	CARBONDALE		UNCLASSIFIED	36.2	1057.8	

MAPID: 06500162000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 27 QUARTERS/FOOTAGES: NE NE SE

QUADRANGLE: BUNGAY LONGITUDE: -88.410194 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.145832 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 4410.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, YORK E D 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-529.0	CARBONDALE	HERRIN	COAL	-	970.0	
-619.0	CARBONDALE	SPRINGFIELD	COAL	-	1060.0	

**MAPID:** 06500444000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.410081    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.153037    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 407.0    **LOGGED (FT.):** 4070.0    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL, PETERS M E0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-551.0	CARBONDALE	HERRIN	COAL	-	958.0	
-627.0	CARBONDALE	SPRINGFIELD	COAL	-	1034.0	
-2105.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2512.0	

**MAPID:** 06500481000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW SE NE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.41244    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.147584    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 439.0    **LOGGED (FT.):** 4390.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, YORK ERNST0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-536.0	CARBONDALE	HERRIN	COAL	-	975.0	
-631.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0	

**MAPID:** 06500482000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE SE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.41014    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.149434    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 426.0    **LOGGED (FT.):** 4260.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, YORK ERNST0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-539.0	CARBONDALE	HERRIN	COAL	-	965.0	
-630.0	CARBONDALE	SPRINGFIELD	COAL	-	1056.0	
-2122.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2548.0	

MAPID: 06500497000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 27 QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: WALPOLE LONGITUDE: -88.414788 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.142134 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 4310.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, BARNETT J 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-559.0	CARBONDALE	HERRIN	COAL	-	990.0	
-639.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0	
-2141.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2572.0	

MAPID: 06500520000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 27 QUARTERS/FOOTAGES: NE NE SE

QUADRANGLE: AKIN LONGITUDE: -88.410194 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.145832 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 4350.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, BARNETT J 0004 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-539.0	CARBONDALE	HERRIN	COAL	-	974.0	
-635.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0	
-2125.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2560.0	



MAPID: 06503230000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 27 QUARTERS/FOOTAGES: 2285' S line, 1600' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.414653 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.145741 DATE COLLECTED:

SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 984.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-485.0	CARBONDALE	DANVILLE	COAL	2.0	914.0	
-487.0	CARBONDALE		SHALE & SANDSTONE	19.0	916.0	
-506.0	CARBONDALE	ALLENBY	COAL	1.0	935.0	
-507.0	CARBONDALE		CLAYSTONE & SHALE	5.0	936.0	
-512.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	941.0	
-514.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	6.0	943.0	
-520.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	949.0	
-532.0	CARBONDALE	LAWSON	SHALE	9.0	961.0	
-541.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.0	970.0	
-544.0	CARBONDALE	BRERETON	LIMESTONE	3.5	973.0	
-547.5	CARBONDALE	ANNA	BLACK SHALE	3.5	976.5	
-551.0	CARBONDALE	HERRIN	COAL	4.0	980.0	

MAPID: 06500703000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE

QUADRANGLE: BUNGAY LONGITUDE: -88.43545 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.145582 DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0 LOGGED (FT.): 3554.0 LOG TYPE: Electric Log

SOURCE: WALKER A J WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-514.0	CARBONDALE	DANVILLE	COAL	-	947.0	
-519.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	13.0	952.0	
-541.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	974.0	
-557.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SILTSTONE	4.0	990.0	
-592.0	CARBONDALE	HERRIN	COAL	5.0	1025.0	
-634.0	CARBONDALE	BRIAR HILL	COAL	-	1067.0	
-674.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1107.0	SHALE & SILTSTONE ROOF
-744.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1177.0	

MAPID: 06523783000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 28 QUARTERS/FOOTAGES: 2544' S line, 409' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.428655 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.146215 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 419.9 LOGGED (FT.): 1103.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-57 WELL TYPE: Coal Test

COMMENT: GAMMA-RAY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-596.1	CARBONDALE	HERRIN	COAL	5.9	1016.0
-676.1	CARBONDALE	SPRINGFIELD	COAL	6.2	1096.0

MAPID: 06523783000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 28 QUARTERS/FOOTAGES: 2544' S line, 409' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.428655 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.146215 DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 1020.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-57 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-519.8	CARBONDALE	DANVILLE	COAL	3.0	939.8
-522.8	CARBONDALE		SHALE & SANDSTONE	20.0	942.8
-542.8	CARBONDALE	ALLENBY	COAL	1.0	962.8
-543.8	CARBONDALE		SHALE	2.0	963.8
-545.8	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	5.0	965.8
-550.8	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	970.8
-580.8	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1000.8
-581.8	CARBONDALE		SHALE	2.5	1001.8
-584.3	CARBONDALE	BRERETON	LIMESTONE	5.5	1004.3
-589.8	CARBONDALE	ANNA	BLACK SHALE	4.2	1009.8
-594.0	CARBONDALE	HERRIN	COAL	6.0	1014.0

MAPID: 0650158000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 29 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW  
 QUADRANGLE: BUNGAY LONGITUDE: -88.456337 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.147624 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 413.0 LOGGED (FT.): 1307.5 LOG TYPE: Electric Log  
 SOURCE: BEN H NATION 1580 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
413.0			UNKNOWN	1226.0	0.0	
-813.0	CARBONDALE	COLCHESTER	COAL	1.0	1226.0	THICKNESS LESS THAN 16"
-814.0	CARBONDALE		UNKNOWN	44.0	1227.0	
-858.0	CARBONDALE	DEKOVEN	COAL	2.0	1271.0	
-860.0	CARBONDALE		UNKNOWN	31.0	1273.0	
-891.0	CARBONDALE	DAVIS	COAL	3.5	1304.0	

MAPID: 06523791000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 29 QUARTERS/FOOTAGES: 84' S line, 768' E line  
 QUADRANGLE: BUNGAY LONGITUDE: -88.448689 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.13963 DATE COLLECTED: 0 / 0 / 1973  
 SURFACE ELEVATION (FT.): 448.5 LOGGED (FT.): 1104.4 LOG TYPE: Survey Core Study  
 SOURCE: AMAX C.C. C3-60 WELL TYPE: Coal Test  
 COMMENT: GAMMA-RAY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-576.5	CARBONDALE	HERRIN	COAL	5.9	1025.0	
-648.5	CARBONDALE	SPRINGFIELD	COAL	5.7	1097.0	

MAPID: 06523791000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 29 QUARTERS/FOOTAGES: 84' S line, 768' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.448689

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.13963

DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.0

LOGGED (FT.): 1031.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-60

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-500.0	CARBONDALE	DANVILLE	COAL	3.0	949.0	
-503.0	CARBONDALE		SHALE & SANDSTONE	17.0	952.0	
-520.0	CARBONDALE	ALLENBY	COAL	1.0	969.0	
-521.0	CARBONDALE		SHALE	3.0	970.0	
-524.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.0	973.0	
-530.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	33.0	979.0	
-563.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1012.0	
-564.0	CARBONDALE		SHALE	2.5	1013.0	
-566.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.0	1015.5	
-570.5	CARBONDALE	ANNA	BLACK SHALE	5.5	1019.5	
-576.0	CARBONDALE	HERRIN	COAL	6.0	1025.0	

MAPID: 06500163000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 30 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: BUNGAY LONGITUDE: -88.470334

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.1477

DATE COLLECTED:

SURFACE ELEVATION (FT.): 446.0

LOGGED (FT.): 3566.0

LOG TYPE: Electric Log

SOURCE: MENHALL, J. W. & CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-628.0	CARBONDALE	HERRIN	COAL	5.0	1074.0	
-668.0	CARBONDALE	BRIAR HILL	COAL	-	1114.0	
-708.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1154.0	SHALE & SILTSTONE ROOF
-766.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1212.0	

MAPID: 06500163000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 30 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: BUNGAY LONGITUDE: -88.470334 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.1477 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 446.0 LOGGED (FT.): 4460.0 LOG TYPE: Electric Log

SOURCE: MENHALL J, MURTA 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-624.0	CARBONDALE	HERRIN	COAL	-	1070.0	
-709.0	CARBONDALE	SPRINGFIELD	COAL	-	1155.0	
-2182.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2628.0	

MAPID: 06503659000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 30 QUARTERS/FOOTAGES: 2570' S line, 1290' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.468896 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.146605 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 477.4 LOGGED (FT.): 1195.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-7 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-550.6			COAL	1.3	1028.0	
-627.6	CARBONDALE	HERRIN	COAL	7.3	1105.0	
-704.6			COAL	1.2	1182.0	LOGBOOK SAYS "2"

MAPID: 06503659000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 30 QUARTERS/FOOTAGES: 2570' S line, 1290' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.468896 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.146605 DATE COLLECTED:

SURFACE ELEVATION (FT.): 477.0 LOGGED (FT.): 1112.5 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-7 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-548.3	CARBONDALE	DANVILLE	COAL	2.5	1025.3	
-550.8	CARBONDALE		GRAY SHALE	22.0	1027.8	
-572.8	CARBONDALE	ALLENBY	COAL	1.6	1049.8	
-574.4	CARBONDALE		CLAYSTONE & SHALE	5.7	1051.4	
-580.1	CARBONDALE	LAWSON	SILTSTONE	6.5	1057.1	
-586.6	CARBONDALE	LAWSON	SILTY SHALE	21.0	1063.6	
-607.6	CARBONDALE	LAWSON	GRAY SHALE	5.0	1084.6	
-612.6	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.7	1089.6	
-613.3	CARBONDALE	JAMESTOWN	COAL	0.4	1090.3	
-613.6	CARBONDALE		CLAYSTONE	1.8	1090.6	
-615.4	CARBONDALE	BRERETON	LIMESTONE	7.1	1092.4	
-622.5	CARBONDALE	ANNA	BLACK SHALE	6.5	1099.5	
-629.0	CARBONDALE	HERRIN	COAL	6.5	1106.0	

MAPID: 06501582000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 31 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SE

QUADRANGLE: BUNGAY LONGITUDE: -88.470326 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.129296 DATE COLLECTED:

SURFACE ELEVATION (FT.): 461.0 LOGGED (FT.): 3581.0 LOG TYPE: Electric Log

SOURCE: MEYER JOHN C WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-625.0	CARBONDALE	HERRIN	COAL	8.0	1086.0	
-651.0	CARBONDALE	BRIAR HILL	COAL	-	1112.0	
-686.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1147.0	SHALE & SILTSTONE ROOF
-758.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1219.0	

**MAPID:** 06523785000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 1918' S line, 1453' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.469453    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.129964    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 1073.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** NO COMPANY    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-626.5	CARBONDALE	HERRIN	COAL	7.5	1062.5	COAL REMOVED BY CO.
-692.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1128.0	LOGBOOK SAYS "6' LOG, 4.9' REC"

**MAPID:** 06523785000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 1918' S line, 1453' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.469453    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.129964    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 1073.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** NO COMPANY    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-614.1	CARBONDALE	CONANT	LIMESTONE	0.2	1050.1	
-614.3	CARBONDALE	JAMESTOWN	BONE COAL	0.3	1050.3	
-614.6	CARBONDALE		GRAY SHALE	0.7	1050.6	
-615.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.1	1051.2	
-620.3	CARBONDALE	ANNA	BLACK SHALE	6.3	1056.3	
-626.6	CARBONDALE	ENERGY	GRAY SHALE	2.0	1062.6	
-628.6	CARBONDALE	ENERGY	CARBONACEOUS SHALE	0.4	1064.6	
-629.0	CARBONDALE	HERRIN	COAL	8.0	1065.0	

**MAPID:** 06523790000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 62' N line, 103' E line of NW SE  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.469516    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.13192    **DATE COLLECTED:** 0 / 0 / 1973  
**SURFACE ELEVATION (FT.):** 436.2    **LOGGED (FT.):** 1031.3    **LOG TYPE:** Other Core Study  
**SOURCE:** AMAX C.C.    C3-61A    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-594.8	CARBONDALE	SPRINGFIELD	COAL	-	1031.0	COAL REMOVED BY CO.

MAPID: 06501583000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 32 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE NW NE  
 QUADRANGLE: BUNGAY LONGITUDE: -88.451719 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.138509 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 3576.0 LOG TYPE: Electric Log  
 SOURCE: O'NEAL, C. E. & CO. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-593.0	CARBONDALE	HERRIN	COAL	5.0	1028.0	
-633.0	CARBONDALE	BRIAR HILL	COAL	-	1068.0	
-675.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1110.0	SHALE & SILTSTONE ROOF
-742.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1177.0	

MAPID: 06503741000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 32 QUARTERS/FOOTAGES: NE NW NE  
 QUADRANGLE: BUNGAY LONGITUDE: -88.451726 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.138493 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 438.0 LOGGED (FT.): 1106.1 LOG TYPE: Drillers Log  
 SOURCE: CARTER OIL COMPANY 0 WELL TYPE: Coal Test  
 COMMENT: "ELECTRIC LOG INCLUDED"

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-629.0			COAL	2.0	1067.0	
-632.0			COAL	2.0	1070.0	
-649.0			COAL	2.0	1087.0	
-668.1	CARBONDALE	SPRINGFIELD	COAL	-	1106.1	

MAPID: 06523792000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 32 QUARTERS/FOOTAGES: 80' S line, 106' W line of NW NW  
 QUADRANGLE: BUNGAY LONGITUDE: -88.463976 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.136003 DATE COLLECTED: 0 / 0 / 1973  
 SURFACE ELEVATION (FT.): 432.6 LOGGED (FT.): 1147.0 LOG TYPE: Survey Core Study  
 SOURCE: AMAX C.C C3-58 WELL TYPE: Coal Test  
 COMMENT: GAMMA LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-625.4	CARBONDALE	HERRIN	COAL	6.1	1058.0	
-702.4	CARBONDALE	SPRINGFIELD	COAL	5.9	1135.0	



MAPID: 06523796000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 32 QUARTERS/FOOTAGES: 1059' S line, 1270' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.45031 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.127519 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 474.9 LOGGED (FT.): 1138.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C C3-59 WELL TYPE: Coal Test

COMMENT: GAMMA LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-591.1	CARBONDALE	HERRIN	COAL	6.8	1066.0
-655.1	CARBONDALE	SPRINGFIELD	COAL	5.8	1130.0

MAPID: 06523796000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 32 QUARTERS/FOOTAGES: 1059' S line, 1270' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.45031 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.127519 DATE COLLECTED:

SURFACE ELEVATION (FT.): 475.0 LOGGED (FT.): 1073.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C C3-59 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-512.6	CARBONDALE	DANVILLE	COAL	3.0	987.6
-515.6	CARBONDALE		SILTY SHALE	15.5	990.6
-531.1	CARBONDALE	ALLENBY	BONE COAL	1.0	1006.1
-532.1	CARBONDALE		CLAYSTONE & SHALE	6.0	1007.1
-538.1	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.0	1013.1
-544.1	CARBONDALE	LAWSON	SHALE	3.0	1019.1
-547.1	CARBONDALE	LAWSON	CARBONACEOUS SHALE	4.0	1022.1
-551.1	CARBONDALE	LAWSON	GRAY SHALE	25.0	1026.1
-576.1	CARBONDALE	CONANT	CALCAREOUS SHALE	0.6	1051.1
-576.7	CARBONDALE	JAMESTOWN	BONE COAL	0.4	1051.7
-577.1	CARBONDALE		CLAYSTONE & SHALE	6.1	1052.1
-583.2	CARBONDALE	BRERETON	LIMESTONE	3.8	1058.2
-587.0	CARBONDALE	ANNA	BLACK SHALE	4.1	1062.0
-591.0	CARBONDALE	HERRIN	COAL	7.0	1066.0

**MAPID:** 06500164000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 33    **QUARTERS/FOOTAGES:** NW SE NE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.430893    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.134659    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 468.0    **LOGGED (FT.):** 3159.0    **LOG TYPE:** Electric Log  
**SOURCE:** AETNA OIL CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-598.0	CARBONDALE	HERRIN	COAL	5.0	1066.0	
-632.0	CARBONDALE	BRIAR HILL	COAL	-	1100.0	
-676.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1144.0	SHALE & SILTSTONE ROOF
-752.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1220.0	

**MAPID:** 06500164000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 33    **QUARTERS/FOOTAGES:** NW SE NE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.430893    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.134659    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 468.0    **LOGGED (FT.):** 4680.0    **LOG TYPE:** Electric Log  
**SOURCE:** AETNA OC, GIFFEL E J0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-602.0	CARBONDALE	HERRIN	COAL	-	1070.0	
-677.0	CARBONDALE	SPRINGFIELD	COAL	-	1145.0	
-2176.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2644.0	

**MAPID:** 06503675000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 4S 7E    **SECTION:** 33    **QUARTERS/FOOTAGES:** 2570' S line, 351' E line  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.428717    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.13174    **DATE COLLECTED:** 0 / 0 / 1968  
**SURFACE ELEVATION (FT.):** 447.0    **LOGGED (FT.):** 1123.0    **LOG TYPE:** Other Core Study  
**SOURCE:** AYRSHIRE COLLIERIES    C3-12    **WELL TYPE:** Coal Test  
**COMMENT:** RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-660.0	CARBONDALE	SPRINGFIELD	COAL	6.3	1107.0	COAL REMOVED BY CO.

MAPID: 06503675000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 33 QUARTERS/FOOTAGES: 2570' S line, 351' E line

QUADRANGLE: BUNGAY LONGITUDE: -88.428717 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.13174 DATE COLLECTED:

SURFACE ELEVATION (FT.): 447.0 LOGGED (FT.): 1036.5 LOG TYPE: Electric Log

SOURCE: AYRSHIRE COLLIERIES C3-12 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-518.0	CARBONDALE	DANVILLE	COAL	3.0	965.0
-521.0	CARBONDALE		SHALE & SANDSTONE	16.0	968.0
-537.0	CARBONDALE	ALLENBY	COAL	1.0	984.0
-538.0	CARBONDALE		CLAYSTONE & SHALE	9.0	985.0
-547.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	1.0	994.0
-548.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.0	995.0
-551.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	16.0	998.0
-567.0	CARBONDALE	LAWSON	SHALE	6.0	1014.0
-573.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1020.0
-574.0	CARBONDALE		CLAYSTONE & SHALE	5.0	1021.0
-579.0	CARBONDALE	BRERETON	LIMESTONE	2.0	1026.0
-581.0	CARBONDALE	ANNA	SHALE	4.0	1028.0
-585.0	CARBONDALE	HERRIN	COAL	4.5	1032.0

MAPID: 06500514000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.410294 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.138588 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 4280.0 LOG TYPE: Electric Log

SOURCE: NAT ASSOC, HAWTHRNE C0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-530.0	CARBONDALE	HERRIN	COAL	-	958.0
-624.0	CARBONDALE	SPRINGFIELD	COAL	-	1052.0
-2117.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2545.0

MAPID: 06500515000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: SW NE NE  
 QUADRANGLE: WALPOLE LONGITUDE: -88.412578 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.136677 DATE COLLECTED: 0 / 0 / 1944  
 SURFACE ELEVATION (FT.): 422.0 LOGGED (FT.): 4220.0 LOG TYPE: Electric Log  
 SOURCE: NAT ASSOC, HAWTHRNE C0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-542.0	CARBONDALE	HERRIN	COAL	-	964.0
-640.0	CARBONDALE	SPRINGFIELD	COAL	-	1062.0
-2118.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2540.0

MAPID: 06500516000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: NW NE NE  
 QUADRANGLE: WALPOLE LONGITUDE: -88.412563 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.138546 DATE COLLECTED: 0 / 0 / 1944  
 SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 4270.0 LOG TYPE: Electric Log  
 SOURCE: NAT ASSOC, HAWTHRNE C0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-545.0	CARBONDALE	HERRIN	COAL	-	972.0
-635.0	CARBONDALE	SPRINGFIELD	COAL	-	1062.0
-2124.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2551.0

MAPID: 06500536000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: NE NE SE  
 QUADRANGLE: WALPOLE LONGITUDE: -88.41032 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.131081 DATE COLLECTED: 0 / 0 / 1944  
 SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 4170.0 LOG TYPE: Electric Log  
 SOURCE: NAT ASSOC, THOMAS J F0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-528.0	CARBONDALE	HERRIN	COAL	-	945.0
-633.0	CARBONDALE	SPRINGFIELD	COAL	-	1050.0
-2123.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2540.0

MAPID: 06500545000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: NE SE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.410309 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.134833 DATE COLLECTED: 0 / 0 / 1945

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 4170.0 LOG TYPE: Electric Log

SOURCE: NAT ASSOC, GOUDY C A 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-519.0	CARBONDALE	HERRIN	COAL	-	936.0	
-623.0	CARBONDALE	SPRINGFIELD	COAL	-	1040.0	

MAPID: 06501019000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE NW

QUADRANGLE: BUNGAY LONGITUDE: -88.41942 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.136562 DATE COLLECTED:

SURFACE ELEVATION (FT.): 458.0 LOGGED (FT.): 3387.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-556.0	CARBONDALE	HERRIN	COAL	5.0	1014.0	
-602.0	CARBONDALE	BRIAR HILL	COAL	-	1060.0	
-641.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1099.0	SHALE & SILTSTONE ROOF
-725.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1183.0	

MAPID: 06523800000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: 988' N line, 2544' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.418475 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.13663 DATE COLLECTED: 1 / 31 / 1974

SURFACE ELEVATION (FT.): 446.6 LOGGED (FT.): 1123.0 LOG TYPE: Other Core Study

SOURCE: AMAX C3-56 WELL TYPE: Coal Test

COMMENT: GAMMA LOG INCLUDED; DATE FROM CORE DESC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-475.4	CARBONDALE	DANVILLE	COAL	3.0	922.0	
-545.4	CARBONDALE	HERRIN	COAL	5.6	992.0	
-601.4	CARBONDALE	BRIAR HILL	COAL	1.0	1048.0	
-635.4	CARBONDALE	SPRINGFIELD	COAL	7.0	1082.0	

MAPID: 0652380000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 34 QUARTERS/FOOTAGES: 988' N line, 2544' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.418475

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.13663

DATE COLLECTED:

SURFACE ELEVATION (FT.): 447.0 LOGGED (FT.): 997.6

LOG TYPE: Survey Core Study

SOURCE: AMAX C3-56

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-474.7	CARBONDALE	DANVILLE	COAL	3.5	921.7	
-478.2	CARBONDALE		SHALE & SANDSTONE	18.0	925.2	
-496.2	CARBONDALE	ALLENBY	BONE COAL	1.0	943.2	
-497.2	CARBONDALE		CLAYSTONE & SHALE	3.0	944.2	
-500.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	947.2	
-503.2	CARBONDALE	LAWSON	SHALE & SANDSTONE	10.2	950.2	
-513.4	CARBONDALE	LAWSON	SANDSTONE	7.0	960.4	
-520.4	CARBONDALE	LAWSON	GRAY SHALE	1.5	967.4	
-521.9	CARBONDALE	LAWSON	SILTSTONE	5.3	968.9	
-527.2	CARBONDALE	LAWSON	GRAY SHALE	7.0	974.2	
-534.2	CARBONDALE	CONANT	CALCAREOUS SHALE	0.4	981.2	
-534.6	CARBONDALE	JAMESTOWN	COAL	0.4	981.6	
-535.0	CARBONDALE		CLAYSTONE & SHALE	2.2	982.0	
-537.2	CARBONDALE	BRERETON	LIMESTONE	3.6	984.2	
-540.8	CARBONDALE	ANNA	BLACK SHALE	4.2	987.8	
-545.0	CARBONDALE	HERRIN	COAL	5.6	992.0	

MAPID: 06500976000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 35 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: BUNGAY LONGITUDE: -88.398841

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.132976

DATE COLLECTED:

SURFACE ELEVATION (FT.): 403.0 LOGGED (FT.): 3298.0

LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-517.0	CARBONDALE	HERRIN	COAL	4.0	920.0	
-563.0	CARBONDALE	BRIAR HILL	COAL	-	966.0	
-637.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1040.0	SHALE & SILTSTONE ROOF
-701.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1104.0	

MAPID: 06503647000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 35 QUARTERS/FOOTAGES: 1135' S line, 97' W line  
 QUADRANGLE: BUNGAY LONGITUDE: -88.408845 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.127641 DATE COLLECTED: 0 / 0 / 1968  
 SURFACE ELEVATION (FT.): 410.0 LOGGED (FT.): 1119.0 LOG TYPE: Other Core Study  
 SOURCE: AYRSHIRE COLLIERIES C3-9 WELL TYPE: Coal Test  
 COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-572.6	CARBONDALE	HERRIN	COAL	4.0	982.6	REMOVED BY CO.
-692.4	CARBONDALE	SPRINGFIELD	COAL	7.4	1102.4	REMOVED BY CO.

MAPID: 06503647000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 35 QUARTERS/FOOTAGES: 1135' S line, 97' W line  
 QUADRANGLE: BUNGAY LONGITUDE: -88.408845 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.127641 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 410.0 LOGGED (FT.): 988.0 LOG TYPE: Survey Core Study  
 SOURCE: AYRSHIRE COLLIERIES c3-9 WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-512.0	CARBONDALE	DANVILLE	COAL	2.0	922.0	
-514.0	CARBONDALE		SHALE & SANDSTONE	14.0	924.0	
-528.0	CARBONDALE	ALLENBY	BONE COAL	2.0	938.0	
-530.0	CARBONDALE		CLAYSTONE & SHALE	5.0	940.0	
-535.0	CARBONDALE	LAWSON	SHALE	23.0	945.0	
-558.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	3.0	968.0	
-561.0	CARBONDALE	LAWSON	SHALE	9.0	971.0	
-570.0	CARBONDALE	ANNA	BLACK SHALE	4.0	980.0	
-574.0	CARBONDALE	HERRIN	COAL	4.0	984.0	

MAPID: 06590203000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 35 QUARTERS/FOOTAGES: 72' N line, 114' W line of NW SE NE

QUADRANGLE: BUNGAY LONGITUDE: -88.395011 GEOLOGIST: MCBETH

CONFIDENTIAL: N LATITUDE: 38.135579 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.2 LOGGED (FT.): 1086.0 LOG TYPE: Drillers Log

SOURCE: AMAX C1-58 WELL TYPE: Coal Test

COMMENT: CARM1 1 BOX#75 CORE NOT COMPLETE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
398.2			UNCLASSIFIED	914.0	0.0	
-515.8	CARBONDALE	ANNA	BLACK SHALE	2.0	914.0	THICKNESS FROM G-R LOG
-517.8	CARBONDALE	HERRIN	COAL	4.0	916.0	
-521.8	CARBONDALE		CLAYSTONE	3.4	920.0	
-525.2	CARBONDALE	HIGGINSVILLE	LIMESTONE	5.9	923.4	
-531.1	CARBONDALE		SILTSTONE	4.6	929.3	
-535.7	CARBONDALE		GRAY SHALE	1.9	933.9	
-537.6	CARBONDALE		UNCLASSIFIED	26.2	935.8	
-563.8	CARBONDALE	BRIAR HILL	COAL	2.0	962.0	THICK AND DEPTH FROM G-R LOG
-565.8	CARBONDALE		UNCLASSIFIED	4.0	964.0	THICK AND DEPTH FROM G-R LOG
-569.8	CARBONDALE	ST. DAVID	LIMESTONE	2.0	968.0	THICK AND DEPTH FROM G-R LOG
-571.8	CARBONDALE	TURNER MINE	BLACK SHALE	1.0	970.0	THICK AND DEPTH FROM G-R LOG
-572.8	CARBONDALE	DYKERSBURG	GRAY SHALE	70.3	971.0	TOP FROM G-R LOG
-643.1	CARBONDALE	SPRINGFIELD	COAL	7.4	1041.3	
-650.5	CARBONDALE		BLACK SHALE	0.5	1048.7	V. ORGANIC; FUSIAN PRESENT; BONEY
-651.0	CARBONDALE		CLAYSTONE	1.7	1049.2	
-652.7	CARBONDALE		UNCLASSIFIED	35.1	1050.9	

MAPID: 06500197000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 36 QUARTERS/FOOTAGES: NE SE NW

QUADRANGLE: THACKERAY LONGITUDE: -88.382598 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.134951 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 403.0 LOGGED (FT.): 4030.0 LOG TYPE: Electric Log

SOURCE: SMOKEY OC, YORK M E 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-587.0	CARBONDALE	HERRIN	COAL	-	990.0	
-731.0	CARBONDALE	SPRINGFIELD	COAL	-	1134.0	
-2153.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2556.0	



MAPID: 06500709000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: SPRINGERTON LONGITUDE: -88.373109 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.138663 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 3598.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-503.0	CARBONDALE	DANVILLE	COAL	-	934.0	
-513.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	944.0	
-529.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	960.0	
-538.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	9.0	969.0	
-611.0	CARBONDALE	BRIAR HILL	COAL	-	1042.0	
-703.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1134.0	SHALE ROOF
-761.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1192.0	

MAPID: 06501369000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 36 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: BUNGAY LONGITUDE: -88.387348 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.129368 DATE COLLECTED:

SURFACE ELEVATION (FT.): 438.0 LOGGED (FT.): 986.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-476.5	CARBONDALE	DANVILLE	COAL	1.5	914.5	
-478.0	CARBONDALE		SHALE & SANDSTONE	18.0	916.0	
-496.0	CARBONDALE	ALLENBY	BONE COAL	1.0	934.0	
-497.0	CARBONDALE		CLAYSTONE & SHALE	5.0	935.0	
-502.0	CARBONDALE	LAWSON	SANDSTONE	36.0	940.0	
-538.0	CARBONDALE		SHALE	3.0	976.0	
-541.0	CARBONDALE	ANNA	BLACK SHALE	3.0	979.0	
-544.0	CARBONDALE	HERRIN	COAL	4.0	982.0	

MAPID: 06590204000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 4S 7E SECTION: 36 QUARTERS/FOOTAGES: 63' S line, 63' E line of SE NE NW  
 QUADRANGLE: BUNGAY LONGITUDE: -88.381637 GEOLOGIST: MCBETH  
 CONFIDENTIAL: N LATITUDE: 38.136046 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 408.9 LOGGED (FT.): 1106.0 LOG TYPE: Drillers Log  
 SOURCE: AMAX C1-54 WELL TYPE: Coal Test  
 COMMENT: CARM1 1 BOX#75 CORE NOT COMPLETE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
408.9			UNCLASSIFIED	930.0	0.0	
-521.1	CARBONDALE		GRAY SHALE	10.6	930.0	
-531.7	CARBONDALE		LIMESTONE	0.5	940.6	
-532.2	CARBONDALE		CLAYSTONE	1.4	941.1	
-533.6	CARBONDALE	ANNA	BLACK SHALE	3.0	942.5	
-536.6	CARBONDALE	HERRIN	COAL	4.7	945.5	
-541.3	CARBONDALE		CLAYSTONE	2.6	950.2	
-543.9	CARBONDALE	HIGGINSVILLE	LIMESTONE	3.2	952.8	
-547.1	CARBONDALE		UNCLASSIFIED	114.0	956.0	
-661.1	CARBONDALE	DYKERSBURG	GRAY SHALE	11.5	1070.0	
-672.6	CARBONDALE	SPRINGFIELD	COAL	8.2	1081.5	
-680.8	CARBONDALE		CLAYSTONE	16.3	1089.7	

MAPID: 06500739000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 2 QUARTERS/FOOTAGES: 990' S line, 2310' E line  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.620479 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.113329 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 3530.0 LOG TYPE: Electric Log  
 SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-500.0	CARBONDALE	HERRIN	COAL	7.0	1013.0	
-579.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1092.0	BLACK SHALE & LIMESTONE ROOF
-661.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1174.0	

MAPID: 06500739000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 2 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.620479 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.113329 DATE COLLECTED:

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 1020.0 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
-387.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	900.0
-392.0	MODESTO		SHALE	30.0	905.0
-422.0	CARBONDALE	DANVILLE	COAL	1.0	935.0
-423.0	CARBONDALE		SHALE & SANDSTONE	18.0	936.0
-441.0	CARBONDALE	ALLENBY	BONE COAL	1.0	954.0
-442.0	CARBONDALE		CLAYSTONE & SHALE	3.0	955.0
-445.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	958.0
-449.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	43.0	962.0
-492.0	CARBONDALE	JAMESTOWN	COAL	1.0	1005.0
-493.0	CARBONDALE		SHALE	3.0	1006.0
-496.0	CARBONDALE	ANNA	BLACK SHALE	3.0	1009.0
-500.0	CARBONDALE	HERRIN	COAL	7.0	1013.0

MAPID: 06500739000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 2 QUARTERS/FOOTAGES: 990' S line, 2310' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.620479 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.113329 DATE COLLECTED:

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 1347.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING INC 739 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
513.0			UNKNOWN	1272.0	0.0
-759.0	CARBONDALE	COLCHESTER	COAL	1.0	1272.0
-760.0	CARBONDALE		UNKNOWN	22.0	1273.0
-782.0	CARBONDALE	DEKOVEN	COAL	3.0	1295.0
-785.0	CARBONDALE		UNKNOWN	46.0	1298.0
-831.0	CARBONDALE	DAVIS	COAL	3.0	1344.0

MAPID: 06524397000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 4 QUARTERS/FOOTAGES: NE SE NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.657974 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.120539 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 1109.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #40 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-482.3	CARBONDALE	HERRIN	COAL	6.9	1022.3	REMOVED BY CO.
-554.6	CARBONDALE	SPRINGFIELD	COAL	4.3	1094.6	REMOVED BY CO.

MAPID: 06525133000C VERSION: 1

PROJECT: NCRDS98

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 4 QUARTERS/FOOTAGES: NE NE

QUADRANGLE: DAHLGREN LONGITUDE: -88.648749 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.125151 DATE COLLECTED: 8 / 25 / 1981

SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 1087.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #73 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
506.0			UNCLASSIFIED	994.0	0.0	
-488.0	CARBONDALE		SILTSTONE	4.8	994.0	
-492.8	CARBONDALE		LIMESTONE	0.2	998.8	
-493.0	CARBONDALE		SHALE/COAL	0.5	999.0	
-493.5	CARBONDALE		SHALE	6.1	999.5	DARK
-499.6	CARBONDALE	BRERETON	LIMESTONE	6.3	1005.6	
-505.8	CARBONDALE	ANNA	SHALE	1.0	1011.8	VERY DARK GRAY
-506.8	CARBONDALE	HERRIN	COAL	6.8	1012.8	
-513.6	CARBONDALE		UNDERCLAY	4.1	1019.6	
-517.7	CARBONDALE		UNCLASSIFIED	51.3	1023.7	
-569.0	CARBONDALE		SHALE	2.0	1075.0	
-571.0	CARBONDALE	SPRINGFIELD	COAL	4.8	1077.0	
-575.7	CARBONDALE		UNDERCLAY	5.3	1081.7	

MAPID: 06500165000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 5 QUARTERS/FOOTAGES: 1980' N line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.679653 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.119804 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 4780.0 LOG TYPE: Electric Log

SOURCE: HAMMER A J, SEAL 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-472.0	CARBONDALE	HERRIN	COAL	-	950.0
-547.0	CARBONDALE	SPRINGFIELD	COAL	-	1025.0
-2037.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2515.0

MAPID: 06500165000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 5 QUARTERS/FOOTAGES: 1980' N line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.679653 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.119804 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 954.0 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
-392.0	MODESTO	PIASA	LIMESTONE	7.0	870.0
-399.0	MODESTO		SHALE	5.0	877.0
-404.0	CARBONDALE	DANVILLE	COAL	1.0	882.0
-405.0	CARBONDALE		SILTY SHALE	18.0	883.0
-423.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	901.0
-428.0	CARBONDALE	LAWSON	SILTY SHALE	35.0	906.0
-463.0	CARBONDALE	BRERETON	LIMESTONE	7.0	941.0
-470.0	CARBONDALE	ANNA	BLACK SHALE	2.0	948.0
-472.0	CARBONDALE	HERRIN	COAL	4.0	950.0

MAPID: 06500165000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 5 QUARTERS/FOOTAGES: 1980' N line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.679653 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.119804 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 3463.0 LOG TYPE: Electric Log

SOURCE: HAMMER, A. J. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-471.0	CARBONDALE	HERRIN	COAL	4.0	949.0	
-516.0	CARBONDALE	BRIAR HILL	COAL	-	994.0	
-546.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1024.0	BLACK SHALE & LIMESTONE ROOF
-628.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1106.0	

MAPID: 06524517000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 6 QUARTERS/FOOTAGES: 3600' S line, 1550' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.690682 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.12039 DATE COLLECTED: 8 / 7 / 1981

SURFACE ELEVATION (FT.): 472.0 LOGGED (FT.): 993.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #56 WELL TYPE: Coal Test

COMMENT: 529490 N, 397210 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
472.0			UNCLASSIFIED	905.0	0.0	
-433.0	CARBONDALE	BRERETON	LIMESTONE	3.7	905.0	
-436.7	CARBONDALE	ANNA	BLACK SHALE	0.6	908.7	
-437.3	CARBONDALE	HERRIN	COAL	5.3	909.3	
-442.6	CARBONDALE		UNDERCLAY	2.8	914.6	
-445.4	CARBONDALE		SANDSTONE	2.7	917.4	
-448.1	CARBONDALE		UNCLASSIFIED	53.9	920.1	
-502.0	CARBONDALE		SHALE	13.3	974.0	LOG NOTES LIMNEY CORE 978- 980
-515.3	CARBONDALE	HERRIN	COAL	4.5	987.3	
-519.8	CARBONDALE		UNDERCLAY	1.2	991.8	

MAPID: 06524517000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 6 QUARTERS/FOOTAGES: 3600' S line, 1550' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.690682 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.12039 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 992.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #56 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-441.3	CARBONDALE	HERRIN	COAL	5.3	909.3	REMOVED BY CO.
-519.3	CARBONDALE	SPRINGFIELD	COAL	4.5	987.3	REMOVED BY CO.

MAPID: 06500618000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 7 QUARTERS/FOOTAGES: 990' S line, 1650' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.691423 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.098731 DATE COLLECTED:

SURFACE ELEVATION (FT.): 493.0 LOGGED (FT.): 3401.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA PETROLEUM WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-432.0	CARBONDALE	HERRIN	COAL	4.0	925.0	
-477.0	CARBONDALE	BRIAR HILL	COAL	-	970.0	
-587.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1080.0	

MAPID: 06500618000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 7 QUARTERS/FOOTAGES: 990' S line, 1650' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.691423

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.098731

DATE COLLECTED:

SURFACE ELEVATION (FT.): 493.0

LOGGED (FT.): 930.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-332.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	825.0	
-337.0	MODESTO		SHALE	16.0	830.0	
-353.0	CARBONDALE	DANVILLE	COAL	1.0	846.0	
-354.0	CARBONDALE		SHALE & SANDSTONE	26.0	847.0	
-380.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	873.0	
-384.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	5.0	877.0	
-389.0	CARBONDALE	LAWSON	SILTY SHALE	11.0	882.0	
-400.0	CARBONDALE	LAWSON	SANDSTONE	12.0	893.0	
-412.0	CARBONDALE	LAWSON	SHALE	13.0	905.0	
-425.0	CARBONDALE	ANNA	BLACK SHALE	2.0	918.0	
-427.0	CARBONDALE	HERRIN	COAL	10.0	920.0	

MAPID: 06524398000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 7 QUARTERS/FOOTAGES: 2450' S line, 2900' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.695044

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.10258

DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 495.0 LOGGED (FT.): 1010.0

LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #54

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-430.0	CARBONDALE	HERRIN	COAL	5.6	925.0	REMOVED BY CO.
-504.0	CARBONDALE	SPRINGFIELD	COAL	4.5	999.0	REMOVED BY CO.



MAPID: 06501502000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.675188 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.105697 DATE COLLECTED:

SURFACE ELEVATION (FT.): 475.0 LOGGED (FT.): 3452.0 LOG TYPE: Electric Log

SOURCE: HERNDON DRLG. CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-468.0	CARBONDALE	HERRIN	COAL	4.0	943.0	
-499.0	CARBONDALE	BRIAR HILL	COAL	-	974.0	
-537.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1012.0	BLACK SHALE & LIMESTONE ROOF
-619.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1094.0	

MAPID: 06503510000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 8 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.670659 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.098509 DATE COLLECTED: 6 / 2 / 1967

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 1297.0 LOG TYPE: Electric Log

SOURCE: NATIONAL ASSOC. PETROLEUM CO. 3510 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
498.0			UNKNOWN	1202.0	0.0	
-704.0	CARBONDALE	COLCHESTER	COAL	1.0	1202.0	THICKNESS LESS THAN 16"
-705.0	CARBONDALE		UNKNOWN	32.0	1203.0	
-737.0	CARBONDALE	DEKOVEN	COAL	3.0	1235.0	
-740.0	CARBONDALE		UNKNOWN	57.0	1238.0	
-797.0	CARBONDALE	DAVIS	COAL	2.0	1295.0	

MAPID: 06503510000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 8    QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.670659

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.098509

DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.0

LOGGED (FT.): 950.0

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
-351.0	MODESTO	PIASA	LIMESTONE	4.0	849.0
-355.0	MODESTO		SHALE	18.0	853.0
-373.0	CARBONDALE	DANVILLE	COAL	2.0	871.0
-375.0	CARBONDALE		SHALE & SANDSTONE	21.0	873.0
-396.0	CARBONDALE	ALLENBY	BONE COAL	1.0	894.0
-397.0	CARBONDALE		SHALE	5.0	895.0
-402.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	900.0
-406.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	32.0	904.0
-438.0	CARBONDALE	BRERETON	LIMESTONE	5.0	936.0
-443.0	CARBONDALE	ANNA	BLACK SHALE	4.0	941.0
-447.0	CARBONDALE	HERRIN	COAL	5.0	945.0

MAPID: 06523899000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 8 QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.676125 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.099233 DATE COLLECTED: 8 / 3 / 1976

SURFACE ELEVATION (FT.): 471.0 LOGGED (FT.): 1000.7 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-15 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
471.0			UNCLASSIFIED	832.0	0.0	
-361.0	CARBONDALE	DANVILLE	COAL	1.0	832.0	
-362.0	CARBONDALE		SHALE	25.0	833.0	
-387.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	858.0	
-393.0	CARBONDALE		SHALE	25.0	864.0	
-418.0	CARBONDALE		SHALE	10.8	889.0	BEGIN CORE
-428.8	CARBONDALE	CONANT	LIMESTONE	0.3	899.8	
-429.0	CARBONDALE	JAMESTOWN	COAL	0.3	900.0	
-429.3	CARBONDALE		BLACK SHALE	2.3	900.3	
-431.5	CARBONDALE	BRERETON	LIMESTONE	6.2	902.5	
-437.7	CARBONDALE	ANNA	BLACK SHALE	0.8	908.7	
-438.5	CARBONDALE	HERRIN	COAL	6.3	909.5	
-444.8	CARBONDALE		UNDERCLAY	3.8	915.8	
-448.6	CARBONDALE		SILTSTONE	6.4	919.6	END CORE
-455.0	CARBONDALE		SHALE	30.0	926.0	NOT CORED
-485.0	CARBONDALE	BRIAR HILL	COAL	1.0	956.0	NOT CORED
-486.0	CARBONDALE		SHALE	10.0	957.0	NOT CORED
-496.0	CARBONDALE		SANDSTONE	1.7	967.0	BEGIN CORE
-497.7	CARBONDALE		SANDY SHALE	3.7	968.7	
-501.3	CARBONDALE		SHALE	6.7	972.3	DARK
-508.0	CARBONDALE	ST. DAVID	LIMESTONE	1.0	979.0	
-509.0	CARBONDALE		SHALE	1.7	980.0	DARK
-510.7	CARBONDALE	DYKERSBURG	SHALE	4.4	981.7	
-515.0	CARBONDALE	SPRINGFIELD	COAL	4.7	986.0	
-519.7	CARBONDALE		UNDERCLAY	3.1	990.7	
-522.8	CARBONDALE		SILTY SHALE	6.8	993.8	
-529.7				0.0	1000.7	

MAPID: 06523899000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 8 QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.676125

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.099233

DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 471.0 LOGGED (FT.): 990.7

LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-15

WELL TYPE: Coal Test

COMMENT: SUMMER 1976

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-438.6	CARBONDALE	HERRIN	COAL	6.2	909.6	
-515.0	CARBONDALE	SPRINGFIELD	COAL	4.7	986.0	

MAPID: 06525132000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 8 QUARTERS/FOOTAGES: NE NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.67833

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.110184

DATE COLLECTED: 8 / 17 / 1981

SURFACE ELEVATION (FT.): 472.0 LOGGED (FT.): 1020.0

LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #64

WELL TYPE: Coal Test

COMMENT: 525760 N, 400750 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
472.0			UNCLASSIFIED	915.0	0.0	
-443.0	CARBONDALE		SANDSTONE	2.1	915.0	
-445.1	CARBONDALE		SHALE	11.4	917.1	
-456.5	CARBONDALE		BLACK SHALE	1.1	928.5	
-457.6	CARBONDALE	BRERETON	LIMESTONE	2.7	929.6	
-460.3	CARBONDALE	ENERGY	SHALE	4.2	932.3	DARK
-464.4	CARBONDALE	HERRIN	COAL	6.0	936.4	
-470.4	CARBONDALE		SHALE	6.0	942.4	
-476.4	CARBONDALE		UNCLASSIFIED	56.6	948.4	
-533.0	CARBONDALE	ST. DAVID	LIMESTONE	2.5	1005.0	
-535.5	CARBONDALE	DYKERSBURG	SANDY SHALE	3.5	1007.5	
-539.0	CARBONDALE	DYKERSBURG	LIMESTONE	0.1	1011.0	
-539.1	CARBONDALE	DYKERSBURG	SILTY SHALE	0.3	1011.1	
-539.4	CARBONDALE	SPRINGFIELD	COAL	4.3	1011.4	
-543.8	CARBONDALE		UNDERCLAY	4.3	1015.8	
-548.0				0.0	1020.0	

MAPID: 06500617000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 9 QUARTERS/FOOTAGES: 345' N line, 2310' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.656713 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.109108 DATE COLLECTED:

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 3521.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-523.0	CARBONDALE	BRIAR HILL	COAL	-	1034.0	
-550.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1061.0	BLACK SHALE & LIMESTONE ROOF
-633.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1144.0	

MAPID: 06500617000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 9 QUARTERS/FOOTAGES: 345' N line, 2310' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.656713 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.109108 DATE COLLECTED:

SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 1008.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-374.0	MODESTO	PIASA	LIMESTONE W/ SHALE	10.0	888.0	
-384.0	MODESTO		SHALE	21.0	898.0	
-405.0	CARBONDALE	DANVILLE	COAL	2.0	919.0	
-407.0	CARBONDALE		SILTY SHALE	25.0	921.0	
-432.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	946.0	
-438.0	CARBONDALE	LAWSON	SILTY SHALE	42.0	952.0	
-480.0	CARBONDALE	BRERETON	LIMESTONE	4.0	994.0	
-484.0	CARBONDALE	ANNA	BLACK SHALE	2.0	998.0	
-486.0	CARBONDALE	HERRIN	COAL	8.0	1000.0	

MAPID: 06524399000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 9 QUARTERS/FOOTAGES: SW NE SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.662447 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.101964 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 503.0 LOGGED (FT.): 1036.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #53 WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-529.0	CARBONDALE	SPRINGFIELD	COAL	4.4	1032.0	REMOVED BY CO.

MAPID: 06500616000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 10 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.638423 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.104011 DATE COLLECTED:

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 3562.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-477.0	CARBONDALE	HERRIN	COAL	5.0	1005.0	
-506.0	CARBONDALE	BRIAR HILL	COAL	-	1034.0	
-549.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1077.0	SHALE & SILTSTONE ROOF
-628.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1156.0	

MAPID: 06500616000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 10 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.638423 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.104011 DATE COLLECTED:

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 1011.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-370.0	MODESTO	PIASA	LIMESTONE W/ SHALE	12.0	898.0	
-382.0	MODESTO		SHALE	23.0	910.0	
-405.0	CARBONDALE	DANVILLE	COAL	1.0	933.0	
-406.0	CARBONDALE		SILTY SHALE	14.0	934.0	
-420.0	CARBONDALE	ALLENBY	COAL	2.0	948.0	
-422.0	CARBONDALE		CLAYSTONE & SHALE	4.0	950.0	
-426.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	954.0	
-430.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	958.0	
-442.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	970.0	
-452.0	CARBONDALE	LAWSON	SILTY SHALE	22.0	980.0	
-474.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	1002.0	
-476.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1004.0	
-478.0	CARBONDALE	HERRIN	COAL	5.0	1006.0	

MAPID: 06500616000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 10 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.638423 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.104011 DATE COLLECTED:

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 1343.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO 616 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
528.0			UNKNOWN	1264.0	0.0	
-736.0	CARBONDALE	COLCHESTER	COAL	1.0	1264.0	THICKNESS LESS THAN 16"
-737.0	CARBONDALE		UNKNOWN	28.0	1265.0	
-765.0	CARBONDALE	DEKOVEN	COAL	3.0	1293.0	
-768.0	CARBONDALE		UNKNOWN	44.0	1296.0	
-812.0	CARBONDALE	DAVIS	COAL	3.0	1340.0	

MAPID: 06524400000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 10 QUARTERS/FOOTAGES: NW SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.648609 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.100984 DATE COLLECTED: 7 / 31 / 1981

SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 1073.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #50 WELL TYPE: Coal Test

COMMENT: 522380 N, 409839 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
514.0			UNCLASSIFIED	975.0	0.0	
-461.0	CARBONDALE		SILTY SHALE	10.8	975.0	
-471.8	CARBONDALE		SHALE	6.0	985.8	DARK
-477.8	CARBONDALE	BRERETON	LIMESTONE	5.2	991.8	
-482.9	CARBONDALE	HERRIN	COAL	6.4	996.9	
-489.3	CARBONDALE		UNCLASSIFIED	58.7	1003.3	
-548.0	CARBONDALE	DYKERSBURG	SHALE	3.6	1062.0	DARK
-551.6	CARBONDALE	SPRINGFIELD	COAL	4.2	1065.6	
-555.8	CARBONDALE		SHALY SILTSTONE	3.3	1069.8	

MAPID: 06500166000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 11 QUARTERS/FOOTAGES: 658' S line, 641' E line  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.614872 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.09791 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 4910.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OC, LESLIE I 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-467.0	CARBONDALE	HERRIN	COAL	-	958.0	
-564.0	CARBONDALE	SPRINGFIELD	COAL	-	1055.0	
-2079.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2570.0	

MAPID: 06500166000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 11 QUARTERS/FOOTAGES: 658' S line, 641' E line  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.614872 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.09791 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 962.0 LOG TYPE: Electric Log  
 SOURCE: WELL TYPE: Oil and Gas Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-369.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	860.0	
-375.0	MODESTO		SHALE	33.0	866.0	
-408.0	CARBONDALE	DANVILLE	COAL	1.0	899.0	
-409.0	CARBONDALE		SHALE & SANDSTONE	12.0	900.0	
-421.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	912.0	
-427.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	33.0	918.0	
-460.0	CARBONDALE	BRERETON	LIMESTONE	7.0	951.0	
-467.0	CARBONDALE	ANNA	BLACK SHALE	1.0	958.0	
-468.0	CARBONDALE	HERRIN	COAL	3.0	959.0	

MAPID: 06500166000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 11 QUARTERS/FOOTAGES: 658' S line, 641' E line  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.614872 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.09791 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 3608.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-468.0	CARBONDALE	HERRIN	COAL	3.0	959.0	
-563.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1054.0	BLACK SHALE & LIMESTONE ROOF
-636.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1127.0	



MAPID: 06500166000C VERSION: 4

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 11 QUARTERS/FOOTAGES: 658' S line, 641' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.614872 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.09791 DATE COLLECTED:

SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 1295.5 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY 166 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
491.0			UNKNOWN	1229.0	0.0	
-738.0	CARBONDALE	COLCHESTER	COAL	1.0	1229.0	THICKNESS LESS THAN 18"
-739.0	CARBONDALE		UNKNOWN	26.0	1230.0	
-765.0	CARBONDALE	DEKOVEN	COAL	4.0	1256.0	
-769.0	CARBONDALE		UNKNOWN	32.0	1260.0	
-801.0	CARBONDALE	DAVIS	COAL	3.5	1292.0	

MAPID: 06500167000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 13 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.604734 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.086156 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 472.0 LOGGED (FT.): 4720.0 LOG TYPE: Electric Log

SOURCE: LEDBETTR H, HUNT 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-518.0	CARBONDALE	HERRIN	COAL	-	990.0	
-588.0	CARBONDALE	SPRINGFIELD	COAL	-	1060.0	
-2091.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2563.0	

MAPID: 06500167000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 13 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.604734

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.086156

DATE COLLECTED:

SURFACE ELEVATION (FT.): 472.0

LOGGED (FT.): 1010.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-405.0	MODESTO	PIASA	LIMESTONE & SHALE	10.0	877.0	
-415.0	MODESTO		SHALE	28.0	887.0	
-443.0	CARBONDALE	DANVILLE	COAL	1.0	915.0	
-444.0	CARBONDALE		SILTY SHALE	19.0	916.0	
-463.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	935.0	
-470.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	46.0	942.0	
-516.0	CARBONDALE	BRERETON	LIMESTONE	6.0	988.0	
-522.0	CARBONDALE	ANNA	BLACK SHALE	4.0	994.0	
-528.0	CARBONDALE	HERRIN	COAL	10.0	1000.0	

MAPID: 06500167000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 13 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.604734

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.086156

DATE COLLECTED:

SURFACE ELEVATION (FT.): 472.0

LOGGED (FT.): 3567.0

LOG TYPE: Electric Log

SOURCE: LEDBETTER H E

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-546.0	CARBONDALE	BRIAR HILL	COAL	-	1018.0	
-575.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1047.0	BLACK SHALE & LIMESTONE ROOF
-661.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1133.0	

MAPID: 06501495000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.641022

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.082452

DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0

LOGGED (FT.): 2719.0

LOG TYPE: Electric Log

SOURCE: DAVIS & HOSE

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-450.0	CARBONDALE	HERRIN	COAL	2.0	974.0	
-546.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1070.0	BLACK SHALE & LIMESTONE ROOF
-629.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1153.0	

MAPID: 06501495000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.641022 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.082452 DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 978.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-361.0	MODESTO	PIASA	LIMESTONE & SHALE	10.0	885.0	
-371.0	MODESTO		SHALE	10.0	895.0	
-381.0	CARBONDALE	DANVILLE	COAL	1.0	905.0	
-382.0	CARBONDALE		SHALE & SANDSTONE	22.0	906.0	
-404.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	928.0	
-408.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	35.0	932.0	
-443.0	CARBONDALE	BRERETON	LIMESTONE	5.0	967.0	
-448.0	CARBONDALE	ANNA	BLACK SHALE	2.0	972.0	
-451.0	CARBONDALE	HERRIN	COAL	3.0	975.0	

MAPID: 06501495000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.641022 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.082452 DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 1325.0 LOG TYPE: Electric Log

SOURCE: DAIRS & HOSE 1495 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
524.0			UNKNOWN	1253.0	0.0	
-729.0	CARBONDALE	COLCHESTER	COAL	1.0	1253.0	THICKNESS LESS THAN 16"
-730.0	CARBONDALE		UNKNOWN	42.0	1254.0	
-772.0	CARBONDALE	DEKOVEN	COAL	3.0	1296.0	
-775.0	CARBONDALE		UNKNOWN	23.0	1299.0	
-798.0	CARBONDALE	DAVIS	COAL	3.0	1322.0	

MAPID: 06524401000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 15 QUARTERS/FOOTAGES: SE SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.631155 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.081834 DATE COLLECTED: 8 / 5 / 1981

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 1043.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #52 WELL TYPE: Coal Test

COMMENT: 515390 N, 414290 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0			UNCLASSIFIED	930.0	0.0	
-430.0	CARBONDALE		SHALE	6.5	930.0	
-436.5	CARBONDALE	BRERETON	LIMESTONE	2.1	936.5	
-438.6	CARBONDALE	ANNA	BLACK SHALE	3.1	938.6	
-441.7	CARBONDALE	ENERGY	SHALE	2.2	941.7	
-443.8	CARBONDALE		SHALE/COAL	0.3	943.8	CORE LOSS
-444.2	CARBONDALE	HERRIN	COAL	5.7	944.2	
-449.8	CARBONDALE		SHALE	3.2	949.8	
-453.0	CARBONDALE		SANDSTONE	4.0	953.0	
-457.0	CARBONDALE		UNCLASSIFIED	28.0	957.0	
-485.0	CARBONDALE		SHALE	13.2	985.0	
-498.2	CARBONDALE		SHALY SANDSTONE	28.6	998.2	
-526.8	CARBONDALE		SHALE	1.0	1026.8	
-527.8	CARBONDALE	ST. DAVID	LIMESTONE	1.5	1027.8	
-529.3	CARBONDALE	TURNER MINE	BLACK SHALE	3.4	1029.3	
-532.7	CARBONDALE	DYKERSBURG	SHALE	5.6	1032.7	
-538.3	CARBONDALE	SPRINGFIELD	COAL	4.5	1038.3	
-542.8	CARBONDALE		SHALE	0.3	1042.8	
-543.0				0.0	1043.0	

MAPID: 06524402000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 16 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.649193 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.090657 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 512.0 LOGGED (FT.): 998.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #42 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-471.8	CARBONDALE	HERRIN	COAL	5.6	983.8	REMOVED BY CO.

MAPID: 06500615000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 17 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.677713 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.085937 DATE COLLECTED:

SURFACE ELEVATION (FT.): 456.0 LOGGED (FT.): 3465.0 LOG TYPE: Electric Log

SOURCE: CONCANNON T F WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-436.0	CARBONDALE	HERRIN	COAL	5.0	892.0	
-490.0	CARBONDALE	BRIAR HILL	COAL	-	946.0	
-516.0	CARBONDALE	SPRINGFIELD	COAL	3.0	972.0	BLACK SHALE & LIMESTONE ROOF
-604.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1060.0	

MAPID: 06500615000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 17 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.677713 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.085937 DATE COLLECTED:

SURFACE ELEVATION (FT.): 456.0 LOGGED (FT.): 897.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-336.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	792.0	
-340.0	MODESTO		SHALE	18.0	796.0	
-358.0	CARBONDALE	DANVILLE	COAL	1.0	814.0	
-359.0	CARBONDALE		SHALE & SANDSTONE	25.0	815.0	
-384.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	840.0	
-388.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	40.0	844.0	
-428.0	CARBONDALE	BRERETON	LIMESTONE	9.5	884.0	
-437.5	CARBONDALE	ANNA	BLACK SHALE	0.5	893.5	
-438.0	CARBONDALE	HERRIN	COAL	3.0	894.0	

MAPID: 06500615000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 17 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.677713 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.085937 DATE COLLECTED:

SURFACE ELEVATION (FT.): 456.0 LOGGED (FT.): 1251.0 LOG TYPE: Electric Log

SOURCE: R HAL COMPTON 615 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
456.0			UNKNOWN	1163.0	0.0	
-707.0	CARBONDALE	COLCHESTER	COAL	1.0	1163.0	
-708.0	CARBONDALE		UNKNOWN	52.0	1164.0	
-760.0	CARBONDALE	DEKOVEN	COAL	3.0	1216.0	
-763.0	CARBONDALE		UNKNOWN	29.0	1219.0	
-792.0	CARBONDALE	DAVIS	COAL	3.0	1248.0	

MAPID: 06524403000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 17 QUARTERS/FOOTAGES: 2550' N line, 2600' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.676075 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.088689 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 467.0 LOGGED (FT.): 1006.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #43 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-446.8	CARBONDALE	HERRIN	COAL	6.0	913.8	REMOVED BY CO.
-525.3	CARBONDALE	SPRINGFIELD	COAL	4.3	992.3	REMOVED BY CO.

MAPID: 06524404000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 18 QUARTERS/FOOTAGES: NW SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.694663 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.088633 DATE COLLECTED: 7 / 29 / 1981

SURFACE ELEVATION (FT.): 475.0 LOGGED (FT.): 991.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #46 WELL TYPE: Coal Test

COMMENT: 517930 N, 396020 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
475.0			UNCLASSIFIED	889.0	0.0	
-414.0	CARBONDALE		SILTSTONE	1.4	889.0	
-415.4	CARBONDALE		SHALE	4.2	890.4	
-419.6	CARBONDALE	BRERETON	LIMESTONE	5.9	894.6	
-425.5	CARBONDALE	ANNA	SHALE	0.6	900.5	DARK
-426.1	CARBONDALE	HERRIN	COAL	5.6	901.1	
-431.7	CARBONDALE		UNDERCLAY	0.5	906.7	
-432.2	CARBONDALE	DYKERSBURG	SHALY SILTSTONE	68.8	907.2	
-501.0	CARBONDALE	DYKERSBURG	SILTSTONE & SHALE	4.1	976.0	
-505.1	CARBONDALE	SPRINGFIELD	COAL	6.0	980.1	
-511.1	CARBONDALE		UNDERCLAY	4.5	986.1	
-515.6				0.0	990.6	

MAPID: 06500479000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 19 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.699724 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.07173 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 447.0 LOGGED (FT.): 4470.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA, MATHENEY 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-423.0	CARBONDALE	HERRIN	COAL	4.0	870.0	
-513.0	CARBONDALE	SPRINGFIELD	COAL	5.0	960.0	
-1999.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2446.0	

MAPID: 06500479000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 19 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.699724

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.07173

DATE COLLECTED:

SURFACE ELEVATION (FT.): 447.0 LOGGED (FT.): 873.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-316.0	MODESTO	PIASA	LIMESTONE	4.0	763.0
-320.0	MODESTO		CARBONACEOUS SHALE	23.0	767.0
-343.0	CARBONDALE	DANVILLE	COAL	2.0	790.0
-345.0	CARBONDALE		SHALE & SANDSTONE	23.0	792.0
-368.0	CARBONDALE	ALLENBY	BLACK SHALE	1.0	815.0
-369.0	CARBONDALE		CALCAREOUS SHALE	2.0	816.0
-371.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	818.0
-373.0	CARBONDALE	LAWSON	SANDSTONE	4.0	820.0
-377.0	CARBONDALE	LAWSON	SILTSTONE	2.0	824.0
-379.0	CARBONDALE	LAWSON	CARBONACEOUS SHALE	6.0	826.0
-385.0	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	16.0	832.0
-401.0	CARBONDALE	LAWSON	CARBONACEOUS SHALE	14.0	848.0
-415.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	862.0
-417.0	CARBONDALE	ANNA	BLACK SHALE	5.0	864.0
-422.0	CARBONDALE	HERRIN	COAL	4.0	869.0

MAPID: 06500479000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 19 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.699724

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.07173

DATE COLLECTED:

SURFACE ELEVATION (FT.): 447.0 LOGGED (FT.): 3393.0

LOG TYPE: Electric Log

SOURCE: MAGNOLIA PETROLEUM

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-418.0	CARBONDALE	HERRIN	COAL	6.0	865.0
-467.0	CARBONDALE	BRIAR HILL	COAL	-	914.0
-509.0	CARBONDALE	SPRINGFIELD	COAL	6.0	956.0
-563.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1010.0

BLACK SHALE & LIMESTONE ROOF



MAPID: 06500479000C    VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 19    QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.699724    GEOLOGIST: HINES

CONFIDENTIAL: N    LATITUDE: 38.07173    DATE COLLECTED:

SURFACE ELEVATION (FT.):    LOGGED (FT.): 3393.0    LOG TYPE: Survey Sample Study

SOURCE: MAGNOLIA PETROLEUM    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	

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MAPID: 06500479000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 19    QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.699724    GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N    LATITUDE: 38.07173    DATE COLLECTED: 6 / 0 / 1944

SURFACE ELEVATION (FT.): 447.0    LOGGED (FT.): 1661.0    LOG TYPE: Survey Sample Study

SOURCE: MAGNOLIA PETROLIUM CO SS#111431    WELL TYPE: Dry Hole

COMMENT: SAMPLE STUDY CONTROL WELL #184

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
447.0			NO RECORD	180.0	0.0	
267.0			SILTSTONE	10.0	180.0	
257.0			CALCAREOUS SHALE	5.0	190.0	SHALE GRADES INTO LIMESTONE
252.0			BLACK SHALE	1.0	195.0	WITH COAL
251.0			SHALE	10.0	196.0	
241.0			SILTSTONE	4.0	206.0	
237.0			SHALE	14.0	210.0	
223.0			SANDSTONE	78.0	224.0	
145.0			BLACK SHALE	-	302.0	STREAK
145.0			SANDSTONE	18.0	302.0	WITH SHALE LAMINAE
127.0			LIMESTONE	11.0	320.0	
116.0			SHALE	11.0	331.0	
105.0			COAL	1.0	342.0	THICKNESS ESTIMATED
104.0			UNDERCLAY	5.0	343.0	
99.0			SILTSTONE	31.0	348.0	
68.0			SHALE	87.0	379.0	
-19.0			LIMESTONE	1.0	466.0	
-20.0			BLACK SHALE	3.0	467.0	
-23.0			SHALE	30.0	470.0	
-53.0			SILTSTONE	22.0	500.0	
-75.0			SANDSTONE	65.0	522.0	WITH SILTSTONE AND SHALE ZONES
-140.0			SHALE	21.0	587.0	
-161.0			BLACK SHALE	2.0	608.0	COAL STREAK
-163.0			SILTSTONE	44.0	610.0	
-207.0			SANDSTONE	38.0	654.0	
-245.0			SHALE	28.0	692.0	
-273.0			SILTSTONE	11.0	720.0	
-284.0			SHALE	22.0	731.0	
-306.0			BLACK SHALE	1.0	753.0	WITH COAL
-307.0			SHALE	3.0	754.0	
-310.0			SILTSTONE	11.0	757.0	
-321.0			SHALE	5.0	768.0	
-326.0			LIMESTONE	4.0	773.0	
-330.0			SHALE	13.0	777.0	
-343.0			COAL	2.0	790.0	WITH BLACK SHALE
-345.0			SHALE	2.0	792.0	
-347.0			SHALE	4.0	794.0	
-351.0			SHALE	8.0	798.0	
-359.0			SANDSTONE	9.0	806.0	

-368.0	BLACK SHALE	1.0	815.0	
-369.0	SHALE	2.0	816.0	
-371.0	LIMESTONE	2.0	818.0	
-373.0	SANDSTONE	6.0	820.0	
-379.0	SHALE	6.0	826.0	
-385.0	SANDSTONE	16.0	832.0	
-401.0	SHALE	14.0	848.0	
-415.0	LIMESTONE	2.0	862.0	
-417.0	BLACK SHALE	5.0	864.0	
-422.0	COAL	4.0	869.0	THICKNESS ESTIMATED
-426.0	UNDERCLAY	3.0	873.0	
-429.0	SANDSTONE	44.0	876.0	WITH SILTSTONE
-473.0	BLACK SHALE	1.0	920.0	
-474.0	SHALE	3.0	921.0	
-477.0	BLACK SHALE	2.0	924.0	
-479.0	SANDSTONE	18.0	926.0	
-497.0	SHALE	6.0	944.0	
-503.0	LIMESTONE	2.0	950.0	
-505.0	BLACK SHALE	7.0	952.0	
-512.0	COAL	5.0	959.0	THICKNESS ESTIMATED
-517.0	SANDSTONE	22.0	964.0	WITH SILTSTONE
-539.0	BLACK SHALE	2.0	986.0	
-541.0	SANDSTONE	21.0	988.0	WITH SILTSTONE
-562.0	BLACK SHALE	6.0	1009.0	GRADES INTO BLACK LIMESTONE
-568.0	LIMESTONE	2.0	1015.0	
-570.0	SHALE	7.0	1017.0	
-577.0	SILTSTONE	20.0	1024.0	
-597.0	SHALE	13.0	1044.0	
-610.0	BLACK SHALE	1.0	1057.0	
-611.0	COAL	3.0	1058.0	THICKNESS ESTIMATED
-614.0	SILTSTONE	11.0	1061.0	
-625.0	SHALE	8.0	1072.0	
-633.0	LIMESTONE	2.0	1080.0	
-635.0	SANDSTONE	12.0	1082.0	
-647.0	SHALE	29.0	1094.0	
-676.0	BLACK SHALE	1.0	1123.0	
-677.0	SANDSTONE	21.0	1124.0	WITH SILTSTONE
-701.0	SHALE	13.0	1148.0	
-714.0	BLACK SHALE	1.0	1161.0	
-715.0	SHALE	3.0	1162.0	
-718.0	SANDSTONE	21.0	1165.0	WITH SILTSTONE
-739.0	SHALE	7.0	1186.0	
-746.0	COAL	3.0	1193.0	THICKNESS ESTIMATED
-749.0	UNDERCLAY	2.0	1196.0	
-751.0	SHALE	8.0	1198.0	
-759.0	LIMESTONE	3.0	1206.0	
-762.0	SILTSTONE	9.0	1209.0	

-771.0	SHALE	14.0	1218.0	
-785.0	SILTSTONE	18.0	1232.0	
-803.0	SHALE	27.0	1250.0	
-830.0	BLACK SHALE	2.0	1277.0	WITH THIN COAL
-832.0	UNDERCLAY	1.0	1279.0	
-833.0	SHALE	20.0	1280.0	
-853.0	BLACK SHALE	3.0	1300.0	
-856.0	COAL	3.0	1303.0	THICKNESS ESTIMATED
-859.0	UNDERCLAY	2.0	1306.0	
-861.0	SHALE	7.0	1308.0	
-870.0	BLACK SHALE	1.0	1317.0	
-871.0	COAL	2.0	1318.0	THICKNESS ESTIMATED
-873.0	UNDERCLAY	2.0	1320.0	
-875.0	SHALE	14.0	1322.0	
-889.0	SANDSTONE	28.0	1336.0	
-917.0	BLACK SHALE	1.0	1364.0	WITH COAL
-918.0	SHALE	50.0	1365.0	
-968.0	BLACK SHALE	2.0	1415.0	
-970.0	SHALE	2.0	1417.0	
-972.0	SANDSTONE	44.0	1419.0	WITH SILTSTONE
-1016.0	BLACK SHALE	2.0	1463.0	WITH COAL
-1018.0	SANDSTONE	93.0	1465.0	WITH SILTSTONE
-1111.0	SHALE	7.0	1558.0	
-1118.0	SANDSTONE	75.0	1565.0	
-1193.0	SHALE	15.0	1640.0	
-1208.0	BLACK SHALE	2.0	1655.0	WITH COAL
-1210.0	SHALE	4.0	1657.0	NO COAL DEEPER THAN 165.7

MAPID: 06523891000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 19    QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: MACEDONIA    LONGITUDE: -88.696936

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.073439

DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 435.0    LOGGED (FT.): 884.0

LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY    EN-17

WELL TYPE: Coal Test

COMMENT: SUMMER 1976

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-429.0	CARBONDALE	HERRIN	COAL	-	864.0	CORE LOSS TO 871.58'-COAL & UNDCLAY??

MAPID: 06523892000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 19 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.697126 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.073247 DATE COLLECTED: 7 / 27 / 1976

SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 970.0 WELL TYPE: Coal Test

SOURCE: TENNESSEE VALLEY AUTHORITY EN-17A

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
435.0			UNCLASSIFIED	765.0	0.0	
-330.0	MODESTO	PIASA	LIMESTONE	5.0	765.0	
-335.0	MODESTO		SHALE	15.0	770.0	
-350.0	CARBONDALE	DANVILLE	COAL	1.0	785.0	
-351.0	CARBONDALE		SHALE	24.0	786.0	
-375.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	810.0	
-379.0	CARBONDALE		SHALE	40.8	814.0	
-419.8	CARBONDALE	BRERETON	LIMESTONE	7.0	854.8	BEGIN CORE
-426.8	CARBONDALE	ANNA	BLACK SHALE	3.8	861.8	
-430.5	CARBONDALE	HERRIN	COAL	4.3	865.5	
-434.8	CARBONDALE		UNDERCLAY	0.8	869.8	
-435.6	CARBONDALE		SILTSTONE	4.4	870.6	END CORE
-440.0	CARBONDALE		SHALE	48.0	875.0	NOT CORED
-488.0	CARBONDALE	BRIAR HILL	COAL	3.0	923.0	NOT CORED
-491.0	CARBONDALE		SHALE	12.0	926.0	NOT CORED
-503.0	CARBONDALE		SHALE	1.7	938.0	BEGIN CORE
-504.7	CARBONDALE		SHALE	1.8	939.7	DARK
-506.4	CARBONDALE	ST. DAVID	LIMESTONE	2.2	941.4	
-508.6	CARBONDALE		SHALE	5.5	943.6	DARK
-514.1	CARBONDALE		BLACK SHALE	1.1	949.1	
-515.2	CARBONDALE		SHALE	2.8	950.2	
-517.9	CARBONDALE	SPRINGFIELD	COAL	6.5	952.9	
-524.4	CARBONDALE		UNDERCLAY	0.7	959.4	
-525.1	CARBONDALE		SILTSTONE	9.9	960.1	
-535.0				0.0	970.0	

MAPID: 06523892000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 19 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.697126 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.073247 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 959.4 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-17A WELL TYPE: Coal Test

COMMENT: SUMMER 1976

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-352.0	CARBONDALE	DANVILLE	COAL	1.0	787.0	
-430.5	CARBONDALE	HERRIN	COAL	4.3	865.5	
-517.9	CARBONDALE	SPRINGFIELD	COAL	6.5	952.9	

MAPID: 06524405000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 20 QUARTERS/FOOTAGES: SE NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.677226 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.074241 DATE COLLECTED: 8 / 8 / 1981

SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 1047.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #55 WELL TYPE: Coal Test

COMMENT: 512670 N, 401020 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.0			UNCLASSIFIED	885.0	0.0	
-421.0	CARBONDALE		SHALE	9.0	885.0	
-430.0	CARBONDALE		LIMESTONE AND SANDSTONE	10.2	894.0	
-440.2	CARBONDALE		SHALE	0.8	904.2	
-441.0	CARBONDALE		SANDY LIMESTONE	0.8	905.0	
-441.8	CARBONDALE		SHALE	12.5	905.8	
-454.3	CARBONDALE		LIMESTONE	1.6	918.3	
-455.9	CARBONDALE		SHALE	2.1	919.9	
-458.0	CARBONDALE	BRERETON	LIMESTONE	8.0	922.0	
-466.0	CARBONDALE	ANNA	BLACK SHALE	1.0	930.0	
-467.0	CARBONDALE	HERRIN	COAL	5.7	931.0	
-472.7	CARBONDALE		UNCLASSIFIED	70.3	936.7	
-543.0	CARBONDALE		SANDSTONE	7.4	1007.0	
-550.4	CARBONDALE		SHALE	0.9	1014.4	
-551.3	CARBONDALE		SHALE	10.0	1015.3	DARK
-561.3	CARBONDALE	ST. DAVID	LIMESTONE	2.7	1025.3	
-564.0	CARBONDALE	TURNER MINE	SHALE	8.0	1028.0	BLACK
-572.0	CARBONDALE	DYKERSBURG	SHALE	2.3	1036.0	
-574.3	CARBONDALE	SPRINGFIELD	COAL	5.9	1038.3	
-580.1	CARBONDALE		SANDY SHALE	2.9	1044.1	
-583.0				0.0	1047.0	

MAPID: 06524509000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 20    QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: MACEDONIA    LONGITUDE: -88.676532    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.067707    DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 448.0    LOGGED (FT.): 914.0    LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY    ENCA #38    WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-451.5	CARBONDALE	HERRIN	COAL	6.0	899.5	REMOVED BY CO.

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MAPID: 06523893000C    VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 21    QUARTERS/FOOTAGES: 2640' N line, 100' E line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.649817    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.074481    DATE COLLECTED: 8 / 5 / 1976

SURFACE ELEVATION (FT.): 504.0    LOGGED (FT.): 1041.3    LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY    EN-18    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
504.0			UNCLASSIFIED	882.0	0.0	
-378.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	882.0	BEGIN CORE
-382.0	CARBONDALE		UNCLASSIFIED	30.0	886.0	LOG NOTES "SHALEY LIMESTONE"
-412.0	CARBONDALE		GRAY SHALE	11.1	916.0	LIGHT
-423.1	CARBONDALE	CONANT	LIMESTONE	0.2	927.1	
-423.3	CARBONDALE	JAMESTOWN	COAL	0.5	927.3	
-423.8	CARBONDALE		BLACK SHALE	1.3	927.8	
-425.1	CARBONDALE	BRERETON	LIMESTONE	4.6	929.1	LIGHT
-429.7	CARBONDALE	ANNA	BLACK SHALE	2.3	933.7	
-432.0	CARBONDALE	HERRIN	COAL	5.9	936.0	
-437.9	CARBONDALE		UNDERCLAY	5.8	941.9	
-443.8	CARBONDALE		SANDY SILTSTONE	4.3	947.8	END CORE
-448.1	CARBONDALE		SHALE	17.9	952.1	NOT CORED
-466.0	CARBONDALE	BRIAR HILL	COAL	1.0	970.0	NOT CORED
-467.0	CARBONDALE		SHALE	11.0	971.0	NOT CORED
-478.0	CARBONDALE		SANDSTONE	11.9	982.0	LIGHT BEGIN CORE
-489.9	CARBONDALE		GRAY SHALE	1.6	993.9	
-491.5	CARBONDALE		GRAY SHALE	2.3	995.5	DARK
-493.8	CARBONDALE		SANDY SHALE	0.6	997.8	
-494.3	CARBONDALE		SANDSTONE	19.3	998.3	LIGHT
-513.7	CARBONDALE		GRAY SHALE	1.9	1017.7	DARK
-515.6	CARBONDALE		BLACK SHALE	0.7	1019.6	
-516.3	CARBONDALE	ST. DAVID	LIMESTONE	0.9	1020.3	
-517.2	CARBONDALE	TURNER MINE	BLACK SHALE	3.0	1021.2	
-520.2	CARBONDALE	DYKERSBURG	GRAY SHALE	4.5	1024.2	LIGHT
-524.7	CARBONDALE	SPRINGFIELD	COAL	4.8	1028.7	
-529.5	CARBONDALE	SPRINGFIELD	COAL	3.2	1033.5	
-532.7	CARBONDALE		SANDSTONE	4.6	1036.7	



MAPID: 06523893000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 21 QUARTERS/FOOTAGES: 2640' N line, 100' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.649817 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.074481 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 504.0 LOGGED (FT.): 1031.3 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-18 WELL TYPE: Coal Test

COMMENT: SUMMER 1976

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-432.0	CARBONDALE	HERRIN	COAL	5.9	936.0	
-524.7	CARBONDALE	SPRINGFIELD	COAL	4.8	1028.7	

MAPID: 06524516000C VERSION: 1

PROJECT: NCRDS98

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 21 QUARTERS/FOOTAGES: 1900' S line, 50' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.667314 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.072127 DATE COLLECTED: 8 / 22 / 1981

SURFACE ELEVATION (FT.): 487.0 LOGGED (FT.): 1040.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #72 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
487.0			UNCLASSIFIED	910.0	0.0	
-423.0	CARBONDALE		SILTY SANDSTONE	6.0	910.0	
-429.0	CARBONDALE		SANDY SHALE	7.2	916.0	
-436.2	CARBONDALE		SHALE	3.8	923.2	DARK
-440.0	CARBONDALE	BRERETON	LIMESTONE	6.0	927.0	
-446.0	CARBONDALE		SHALE	1.7	933.0	
-447.7	CARBONDALE		SHALE	0.5	934.7	DARK
-448.2	CARBONDALE	HERRIN	COAL	5.5	935.2	
-453.7	CARBONDALE		SHALE	3.3	940.7	
-457.0	CARBONDALE		SILTSTONE	2.0	944.0	
-459.0	CARBONDALE		UNCLASSIFIED	77.0	946.0	
-536.0	CARBONDALE	TURNER MINE	SHALE	5.2	1023.0	BLACK
-541.2	CARBONDALE	DYKERSBURG	SHALE	1.4	1028.2	
-542.6	CARBONDALE	SPRINGFIELD	COAL	5.2	1029.6	
-547.8	CARBONDALE		UNDERCLAY	3.2	1034.8	
-551.0	CARBONDALE		SILTSTONE	2.0	1038.0	

MAPID: 06524516000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 21 QUARTERS/FOOTAGES: 1900' S line, 50' W line  
 QUADRANGLE: MACEDONIA LONGITUDE: -88.667314 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.072127 DATE COLLECTED: 0 / 0 / 1981  
 SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 1040.0 LOG TYPE: Other Core Study  
 SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #72 WELL TYPE: Coal Test  
 COMMENT: CORE C-12746

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-450.0	CARBONDALE	HERRIN	COAL	6.8	935.0	REMOVED BY CO.
-544.6	CARBONDALE	SPRINGFIELD	COAL	5.3	1029.6	REMOVED BY CO.

MAPID: 06500004000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 22 QUARTERS/FOOTAGES: 330' N line, 990' E line  
 QUADRANGLE: MACEDONIA LONGITUDE: -88.634204 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.080703 DATE COLLECTED: 0 / 0 / 1905  
 SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 5160.0 LOG TYPE: Drillers Log  
 SOURCE: KNIGHT PCC 4, SANDUSKY F WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-435.0	CARBONDALE	HERRIN	COAL	5.3	951.0	

MAPID: 06500004000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 22 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.634204

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.080703

DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0

LOGGED (FT.): 956.3

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-336.5	MODESTO	PIASA	LIMESTONE & SHALE	11.0	852.5
-347.5	MODESTO		GRAY SHALE	22.0	863.5
-369.5	CARBONDALE	DANVILLE	COAL	2.0	885.5
-371.5	CARBONDALE		SILTY SHALE	16.0	887.5
-387.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	903.5
-390.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	3.0	906.5
-393.5	CARBONDALE	LAWSON	SILTY SHALE	11.0	909.5
-404.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	4.0	920.5
-408.5	CARBONDALE	LAWSON	SILTY SHALE	17.0	924.5
-425.5	CARBONDALE		BLACK SHALE	1.7	941.5
-427.2	CARBONDALE	BRERETON	LIMESTONE	7.5	943.2
-434.7	CARBONDALE	ANNA	BLACK SHALE	0.3	950.7
-435.0	CARBONDALE	HERRIN	COAL	5.3	951.0

MAPID: 06500004000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 22 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.634204

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.080703

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 956.0

LOG TYPE: Drillers Log

SOURCE: KNIGHT PRAIRIE COAL

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	HERRIN	COAL	5.3	950.0

MAPID: 06500004000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 22    QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.634204    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.080703    DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 516.0    LOGGED (FT.): 956.3    LOG TYPE: Drillers Log

SOURCE: KNIGHT PRAIRIE COAL CO.    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.0	PLEISTOCENE		UNCONSOLIDATED	21.0	0.0	
495.0			SANDSTONE	2.0	21.0	RED
493.0			SHALE	9.0	23.0	
484.0			SHALE	3.0	32.0	
481.0			SHALE WITH LIMESTONE	10.0	35.0	
471.0			SHALE	1.0	45.0	
470.0			SHALE	7.0	46.0	BLACK
463.0			COAL	2.0	53.0	
461.0			UNDERCLAY	3.0	55.0	
458.0			SANDSTONE	6.0	58.0	
452.0			SHALE	53.0	64.0	
399.0			LIMESTONE	1.0	117.0	
398.0			SANDSTONE	6.0	118.0	
392.0			SHALE	15.0	124.0	
377.0			SANDSTONE	33.0	139.0	
344.0			SHALE	104.0	172.0	
240.0			SHALE	5.0	276.0	BLACK
235.0			SHALE/COAL	0.4	281.0	
234.6			SHALY SANDSTONE	36.6	281.4	
198.0			SHALE	3.0	318.0	
195.0			SANDSTONE	56.0	321.0	
139.0			SHALE	12.0	377.0	
127.0			SANDSTONE	2.0	389.0	
125.0			SANDSTONE/COAL	1.0	391.0	
124.0			SHALE	28.0	392.0	
96.0			LIMESTONE	0.7	420.0	
95.3			SHALE	4.3	420.7	BLUE
91.0	BOND	CARTHAGE	LIMESTONE	9.0	425.0	
82.0	MODESTO		SHALE	2.0	434.0	BLACK
80.0	MODESTO		SHALE	9.0	436.0	BLUE
71.0	MODESTO		SHALE	6.0	445.0	
65.0	MODESTO		SHALE	0.3	451.0	BLACK
64.7	MODESTO		SHALE WITH LIMESTONE	5.8	451.3	
59.0	MODESTO		SHALE	70.0	457.0	
-11.0	MODESTO		SHALE	40.0	527.0	BLUE
-51.0	MODESTO		SHALE	3.0	567.0	BLACK
-54.0	MODESTO		SHALE	18.0	570.0	
-72.0	MODESTO		SHALE	4.0	588.0	
-76.0	MODESTO		SANDSTONE	20.0	592.0	

-96.0	MODESTO		SHALE	45.0	612.0	
-141.0	MODESTO		SANDSTONE	15.0	657.0	
-156.0	MODESTO		SHALE	10.0	672.0	BLUE
-166.0	MODESTO		SHALE	26.0	682.0	
-192.0	MODESTO		SANDSTONE	101.0	708.0	
-293.0	MODESTO		SHALE	10.0	809.0	BLUE
-303.0	MODESTO		SHALE	1.0	819.0	BLACK
-304.0	MODESTO		SHALE	9.0	820.0	
-313.0	MODESTO		SHALE	16.0	829.0	BLUE
-329.0	MODESTO	DEGRAFF	COAL	0.3	845.0	
-329.3	MODESTO	DEGRAFF	SHALE	0.2	845.3	
-329.4	MODESTO	DEGRAFF	COAL	0.3	845.4	
-329.8	MODESTO		SHALE	6.3	845.8	
-336.0	MODESTO	PIASA	LIMESTONE	11.0	852.0	
-347.0	MODESTO		SHALE	22.0	863.0	BLUE
-369.0	CARBONDALE	DANVILLE	COAL	2.0	885.0	
-371.0	CARBONDALE		SHALE	4.0	887.0	
-375.0	CARBONDALE		SHALE	2.0	891.0	BLUE
-377.0	CARBONDALE		SHALE	8.0	893.0	
-385.0	CARBONDALE		SHALE	2.0	901.0	BLUE
-387.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	903.0	
-390.0	CARBONDALE		SANDSTONE	3.0	906.0	
-393.0	CARBONDALE		SHALE	11.0	909.0	
-404.0	CARBONDALE		SHALY SANDSTONE	4.0	920.0	
-408.0	CARBONDALE		SHALE	17.0	924.0	
-425.0	CARBONDALE		SHALE	1.0	941.0	BLACK
-426.0	CARBONDALE	BRERETON	LIMESTONE	7.5	942.0	BLUE
-433.5	CARBONDALE	ANNA	SHALE	0.3	949.5	BLACK
-433.8	CARBONDALE	HERRIN	COAL	5.3	949.8	
-439.2	CARBONDALE		UNDERCLAY	0.2	955.2	
-439.3	CARBONDALE		SHALE	1.0	955.3	BLUE

MAPID: 06501496000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 22    QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: MACEDONIA

LONGITUDE: -88.641161

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 38.075255

DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0

LOGGED (FT.): 3476.0

LOG TYPE: Electric Log

SOURCE: SUPERIOR OIL COMPANY

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-437.0	CARBONDALE	HERRIN	COAL	5.0	953.0	
-470.0	CARBONDALE	BRIAR HILL	COAL	-	986.0	
-522.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1038.0	BLACK SHALE & LIMESTONE ROOF
-600.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1116.0	

MAPID: 06501222000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 25 QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.602541

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.060665

DATE COLLECTED:

SURFACE ELEVATION (FT.): 501.0

LOGGED (FT.): 977.0

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
-343.0	MODESTO	PIASA	LIMESTONE & SHALE	11.0	844.0
-354.0	MODESTO		SHALE	25.0	855.0
-379.0	CARBONDALE	DANVILLE	COAL	1.0	880.0
-380.0	CARBONDALE		CALCAREOUS SHALE	20.0	881.0
-400.0	CARBONDALE	ALLENBY	BONE COAL	1.0	901.0
-401.0	CARBONDALE		CLAYSTONE & SHALE	9.0	902.0
-410.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	8.0	911.0
-418.0	CARBONDALE	LAWSON	SHALE	3.0	919.0
-421.0	CARBONDALE	LAWSON	BONE COAL	1.0	922.0
-422.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	923.0
-434.0	CARBONDALE	LAWSON	SHALE	18.0	935.0
-452.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	953.0
-453.0	CARBONDALE		CLAYSTONE & SHALE	2.0	954.0
-455.0	CARBONDALE	BRERETON	LIMESTONE	7.0	956.0
-462.0	CARBONDALE	ANNA	BLACK SHALE	4.0	963.0
-466.0	CARBONDALE	HERRIN	COAL	10.0	967.0

MAPID: 06501497000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 25 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.611908

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.066138

DATE COLLECTED:

SURFACE ELEVATION (FT.): 467.0

LOGGED (FT.): 3402.0

LOG TYPE: Electric Log

SOURCE: YOUNG FRANK W

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-487.0	CARBONDALE	HERRIN	COAL	5.0	954.0
-523.0	CARBONDALE	BRIAR HILL	COAL	-	990.0
-562.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1029.0
-641.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1108.0

SHALE & SILTSTONE  
ROOF

MAPID: 06501498000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.625337 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.053662 DATE COLLECTED:

SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 2975.0 LOG TYPE: Electric Log

SOURCE: TWAIN, MARK OIL PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-432.0	CARBONDALE	HERRIN	COAL	4.0	938.0	
-480.0	CARBONDALE	BRIAR HILL	COAL	-	986.0	
-502.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1008.0	SHALE & SILTSTONE ROOF
-584.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1090.0	

MAPID: 06501498000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.625337 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.053662 DATE COLLECTED:

SURFACE ELEVATION (FT.): 506.0 LOGGED (FT.): 941.5 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-323.5	MODESTO	PIASA	LIMESTONE & SHALE	8.0	829.5	
-331.5	MODESTO		SHALE	23.0	837.5	
-354.5	CARBONDALE	DANVILLE	COAL	3.0	860.5	
-357.5	CARBONDALE		SHALE & SANDSTONE	18.0	863.5	
-375.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	881.5	
-379.5	CARBONDALE	LAWSON	SILTY SHALE	8.0	885.5	
-387.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	16.0	893.5	
-403.5	CARBONDALE	LAWSON	SHALE	16.0	909.5	
-419.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	925.5	
-420.5	CARBONDALE		CLAYSTONE & SHALE	3.0	926.5	
-423.5	CARBONDALE	BRERETON	LIMESTONE	9.0	929.5	
-432.5	CARBONDALE	ANNA	BLACK SHALE	0.5	938.5	
-433.0	CARBONDALE	HERRIN	COAL	2.5	939.0	

MAPID: 06500168000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 27 QUARTERS/FOOTAGES: SW NW SE

QUADRANGLE: BUNGAY LONGITUDE: -88.639099 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.057261 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 5110.0 LOG TYPE: Electric Log

SOURCE: FOTIADES H, MANGIS E A0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-434.0	CARBONDALE	HERRIN	COAL	-	945.0	
-509.0	CARBONDALE	SPRINGFIELD	COAL	-	1020.0	
-2014.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2525.0	

MAPID: 06500614000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 27 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.645855 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.06436 DATE COLLECTED:

SURFACE ELEVATION (FT.): 492.0 LOGGED (FT.): 3519.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-434.0	CARBONDALE	HERRIN	COAL	5.0	926.0	
-462.0	CARBONDALE	BRIAR HILL	COAL	-	954.0	
-518.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1010.0	SHALE & SILTSTONE ROOF
-598.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1090.0	



MAPID: 06500614000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 27 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.645855 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.06436 DATE COLLECTED:

SURFACE ELEVATION (FT.): 495.0 LOGGED (FT.): 932.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-330.0	MODESTO	PIASA	LIMESTONE	5.0	825.0	
-335.0	MODESTO		SHALE	18.0	830.0	
-353.0	CARBONDALE	DANVILLE	COAL	2.0	848.0	
-355.0	CARBONDALE		SHALE & SANDSTONE	26.0	850.0	
-381.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	876.0	
-391.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	18.0	886.0	
-409.0	CARBONDALE	LAWSON	SILTY SHALE	16.0	904.0	
-425.0	CARBONDALE	BRERETON	LIMESTONE	4.0	920.0	
-429.0	CARBONDALE	ANNA	BLACK SHALE	2.0	924.0	
-431.0	CARBONDALE	HERRIN	COAL	6.0	926.0	

MAPID: 06524406000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 28 QUARTERS/FOOTAGES: 2000' N line, 1' W line of SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.658582 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.054308 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 446.0 LOGGED (FT.): 964.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #29 WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-416.3	CARBONDALE	HERRIN	COAL	5.1	862.3	REMOVED BY CO.
-501.5	CARBONDALE	SPRINGFIELD	COAL	4.5	947.5	REMOVED BY CO.

MAPID: 06500005000C    VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 30    QUARTERS/FOOTAGES: 660' S line, 0' W line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.70573    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.054423    DATE COLLECTED:

SURFACE ELEVATION (FT.): 477.8    LOGGED (FT.): 824.0    LOG TYPE: Drillers Log

SOURCE: BIG MUDDY COAL SYNDICATE 5    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
477.8	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
467.8			SANDSTONE	40.0	10.0	
427.8			SHALE	118.0	50.0	LIGHT
309.8			COAL	1.0	168.0	
308.8			UNDERCLAY	2.0	169.0	
306.8			UNDERCLAY	7.0	171.0	
299.8			SHALE	12.0	178.0	
287.8			SHALE	18.0	190.0	DARK
269.8			COAL	1.0	208.0	
268.8			UNDERCLAY	2.0	209.0	
266.8			SHALE	27.0	211.0	LIGHT
239.8			SANDSTONE	9.0	238.0	
230.8			LIMESTONE	8.0	247.0	
222.8			SANDSTONE	65.0	255.0	
157.8			SHALE	2.0	320.0	LIGHT
155.8			LIMESTONE	14.0	322.0	
141.8			SHALE	3.0	336.0	BLACK
138.8			SHALE	71.0	339.0	LIGHT
67.8			SHALE	48.0	410.0	DARK
19.8			SHALE/COAL	2.0	458.0	
17.8			SHALE	10.0	460.0	LIGHT
7.8			SHALE	24.0	470.0	
-16.2			SANDSTONE	85.0	494.0	
-101.2			LIMESTONE	2.0	579.0	
-103.2			SHALE	6.0	581.0	
-109.2			SHALE	1.0	587.0	BLACK
-110.2			COAL	1.0	588.0	
-111.2			SHALE	7.0	589.0	LIGHT
-118.2			SANDSTONE	20.0	596.0	
-138.2			LIMESTONE	3.0	616.0	
-141.2			SANDSTONE	53.0	619.0	
-194.2			LIMESTONE	6.0	672.0	
-200.2			SHALE	5.0	678.0	LIGHT
-205.2			SHALE	27.0	683.0	
-232.2			SHALE	8.0	710.0	DARK
-240.2			SHALE	2.0	718.0	BLACK
-242.2			SHALE	5.0	720.0	LIGHT
-247.2			SHALE	26.0	725.0	LIGHT
-273.2			SHALE	5.0	751.0	BLACK

-278.2	COAL	2.5	756.0	
-280.7	UNDERCLAY	1.5	758.5	
-282.2	SHALE	16.0	760.0	
-298.2	LIMESTONE	3.0	776.0	
-301.2	SANDSTONE	19.0	779.0	
-320.2	SHALE	17.0	798.0	
-337.2	SHALE	1.7	815.0	BLACK
-338.9	LIMESTONE	7.3	816.7	

**MAPID:** 06500005000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 5E    **SECTION:** 30    **QUARTERS/FOOTAGES:** 660' S line, 0' W line  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.70573    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.054423    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 478.0    **LOGGED (FT.):** 831.0    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-259.5	MODESTO	PIASA	LIMESTONE	5.0	737.5
-264.5	MODESTO		SHALE	15.0	742.5
-279.5	CARBONDALE	DANVILLE	COAL	2.5	757.5
-282.0	CARBONDALE		SILTY SHALE	17.0	760.0
-299.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	777.0
-302.0	CARBONDALE	LAWSON	SANDSTONE	18.0	780.0
-320.0	CARBONDALE	LAWSON	SILTY SHALE	17.0	798.0
-337.0	CARBONDALE		BLACK SHALE	1.7	815.0
-338.7	CARBONDALE	BRERETON	LIMESTONE	7.3	816.7
-346.0	CARBONDALE	ANNA	BLACK SHALE	2.0	824.0
-348.0	CARBONDALE	HERRIN	COAL	5.0	826.0

**MAPID:** 06500837000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 5E    **SECTION:** 30    **QUARTERS/FOOTAGES:** 330' S line, 330' E line  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.687341    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.053475    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 463.0    **LOGGED (FT.):** 3417.0    **LOG TYPE:** Electric Log  
**SOURCE:** MCINTYRE, PAUL J.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-448.0	CARBONDALE	HERRIN	COAL	6.0	911.0
-494.0	CARBONDALE	BRIAR HILL	COAL	-	957.0
-531.0	CARBONDALE	SPRINGFIELD	COAL	6.0	994.0    BLACK SHALE & LIMESTONE ROOF
-590.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1053.0

MAPID: 06524407000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 30 QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.705399 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.060423 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 942.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #48 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-395.4	CARBONDALE	HERRIN	COAL	5.6	845.4	REMOVED BY CO.
-480.4	CARBONDALE	SPRINGFIELD	COAL	5.5	930.4	REMOVED BY CO.

MAPID: 06524408000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 30 QUARTERS/FOOTAGES: 300' S line, 1300' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.690754 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.056378 DATE COLLECTED: 7 / 11 / 1981

SURFACE ELEVATION (FT.): 471.0 LOGGED (FT.): 1011.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #31 WELL TYPE: Coal Test

COMMENT: 506180 N,397100 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
471.0			UNCLASSIFIED	850.0	0.0	
-379.0	CARBONDALE		SHALE & SANDSTONE	26.0	850.0	
-405.0	CARBONDALE		SHALE	18.0	876.0	
-423.0	CARBONDALE	BRERETON	LIMESTONE	6.5	894.0	
-429.5	CARBONDALE	ANNA	BLACK SHALE	2.1	900.5	
-431.6	CARBONDALE	HERRIN	COAL	6.0	902.6	
-437.6	CARBONDALE		UNDERCLAY	5.4	908.6	
-443.0	CARBONDALE		UNCLASSIFIED	58.0	914.0	
-501.0	CARBONDALE		SHALE	9.3	972.0	
-510.3	CARBONDALE	ST. DAVID	LIMESTONE	1.7	981.3	
-512.0	CARBONDALE	DYKERSBURG	SHALE	12.0	983.0	DARK
-524.0	CARBONDALE	SPRINGFIELD	COAL	6.0	995.0	
-530.0	CARBONDALE		UNDERCLAY	2.0	1001.0	
-532.0	CARBONDALE		SHALE	8.0	1003.0	
-540.0				0.0	1011.0	

MAPID: 06524408000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 30 QUARTERS/FOOTAGES: 300' S line, 1300' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.690754 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.056378 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): LOGGED (FT.): 1011.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #31 WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	6.0	902.7	REMOVED BY CO.
-	CARBONDALE	SPRINGFIELD	COAL	7.0	995.0	REMOVED BY CO.

MAPID: 06524409000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 31 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.70166 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.042722 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 1017.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #34 WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-411.0	CARBONDALE	HERRIN	COAL	6.7	922.0	REMOVED BY CO.
-490.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1001.0	REMOVED BY CO.

MAPID: 06524410000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 32 QUARTERS/FOOTAGES: SE SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.67237 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.038528 DATE COLLECTED: 7 / 26 / 1981

SURFACE ELEVATION (FT.): 504.0 LOGGED (FT.): 1099.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #41 WELL TYPE: Coal Test

COMMENT: 499660 N, 402370 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
504.0			UNCLASSIFIED	924.0	0.0	
-420.0	CARBONDALE		SILTY SANDSTONE	16.5	924.0	
-436.5	CARBONDALE		SHALE	8.3	940.5	
-444.8	CARBONDALE		COAL	0.2	948.8	
-445.0	CARBONDALE		SHALE	7.4	949.0	
-452.4	CARBONDALE	BRIAR HILL	COAL	3.8	956.4	
-456.2	CARBONDALE		SHALE	11.6	960.2	
-467.8	CARBONDALE	ST. DAVID	LIMESTONE	1.6	971.8	LIMESTONE
-469.4	CARBONDALE	DYKERSBURG	SHALE	10.7	973.4	
-480.1	CARBONDALE	SPRINGFIELD	COAL	4.3	984.1	
-484.4	CARBONDALE		UNDERCLAY	3.4	988.4	
-487.8	CARBONDALE		UNCLASSIFIED	57.2	991.8	
-545.0	CARBONDALE		SHALE	22.6	1049.0	
-567.6	CARBONDALE		COAL	0.2	1071.6	
-567.8	CARBONDALE		SHALE	0.1	1071.8	
-567.9	CARBONDALE		SANDSTONE/SHALE	27.1	1071.9	
-595.0				0.0	1099.0	

MAPID: 06524411000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 32 QUARTERS/FOOTAGES: NW NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.675242 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.051453 DATE COLLECTED: 7 / 22 / 1981

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 984.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #39 WELL TYPE: Coal Test

COMMENT: 504370 N, 401560 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
468.0			UNCLASSIFIED	865.0	0.0	
-397.0	CARBONDALE		SHALE	19.0	865.0	
-416.0	CARBONDALE		LIMESTONE	0.5	884.0	
-416.5	CARBONDALE		SILTSTONE	0.3	884.5	
-416.8	CARBONDALE	JAMESTOWN	COAL	0.4	884.8	
-417.2	CARBONDALE		SHALE	4.0	885.2	DARK
-421.2	CARBONDALE	BRERETON	LIMESTONE	5.6	889.2	
-426.8	CARBONDALE	HERRIN	COAL	6.1	894.8	
-432.8	CARBONDALE		UNDERCLAY	4.1	900.8	
-436.9	CARBONDALE		UNCLASSIFIED	60.1	904.9	
-497.0	CARBONDALE	ST. DAVID	LIMESTONE	0.7	965.0	
-497.7	CARBONDALE	DYKERSBURG	SILTY SHALE	8.6	965.7	
-506.3	CARBONDALE	SPRINGFIELD	COAL	4.3	974.3	
-510.5	CARBONDALE		UNDERCLAY	2.1	978.5	
-512.6	CARBONDALE		SANDSTONE	3.4	980.6	
-516.0				0.0	984.0	

MAPID: 06500172000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 33 QUARTERS/FOOTAGES: SW NE NE

QUADRANGLE: BUNGAY LONGITUDE: -88.652946 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.049979 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 4570.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA, MOORE S A 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-413.0	CARBONDALE	HERRIN	COAL	-	870.0	
-498.0	CARBONDALE	SPRINGFIELD	COAL	-	955.0	
-2005.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2462.0	

MAPID: 06501100000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.666587 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.051705 DATE COLLECTED:

SURFACE ELEVATION (FT.): 448.0 LOGGED (FT.): 3229.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-426.0	CARBONDALE	HERRIN	COAL	3.0	874.0	
-457.0	CARBONDALE	BRIAR HILL	COAL	-	905.0	
-506.0	CARBONDALE	SPRINGFIELD	COAL	5.0	954.0	BLACK SHALE & LIMESTONE ROOF
-594.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1042.0	

MAPID: 06501113000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 33 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.659922 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.039136 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 899.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-314.0	MODESTO	PIASA	LIMESTONE	5.0	792.0	
-319.0	MODESTO		SHALE	16.0	797.0	
-335.0	CARBONDALE	DANVILLE	COAL	2.0	813.0	
-337.0	CARBONDALE		SHALE & SANDSTONE	25.0	815.0	
-362.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	840.0	
-364.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	21.0	842.0	
-385.0	CARBONDALE	LAWSON	GRAY SHALE	18.0	863.0	
-403.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	881.0	
-404.0	CARBONDALE		CLAYSTONE & SHALE	2.0	882.0	
-406.0	CARBONDALE	BRERETON	LIMESTONE	6.0	884.0	
-412.0	CARBONDALE	ANNA	BLACK SHALE	3.0	890.0	
-415.0	CARBONDALE	HERRIN	COAL	6.0	893.0	



MAPID: 06523896000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 33 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.658478 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.045597 DATE COLLECTED: 9 / 3 / 1976

SURFACE ELEVATION (FT.): 462.0 LOGGED (FT.): 961.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
462.0			UNCLASSIFIED	780.0	0.0	
-318.0	MODESTO	PIASA	LIMESTONE	4.0	780.0	
-322.0	MODESTO		SHALE	17.0	784.0	
-339.0	CARBONDALE	DANVILLE	COAL	2.0	801.0	
-341.0	CARBONDALE		SHALE	19.0	803.0	
-360.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	822.0	
-365.0	CARBONDALE		SHALE	28.0	827.0	
-393.0	CARBONDALE		SANDY SHALE	10.2	855.0	BEGIN CORE
-403.2	CARBONDALE		GRAY SHALE	0.4	865.2	DARK
-403.6	CARBONDALE	JAMESTOWN	BLACK SHALE	1.0	865.6	VITRAIN LENS
-404.6	CARBONDALE		BLACK SHALE	2.8	866.6	
-407.4	CARBONDALE	BRERETON	LIMESTONE	7.9	869.4	
-415.3	CARBONDALE	HERRIN	COAL	5.2	877.3	
-420.5	CARBONDALE		UNDERCLAY	1.6	882.5	
-422.1	CARBONDALE		SILTSTONE	6.0	884.1	END CORE
-428.0	CARBONDALE		SHALE	41.0	890.0	NOT CORED
-469.0	CARBONDALE	BRIAR HILL	COAL	2.0	931.0	NOT CORED
-471.0	CARBONDALE		SHALE	9.0	933.0	NOT CORED
-480.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.5	942.0	BEGIN CORE
-482.5	CARBONDALE	DYKERSBURG	GRAY SHALE	7.5	944.5	
-490.0	CARBONDALE	SPRINGFIELD	COAL	2.2	952.0	
-492.2	CARBONDALE		UNDERCLAY	5.2	954.2	
-497.4	CARBONDALE		SILTSTONE	1.6	959.4	
-499.0	CARBONDALE			0.0	961.0	

MAPID: 06523896000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 33 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.658478 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.045597 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 462.0 LOGGED (FT.): 956.2 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-19 WELL TYPE: Coal Test

COMMENT: SUMMER 1976

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-415.3	CARBONDALE	HERRIN	COAL	5.2	877.3	
-490.0	CARBONDALE	SPRINGFIELD	COAL	4.2	952.0	

MAPID: 06500006000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 34 QUARTERS/FOOTAGES: 0' N line, 0' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.649495 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.052704 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 490.9 LOGGED (FT.): 4909.0 LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0001, MOORE S A WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-405.1	CARBONDALE	HERRIN	COAL	5.3	896.0
-493.1	CARBONDALE	SPRINGFIELD	COAL	3.5	984.0

MAPID: 06500006000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 34 QUARTERS/FOOTAGES: 0' N line, 0' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.649495 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.052704 DATE COLLECTED:

SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 901.3 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-308.8	MODESTO	PIASA	LIMESTONE	3.3	799.8
-312.2	MODESTO		GRAY SHALE	18.5	803.2
-330.7	CARBONDALE	DANVILLE	COAL	1.8	821.7
-332.5	CARBONDALE		SHALE & SANDSTONE	11.3	823.5
-343.8	CARBONDALE	ALLENBY	BLACK SHALE	2.0	834.8
-345.8	CARBONDALE		CLAYSTONE & SHALE	4.7	836.8
-350.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.3	841.5
-352.8	CARBONDALE	LAWSON	CALCAREOUS SHALE	6.0	843.8
-358.8	CARBONDALE	LAWSON	SILTY SHALE	7.0	849.8
-365.8	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	28.7	856.8
-394.5	CARBONDALE	JAMESTOWN	BONE COAL	0.3	885.5
-394.8	CARBONDALE		BLACK SHALE	3.0	885.8
-397.8	CARBONDALE	BRERETON	LIMESTONE	6.0	888.8
-403.8	CARBONDALE	ANNA	BLACK SHALE	1.2	894.8
-405.0	CARBONDALE	HERRIN	COAL	5.3	896.0

MAPID: 06500006000C    VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 34    QUARTERS/FOOTAGES: 0' N line, 0' W line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.649495    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.052704    DATE COLLECTED:

SURFACE ELEVATION (FT.): 491.0    LOGGED (FT.): 989.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-406.0	CARBONDALE	HERRIN	COAL	5.3	897.0	
-493.0	CARBONDALE	SPRINGFIELD	COAL	3.5	984.0	SHALE & SILTSTONE ROOF

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MAPID: 06500006000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 34    QUARTERS/FOOTAGES: 0' N line, 0' W line  
 QUADRANGLE: MACEDONIA    LONGITUDE: -88.649495    GEOLOGIST: C.KOROSE  
 CONFIDENTIAL: N    LATITUDE: 38.052704    DATE COLLECTED: 0 / 0 / 1920  
 SURFACE ELEVATION (FT.): 490.9    LOGGED (FT.): 988.5    LOG TYPE: Drillers Log  
 SOURCE: AMERICAN COKE AND CHEMICAL 1    WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.9	PLEISTOCENE		CLAY	7.0	0.0	
483.9	PLEISTOCENE		CLAY	18.0	7.0	
465.9			SHALE	32.0	25.0	
433.9			SHALE	9.0	57.0	
424.9			SHALE	27.0	66.0	
397.9			SHALE	73.0	93.0	
324.9			CLAYSTONE	0.5	166.0	
324.4			SHALE	5.5	166.5	
318.9			SHALE	27.0	172.0	
291.9			SHALE	11.5	199.0	
280.4			SHALE	1.5	210.5	BLACK
278.9			SHALE	15.0	212.0	BLACK
263.9			SANDSTONE	59.0	227.0	
204.9			SHALY SANDSTONE	6.0	286.0	
198.9			SANDSTONE	39.0	292.0	
159.9			SHALY SANDSTONE	23.0	331.0	
136.9			SANDSTONE	4.0	354.0	
132.9	BOND	CARTHAGE	LIMESTONE	4.0	358.0	
128.9	MODESTO		SHALE	14.0	362.0	DARK
114.9	MODESTO		SHALE	10.0	376.0	
104.9	MODESTO		SHALE	2.0	386.0	
102.9	MODESTO		SHALE	79.0	388.0	DARK
23.9	MODESTO		SHALE	22.0	467.0	
1.9	MODESTO		SHALE	5.0	489.0	BLACK
-3.1	MODESTO		COAL	0.3	494.0	
-3.4	MODESTO		SHALE	20.7	494.3	
-24.1	MODESTO		SHALE	4.0	515.0	
-28.1	MODESTO		SHALE	33.0	519.0	
-61.1	MODESTO		SANDSTONE	14.0	552.0	
-75.1	MODESTO		SHALE	2.0	566.0	
-77.1	MODESTO		SANDSTONE	6.0	568.0	
-83.1	MODESTO		SANDSTONE	42.0	574.0	
-125.1	MODESTO		SHALE	8.0	616.0	
-133.1	MODESTO		SHALE	14.0	624.0	
-147.1	MODESTO		SANDSTONE	2.0	638.0	
-149.1	MODESTO		SHALE	16.0	640.0	
-165.1	MODESTO		SANDSTONE	61.0	656.0	
-226.1	MODESTO		SHALE	16.0	717.0	
-242.1	MODESTO		SHALE	19.3	733.0	BLACK

-261.4	MODESTO		COAL	0.2	752.3	BONEY
-261.6	MODESTO		SHALE	2.5	752.5	
-264.1	MODESTO		SHALE WITH LIMESTONE	1.5	755.0	
-265.6	MODESTO		SHALE	16.5	756.5	DARK
-282.1	MODESTO		SHALE	8.4	773.0	BLACK
-290.5	MODESTO		COAL	1.1	781.4	
-291.6	MODESTO		UNDERCLAY	3.5	782.5	
-295.1	MODESTO		SHALE	1.0	786.0	
-296.1	MODESTO		SHALE	13.0	787.0	
-309.1	MODESTO	PIASA	LIMESTONE	3.3	800.0	
-312.4	MODESTO	PIASA	SHALE	2.5	803.3	
-314.9	MODESTO	PIASA	LIMESTONE	0.2	805.8	
-315.1	MODESTO		SHALE	13.0	806.0	
-328.1	MODESTO		SHALE	2.8	819.0	BLACK
-330.9	CARBONDALE	DANVILLE	COAL	1.8	821.8	
-332.8	CARBONDALE		SHALE	2.3	823.7	
-335.1	CARBONDALE		SHALE	5.0	826.0	
-340.1	CARBONDALE		SHALE	4.0	831.0	
-344.1	CARBONDALE		SHALE	2.0	835.0	BLACK
-346.1	CARBONDALE		UNDERCLAY	0.5	837.0	
-346.6	CARBONDALE		SHALE	4.2	837.5	BLACK
-350.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	841.7	
-353.1	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	6.0	844.0	
-359.1	CARBONDALE		SHALE	7.0	850.0	
-366.1	CARBONDALE		SHALY SANDSTONE	21.0	857.0	
-387.1	CARBONDALE		SHALY SANDSTONE	7.7	878.0	
-394.8	CARBONDALE	JAMESTOWN	COAL	0.3	885.7	BONEY
-395.0	CARBONDALE	JAMESTOWN	COAL	0.1	885.9	
-395.1	CARBONDALE		SHALE	3.0	886.0	BLACK
-398.1	CARBONDALE	BRERETON	LIMESTONE	6.0	889.0	BLUE
-404.1	CARBONDALE	ANNA	SHALE	1.2	895.0	BLACK
-405.3	CARBONDALE	HERRIN	COAL	5.3	896.2	
-410.5	CARBONDALE		UNDERCLAY	1.6	901.4	
-412.1	CARBONDALE		SHALE	4.0	903.0	
-416.1	CARBONDALE		LIMESTONE	6.0	907.0	BLUE
-422.1	CARBONDALE		LIMESTONE	4.0	913.0	WHITE, PINK, BROWN
-426.1	CARBONDALE		SHALE	6.0	917.0	
-432.1	CARBONDALE		SANDSTONE	7.0	923.0	
-439.1	CARBONDALE		SHALE	5.0	930.0	
-444.1	CARBONDALE		SANDSTONE	18.0	935.0	BLACK
-462.1	CARBONDALE		SANDSTONE	8.0	953.0	
-470.1	CARBONDALE		SHALE	3.0	961.0	
-473.1	CARBONDALE		SHALE	1.0	964.0	
-474.1	CARBONDALE		SHALE	1.0	965.0	
-475.1	CARBONDALE		SHALE	1.0	966.0	
-476.1	CARBONDALE		SHALE	6.0	967.0	DARK
-482.1	CARBONDALE	ST. DAVID	LIMESTONE	1.0	973.0	
-483.1	CARBONDALE	TURNER MINE	SHALE	1.0	974.0	BLACK

-484.1	CARBONDALE	DYKERSBURG	SHALE	8.5	975.0
-492.6	CARBONDALE	SPRINGFIELD	COAL	3.5	983.5
-496.1	CARBONDALE		UNDERCLAY	1.5	987.0

**MAPID:** 06501499000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of SE NE  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.634694    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.04645    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 492.0    **LOGGED (FT.):** 3430.0    **LOG TYPE:** Electric Log  
**SOURCE:** TWAIN, MARK OIL PROD.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-414.0	CARBONDALE	HERRIN	COAL	5.0	906.0	
-504.0	CARBONDALE	SPRINGFIELD	COAL	3.0	996.0	SHALE & SILTSTONE ROOF
-586.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1078.0	

**MAPID:** 06501132000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 5E    **SECTION:** 35    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW SW  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.63027    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.041011    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 518.0    **LOGGED (FT.):** 2946.0    **LOG TYPE:** Electric Log  
**SOURCE:** INLAND PRODUCERS CO    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-378.0	CARBONDALE	HERRIN	COAL	3.0	896.0	
-428.0	CARBONDALE	BRIAR HILL	COAL	-	946.0	
-468.0	CARBONDALE	SPRINGFIELD	COAL	4.0	986.0	SHALE & SILTSTONE ROOF
-652.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1170.0	

MAPID: 06501625000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 5E SECTION: 35 QUARTERS/FOOTAGES: 1650' S line, 660' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.629068

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.042849

DATE COLLECTED:

SURFACE ELEVATION (FT.): 522.0

LOGGED (FT.): 920.0

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
-293.0	MODESTO	PIASA	LIMESTONE	6.0	815.0
-299.0	MODESTO		SHALE	21.5	821.0
-320.5	CARBONDALE	DANVILLE	COAL	2.5	842.5
-323.0	CARBONDALE		SHALE & SANDSTONE	21.0	845.0
-344.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	866.0
-351.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	25.0	873.0
-376.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	898.0
-384.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	906.0
-385.0	CARBONDALE		CLAYSTONE & SHALE	1.0	907.0
-386.0	CARBONDALE	BRERETON	LIMESTONE	7.0	908.0
-393.0	CARBONDALE	ANNA	BLACK SHALE	1.0	915.0
-394.0	CARBONDALE	HERRIN	COAL	4.0	916.0

MAPID: 06500007000C    VERSION: 1

PROJECT: NCRDS87

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 36    QUARTERS/FOOTAGES: 0' S line, 0' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.594756    GEOLOGIST: WEIBEL

CONFIDENTIAL: N    LATITUDE: 38.038086    DATE COLLECTED: 0 / 0 / 1912

SURFACE ELEVATION (FT.): 376.7    LOGGED (FT.): 585.0    LOG TYPE: Drillers Log

SOURCE: BYRD & SON    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
376.7			UNCONSOLIDATED	76.5	0.0	
300.2	MODESTO		GRAY SHALE	10.0	76.5	
290.2			DARK SHALE	2.5	86.5	
287.7			BONE COAL	0.4	89.0	
287.3			GRAY SHALE	18.6	89.4	
268.7			DARK SHALE	79.9	108.0	
188.8			COAL	0.6	187.9	
188.2			SHALE	2.5	188.5	
185.7			SANDSTONE	12.0	191.0	
173.7	MODESTO		SHALE	49.5	203.0	
124.2	MODESTO	WEST FRANKLIN	LIMESTONE	2.5	252.5	
121.7	MODESTO		SHALE	25.0	255.0	
96.7	MODESTO	PIASA	LIMESTONE	9.0	280.0	
87.7	MODESTO		SHALE	14.0	289.0	
73.7	MODESTO		DARK SHALE	91.8	303.0	
-18.1	CARBONDALE	DANVILLE	COAL	2.0	394.8	UNCERTAIN CORRELATION
-20.1	CARBONDALE		SHALE	9.3	396.8	
-29.3	CARBONDALE		SANDSTONE	7.0	406.0	
-36.3	CARBONDALE		SHALE	11.0	413.0	
-47.3	CARBONDALE		SANDSTONE	41.0	424.0	
-88.3	CARBONDALE		DARK SHALE	6.0	465.0	
-94.3	CARBONDALE	BRERETON	LIMESTONE	3.6	471.0	
-97.9	CARBONDALE	ANNA	DARK SHALE	63.8	474.6	
-161.6	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	1.9	538.3	0.4 AND 0.0,17 SH PARTINGS.
-163.6	CARBONDALE		DARK SHALE	30.5	540.3	
-194.1	CARBONDALE		LIMESTONE	2.0	570.8	
-196.1	CARBONDALE		DARK SHALE	2.5	572.8	
-198.6	CARBONDALE	BRIAR HILL	COAL	5.9	575.3	
-204.4	CARBONDALE		GRAY SHALE	3.9	581.1	



MAPID: 06500007000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 36    QUARTERS/FOOTAGES: 0' S line, 0' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.594756

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.038086

DATE COLLECTED:

SURFACE ELEVATION (FT.): 432.0

LOGGED (FT.): 910.9

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-344.7	MODESTO	PIASA	LIMESTONE & SHALE	5.0	776.7
-349.7	MODESTO		SHALE	27.0	781.7
-376.7	CARBONDALE	DANVILLE	COAL	2.0	808.7
-378.7	CARBONDALE		SHALE & SANDSTONE	32.5	810.7
-411.2	CARBONDALE	ALLENBY	COAL	0.3	843.2
-411.5	CARBONDALE		SHALE	7.2	843.5
-418.7	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	850.7
-424.7	CARBONDALE	LAWSON	GRAY SHALE	3.0	856.7
-427.7	CARBONDALE	LAWSON	SANDSTONE	13.0	859.7
-440.7	CARBONDALE	LAWSON	SILTY SHALE	12.0	872.7
-452.7	CARBONDALE	LAWSON	CARBONACEOUS SHALE	7.0	884.7
-459.7	CARBONDALE	JAMESTOWN	COAL	0.7	891.7
-460.3	CARBONDALE		BLACK SHALE	4.3	892.3
-464.7	CARBONDALE	BRERETON	LIMESTONE	5.0	896.7
-469.7	CARBONDALE	ANNA	BLACK SHALE	2.3	901.7
-472.0	CARBONDALE	HERRIN	COAL	6.9	904.0

MAPID: 06500007000C    VERSION: 3

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 36    QUARTERS/FOOTAGES: 0' S line, 0' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.594756

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 38.038086

DATE COLLECTED: 0 / 0 / 1910

SURFACE ELEVATION (FT.): 490.0

LOGGED (FT.): 4900.0

LOG TYPE: Drillers Log

SOURCE: ROTRAMEL T 001, BENNET S H

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-414.0	CARBONDALE	HERRIN	COAL	-	904.0
-483.0	CARBONDALE	SPRINGFIELD	COAL	-	973.0

MAPID: 06500007000C    VERSION: 4

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 36    QUARTERS/FOOTAGES: 0' S line, 0' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.594756    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.038086    DATE COLLECTED:

SURFACE ELEVATION (FT.): 432.0    LOGGED (FT.): 978.0    LOG TYPE:

SOURCE: ROTRAMMEL T O    WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-472.0	CARBONDALE	HERRIN	COAL	6.9	904.0	
-500.0	CARBONDALE	BRIAR HILL	COAL	1.0	932.0	
-541.0	CARBONDALE	SPRINGFIELD	COAL	4.6	973.0	GRAY & BLACK SHALE ROOF

MAPID: 06501501000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 5E    SECTION: 36    QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SW

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.607439    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.039069    DATE COLLECTED:

SURFACE ELEVATION (FT.): 492.0    LOGGED (FT.): 3410.0    LOG TYPE: Electric Log

SOURCE: HOPKINS, DALE    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-402.0	CARBONDALE	HERRIN	COAL	6.0	894.0	
-457.0	CARBONDALE	SPRINGFIELD	COAL	3.0	949.0	SHALE & SILTSTONE ROOF
-536.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1028.0	

MAPID: 06500733000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 1 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.501123

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.114189

DATE COLLECTED:

SURFACE ELEVATION (FT.): 486.0

LOGGED (FT.): 3530.0

LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-506.0	CARBONDALE	DANVILLE	COAL	-	992.0	
-530.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	1016.0	
-548.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	1034.0	
-584.0	CARBONDALE	HERRIN	COAL	3.0	1070.0	
-596.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	4.0	1082.0	
-626.0	CARBONDALE	BRIAR HILL	COAL	-	1112.0	
-676.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1162.0	SHALE & SILTSTONE ROOF
-726.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1212.0	

MAPID: 06503768000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 1 QUARTERS/FOOTAGES: 2160' S line, 546' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.48554

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.116471

DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 449.2

LOGGED (FT.): 1113.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C3-41

WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-571.6	CARBONDALE	HERRIN	COAL	6.3	1020.8	
-654.8	CARBONDALE	SPRINGFIELD	COAL	9.0	1104.0	

MAPID: 06503768000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 1 QUARTERS/FOOTAGES: 2160' S line, 546' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.48554 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.116471 DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.0 LOGGED (FT.): 1028.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C3-41 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-499.7	CARBONDALE	DANVILLE	COAL	2.0	948.7
-501.7	CARBONDALE		SHALE	7.0	950.7
-508.7	CARBONDALE	ALLENBY	BONE COAL	1.0	957.7
-509.7	CARBONDALE		SHALE	10.0	958.7
-519.7	CARBONDALE	LAWSON	SANDSTONE	8.0	968.7
-527.7	CARBONDALE	LAWSON	SHALE & SANDSTONE	10.0	976.7
-537.7	CARBONDALE	LAWSON	SANDSTONE	6.0	986.7
-543.7	CARBONDALE	LAWSON	SHALE	20.0	992.7
-563.7	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1012.7
-564.7	CARBONDALE		CALCAREOUS SHALE	1.4	1013.7
-566.1	CARBONDALE	BRERETON	LIMESTONE	5.2	1015.1
-571.2	CARBONDALE	ANNA	BLACK SHALE	1.8	1020.2
-573.0	CARBONDALE	HERRIN	COAL	6.0	1022.0

MAPID: 06523801000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 1 QUARTERS/FOOTAGES: 334' N line, 329' W line of NE

QUADRANGLE: THACKERAY LONGITUDE: -88.49181 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.123862 DATE COLLECTED: 1 / 31 / 1974

SURFACE ELEVATION (FT.): 491.7 LOGGED (FT.): 1198.0 LOG TYPE: Other Core Study

SOURCE: AMAX C.C. C3-67 WELL TYPE: Coal Test

COMMENT: GAMMA LOG INCLUDED; DATE FROM CORE DESC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-607.3	CARBONDALE	HERRIN	COAL	6.6	1099.0
-696.3	CARBONDALE	SPRINGFIELD	COAL	8.1	1188.0

MAPID: 06501736000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 2 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512231 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.114227 DATE COLLECTED:

SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 3559.0 LOG TYPE: Electric Log

SOURCE: MITCHELL ROBERT J WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-583.0	CARBONDALE	HERRIN	COAL	6.0	1100.0	
-617.0	CARBONDALE	BRIAR HILL	COAL	-	1134.0	
-671.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1188.0	SHALE & SILTSTONE ROOF
-733.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1250.0	

MAPID: 06501736000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 2 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512231 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.114227 DATE COLLECTED:

SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 1107.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-512.0	CARBONDALE	DANVILLE	COAL	2.0	1029.0	
-514.0	CARBONDALE		SHALE	5.0	1031.0	
-519.0	CARBONDALE	GALUM	CALCAREOUS SANDSTONE	5.0	1036.0	
-524.0	CARBONDALE		SHALE	4.0	1041.0	
-528.0	CARBONDALE	ALLENBY	BONE COAL	1.0	1045.0	
-529.0	CARBONDALE		CLAYSTONE & SHALE	5.0	1046.0	
-534.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	1051.0	
-538.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	1055.0	
-545.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	17.0	1062.0	
-562.0	CARBONDALE	LAWSON	SHALE	13.0	1079.0	
-575.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1092.0	
-576.0	CARBONDALE		CLAYSTONE & SHALE	3.0	1093.0	
-579.0	CARBONDALE	BRERETON	LIMESTONE	3.0	1096.0	
-582.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1099.0	
-584.0	CARBONDALE	HERRIN	COAL	6.0	1101.0	

MAPID: 06500173000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 3 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: BUNGAY LONGITUDE: -88.521473 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.119662 DATE COLLECTED:

SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 3592.0 LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-497.0	CARBONDALE	DANVILLE	COAL	-	982.0	
-520.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	1005.0	
-527.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	16.0	1012.0	
-570.0	CARBONDALE	HERRIN	COAL	5.0	1055.0	
-585.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	14.0	1070.0	
-611.0	CARBONDALE	BRIAR HILL	COAL	-	1096.0	
-615.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	10.0	1100.0	
-649.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1134.0	SHALE & SILTSTONE ROOF
-719.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1204.0	

MAPID: 06500173000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 3 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: BUNGAY LONGITUDE: -88.521473 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.119662 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 4850.0 LOG TYPE: Electric Log

SOURCE: KINGWOODOC, JHNSN CA W0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-569.0	CARBONDALE	HERRIN	COAL	-	1054.0	
-650.0	CARBONDALE	SPRINGFIELD	COAL	-	1135.0	
-2147.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2632.0	

MAPID: 06523794000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 3 QUARTERS/FOOTAGES: 2280' N line, 167' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.520908 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.118606 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 487.7 LOGGED (FT.): 1151.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-53 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-577.3	CARBONDALE	HERRIN	COAL	5.8	1065.0
-655.8	CARBONDALE	SPRINGFIELD	COAL	5.5	1143.5

MAPID: 06523794000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 3 QUARTERS/FOOTAGES: 2280' N line, 167' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.520908 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.118606 DATE COLLECTED:

SURFACE ELEVATION (FT.): 488.0 LOGGED (FT.): 1070.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-53 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-502.7	CARBONDALE	DANVILLE	COAL	2.0	990.7
-504.7	CARBONDALE		SHALE	10.0	992.7
-514.7	CARBONDALE	ALLENBY	BONE COAL	1.0	1002.7
-515.7	CARBONDALE		SHALE & SANDSTONE	8.0	1003.7
-523.7	CARBONDALE	LAWSON	SHALE & SANDSTONE	40.0	1011.7
-563.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	1051.7
-564.2	CARBONDALE	JAMESTOWN	BONE COAL	0.3	1052.2
-564.5	CARBONDALE		CLAYSTONE & SHALE	3.0	1052.5
-567.5	CARBONDALE	BRERETON	CARBONACEOUS LIMESTONE	6.6	1055.5
-574.1	CARBONDALE	ANNA	BLACK SHALE	1.9	1062.1
-576.0	CARBONDALE	HERRIN	COAL	6.0	1064.0

MAPID: 06500732000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 4 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.55582 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.115654 DATE COLLECTED:

SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 3590.0 LOG TYPE: Electric Log

SOURCE: SLAGTER ARTHUR J WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-486.0	CARBONDALE	DANVILLE	COAL	-	950.0	
-492.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	14.0	956.0	
-520.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	984.0	
-544.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	1008.0	
-580.0	CARBONDALE	HERRIN	COAL	8.0	1044.0	
-596.0	CARBONDALE	BRIAR HILL	COAL	-	1060.0	
-626.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1090.0	BLACK SHALE & LIMESTONE ROOF
-636.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	8.0	1100.0	
-704.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1168.0	

MAPID: 06500732000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 4 QUARTERS/FOOTAGES: 1650' S line, 330' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.55582 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.115654 DATE COLLECTED:

SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 1054.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-443.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	907.0	
-447.0	MODESTO		SHALE	43.0	911.0	
-490.0	CARBONDALE	DANVILLE	COAL	2.0	954.0	
-492.0	CARBONDALE		SHALE & SANDSTONE	25.0	956.0	
-517.0	CARBONDALE	ALLENBY	BONE COAL	1.0	981.0	
-518.0	CARBONDALE		CLAYSTONE & SHALE	3.0	982.0	
-521.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	10.0	985.0	
-531.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	995.0	
-543.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	1007.0	
-555.0	CARBONDALE	LAWSON	SHALE	7.0	1019.0	
-562.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1026.0	
-563.0	CARBONDALE		CLAYSTONE & SHALE	9.0	1027.0	
-572.0	CARBONDALE	BRERETON	LIMESTONE	4.0	1036.0	
-576.0	CARBONDALE	ANNA	BLACK SHALE	4.0	1040.0	
-580.0	CARBONDALE	HERRIN	COAL	10.0	1044.0	



**MAPID:** 06500174000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.514711    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.105135    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 457.0    **LOGGED (FT.):** 3542.0    **LOG TYPE:** Electric Log  
**SOURCE:** FIRST NAT'L. PETRO., THE    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-468.0	CARBONDALE	DANVILLE	COAL	-	925.0	
-487.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	944.0	
-497.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	954.0	
-540.0	CARBONDALE	HERRIN	COAL	6.0	997.0	
-583.0	CARBONDALE	BRIAR HILL	COAL	-	1040.0	
-613.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1070.0	BLACK SHALE & LIMESTONE ROOF
-693.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1150.0	

**MAPID:** 06500174000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.514711    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.105135    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 457.0    **LOGGED (FT.):** 4570.0    **LOG TYPE:** Electric Log  
**SOURCE:** NAT PET, MALONE G E0001 1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-613.0	CARBONDALE	SPRINGFIELD	COAL	-	1070.0	
-2077.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2534.0	

**MAPID:** 06523788000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 144' N line, 1073' E line  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.506019    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.11112    **DATE COLLECTED:** 0 / 0 / 1973  
**SURFACE ELEVATION (FT.):** 528.8    **LOGGED (FT.):** 1180.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-64    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-561.2	CARBONDALE	HERRIN	COAL	6.3	1090.0	
-652.2	CARBONDALE	SPRINGFIELD	COAL	7.0	1181.0	

MAPID: 06523788000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 11 QUARTERS/FOOTAGES: 144' N line, 1073' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.506019

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.11112

DATE COLLECTED:

SURFACE ELEVATION (FT.): 529.0 LOGGED (FT.): 1095.5

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-64

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-487.0	CARBONDALE	DANVILLE	COAL	3.0	1016.0	
-490.0	CARBONDALE		SHALE & SANDSTONE	14.0	1019.0	
-504.0	CARBONDALE	ALLENBY	BONE COAL	1.0	1033.0	
-505.0	CARBONDALE		SHALE	4.0	1034.0	
-509.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	1038.0	
-514.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	34.0	1043.0	
-548.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1077.0	
-549.0	CARBONDALE		SHALE	6.0	1078.0	
-555.0	CARBONDALE	BRERETON	LIMESTONE	4.0	1084.0	
-559.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1088.0	
-561.0	CARBONDALE	HERRIN	COAL	5.5	1090.0	

MAPID: 06523802000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 11 QUARTERS/FOOTAGES: 113' N line, 404' E line of NW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.517261

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.103906

DATE COLLECTED: 9 / 11 / 1974

SURFACE ELEVATION (FT.): 435.6 LOGGED (FT.): 1063.0

LOG TYPE: Other Core Study

SOURCE: AMAX C.C. C3-65

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-541.4	CARBONDALE	HERRIN	COAL	6.3	977.0	
-617.4	CARBONDALE	SPRINGFIELD	COAL	5.0	1053.0	

MAPID: 06503660000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 12 QUARTERS/FOOTAGES: 2568' N line, 2064' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.495115 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.103996 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 485.8 LOGGED (FT.): 1202.1 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-10 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-462.5	CARBONDALE	DANVILLE	COAL	2.5	948.3	BANDED
-535.0	CARBONDALE	HERRIN	COAL	6.1	1020.8	COAL RMVD BY CO.,THICKNESS ESTIMATED
-610.2	CARBONDALE	SPRINGFIELD	COAL	4.0	1096.0	COAL RMVD BY CO.,THICKNESS ESTIMATED

MAPID: 06503660000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 12 QUARTERS/FOOTAGES: 2568' N line, 2064' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.495115 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.103996 DATE COLLECTED:

SURFACE ELEVATION (FT.): 486.0 LOGGED (FT.): 1027.1 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-10 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-465.9	CARBONDALE		SHALE & SANDSTONE	34.0	951.9	
-499.9	CARBONDALE	LAWSON	SANDSTONE	11.0	985.9	
-510.9	CARBONDALE	LAWSON	SILTY SHALE	15.0	996.9	
-525.9	CARBONDALE	CONANT	LIMESTONE	0.4	1011.9	
-526.3	CARBONDALE	JAMESTOWN	COAL WITH SHALE PARTINGS	0.5	1012.3	
-526.8	CARBONDALE		GRAY SHALE	3.4	1012.8	
-530.3	CARBONDALE	BRERETON	LIMESTONE	3.8	1016.3	
-534.0	CARBONDALE	ANNA	BLACK SHALE	1.0	1020.0	
-535.0	CARBONDALE	HERRIN	COAL	6.1	1021.0	

MAPID: 06500175000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 13 QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.489582 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.08453 DATE COLLECTED:

SURFACE ELEVATION (FT.): 448.0 LOGGED (FT.): 3415.0 LOG TYPE: Electric Log

SOURCE: BLOCKSTOCK, H. L. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-402.0	CARBONDALE	DANVILLE	COAL	-	850.0	
-422.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	870.0	
-444.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	892.0	
-462.0	CARBONDALE	HERRIN	COAL	5.0	910.0	
-474.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	6.0	922.0	
-494.0	CARBONDALE	BRIAR HILL	COAL	-	942.0	
-554.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1002.0	SHALE ROOF
-620.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1068.0	

MAPID: 06500175000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 13 QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.489582 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.08453 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 448.0 LOGGED (FT.): 4480.0 LOG TYPE: Electric Log

SOURCE: BLCKSTCK H, WEBB M W 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-462.0	CARBONDALE	HERRIN	COAL	-	910.0	
-2068.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2516.0	

MAPID: 06503763000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 13 QUARTERS/FOOTAGES: 137' S line, 1809' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.490075 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.082229 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 441.6 LOGGED (FT.): 983.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-34 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-444.2	CARBONDALE	HERRIN	COAL	6.2	885.8	
-534.9	CARBONDALE	SPRINGFIELD	COAL	6.5	976.5	

MAPID: 06503763000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 13 QUARTERS/FOOTAGES: 137' S line, 1809' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.490075

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.082229

DATE COLLECTED:

SURFACE ELEVATION (FT.): 442.0

LOGGED (FT.): 891.2

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-34

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-381.2	CARBONDALE	DANVILLE	COAL	2.5	823.2
-383.7	CARBONDALE		SHALE & SANDSTONE	26.0	825.7
-409.7	CARBONDALE	LAWSON	GRAY SHALE	24.0	851.7
-433.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	875.7
-433.9	CARBONDALE	JAMESTOWN	BONE COAL	0.3	875.9
-434.2	CARBONDALE		CLAYSTONE & SHALE	2.3	876.2
-436.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.5	878.5
-442.0	CARBONDALE	ANNA	BLACK SHALE	1.0	884.0
-443.0	CARBONDALE	HERRIN	COAL	6.2	885.0

MAPID: 06523803000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 13 QUARTERS/FOOTAGES: 27' S line, 59' W line of NW NE

QUADRANGLE: THACKERAY LONGITUDE: -88.492832

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.092883

DATE COLLECTED: 5 / 23 / 1974

SURFACE ELEVATION (FT.): 468.1

LOGGED (FT.): 1074.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-46

WELL TYPE: Coal Test

COMMENT: GAMMA LOG INCLUDED; DATE FROM CORE DESC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-424.9	CARBONDALE	DANVILLE	COAL	3.5	893.0
-484.9	CARBONDALE	BRERETON	LIMESTONE	5.0	953.0
-490.9	CARBONDALE	HERRIN	COAL	6.5	959.0
-569.9	CARBONDALE	SPRINGFIELD	COAL	6.0	1038.0

MAPID: 0652480000C    VERSION: 1

PROJECT: LUMP

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 13    QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: THACKERAY    LONGITUDE: -88.484896    GEOLOGIST: D. NORTH

CONFIDENTIAL: N    LATITUDE: 38.086118    DATE COLLECTED: 1 / 30 / 1985

SURFACE ELEVATION (FT.): 470.0    LOGGED (FT.): 1034.4    LOG TYPE: Drillers Log

SOURCE: INLAND STEEL COAL CO.    C3-181    WELL TYPE: Coal Test

COMMENT: PERMIT 44; MINE #2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
470.0	PLEISTOCENE		CLAY	16.0	0.0
454.0	MATTOON		GRAY SHALE	10.0	16.0
444.0	MATTOON		CALCAREOUS SANDSTONE	7.0	26.0
437.0	MATTOON		SANDSTONE	48.0	33.0
389.0	MATTOON		GRAY SHALE	23.0	81.0
366.0	MATTOON		SANDSTONE	21.0	104.0
345.0	MATTOON		SILTSTONE	28.0	125.0
317.0	MATTOON		SANDSTONE	10.0	153.0
307.0	MATTOON		GRAY SHALE	8.0	163.0
299.0	MATTOON		SILTSTONE	70.0	171.0
229.0	MATTOON		BLACK SHALE	2.0	241.0
227.0	MATTOON		GRAY SHALE	8.0	243.0
219.0	MATTOON		LIMESTONE	1.5	251.0
217.5			GRAY SHALE	6.5	252.5
211.0	BOND	LIVINGSTON	LIMESTONE	2.0	259.0
209.0	BOND		GRAY SHALE	6.0	261.0
203.0	BOND		SANDSTONE	13.0	267.0
190.0	BOND		SILTY SHALE	60.0	280.0
130.0	BOND		SILTSTONE	47.0	340.0
83.0	BOND		CALCAREOUS SANDSTONE	1.0	387.0
82.0			GRAY SHALE	123.0	388.0
-41.0	MODESTO		CALCAREOUS SHALE	8.0	511.0
-49.0	MODESTO		BLACK SHALE	4.0	519.0
-53.0	MODESTO		GRAY SHALE	11.0	523.0
-64.0	MODESTO	CHAPEL	COAL	1.0	534.0
-65.0	MODESTO		GRAY SHALE	8.0	535.0
-73.0	MODESTO		SILTSTONE	72.0	543.0
-145.0	MODESTO	TRIVOLI	SANDSTONE	126.0	615.0
-271.0	MODESTO		GRAY SHALE	30.0	741.0
-301.0	MODESTO	WEST FRANKLIN	LIMESTONE	3.0	771.0
-304.0	MODESTO	WEST FRANKLIN	CALCAREOUS SHALE	3.0	774.0
-307.0	MODESTO	WEST FRANKLIN	LIMESTONE	3.0	777.0
-310.0	MODESTO		SANDSTONE	9.0	780.0
-319.0	MODESTO	FARMINGTON	GRAY SHALE	78.0	789.0
-397.0	CARBONDALE	DANVILLE	COAL	2.0	867.0
-399.0	CARBONDALE		GRAY SHALE	6.0	869.0
-405.0	CARBONDALE		SANDSTONE	11.0	875.0
-416.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	886.0

-421.0	CARBONDALE		SILTSTONE	29.0	891.0
-450.0	CARBONDALE	ANNA	BLACK SHALE	7.0	920.0
-457.0	CARBONDALE	HERRIN	COAL	5.5	927.0
-462.5	CARBONDALE		GRAY SHALE	1.5	932.5
-464.0	CARBONDALE		CALCAREOUS SHALE	7.0	934.0
-471.0	CARBONDALE		SANDSTONE	14.0	941.0
-485.0	CARBONDALE		GRAY SHALE	8.0	955.0
-493.0	CARBONDALE		SHALE	1.3	963.0
-494.3	CARBONDALE		SILTSTONE	5.9	964.3
-500.2	CARBONDALE	ST. DAVID	LIMESTONE	1.7	970.2
-501.9	CARBONDALE	TURNER MINE	BLACK SHALE	0.6	971.9
-502.5	CARBONDALE	DYKERSBURG	SILTSTONE	39.8	972.5
-542.3	CARBONDALE	SPRINGFIELD	COAL	6.4	1012.3
-548.7	CARBONDALE		UNDERCLAY	1.0	1018.7
-549.7	CARBONDALE		SILTSTONE	14.7	1019.7

MAPID: 06500731000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 14    QUARTERS/FOOTAGES: 330' N line, 990' E line of SW

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.514939

GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.088754

DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0    LOGGED (FT.): 3434.0

LOG TYPE: Electric Log

SOURCE: O'NEAL, C. E. & CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-410.0	CARBONDALE	DANVILLE	COAL	-	830.0	
-428.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	848.0	
-437.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	857.0	
-478.0	CARBONDALE	HERRIN	COAL	4.0	898.0	
-490.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	4.0	910.0	
-520.0	CARBONDALE	BRIAR HILL	COAL	-	940.0	
-553.0	CARBONDALE	SPRINGFIELD	COAL	6.0	973.0	SHALE & SILTSTONE ROOF
-566.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	6.0	986.0	
-633.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1053.0	

MAPID: 06502229000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 14 QUARTERS/FOOTAGES: 80' N line, 223' W line of NE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.506116 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.09677 DATE COLLECTED: 6 / 2 / 1970

SURFACE ELEVATION (FT.): 461.2 LOGGED (FT.): 1057.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-22 WELL TYPE: Coal Test

COMMENT: GAMMA & NEUTRON LOGS INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-500.8	CARBONDALE	HERRIN	COAL	8.0	962.0	SEE LOGBOOK NOTES
-576.8	CARBONDALE	SPRINGFIELD	COAL	6.0	1038.0	SEE LOGBOOK NOTES

MAPID: 06503661000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 14 QUARTERS/FOOTAGES: 1623' S line, 1256' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.516188 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.086848 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 432.3 LOGGED (FT.): 999.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-11 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-410.5	CARBONDALE	DANVILLE	COAL	2.7	842.8	
-	CARBONDALE	HERRIN	COAL	1.3		REMOVED BY CO.
-554.3	CARBONDALE	SPRINGFIELD	COAL	5.3	986.6	REMOVED BY CO.



MAPID: 06503661000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 14 QUARTERS/FOOTAGES: 1623' S line, 1256' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.516188

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.086848

DATE COLLECTED:

SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 917.0

LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-11

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-414.4	CARBONDALE	DANVILLE	COAL	2.7	846.4
-417.2	CARBONDALE		CLAYSTONE & SHALE	10.0	849.2
-427.2	CARBONDALE	ALLENBY	BONE COAL	0.5	859.2
-427.7	CARBONDALE		CLAYSTONE & SHALE	6.0	859.7
-433.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	865.7
-437.7	CARBONDALE	LAWSON	CLAYSTONE & SHALE	4.0	869.7
-441.7	CARBONDALE	LAWSON	SHALE & SANDSTONE	12.0	873.7
-453.7	CARBONDALE	LAWSON	GRAY SHALE	18.0	885.7
-471.7	CARBONDALE	JAMESTOWN	BONE COAL	0.5	903.7
-472.2	CARBONDALE		CLAYSTONE & SHALE	2.0	904.2
-474.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.3	906.2
-477.4	CARBONDALE	ANNA	BLACK SHALE	1.6	909.4
-479.0	CARBONDALE	HERRIN	COAL	6.0	911.0

MAPID: 06501005000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 18 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.579468

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.091887

DATE COLLECTED:

SURFACE ELEVATION (FT.): 460.0 LOGGED (FT.): 3493.0

LOG TYPE: Electric Log

SOURCE: PERRINE & PERRINE

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-510.0	CARBONDALE	HERRIN	COAL	8.0	970.0
-536.0	CARBONDALE	BRIAR HILL	COAL	-	996.0
-570.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1030.0 BLACK SHALE & LIMESTONE ROOF
-650.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1110.0

MAPID: 06501005000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 18 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.579468 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.091887 DATE COLLECTED:

SURFACE ELEVATION (FT.): 460.0 LOGGED (FT.): 980.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-430.5	CARBONDALE	DANVILLE	COAL	2.5	890.5	
-433.0	CARBONDALE		SHALE & SANDSTONE	25.0	893.0	
-458.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.5	918.0	UPPER BENCH
-463.5	CARBONDALE	BANKSTON FORK	SHALE	1.5	923.5	SHALE PARTING
-465.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	925.0	LOWER BENCH
-468.0	CARBONDALE	LAWSON	SILTY SHALE	32.0	928.0	
-500.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	960.0	
-501.0	CARBONDALE		CLAYSTONE & SHALE	1.0	961.0	
-502.0	CARBONDALE	BRERETON	LIMESTONE	5.0	962.0	
-507.0	CARBONDALE	ANNA	BLACK SHALE	3.0	967.0	
-510.0	CARBONDALE	HERRIN	COAL	10.0	970.0	

MAPID: 06500730000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 20 QUARTERS/FOOTAGES: 2310' S line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.572947 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.073654 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 3490.0 LOG TYPE: Electric Log

SOURCE: STANFORD OIL & GAS WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-374.0	CARBONDALE	DANVILLE	COAL	-	852.0	
-382.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	12.0	860.0	
-407.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	885.0	
-420.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	898.0	
-458.0	CARBONDALE	HERRIN	COAL	5.0	936.0	
-482.0	CARBONDALE	BRIAR HILL	COAL	-	960.0	
-495.0	CARBONDALE	CANTON	SILTSTONE/SANDSTONE	5.0	973.0	
-526.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1004.0	BLACK SHALE & LIMESTONE ROOF
-536.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	14.0	1014.0	
-605.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1083.0	

MAPID: 06500730000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 20 QUARTERS/FOOTAGES: 2310' S line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.572947 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.073654 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 940.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-375.5	CARBONDALE	DANVILLE	COAL	2.5	853.5	
-378.0	CARBONDALE		SHALE & SANDSTONE	23.0	856.0	
-401.0	CARBONDALE	ALLENBY	BONE COAL	1.0	879.0	
-402.0	CARBONDALE		CLAYSTONE & SHALE	8.0	880.0	
-410.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	888.0	
-416.0	CARBONDALE	LAWSON	SHALE	2.0	894.0	
-418.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	896.0	
-432.0	CARBONDALE	LAWSON	SHALE	14.0	910.0	
-446.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	924.0	
-447.0	CARBONDALE		CLAYSTONE & SHALE	5.0	925.0	
-452.0	CARBONDALE	BRERETON	LIMESTONE	4.0	930.0	
-456.0	CARBONDALE	ANNA	BLACK SHALE	1.0	934.0	
-457.0	CARBONDALE	HERRIN	COAL	5.0	935.0	

MAPID: 06500729000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 21 QUARTERS/FOOTAGES: 330' N line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.549354 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.081142 DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 3400.0 LOG TYPE: Electric Log

SOURCE: STURMA & SONS WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-400.0	CARBONDALE	DANVILLE	COAL	-	820.0	
-418.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	838.0	
-426.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	20.0	846.0	
-470.0	CARBONDALE	HERRIN	COAL	4.0	890.0	
-480.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	20.0	900.0	
-512.0	CARBONDALE	BRIAR HILL	COAL	-	932.0	
-542.0	CARBONDALE	SPRINGFIELD	COAL	4.0	962.0	BLACK SHALE & LIMESTONE ROOF
-552.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	8.0	972.0	
-624.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1044.0	

MAPID: 06500729000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 21    QUARTERS/FOOTAGES: 330' N line, 2310' W line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.549354

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.081142

DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0

LOGGED (FT.): 894.0

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
-344.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	764.0
-352.0	MODESTO		SHALE	49.0	772.0
-401.0	CARBONDALE	DANVILLE	COAL	3.0	821.0
-404.0	CARBONDALE		CLAYSTONE & SHALE	16.0	824.0
-420.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	840.0
-425.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	33.0	845.0
-458.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	878.0
-459.0	CARBONDALE		CLAYSTONE & SHALE	3.0	879.0
-462.0	CARBONDALE	BRERETON	LIMESTONE	6.0	882.0
-468.0	CARBONDALE	ANNA	BLACK SHALE	2.0	888.0
-470.0	CARBONDALE	HERRIN	COAL	4.0	890.0

MAPID: 06500728000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 22    QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SE

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.526506

GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.068643

DATE COLLECTED:

SURFACE ELEVATION (FT.): 468.0

LOGGED (FT.): 3330.0

LOG TYPE: Electric Log

SOURCE: CALVERT & WILLIS, INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-290.0	CARBONDALE	DANVILLE	COAL	-	758.0
-310.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	778.0
-318.0	CARBONDALE	ANVIL ROCK	SILTSTONE	12.0	786.0
-354.0	CARBONDALE	HERRIN	COAL	6.0	822.0
-390.0	CARBONDALE	BRIAR HILL	COAL	-	858.0
-437.0	CARBONDALE	SPRINGFIELD	COAL	4.0	905.0
-518.0	CARBONDALE	HOUCHIN CREEK	COAL	-	986.0

SHALE & SILTSTONE  
ROOF

MAPID: 06523804000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 22 QUARTERS/FOOTAGES: 2548' S line, 1387' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.525539 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.074761 DATE COLLECTED: 4 / 11 / 1974

SURFACE ELEVATION (FT.): 476.1 LOGGED (FT.): 1001.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-79 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-333.9	CARBONDALE	DANVILLE	COAL	3.0	810.0	CORE & LOG DEPTHS DO NOT MATCH
-402.9	CARBONDALE	HERRIN	COAL	6.0	879.0	CORE & LOG DEPTHS DO NOT MATCH
-485.9	CARBONDALE	SPRINGFIELD	COAL	5.0	962.0	CORE & LOG DEPTHS DO NOT MATCH

MAPID: 06523804000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 22 QUARTERS/FOOTAGES: 2548' S line, 1387' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.525539 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.074761 DATE COLLECTED:

SURFACE ELEVATION (FT.): 476.0 LOGGED (FT.): 884.5 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-79 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-334.8	CARBONDALE	DANVILLE	COAL	3.0	810.8	
-337.8	CARBONDALE		SHALE & SANDSTONE	10.5	813.8	
-348.3	CARBONDALE	ALLENBY	BONE COAL	0.5	824.3	
-348.8	CARBONDALE		CALCAREOUS SHALE	5.5	824.8	
-354.3	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	830.3	
-356.3	CARBONDALE	LAWSON	SILTY SHALE	36.0	832.3	
-392.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	868.3	
-392.8	CARBONDALE	JAMESTOWN	BONE COAL	0.3	868.8	
-393.1	CARBONDALE		CLAYSTONE & SHALE	3.9	869.1	
-397.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.8	873.0	
-401.8	CARBONDALE	ANNA	BLACK SHALE	1.2	877.8	
-403.0	CARBONDALE	HERRIN	COAL	5.5	879.0	

MAPID: 06500176000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 23 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: BELLE PRAIRIE CITY LONGITUDE: -88.508171 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.075984 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 434.0 LOGGED (FT.): 4340.0 LOG TYPE: Electric Log

SOURCE: NADEL&GSMN, JONES BELL0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-391.0	CARBONDALE	HERRIN	COAL	-	825.0
-481.0	CARBONDALE	SPRINGFIELD	COAL	-	915.0
-1986.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2420.0

MAPID: 06500177000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 23 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.517273 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.075963 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 447.0 LOGGED (FT.): 4470.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, MEADOR M 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-405.0	CARBONDALE	HERRIN	COAL	-	852.0
-498.0	CARBONDALE	SPRINGFIELD	COAL	-	945.0
-1980.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2427.0

MAPID: 06500178000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 23 QUARTERS/FOOTAGES: SE NE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.5127 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.079621 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 410.0 LOGGED (FT.): 4100.0 LOG TYPE: Electric Log

SOURCE: NADEL&GSMN, MEAD H 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-394.0	CARBONDALE	HERRIN	COAL	-	804.0
-480.0	CARBONDALE	SPRINGFIELD	COAL	-	890.0
-1986.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2396.0

MAPID: 06500727000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 23 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512776 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.070502 DATE COLLECTED:

SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 3348.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-301.0	CARBONDALE	DANVILLE	COAL	-	756.0	
-309.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE/SANDSTONE	4.0	764.0	
-319.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	774.0	
-332.0	CARBONDALE	ANVIL ROCK	SILTSTONE/SANDSTONE	7.0	787.0	
-365.0	CARBONDALE	HERRIN	COAL	6.0	820.0	
-397.0	CARBONDALE	BRIAR HILL	COAL	-	852.0	
-455.0	CARBONDALE	SPRINGFIELD	COAL	5.0	910.0	SHALE & SILTSTONE ROOF
-529.0	CARBONDALE	HOUCHIN CREEK	COAL	-	984.0	

MAPID: 06503765000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 23 QUARTERS/FOOTAGES: 91' N line, 710' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.504922 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.082085 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 430.2 LOGGED (FT.): 951.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-37 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-435.4	CARBONDALE	HERRIN	COAL	6.4	865.6	
-515.2	CARBONDALE	SPRINGFIELD	COAL	5.6	945.4	

MAPID: 06503765000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 23 QUARTERS/FOOTAGES: 91' N line, 710' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.504922

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.082085

DATE COLLECTED:

SURFACE ELEVATION (FT.): 430.0

LOGGED (FT.): 872.4

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-37

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-369.9	CARBONDALE	DANVILLE	COAL	3.0	799.9
-372.9	CARBONDALE		SHALE & SANDSTONE	10.0	802.9
-382.9	CARBONDALE	ALLENBY	COAL	1.0	812.9
-383.9	CARBONDALE		CLAYSTONE	1.0	813.9
-384.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	814.9
-388.9	CARBONDALE	LAWSON	SHALE	1.0	818.9
-389.9	CARBONDALE	LAWSON	SANDSTONE	13.0	819.9
-402.9	CARBONDALE	LAWSON	SHALE	23.0	832.9
-425.9	CARBONDALE	JAMESTOWN	BONE COAL	0.5	855.9
-426.4	CARBONDALE		CLAYSTONE & SHALE	3.0	856.4
-429.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	859.4
-434.4	CARBONDALE	ANNA	BLACK SHALE	1.0	864.4
-435.4	CARBONDALE	ENERGY	GRAY SHALE	0.6	865.4
-436.0	CARBONDALE	HERRIN	COAL	6.4	866.0

MAPID: 06523787000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 23 QUARTERS/FOOTAGES: 67' S line, 932' W line of NE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512912

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.071597

DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 458.8

LOGGED (FT.): 932.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-66

WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-378.2	CARBONDALE	HERRIN	COAL	6.2	837.0
-469.2	CARBONDALE	SPRINGFIELD	COAL	5.2	928.0



MAPID: 06503718000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 24 QUARTERS/FOOTAGES: 50' S line, 50' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.502366 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.067986 DATE COLLECTED: 5 / 30 / 1970

SURFACE ELEVATION (FT.): 418.2 LOGGED (FT.): 994.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-20 WELL TYPE: Coal Test

COMMENT: GAMMA/NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-397.5	CARBONDALE	HERRIN	COAL	6.3	815.7
-490.8	CARBONDALE	SPRINGFIELD	COAL	4.0	909.0

MAPID: 06503718000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 24 QUARTERS/FOOTAGES: 50' S line, 50' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.502366 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.067986 DATE COLLECTED:

SURFACE ELEVATION (FT.): 418.0 LOGGED (FT.): 822.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-20 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-337.5	CARBONDALE	DANVILLE	COAL	3.0	755.5
-340.5	CARBONDALE		SHALE & SANDSTONE	11.0	758.5
-351.5	CARBONDALE	ALLENBY	BONE COAL	0.5	769.5
-352.0	CARBONDALE		CLAYSTONE	1.0	770.0
-353.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	771.0
-358.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	4.0	776.0
-362.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	17.0	780.0
-379.0	CARBONDALE	LAWSON	SHALE	13.0	797.0
-392.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.0	810.0
-398.0	CARBONDALE	ANNA	BLACK SHALE	1.0	816.0
-399.0	CARBONDALE	HERRIN	COAL	5.0	817.0

MAPID: 06523784000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 25 QUARTERS/FOOTAGES: 1462' N line, 214' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.484677 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.063305 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 460.5 LOGGED (FT.): 916.3 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-40 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-362.5	CARBONDALE	HERRIN	COAL	5.1	823.0
-454.5	CARBONDALE	SPRINGFIELD	COAL	5.4	915.0

MAPID: 06523784000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 25 QUARTERS/FOOTAGES: 1462' N line, 214' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.484677 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.063305 DATE COLLECTED:

SURFACE ELEVATION (FT.): 461.0 LOGGED (FT.): 820.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-40 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-290.8	CARBONDALE	DANVILLE	COAL	3.0	751.8
-293.8	CARBONDALE		SHALE & SANDSTONE	13.0	754.8
-306.8	CARBONDALE	ALLENBY	COAL	1.0	767.8
-307.8	CARBONDALE		CLAYSTONE	2.0	768.8
-309.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	770.8
-314.8	CARBONDALE	LAWSON	CLAYSTONE & SHALE	4.0	775.8
-318.8	CARBONDALE	LAWSON	SANDSTONE	3.0	779.8
-321.8	CARBONDALE	LAWSON	SILTY SHALE	20.0	782.8
-341.8	CARBONDALE	CONANT	CALCAREOUS SHALE	1.0	802.8
-342.8	CARBONDALE	JAMESTOWN	BONE COAL	1.0	803.8
-343.8	CARBONDALE		CLAYSTONE & SHALE	2.0	804.8
-345.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.0	806.8
-351.8	CARBONDALE	ANNA	BLACK SHALE	1.2	812.8
-353.0	CARBONDALE	HERRIN	COAL	6.0	814.0

MAPID: 06523798000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 25 QUARTERS/FOOTAGES: 174' S line, 120' W line of NW NW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.502126 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.06464 DATE COLLECTED: 0 / 0 / 1973  
 SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 871.0 LOG TYPE: Survey Core Study  
 SOURCE: AMAX C.C. C3-31 WELL TYPE: Coal Test  
 COMMENT: GAMMA RAY-NEUTRON INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-277.5	CARBONDALE	DANVILLE	COAL	2.0	682.5	
-338.5	CARBONDALE	HERRIN	COAL	4.5	743.5	
-432.5	CARBONDALE	SPRINGFIELD	COAL	5.0	837.5	

MAPID: 06523826000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 25 QUARTERS/FOOTAGES: 300' N line, 395' E line  
 QUADRANGLE: THACKERAY LONGITUDE: -88.485299 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.06653 DATE COLLECTED: 6 / 27 / 1974  
 SURFACE ELEVATION (FT.): 444.0 LOGGED (FT.): 972.7 LOG TYPE: Other Core Study  
 SOURCE: INLAND STEEL CO. 2 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-374.5	CARBONDALE	HERRIN	COAL	6.3	818.5	
-406.3	CARBONDALE	BRIAR HILL	COAL	0.5	850.3	LOGBOOK SAYS "90.5"
-480.3	CARBONDALE	SPRINGFIELD	COAL	6.7	924.3	

MAPID: 06500621000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.515145 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.057676 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3257.0 LOG TYPE: Electric Log  
 SOURCE: LYNNS J J WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-245.0	CARBONDALE	DANVILLE	COAL	-	638.0	
-261.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	654.0	
-269.0	CARBONDALE	ANVIL ROCK	SILTSTONE	6.0	662.0	
-303.0	CARBONDALE	HERRIN	COAL	4.0	696.0	
-315.0	CARBONDALE	VERMILIONVILLE	SILTSTONE	8.0	708.0	
-333.0	CARBONDALE	BRIAR HILL	COAL	-	726.0	
-402.0	CARBONDALE	SPRINGFIELD	COAL	5.0	795.0	SHALE ROOF
-479.0	CARBONDALE	HOUCHIN CREEK	COAL	-	872.0	

MAPID: 06503761000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 26 QUARTERS/FOOTAGES: 1406' S line, 56' E line of NW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.51646 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.060642 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 391.5 LOGGED (FT.): 822.5 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-52 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-317.5	CARBONDALE	HERRIN	COAL	6.3	709.0	
-420.5	CARBONDALE	SPRINGFIELD	COAL	5.8	812.0	

MAPID: 06503766000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 26 QUARTERS/FOOTAGES: 98' S line, 214' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.503305 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.0534 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 387.5 LOGGED (FT.): 800.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-38 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-306.3	CARBONDALE	HERRIN	COAL	6.2	693.8	
-407.0	CARBONDALE	SPRINGFIELD	COAL	5.5	794.5	

MAPID: 06503766000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 26 QUARTERS/FOOTAGES: 98' S line, 214' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.503305

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.0534

DATE COLLECTED:

SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 700.2

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-38

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-245.5	CARBONDALE	DANVILLE	COAL	3.0	633.5
-248.5	CARBONDALE		SHALE & SANDSTONE	13.0	636.5
-261.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	649.5
-265.5	CARBONDALE	LAWSON	SHALE	11.0	653.5
-276.5	CARBONDALE	LAWSON	SANDSTONE	5.0	664.5
-281.5	CARBONDALE	LAWSON	GRAY SHALE	17.0	669.5
-298.5	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.2	686.5
-298.7	CARBONDALE	JAMESTOWN	BONE COAL	0.3	686.7
-299.0	CARBONDALE		CLAYSTONE	0.9	687.0
-299.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.9	687.9
-304.8	CARBONDALE	ANNA	BLACK SHALE	1.3	692.8
-306.0	CARBONDALE	HERRIN	COAL	6.2	694.0

MAPID: 06524721000C    VERSION: 1

PROJECT: LUMP

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 26    QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.503701    GEOLOGIST: D.NORTH

CONFIDENTIAL: N    LATITUDE: 38.055888    DATE COLLECTED: 1 / 30 / 1985

SURFACE ELEVATION (FT.): 395.0    LOGGED (FT.): 829.3    LOG TYPE: Drillers Log

SOURCE: INLAND STEEL COAL CO.    C3-145    WELL TYPE: Coal Test

COMMENT: COORDINATES UPDATED. PERMIT 44 MINE #2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
395.0	PLEISTOCENE		CLAY	21.5	0.0	
373.5	BOND		GRAY SHALE	20.5	21.5	
353.0	BOND		CALCAREOUS SANDSTONE	2.0	42.0	
351.0	BOND		SANDSTONE	1.0	44.0	
350.0	BOND		CALCAREOUS SHALE	6.0	45.0	
344.0	BOND		LIMESTONE	1.0	51.0	
343.0	BOND		GRAY SHALE	3.0	52.0	
340.0	BOND		LIMESTONE	1.0	55.0	
339.0	BOND		GRAY SHALE	4.0	56.0	
335.0	BOND		CALCAREOUS SANDSTONE	4.0	60.0	
331.0	BOND		SILTSTONE	15.0	64.0	
316.0	BOND		GRAY SHALE	44.0	79.0	
272.0	BOND	MT. CARMEL	SANDSTONE	24.0	123.0	
248.0	BOND	CARTHAGE	LIMESTONE	4.0	147.0	
244.0	MODESTO		GRAY SHALE	30.0	151.0	
214.0	MODESTO		CALCAREOUS SANDSTONE	5.5	181.0	
208.5	MODESTO		SILTSTONE	12.5	186.5	
196.0	MODESTO		SANDSTONE	18.0	199.0	
178.0	MODESTO		SILTSTONE	8.0	217.0	
170.0	MODESTO		GRAY SHALE	70.0	225.0	
100.0	MODESTO		BLACK SHALE	2.5	295.0	
97.5	MODESTO		GRAY SHALE	15.5	297.5	
82.0	MODESTO	TRIVOLI	SILTY SANDSTONE	56.0	313.0	
26.0	MODESTO	TRIVOLI	CALCAREOUS SANDSTONE	6.0	369.0	
20.0	MODESTO	TRIVOLI	SANDSTONE	24.0	375.0	
-4.0	MODESTO		GRAY SHALE	26.0	399.0	
-30.0	MODESTO		SANDSTONE	68.0	425.0	
-98.0	MODESTO		GRAY SHALE	24.0	493.0	
-122.0			SILTSTONE	63.0	517.0	DANVILLE MISSING
-185.0			GRAY SHALE	82.0	580.0	
-267.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	662.0	
-270.5	CARBONDALE	ANVIL ROCK	SILTY SANDSTONE	25.5	665.5	
-296.0	CARBONDALE		GRAY SHALE	8.5	691.0	
-304.5	CARBONDALE	BRERETON	LIMESTONE	5.0	699.5	
-309.5	CARBONDALE	HERRIN	COAL	5.5	704.5	
-315.0	CARBONDALE		GRAY SHALE	5.0	710.0	

-320.0	CARBONDALE		SANDSTONE	8.0	715.0	
-328.0	CARBONDALE		GRAY SHALE	8.0	723.0	
-336.0	CARBONDALE		LIMESTONE	2.0	731.0	
-338.0	CARBONDALE	DYKERSBURG	GRAY SHALE	42.0	733.0	
-380.0	CARBONDALE	DYKERSBURG	SILTSTONE	24.0	775.0	
-404.0	CARBONDALE	DYKERSBURG	SANDSTONE	8.0	799.0	
-412.0	CARBONDALE	DYKERSBURG	BLACK SHALE	0.5	807.0	
-412.5	CARBONDALE	SPRINGFIELD	COAL	5.5	807.5	
-418.0	CARBONDALE		UNDERCLAY	6.0	813.0	
-424.0	CARBONDALE		SILTSTONE	10.3	819.0	SANDY

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MAPID: 06590211000C    VERSION: 1

PROJECT: LUMP

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 26    QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.503703    GEOLOGIST: NORTH

CONFIDENTIAL: N    LATITUDE: 38.055885    DATE COLLECTED: 1 / 30 / 1985

SURFACE ELEVATION (FT.): 395.0    LOGGED (FT.): 829.3    LOG TYPE: Drillers Log

SOURCE: INLAND STEEL COAL CO.    C3-145    WELL TYPE: Coal Test

COMMENT: PERMIT #44    WHEELER CREEK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
395.0	PLEISTOCENE		CLAY	21.5	0.0
373.5			GRAY SHALE	20.5	21.5
353.0			CALCAREOUS SANDSTONE	2.0	42.0
351.0			SANDSTONE	1.0	44.0
350.0			CALCAREOUS SHALE	6.0	45.0
344.0			LIMESTONE	1.0	51.0
343.0			GRAY SHALE	3.0	52.0
340.0			LIMESTONE	1.0	55.0
339.0			GRAY SHALE	4.0	56.0
335.0			CALCAREOUS SANDSTONE	4.0	60.0
331.0			SILTSTONE	15.0	64.0
316.0			GRAY SHALE	44.0	79.0
272.0			SANDSTONE	24.0	123.0
248.0			LIMESTONE	4.0	147.0
244.0			GRAY SHALE	30.0	151.0
214.0			CALCAREOUS SANDSTONE	5.5	181.0
208.5			SILTSTONE	12.5	186.5
196.0			SANDSTONE	18.0	199.0
178.0			SILTSTONE	8.0	217.0
170.0			GRAY SHALE	70.0	225.0
100.0			BLACK SHALE	2.5	295.0
97.5			GRAY SHALE	15.5	297.5
82.0			SILTY SANDSTONE	56.0	313.0
26.0			CALCAREOUS SANDSTONE	6.0	369.0
20.0			SANDSTONE	24.0	375.0
-4.0			GRAY SHALE	26.0	399.0
-30.0			SANDSTONE	68.0	425.0
-98.0			GRAY SHALE	24.0	493.0
-122.0			SILTSTONE	63.0	517.0
-185.0			GRAY SHALE	82.0	580.0
-267.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	662.0
-270.5	CARBONDALE		SILTY SANDSTONE	25.5	665.5
-296.0	CARBONDALE		GRAY SHALE	8.5	691.0
-304.5	CARBONDALE	BRERETON	LIMESTONE	5.0	699.5
-309.5	CARBONDALE	HERRIN	COAL	5.5	704.5
-315.0	CARBONDALE		GRAY SHALE	5.0	710.0



-320.0	CARBONDALE		SANDSTONE	8.0	715.0
-328.0	CARBONDALE		GRAY SHALE	8.0	723.0
-336.0	CARBONDALE		LIMESTONE	2.0	731.0
-338.0	CARBONDALE		GRAY SHALE	42.0	733.0
-380.0	CARBONDALE		SILTSTONE	24.0	775.0
-404.0	CARBONDALE		SANDSTONE	8.0	799.0
-412.0	CARBONDALE	TURNER MINE	BLACK SHALE	0.5	807.0
-412.4	CARBONDALE	SPRINGFIELD	COAL	5.6	807.4
-418.0	CARBONDALE		UNDERCLAY	6.0	813.0
-424.0	CARBONDALE		SILTSTONE	10.3	819.0

**MAPID:** 06500020000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NW NE NW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.533458    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.06686    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 411.0    **LOGGED (FT.):** 4110.0    **LOG TYPE:** Drillers Log  
**SOURCE:** BRANT C E    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-337.0	CARBONDALE	HERRIN	COAL	7.0	748.0

**MAPID:** 06500024000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** 330' N line, 1320' W line  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.534624    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.06687    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 406.4    **LOGGED (FT.):** 4064.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMCOKECHEM0012, MORRIS JOE    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-336.6	CARBONDALE	HERRIN	COAL	5.8	743.0
-417.6	CARBONDALE	SPRINGFIELD	COAL	4.8	824.0

MAPID: 06500024000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 27    QUARTERS/FOOTAGES: 330' N line, 1320' W line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.534624

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.06687

DATE COLLECTED:

SURFACE ELEVATION (FT.): 406.0

LOGGED (FT.): 748.8

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-271.3	CARBONDALE	DANVILLE	COAL	2.0	677.3
-273.3	CARBONDALE		CALCAREOUS SHALE	15.0	679.3
-288.3	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	694.3
-293.3	CARBONDALE	LAWSON	SILTY SHALE	12.0	699.3
-305.3	CARBONDALE	LAWSON	SANDSTONE	7.0	711.3
-312.3	CARBONDALE	LAWSON	GRAY SHALE	14.0	718.3
-326.3	CARBONDALE	JAMESTOWN	BONE COAL	1.0	732.3
-327.3	CARBONDALE		BLACK SHALE	3.0	733.3
-330.3	CARBONDALE	BRERETON	LIMESTONE & SHALE	6.0	736.3
-336.3	CARBONDALE	ANNA	BLACK SHALE	0.8	742.3
-337.0	CARBONDALE	HERRIN	COAL	5.8	743.0

MAPID: 06500024000C    VERSION: 3

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 27    QUARTERS/FOOTAGES: 330' N line, 1320' W line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.534624    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.06687    DATE COLLECTED:

SURFACE ELEVATION (FT.): 406.4    LOGGED (FT.): 829.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 12    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
406.4	PLEISTOCENE		CLAY	4.0	0.0	
402.4	PLEISTOCENE		CLAY	24.0	4.0	
378.4	PLEISTOCENE		SAND	9.0	28.0	
369.4	PLEISTOCENE		CLAY	3.0	37.0	
366.4	PLEISTOCENE		SAND & GRAVEL	11.0	40.0	
355.4	BOND		SHALE	8.0	51.0	BLUE
347.4	BOND		COAL	1.0	59.0	
346.4	BOND		UNDERCLAY	1.0	60.0	
345.4	BOND		SHALE	7.0	61.0	
338.4	BOND		SHALE	26.0	68.0	
312.4	BOND		SHALE	0.5	94.0	DARK
311.9	BOND		LIMESTONE	0.5	94.5	
311.4	BOND		SHALE	9.0	95.0	
302.4	BOND		SHALE	11.0	104.0	
291.4	BOND		SHALE	29.0	115.0	BLUE
262.4	BOND		SHALE	1.8	144.0	BLUE
260.6	BOND		COAL	3.3	145.8	
257.4	BOND		SHALE	14.0	149.0	BLUE
243.4	BOND		SHALE	1.5	163.0	DARK
241.9	BOND		COAL	1.5	164.5	
240.4	BOND		SHALE	5.0	166.0	
235.4	BOND		SHALE	7.0	171.0	
228.4	BOND		SHALE	7.0	178.0	BLUE
221.4	BOND		LIMESTONE	5.0	185.0	
216.4	BOND		SHALE	11.0	190.0	
205.4	BOND		SHALE	19.0	201.0	BLUE
186.4	BOND		SHALE	6.0	220.0	
180.4	BOND	CARTHAGE	SHALY LIMESTONE	3.0	226.0	
177.4	MODESTO		SHALE	80.0	229.0	
97.4	MODESTO		SHALE	24.0	309.0	BLUE
73.4	MODESTO		SHALE	15.0	333.0	
58.4	MODESTO		LIMESTONE	4.0	348.0	
54.4	MODESTO		SHALE	4.0	352.0	BLUE
50.4	MODESTO		SHALE	6.0	356.0	
44.4	MODESTO		SANDSTONE	17.0	362.0	
27.4	MODESTO		SHALE	1.0	379.0	BLUE
26.4	MODESTO		SHALE	57.0	380.0	
-30.6	MODESTO		SANDSTONE	15.0	437.0	
-45.6	MODESTO		SHALE	14.0	452.0	

-59.6	MODESTO		SHALE	19.0	466.0	BLUE
-78.6	MODESTO		SHALE	41.0	485.0	
-119.6	MODESTO		SANDSTONE	22.0	526.0	
-141.6	MODESTO		SHALE	5.0	548.0	
-146.6	MODESTO		SHALE	3.0	553.0	
-149.6	MODESTO		SHALE	7.0	556.0	BLUE
-156.6	MODESTO		SHALE	2.0	563.0	
-158.6	MODESTO		SHALE	24.0	565.0	BLUE
-182.6	MODESTO		SHALE	10.0	589.0	DARK
-192.6	MODESTO		COAL	0.5	599.0	
-193.1	MODESTO		SHALE	7.5	599.5	
-200.6	MODESTO		LIMESTONE	12.0	607.0	
-212.6	MODESTO		SHALE	19.0	619.0	
-231.6	MODESTO		SHALE	10.0	638.0	BLUE
-241.6	MODESTO		SHALE	19.0	648.0	BLUE
-260.6	MODESTO		SHALE	10.0	667.0	
-270.6	CARBONDALE	DANVILLE	COAL	2.0	677.0	
-272.6	CARBONDALE		UNDERCLAY	2.0	679.0	
-274.6	CARBONDALE		SHALE	2.0	681.0	
-276.6	CARBONDALE		SHALE	3.0	683.0	BLUE
-279.6	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	8.0	686.0	
-287.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	694.0	
-292.6	CARBONDALE		SHALE	12.0	699.0	
-304.6	CARBONDALE		SANDSTONE	7.0	711.0	
-311.6	CARBONDALE		SHALE	10.0	718.0	
-321.6	CARBONDALE		SHALE	4.0	728.0	BLUE
-325.6	CARBONDALE		SHALE	4.0	732.0	DARK
-329.6	CARBONDALE	BRERETON	LIMESTONE	6.0	736.0	BLUE
-335.6	CARBONDALE	ANNA	SHALE	0.8	742.0	BLUE
-336.4	CARBONDALE	HERRIN	COAL	5.8	742.8	
-342.1	CARBONDALE		UNDERCLAY	0.5	748.5	
-342.6	CARBONDALE		SHALY LIMESTONE	10.0	749.0	
-352.6	CARBONDALE		SHALE	10.0	759.0	BLUE
-362.6	CARBONDALE		SHALE	14.0	769.0	BLUE
-376.6	CARBONDALE		LIMESTONE	1.0	783.0	WHITE
-377.6	CARBONDALE		SHALE	20.0	784.0	
-397.6	CARBONDALE		SHALE	3.0	804.0	BLACK
-400.6	CARBONDALE		SHALE	17.0	807.0	BLUE
-417.6	CARBONDALE	SPRINGFIELD	COAL	5.0	824.0	

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**MAPID:** 06500179000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE NE SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.531273    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.057717    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 403.0    **LOGGED (FT.):** 4030.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, ABBOTT W A0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-302.0	CARBONDALE	HERRIN	COAL	-	705.0	
-392.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	
-1917.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2320.0	

**MAPID:** 06500180000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE SE NW  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.531224    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.061369    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 401.0    **LOGGED (FT.):** 4010.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, MORRIS J F0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-309.0	CARBONDALE	HERRIN	COAL	-	710.0	
-396.0	CARBONDALE	SPRINGFIELD	COAL	-	797.0	
-1919.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2320.0	

**MAPID:** 06500181000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NE SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.531249    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.059544    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 398.0    **LOGGED (FT.):** 3980.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, ABBOTT W A0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	-	701.0	
-398.0	CARBONDALE	SPRINGFIELD	COAL	-	796.0	

MAPID: 06500182000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: NW SW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.528987 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.055878 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 404.0 LOGGED (FT.): 4040.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, FREIL T M 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-306.0	CARBONDALE	HERRIN	COAL	-	710.0	
-391.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

MAPID: 06500183000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.5267 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.054039 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 4050.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, FREIL T M 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-295.0	CARBONDALE	HERRIN	COAL	-	700.0	
-393.0	CARBONDALE	SPRINGFIELD	COAL	-	798.0	

MAPID: 06500184000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: NW SE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.524367 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.055853 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 399.0 LOGGED (FT.): 3990.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, FREIL T M 0004 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-301.0	CARBONDALE	HERRIN	COAL	-	700.0	
-391.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0	
-1897.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2296.0	

**MAPID:** 06500185000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW SW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.529011    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.054053    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 408.0    **LOGGED (FT.):** 4080.0    **LOG TYPE:** Electric Log  
**SOURCE:** CARTER OC, FREIL T M 0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-297.0	CARBONDALE	HERRIN	COAL	-	705.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	-	798.0	

**MAPID:** 06500186000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.528962    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.057706    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 402.0    **LOGGED (FT.):** 4020.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, STELLE JON0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	-	705.0	
-393.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

**MAPID:** 06500187000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.52665    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.057692    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 402.0    **LOGGED (FT.):** 4020.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, STELLE JON0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-314.0	CARBONDALE	HERRIN	COAL	-	716.0	
-403.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	

**MAPID:** 06500188000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW NE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.524343    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.057677    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 393.0    **LOGGED (FT.):** 3930.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, STELLE JON0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-311.0	CARBONDALE	HERRIN	COAL	-	704.0	
-401.0	CARBONDALE	SPRINGFIELD	COAL	-	794.0	

**MAPID:** 06500189000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.526626    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.059516    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 396.0    **LOGGED (FT.):** 3960.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, STELLE JON0005    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-309.0	CARBONDALE	HERRIN	COAL	-	705.0	
-399.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

**MAPID:** 06500190000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.522006    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.059488    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 399.0    **LOGGED (FT.):** 3990.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, STELLE JON0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-311.0	CARBONDALE	HERRIN	COAL	-	710.0	
-401.0	CARBONDALE	SPRINGFIELD	COAL	-	800.0	



MAPID: 06500191000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.524293 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.061327 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 3950.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, STRUBNGR B0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-307.0	CARBONDALE	HERRIN	COAL	-	702.0	
-400.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

MAPID: 06500192000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.531298 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.055892 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 4070.0 LOG TYPE: Electric Log

SOURCE: PARKER DRC, TROBAUGH W0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	-	710.0	
-393.0	CARBONDALE	SPRINGFIELD	COAL	-	800.0	

MAPID: 06500193000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: NE SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.521957 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.06314 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 3980.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, STRUBNGR B0005 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-317.0	CARBONDALE	HERRIN	COAL	-	715.0	
-407.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	
-1882.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2280.0	

**MAPID:** 06500194000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** NE SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.52658    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.063168    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 399.0    **LOGGED (FT.):** 3990.0    **LOG TYPE:** Electric Log  
**SOURCE:** CARTER OC, STRUBNGR B0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-316.0	CARBONDALE	HERRIN	COAL	-	715.0
-411.0	CARBONDALE	SPRINGFIELD	COAL	-	810.0

**MAPID:** 06500195000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.528912    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.061355    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 400.0    **LOGGED (FT.):** 4000.0    **LOG TYPE:** Electric Log  
**SOURCE:** CARTER OC, STRUBNGR B0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-315.0	CARBONDALE	HERRIN	COAL	-	715.0
-402.0	CARBONDALE	SPRINGFIELD	COAL	-	802.0

**MAPID:** 06500196000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SE SE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.531322    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.054067    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 416.0    **LOGGED (FT.):** 4160.0    **LOG TYPE:** Electric Log  
**SOURCE:** PARKER DRC, TROBAUGH W0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-304.0	CARBONDALE	HERRIN	COAL	-	720.0
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0
-1901.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2317.0

MAPID: 06500199000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: SE SW NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.526605 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.061341 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 3980.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, STRUBNGR B0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-312.0	CARBONDALE	HERRIN	COAL	-	710.0	
-397.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

MAPID: 06500200000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.526675 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.055864 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 3980.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, FREIL T M 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-305.0	CARBONDALE	HERRIN	COAL	-	703.0	
-397.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

MAPID: 06500726000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.533585 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.057728 DATE COLLECTED:

SURFACE ELEVATION (FT.): 410.0 LOGGED (FT.): 3076.0 LOG TYPE: Electric Log

SOURCE: SPIRES H V WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-243.0	CARBONDALE	DANVILLE	COAL	-	653.0	
-260.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	670.0	
-274.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	684.0	
-306.0	CARBONDALE	HERRIN	COAL	4.0	716.0	
-314.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	10.0	724.0	
-337.0	CARBONDALE	BRIAR HILL	COAL	-	747.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	3.0	800.0	SHALE & SILTSTONE ROOF
-467.0	CARBONDALE	HOUCHIN CREEK	COAL	-	877.0	

MAPID: 06523805000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 27    QUARTERS/FOOTAGES: 368' S line, 438' E line of SE

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.522453    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.054119    DATE COLLECTED: 4 / 12 / 1974

SURFACE ELEVATION (FT.): 391.6    LOGGED (FT.): 820.0    LOG TYPE: Survey Core Study

SOURCE: AMAX C.C.    C3-84    WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-234.4	CARBONDALE	DANVILLE	COAL	3.0	626.0	
-296.4	CARBONDALE	HERRIN	COAL	6.0	688.0	
-390.4	CARBONDALE	SPRINGFIELD	COAL	6.5	782.0	

MAPID: 06501316000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 28    QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.540484    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.059561    DATE COLLECTED:

SURFACE ELEVATION (FT.):    LOGGED (FT.): 3119.0    LOG TYPE: Electric Log

SOURCE: FARRAR DRILLING CO    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	5.0	734.0	
-	CARBONDALE	BRIAR HILL	COAL	-	770.0	
-	CARBONDALE	SPRINGFIELD	COAL	3.0	812.0	SHALE & SILTSTONE ROOF
-	CARBONDALE	HOUCHIN CREEK	COAL	-	888.0	

MAPID: 06501316000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 28    QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.540484    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.059561    DATE COLLECTED:

SURFACE ELEVATION (FT.): 408.0    LOGGED (FT.): 740.0    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	PIASA	LIMESTONE & SHALE	10.0	604.0
-206.0	MODESTO		SHALE	56.0	614.0
-262.0	CARBONDALE	DANVILLE	COAL	2.0	670.0
-264.0	CARBONDALE		SHALE	14.0	672.0
-278.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	686.0
-282.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	20.0	690.0
-302.0	CARBONDALE	LAWSON	SHALE	15.0	710.0
-317.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	725.0
-318.0	CARBONDALE		CLAYSTONE & SHALE	2.0	726.0
-320.0	CARBONDALE	BRERETON	LIMESTONE	7.0	728.0
-327.0	CARBONDALE	ANNA	BLACK SHALE	1.0	735.0
-328.0	CARBONDALE	HERRIN	COAL	4.0	736.0

MAPID: 06500201000C    VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 30    QUARTERS/FOOTAGES: 660' S line, 2310' W line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.586469    GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 38.054759    DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 465.0    LOGGED (FT.): 4650.0    LOG TYPE: Electric Log

SOURCE: SUN OC, SWANK WHITE0001    WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-425.0	CARBONDALE	HERRIN	COAL	-	890.0
-490.0	CARBONDALE	SPRINGFIELD	COAL	-	955.0
-2025.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2490.0

MAPID: 06500201000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 30 QUARTERS/FOOTAGES: 660' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.586469 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.054759 DATE COLLECTED:

SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 896.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-305.0	MODESTO	PIASA	LIMESTONE & SHALE	10.0	770.0	
-315.0	MODESTO		SHALE	36.0	780.0	
-351.0	CARBONDALE	DANVILLE	COAL	2.0	816.0	
-353.0	CARBONDALE		SHALE	19.0	818.0	
-372.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	837.0	
-379.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.0	844.0	
-381.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	846.0	
-396.0	CARBONDALE	LAWSON	SHALE	22.0	861.0	
-418.0	CARBONDALE	BRERETON	LIMESTONE	7.0	883.0	
-425.0	CARBONDALE	ANNA	BLACK SHALE	1.0	890.0	
-426.0	CARBONDALE	HERRIN	COAL	5.0	891.0	

MAPID: 06500201000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 30 QUARTERS/FOOTAGES: 660' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.586469 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.054759 DATE COLLECTED:

SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 3516.0 LOG TYPE: Electric Log

SOURCE: SUN PRODUCTION COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-347.0	CARBONDALE	DANVILLE	COAL	-	812.0	
-371.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	836.0	
-382.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	11.0	847.0	
-425.0	CARBONDALE	HERRIN	COAL	6.0	890.0	
-451.0	CARBONDALE	BRIAR HILL	COAL	-	916.0	
-485.0	CARBONDALE	SPRINGFIELD	COAL	6.0	950.0	BLACK SHALE & LIMESTONE ROOF
-565.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1030.0	

MAPID: 06501709000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 31 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.577706 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.039237 DATE COLLECTED:

SURFACE ELEVATION (FT.): 473.0 LOGGED (FT.): 3188.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-371.0	CARBONDALE	HERRIN	COAL	6.0	844.0	
-397.0	CARBONDALE	BRIAR HILL	COAL	-	870.0	
-437.0	CARBONDALE	SPRINGFIELD	COAL	4.0	910.0	SHALE & SILTSTONE ROOF
-513.0	CARBONDALE	HOUCHIN CREEK	COAL	-	986.0	

MAPID: 06501709000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 31 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.577706 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.039237 DATE COLLECTED:

SURFACE ELEVATION (FT.): 473.0 LOGGED (FT.): 851.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-241.0	MODESTO	PIASA	LIMESTONE & SHALE	12.0	714.0	
-253.0	MODESTO		SHALE	32.0	726.0	
-285.0	CARBONDALE	DANVILLE	COAL	1.0	758.0	
-286.0	CARBONDALE		SHALE & SANDSTONE	26.0	759.0	
-312.0	CARBONDALE	ALLENBY	BONE COAL	1.0	785.0	
-313.0	CARBONDALE		CLAYSTONE & SHALE	7.0	786.0	
-320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	793.0	
-324.0	CARBONDALE	LAWSON	SHALE	4.0	797.0	
-328.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	23.0	801.0	
-351.0	CARBONDALE	LAWSON	SHALE	10.0	824.0	
-361.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	834.0	
-362.0	CARBONDALE		SHALE	1.0	835.0	
-363.0	CARBONDALE	BRERETON	LIMESTONE	7.0	836.0	
-370.0	CARBONDALE	ANNA	BLACK SHALE	2.0	843.0	
-372.0	CARBONDALE	HERRIN	COAL	6.0	845.0	

MAPID: 06500735000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.570793 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.039311 DATE COLLECTED:

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 3227.0 LOG TYPE: Electric Log

SOURCE: RUTHERFORD, HOMER WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-261.0	CARBONDALE	DANVILLE	COAL	-	800.0	
-272.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	811.0	
-297.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	836.0	
-306.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SILTSTONE	14.0	845.0	
-347.0	CARBONDALE	HERRIN	COAL	5.0	886.0	
-379.0	CARBONDALE	BRIAR HILL	COAL	-	918.0	
-419.0	CARBONDALE	SPRINGFIELD	COAL	4.0	958.0	SHALE & SILTSTONE ROOF
-431.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	13.0	970.0	
-499.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1038.0	

MAPID: 06500735000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.570793 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.039311 DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0 LOGGED (FT.): 891.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-218.0	MODESTO	PIASA	LIMESTONE & SHALE	13.0	756.0	
-231.0	MODESTO		SHALE	34.0	769.0	
-265.0	CARBONDALE	DANVILLE	COAL	1.0	803.0	
-266.0	CARBONDALE		SHALE & SANDSTONE	26.0	804.0	
-292.0	CARBONDALE	ALLENBY	BONE COAL	1.0	830.0	
-293.0	CARBONDALE		CLAYSTONE & SHALE	7.0	831.0	
-300.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	838.0	
-304.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	2.0	842.0	
-306.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	16.0	844.0	
-322.0	CARBONDALE	LAWSON	SHALE	16.0	860.0	
-338.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	876.0	
-339.0	CARBONDALE		SHALE	1.0	877.0	
-340.0	CARBONDALE	BRERETON	LIMESTONE	6.0	878.0	
-346.0	CARBONDALE	ANNA	BLACK SHALE	2.0	884.0	
-348.0	CARBONDALE	HERRIN	COAL	5.0	886.0	



MAPID: 06500734000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.542917 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.044985 DATE COLLECTED:

SURFACE ELEVATION (FT.): 519.0 LOGGED (FT.): 3351.0 LOG TYPE: Electric Log

SOURCE: SKILES, C. E., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-241.0	CARBONDALE	DANVILLE	COAL	-	760.0	
-245.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	7.0	764.0	
-266.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	785.0	
-282.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	11.0	801.0	
-311.0	CARBONDALE	HERRIN	COAL	6.0	830.0	
-318.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	8.0	837.0	
-341.0	CARBONDALE	BRIAR HILL	COAL	-	860.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	5.0	909.0	SHALE & SILTSTONE ROOF
-468.0	CARBONDALE	HOUCHIN CREEK	COAL	-	987.0	

MAPID: 06500907000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 33 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.554539 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.04311 DATE COLLECTED:

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 1164.0 LOG TYPE: Electric Log

SOURCE: RICHARD W PORTIS 907 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.0			UNKNOWN	1104.0	0.0	
-579.0	CARBONDALE	COLCHESTER	COAL	1.0	1104.0	THICKNESS LESS THAN 16"
-580.0	CARBONDALE		UNKNOWN	23.0	1105.0	
-603.0	CARBONDALE	DEKOVEN	COAL	2.0	1128.0	
-605.0	CARBONDALE		UNKNOWN	30.0	1130.0	
-635.0	CARBONDALE	DAVIS	COAL	4.0	1160.0	

MAPID: 06500907000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 33    QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.554539

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.04311

DATE COLLECTED:

SURFACE ELEVATION (FT.): 525.0    LOGGED (FT.): 851.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-193.0	MODESTO	PIASA	LIMESTONE & SHALE	15.0	718.0	
-208.0	MODESTO		SHALE	40.0	733.0	
-248.0	CARBONDALE	DANVILLE	COAL	2.0	773.0	
-250.0	CARBONDALE		SHALE & SANDSTONE	28.0	775.0	
-278.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	803.0	
-283.0	CARBONDALE	LAWSON	SILTY SHALE	26.0	808.0	
-309.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	834.0	
-310.0	CARBONDALE		SHALE	2.0	835.0	
-312.0	CARBONDALE	BRERETON	LIMESTONE	7.0	837.0	
-321.0	CARBONDALE	HERRIN	COAL	5.0	846.0	

MAPID: 06503408000C    VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 33    QUARTERS/FOOTAGES: 330' N line, 330' W line of SE NW

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.55215

GEOLOGIST: STRAAYER

CONFIDENTIAL: N    LATITUDE: 38.048499

DATE COLLECTED: 12 / 1 / 1964

SURFACE ELEVATION (FT.): 454.0    LOGGED (FT.): 1130.0

LOG TYPE: Electric Log

SOURCE: KIRBY PETROLEUM CO    2408

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
454.0			UNKNOWN	1064.5	0.0	
-610.5	CARBONDALE	COLCHESTER	COAL	1.0	1064.5	THICKNESS LESS THAN 16"
-611.5	CARBONDALE		UNKNOWN	30.5	1065.5	
-642.0	CARBONDALE	DEKOVEN	COAL	2.0	1096.0	
-644.0	CARBONDALE		UNKNOWN	29.0	1098.0	
-673.0	CARBONDALE	DAVIS	COAL	3.0	1127.0	

**MAPID:** 06500202000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE NW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.526725    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.052215    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 427.0    **LOGGED (FT.):** 4270.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, AUSTIN J 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-288.0	CARBONDALE	HERRIN	COAL	-	715.0	
-383.0	CARBONDALE	SPRINGFIELD	COAL	-	810.0	

**MAPID:** 06500203000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW NW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.529131    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043113    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 451.0    **LOGGED (FT.):** 4510.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, AUSTIN J 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-284.0	CARBONDALE	HERRIN	COAL	-	735.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	-	830.0	
-1905.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2356.0	

**MAPID:** 06500204000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.531393    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.046776    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 421.0    **LOGGED (FT.):** 4210.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 005B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-284.0	CARBONDALE	HERRIN	COAL	-	705.0	
-384.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	

**MAPID:** 06500205000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.531375    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.048599    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 460.0    **LOGGED (FT.):** 4600.0    **LOG TYPE:** Electric Log  
**SOURCE:** HOSS L B, CAMPBELL G0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-275.0	CARBONDALE	HERRIN	COAL	-	735.0	
-335.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

**MAPID:** 06500206000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.526792    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.04674    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 434.0    **LOGGED (FT.):** 2982.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REFINING CO-EPD    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-207.0	CARBONDALE	DANVILLE	COAL	-	641.0	
-226.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	660.0	
-271.0	CARBONDALE	HERRIN	COAL	5.0	705.0	
-278.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	35.0	712.0	
-316.0	CARBONDALE	BRIAR HILL	COAL	-	750.0	
-371.0	CARBONDALE	SPRINGFIELD	COAL	6.0	805.0	SHALE ROOF
-446.0	CARBONDALE	HOUCHIN CREEK	COAL	-	880.0	

**MAPID:** 06500206000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.526792    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.04674    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 434.0    **LOGGED (FT.):** 4340.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, MORRIS G W0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-276.0	CARBONDALE	HERRIN	COAL	-	710.0	
-371.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	

**MAPID:** 06500207000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.529071    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.048582    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 466.0    **LOGGED (FT.):** 4660.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, MORRIS G W0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-279.0	CARBONDALE	HERRIN	COAL	-	745.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	-	845.0	

**MAPID:** 06500208000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.529092    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.04676    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 444.0    **LOGGED (FT.):** 4440.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, MORRIS G W0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-271.0	CARBONDALE	HERRIN	COAL	-	715.0	
-371.0	CARBONDALE	SPRINGFIELD	COAL	-	815.0	
-1902.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2346.0	

**MAPID:** 06500209000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.526767    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.048565    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 4360.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, MORRIS 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-279.0	CARBONDALE	HERRIN	COAL	-	715.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	-	815.0	

**MAPID:** 0650021000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW SE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.524491    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.046721    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 416.0    **LOGGED (FT.):** 4160.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, MORRIS F M0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-269.0	CARBONDALE	HERRIN	COAL	-	685.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	-	788.0	

**MAPID:** 06500211000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.524467    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.048548    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 414.0    **LOGGED (FT.):** 4140.0    **LOG TYPE:** Electric Log  
**SOURCE:** STELLE J H, L & N RR 1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-271.0	CARBONDALE	HERRIN	COAL	-	685.0	
-376.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0	

**MAPID:** 06500212000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.522191    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.046704    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 403.0    **LOGGED (FT.):** 4030.0    **LOG TYPE:** Electric Log  
**SOURCE:** HINKLE&STL, L & N RR 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-264.0	CARBONDALE	HERRIN	COAL	-	667.0	
-369.0	CARBONDALE	SPRINGFIELD	COAL	-	772.0	

**MAPID:** 06500213000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.522191    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.046704    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 404.0    **LOGGED (FT.):** 4040.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, MORRIS 0007    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-266.0	CARBONDALE	HERRIN	COAL	-	670.0
-366.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0

**MAPID:** 06500214000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW NE SW  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.533718    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043155    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 430.0    **LOGGED (FT.):** 4300.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, FREIL M E 019B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-275.0	CARBONDALE	HERRIN	COAL	-	705.0
-370.0	CARBONDALE	SPRINGFIELD	COAL	-	800.0
-1898.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2328.0

**MAPID:** 06500215000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE NE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.531424    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043135    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 418.0    **LOGGED (FT.):** 4180.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 012B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-273.0	CARBONDALE	HERRIN	COAL	-	691.0
-368.0	CARBONDALE	SPRINGFIELD	COAL	-	786.0

**MAPID:** 06500216000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE NE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.531407    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.044957    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 429.0    **LOGGED (FT.):** 4290.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 007B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-281.0	CARBONDALE	HERRIN	COAL	-	710.0
-371.0	CARBONDALE	SPRINGFIELD	COAL	-	800.0

**MAPID:** 06500217000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SW SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.536035    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.039541    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 428.0    **LOGGED (FT.):** 4280.0    **LOG TYPE:** Electric Log  
**SOURCE:** LAIN OG, HOOD C W 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-267.0	CARBONDALE	HERRIN	COAL	-	695.0
-352.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0
-1902.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2330.0

**MAPID:** 06500218000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW SE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.533746    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.039516    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 418.0    **LOGGED (FT.):** 4180.0    **LOG TYPE:** Electric Log  
**SOURCE:** SNCLR WYOM, FREIL M E 018C    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-267.0	CARBONDALE	HERRIN	COAL	-	685.0
-357.0	CARBONDALE	SPRINGFIELD	COAL	-	775.0



MAPID: 06500219000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 34 QUARTERS/FOOTAGES: SW SE SE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.524591 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.039416 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 404.0 LOGGED (FT.): 996.0 LOG TYPE: Electric Log  
 SOURCE: SHELL OIL COMPANY 219 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
404.0			UNKNOWN	937.0	0.0	
-533.0	CARBONDALE	COLCHESTER	COAL	1.0	937.0	THICKNESS LESS THAN 16"
-534.0	CARBONDALE		UNKNOWN	29.0	938.0	
-563.0	CARBONDALE	DEKOVEN	COAL	3.0	967.0	
-566.0	CARBONDALE		UNKNOWN	23.0	970.0	
-589.0	CARBONDALE	DAVIS	COAL	3.0	993.0	

MAPID: 06500219000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 34 QUARTERS/FOOTAGES: SW SE SE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.524591 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.039416 DATE COLLECTED: 0 / 0 / 1940  
 SURFACE ELEVATION (FT.): 404.0 LOGGED (FT.): 4040.0 LOG TYPE: Electric Log  
 SOURCE: SHELL OC, PORTER N 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-256.0	CARBONDALE	HERRIN	COAL	-	660.0	
-356.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	

MAPID: 06500220000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 34 QUARTERS/FOOTAGES: SE SE SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.531456 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.039491 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 418.0 LOGGED (FT.): 4180.0 LOG TYPE: Electric Log  
 SOURCE: EXCHNGE OC, FREIL M E 015C WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-267.0	CARBONDALE	HERRIN	COAL	-	685.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0	

**MAPID:** 06500221000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.531442    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.041313    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 431.0    **LOGGED (FT.):** 4310.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 013C    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-259.0	CARBONDALE	HERRIN	COAL	-	690.0	
-354.0	CARBONDALE	SPRINGFIELD	COAL	-	785.0	

**MAPID:** 06500222000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE NW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.526813    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.044916    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 420.0    **LOGGED (FT.):** 4200.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 002B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-275.0	CARBONDALE	HERRIN	COAL	-	695.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0	
-1885.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2305.0	

**MAPID:** 06500223000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.52911    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.044935    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 429.0    **LOGGED (FT.):** 4290.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 003B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-276.0	CARBONDALE	HERRIN	COAL	-	705.0	
-366.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

**MAPID:** 06500224000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.526834    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043091    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 410.0    **LOGGED (FT.):** 4100.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 008B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-274.0	CARBONDALE	HERRIN	COAL	-	684.0
-374.0	CARBONDALE	SPRINGFIELD	COAL	-	784.0

**MAPID:** 06500225000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW NW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.529131    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043113    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 420.0    **LOGGED (FT.):** 4200.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 010B    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-275.0	CARBONDALE	HERRIN	COAL	-	695.0
-370.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0

**MAPID:** 06500226000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.522219    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.044877    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 399.0    **LOGGED (FT.):** 3990.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 004A    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-277.0	CARBONDALE	HERRIN	COAL	-	676.0
-367.0	CARBONDALE	SPRINGFIELD	COAL	-	766.0

**MAPID:** 06500227000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.522219    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.044877    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 416.0    **LOGGED (FT.):** 4160.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 001A    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-284.0	CARBONDALE	HERRIN	COAL	-	700.0	
-369.0	CARBONDALE	SPRINGFIELD	COAL	-	785.0	

**MAPID:** 06500228000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW NE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.524541    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043069    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 407.0    **LOGGED (FT.):** 4070.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 009A    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-273.0	CARBONDALE	HERRIN	COAL	-	680.0	
-363.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	

**MAPID:** 06500229000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE NE SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.522248    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043049    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 397.0    **LOGGED (FT.):** 3970.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 011A    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-272.0	CARBONDALE	HERRIN	COAL	-	669.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	759.0	
-1875.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2272.0	

**MAPID:** 06500230000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SW SW SE  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.52917    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.039466    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 410.0    **LOGGED (FT.):** 4100.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, PORTER N 0008    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-270.0	CARBONDALE	HERRIN	COAL	-	680.0	
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	775.0	

**MAPID:** 06500231000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.52688    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.039441    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 406.0    **LOGGED (FT.):** 4060.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, PORTER N 0005    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-264.0	CARBONDALE	HERRIN	COAL	-	670.0	
-359.0	CARBONDALE	SPRINGFIELD	COAL	-	765.0	

**MAPID:** 06500232000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.526859    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.041266    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 411.0    **LOGGED (FT.):** 4110.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, PORTER N 002A    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-269.0	CARBONDALE	HERRIN	COAL	-	680.0	
-369.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0	

**MAPID:** 06500233000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.529149    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.041291    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 413.0    **LOGGED (FT.):** 4130.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, PORTER N 0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-271.0	CARBONDALE	HERRIN	COAL	-	684.0	
-385.0	CARBONDALE	SPRINGFIELD	COAL	-	798.0	
-1881.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2294.0	

**MAPID:** 06500234000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NE SE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.522276    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.041222    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 402.0    **LOGGED (FT.):** 4020.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, PORTER N 0007    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-262.0	CARBONDALE	HERRIN	COAL	-	664.0	
-356.0	CARBONDALE	SPRINGFIELD	COAL	-	758.0	

**MAPID:** 06500235000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.522304    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.039394    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 398.0    **LOGGED (FT.):** 3980.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, PORTER N 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-252.0	CARBONDALE	HERRIN	COAL	-	650.0	
-352.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	

MAPID: 0650209000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 34 QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.529018

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.052228

DATE COLLECTED:

SURFACE ELEVATION (FT.): 434.0

LOGGED (FT.): 723.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-222.0	CARBONDALE	DANVILLE	COAL	2.5	656.0	
-224.5	CARBONDALE		SHALE	13.0	658.5	
-237.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	671.5	
-242.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	32.0	676.5	
-274.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	708.5	
-275.5	CARBONDALE		CLAYSTONE & SHALE	2.0	709.5	
-277.5	CARBONDALE	BRERETON	LIMESTONE	5.0	711.5	
-282.5	CARBONDALE	ANNA	BLACK SHALE	1.5	716.5	
-284.0	CARBONDALE	HERRIN	COAL	5.0	718.0	

MAPID: 06503349000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 34 QUARTERS/FOOTAGES: 379' S line, 1280' E line of NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.525505

GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.046865

DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0

LOGGED (FT.): 1016.0

LOG TYPE: Electric Log

SOURCE: KINGWOOD OIL CO 3349

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
417.0			UNKNOWN	960.0	0.0	
-543.0	CARBONDALE	COLCHESTER	COAL	1.0	960.0	THICKNESS LESS THAN 16"
-544.0	CARBONDALE		UNKNOWN	22.0	961.0	
-566.0	CARBONDALE	DEKOVEN	COAL	3.0	983.0	
-569.0	CARBONDALE		UNKNOWN	28.0	986.0	
-597.0	CARBONDALE	DAVIS	COAL	2.0	1014.0	

MAPID: 06500236000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 35 QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.51989 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.046695 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 3970.0 LOG TYPE: Electric Log

SOURCE: ILL PROD, JACKSON 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-268.0	CARBONDALE	HERRIN	COAL	-	665.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	-	765.0	
-1882.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2279.0	

MAPID: 06500237000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 35 QUARTERS/FOOTAGES: SW NW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.519833 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.050353 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 3940.0 LOG TYPE: Electric Log

SOURCE: HAYES DRC, HOOD E 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-271.0	CARBONDALE	HERRIN	COAL	-	665.0	
-376.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1895.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2289.0	

MAPID: 06500238000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 35 QUARTERS/FOOTAGES: NE SE NE

QUADRANGLE: THACKERAY LONGITUDE: -88.503756 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.048536 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 3920.0 LOG TYPE: Electric Log

SOURCE: EXCHNGE OC, GEN AM INS0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	-	695.0	
-413.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	
-1936.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2328.0	



**MAPID:** 06500239000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.519919    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.044865    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 400.0    **LOGGED (FT.):** 4000.0    **LOG TYPE:** Electric Log  
**SOURCE:** HAYES DRC, MORRIS 0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-265.0	CARBONDALE	HERRIN	COAL	-	665.0
-360.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0

**MAPID:** 06500240000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** SW NW SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.519947    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043038    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 399.0    **LOGGED (FT.):** 3990.0    **LOG TYPE:** Electric Log  
**SOURCE:** EXCHNGE OC, FREIL M E 014A    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-263.0	CARBONDALE	HERRIN	COAL	-	662.0
-361.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0

**MAPID:** 06500241000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** SE NE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.503815    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.043026    **DATE COLLECTED:** 0 / 0 / 1939  
**SURFACE ELEVATION (FT.):** 388.0    **LOGGED (FT.):** 3880.0    **LOG TYPE:** Electric Log  
**SOURCE:** MCBRIDEINC, GEN AM INS0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-312.0	CARBONDALE	HERRIN	COAL	-	700.0
-417.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0
-1944.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2332.0

**MAPID:** 06500377000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** SW SW SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.520004    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.03938    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 394.0    **LOGGED (FT.):** 3940.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, EDWARD G G0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-256.0	CARBONDALE	HERRIN	COAL	-	650.0	
-364.0	CARBONDALE	SPRINGFIELD	COAL	-	758.0	

**MAPID:** 06501020000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.51989    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.04669    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 3277.0    **LOG TYPE:** Electric Log  
**SOURCE:** CALVERT DRILLING, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-282.0	CARBONDALE	HERRIN	COAL	5.0	672.0	
-377.0	CARBONDALE	SPRINGFIELD	COAL	5.0	767.0	SANDSTONE/SHALE ROOF
-450.0	CARBONDALE	HOUCHIN CREEK	COAL	-	840.0	

**MAPID:** 06523806000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** 2369' S line, 356' W line  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.519826    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.045005    **DATE COLLECTED:** 1 / 31 / 1974  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 797.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-81    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-212.0	CARBONDALE	DANVILLE	COAL	3.0	602.0	
-277.0	CARBONDALE	HERRIN	COAL	6.0	667.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	5.0	758.0	

MAPID: 06523806000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 35 QUARTERS/FOOTAGES: 2369' S line, 356' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.519826 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.045005 DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 673.5 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-81 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-211.8	CARBONDALE	DANVILLE	COAL	3.0	601.8
-214.8	CARBONDALE		SILTY SHALE	14.0	604.8
-228.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	618.8
-233.8	CARBONDALE	LAWSON	SILTY SHALE	31.0	623.8
-264.8	CARBONDALE	CONANT	LIMESTONE	0.4	654.8
-265.2	CARBONDALE	JAMESTOWN	BONE COAL	0.4	655.2
-265.6	CARBONDALE		CLAYSTONE & SHALE	3.3	655.6
-268.9	CARBONDALE	BRERETON	LIMESTONE	6.6	658.9
-275.5	CARBONDALE	ANNA	BLACK SHALE	1.5	665.5
-277.0	CARBONDALE	HERRIN	COAL	6.5	667.0

MAPID: 06500242000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 36 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.487481 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.051958 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 4170.0 LOG TYPE: Electric Log

SOURCE: KINGWOODOC, WEIR J 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-333.0	CARBONDALE	HERRIN	COAL	-	750.0
-433.0	CARBONDALE	SPRINGFIELD	COAL	-	850.0
-1935.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2352.0

MAPID: 06500243000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 36 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.485317 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.046437 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 403.0 LOGGED (FT.): 4030.0 LOG TYPE: Electric Log

SOURCE: EASON OC, PRINCE C M0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-312.0	CARBONDALE	HERRIN	COAL	-	715.0
-407.0	CARBONDALE	SPRINGFIELD	COAL	-	810.0
-1907.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2310.0

MAPID: 06500244000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 36 QUARTERS/FOOTAGES: NW SE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.487771 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.040986 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 3830.0 LOG TYPE: Electric Log

SOURCE: PURE OC, UNION CEN 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-317.0	CARBONDALE	HERRIN	COAL	-	700.0
-417.0	CARBONDALE	SPRINGFIELD	COAL	-	800.0
-1907.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2290.0

MAPID: 06500245000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 36 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.485532 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.03913 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 3820.0 LOG TYPE: Electric Log

SOURCE: PURE OC, UNION CEN 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-318.0	CARBONDALE	HERRIN	COAL	-	700.0
-403.0	CARBONDALE	SPRINGFIELD	COAL	-	785.0

MAPID: 06500725000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.489978 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.04468 DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 3245.0 LOG TYPE: Electric Log

SOURCE: PURE OIL CO., THE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-264.0	CARBONDALE	DANVILLE	COAL	-	654.0	
-270.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	7.0	660.0	
-284.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	674.0	
-295.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	685.0	
-328.0	CARBONDALE	HERRIN	COAL	5.0	718.0	
-356.0	CARBONDALE	BRIAR HILL	COAL	-	746.0	
-422.0	CARBONDALE	SPRINGFIELD	COAL	7.0	812.0	SHALE ROOF
-440.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	14.0	830.0	
-506.0	CARBONDALE	HOUCHIN CREEK	COAL	-	896.0	

MAPID: 06502122000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 6E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.490071 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.041023 DATE COLLECTED:

SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 1031.0 LOG TYPE: Electric Log

SOURCE: PURE OIL CO. 2122 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
382.0			UNKNOWN	977.0	0.0	
-595.0	CARBONDALE	COLCHESTER	COAL	1.0	977.0	THICKNESS LESS THAN 16"
-596.0	CARBONDALE		UNKNOWN	21.0	978.0	
-617.0	CARBONDALE	DEKOVEN	COAL	3.0	999.0	
-620.0	CARBONDALE		UNKNOWN	27.0	1002.0	
-647.0	CARBONDALE	DAVIS	COAL	2.0	1029.0	

MAPID: 06523781000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 36    QUARTERS/FOOTAGES: 584' N line, 1277' E line

QUADRANGLE: THACKERAY    LONGITUDE: -88.488475    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.051277    DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 412.5    LOGGED (FT.): 841.0    LOG TYPE: Survey Core Study

SOURCE: AMAX C.C.    C3-85    WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-327.5	CARBONDALE	HERRIN	COAL	6.0	740.0
-421.5	CARBONDALE	SPRINGFIELD	COAL	5.1	834.0

MAPID: 06523781000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 6E    SECTION: 36    QUARTERS/FOOTAGES: 584' N line, 1277' E line

QUADRANGLE: THACKERAY    LONGITUDE: -88.488475    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 38.051277    DATE COLLECTED:

SURFACE ELEVATION (FT.): 413.0    LOGGED (FT.): 745.0    LOG TYPE: Survey Core Study

SOURCE: AMAX C.C.    C3-85    WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-263.5	CARBONDALE	DANVILLE	COAL	3.0	676.5
-266.5	CARBONDALE		SHALE & SANDSTONE	12.0	679.5
-278.5	CARBONDALE	ALLENBY	BONE COAL	1.0	691.5
-279.5	CARBONDALE		CLAYSTONE & SHALE	2.0	692.5
-281.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.5	694.5
-286.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	699.0
-293.0	CARBONDALE	LAWSON	SANDSTONE	4.0	706.0
-297.0	CARBONDALE	LAWSON	GRAY SHALE	20.0	710.0
-317.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	730.0
-318.0	CARBONDALE		CALCAREOUS SHALE	1.0	731.0
-319.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.0	732.0
-325.0	CARBONDALE	ANNA	BLACK SHALE	2.0	738.0
-327.0	CARBONDALE	HERRIN	COAL	5.0	740.0

MAPID: 06501509000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 1 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.382822 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.118542 DATE COLLECTED:

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 3555.0 LOG TYPE: Electric Log

SOURCE: TOKLAN PROD. CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-541.0	CARBONDALE	HERRIN	COAL	4.0	968.0	
-596.0	CARBONDALE	BRIAR HILL	COAL	-	1023.0	
-660.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1087.0	SHALE ROOF
-743.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1170.0	

MAPID: 06501509000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 1 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.382822 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.118542 DATE COLLECTED:

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 972.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-477.5	CARBONDALE	DANVILLE	COAL	2.5	904.5	
-480.0	CARBONDALE		SHALE	16.0	907.0	
-496.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	923.0	
-499.0	CARBONDALE	LAWSON	SHALE	5.0	926.0	
-504.0	CARBONDALE	LAWSON	SANDSTONE	33.0	931.0	
-537.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	964.0	
-539.0	CARBONDALE	ANNA	CLAYSTONE & SHALE	2.0	966.0	
-541.0	CARBONDALE	HERRIN	COAL	4.0	968.0	

MAPID: 06501509000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 1 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.382822 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.118542 DATE COLLECTED:

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 1337.5 LOG TYPE: Electric Log

SOURCE: TOKLAN PROD CO 1509 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
427.0			UNKNOWN	1248.0	0.0	
-821.0	CARBONDALE	COLCHESTER	COAL	1.0	1248.0	
-822.0	CARBONDALE		UNKNOWN	30.0	1249.0	
-852.0	CARBONDALE	DEKOVEN	COAL	3.0	1279.0	
-855.0	CARBONDALE		UNKNOWN	53.0	1282.0	
-908.0	CARBONDALE	DAVIS	COAL	2.5	1335.0	

MAPID: 06590201000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 1 QUARTERS/FOOTAGES: 203' S line, 105' W line of NW

QUADRANGLE: THACKERAY LONGITUDE: -88.390531 GEOLOGIST: NORTH

CONFIDENTIAL: N LATITUDE: 38.118366 DATE COLLECTED:

SURFACE ELEVATION (FT.): 438.8 LOGGED (FT.): 1135.0 LOG TYPE: Drillers Log

SOURCE: AMAX C1-73 WELL TYPE: Coal Test

COMMENT: CARMI 1BOX #75 CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
438.8	CARBONDALE		UNCLASSIFIED	921.0	0.0	DEPTH'S FROM G-LOG
-482.2	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	921.0	FROM G-LOG
-484.2	CARBONDALE		UNCLASSIFIED	42.5	923.0	
-526.7	CARBONDALE	BRERETON	LIMESTONE	3.0	965.5	G-LOG
-529.7	CARBONDALE	ANNA	BLACK SHALE	3.0	968.5	G-LOG
-532.7	CARBONDALE	HERRIN	COAL	4.3	971.5	FROM CORE
-537.0	CARBONDALE		UNDERCLAY	2.6	975.8	FROM CORE
-539.6	CARBONDALE	HIGGINSVILLE	LIMESTONE	3.8	978.4	FROM CORE
-543.4	CARBONDALE		CLAYSTONE	4.3	982.2	
-547.7	CARBONDALE		UNCLASSIFIED	51.5	986.5	
-599.2	CARBONDALE	ST. DAVID	LIMESTONE	3.5	1038.0	FROM G-LOG
-602.7	CARBONDALE	TURNER MINE	BLACK SHALE	2.5	1041.5	FROM G-LOG
-605.2	CARBONDALE	DYKERSBURG	SHALE	40.0	1044.0	FROM G-LOG
-645.2	CARBONDALE	SPRINGFIELD	COAL	6.5	1084.0	FROM CORE
-651.7	CARBONDALE		GRAY SHALE	2.0	1090.5	FROM CORE
-653.7	CARBONDALE		UNCLASSIFIED	42.5	1092.5	



MAPID: 06500506000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 2 QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.396659 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.117293 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 464.0 LOGGED (FT.): 4640.0 LOG TYPE: Electric Log

SOURCE: KINGWOODOC, SWADER J 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-532.0	CARBONDALE	HERRIN	COAL	-	996.0	
-636.0	CARBONDALE	SPRINGFIELD	COAL	-	1100.0	
-2144.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2608.0	

MAPID: 06500702000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 2 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.405825 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.119189 DATE COLLECTED:

SURFACE ELEVATION (FT.): 447.0 LOGGED (FT.): 3354.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-457.0	CARBONDALE	DANVILLE	COAL	-	904.0	
-477.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	22.0	924.0	
-517.0	CARBONDALE	HERRIN	COAL	4.0	964.0	
-533.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	10.0	980.0	
-577.0	CARBONDALE	BRIAR HILL	COAL	-	1024.0	
-623.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1070.0	SHALE & SILTSTONE ROOF
-685.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	10.0	1132.0	
-695.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1142.0	

MAPID: 06503286000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.40805 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.123608 DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 1299.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO. 3286 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
428.0			UNKNOWN	1216.0	0.0	
-788.0	CARBONDALE	COLCHESTER	COAL	3.5	1216.0	
-791.5	CARBONDALE		UNKNOWN	45.5	1219.5	
-837.0	CARBONDALE	DEKOVEN	COAL	3.0	1265.0	
-840.0	CARBONDALE		UNKNOWN	28.0	1268.0	
-868.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	1296.0	
-869.0	CARBONDALE		UNKNOWN	1.0	1297.0	
-870.0	CARBONDALE	DAVIS	COAL	1.0	1298.0	

MAPID: 06503286000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.40805 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.123608 DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 964.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-468.5	CARBONDALE	DANVILLE	COAL	2.5	896.5	
-471.0	CARBONDALE		SHALE	17.0	899.0	
-488.0	CARBONDALE	ALLENBY	COAL	2.0	916.0	
-490.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	21.0	918.0	
-511.0	CARBONDALE	LAWSON	SHALE	15.0	939.0	
-526.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	954.0	
-528.0	CARBONDALE	ANNA	CLAYSTONE & SHALE	3.0	956.0	
-531.0	CARBONDALE	HERRIN	COAL	5.0	959.0	

MAPID: 06500247000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 3 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: THACKERAY LONGITUDE: -88.419638

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.119325

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 453.0

LOGGED (FT.): 4530.0

LOG TYPE: Electric Log

SOURCE: OHIO OIL, 1 NAT BANK0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-647.0	CARBONDALE	SPRINGFIELD	COAL	-	1100.0	
-2127.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2580.0	

MAPID: 06500701000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.417406

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.112012

DATE COLLECTED:

SURFACE ELEVATION (FT.): 475.0

LOGGED (FT.): 3550.0

LOG TYPE: Electric Log

SOURCE: CALVERT & WILLIS, INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-455.0	CARBONDALE	DANVILLE	COAL	-	930.0	
-463.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	938.0	
-491.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	5.0	966.0	
-515.0	CARBONDALE	HERRIN	COAL	5.0	990.0	
-565.0	CARBONDALE	BRIAR HILL	COAL	-	1040.0	
-590.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1065.0	BLACK SHALE & LIMESTONE ROOF
-659.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE/SANDSTONE	16.0	1134.0	
-699.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1174.0	

MAPID: 06510765000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 3 QUARTERS/FOOTAGES: 990' S line, 330' E line of NE

QUADRANGLE: THACKERAY LONGITUDE: -88.410396 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.121052 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 1288.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO. 1765 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
425.0			UNKNOWN	1207.0	0.0	
-782.0	CARBONDALE	COLCHESTER	COAL	1.0	1207.0	
-783.0	CARBONDALE		UNKNOWN	47.0	1208.0	
-830.0	CARBONDALE	DEKOVEN	COAL	3.0	1255.0	
-833.0	CARBONDALE		UNKNOWN	28.0	1258.0	
-861.0	CARBONDALE	DAVIS	COAL	2.0	1286.0	

MAPID: 06523807000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 3 QUARTERS/FOOTAGES: 2589' S line, 2506' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.418039 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.118255 DATE COLLECTED: 4 / 11 / 1974

SURFACE ELEVATION (FT.): 461.5 LOGGED (FT.): 1138.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-54 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-467.5	CARBONDALE	DANVILLE	COAL	2.5	929.0	
-533.5	CARBONDALE	HERRIN	COAL	5.5	995.0	
-634.5	CARBONDALE	SPRINGFIELD	COAL	6.0	1096.0	

MAPID: 06523807000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 3    QUARTERS/FOOTAGES: 2589' S line, 2506' E line

QUADRANGLE: THACKERAY

LONGITUDE: -88.418039

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.118255

DATE COLLECTED:

SURFACE ELEVATION (FT.): 462.0

LOGGED (FT.): 1000.5

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C.    C3-54

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-470.5	CARBONDALE	DANVILLE	COAL	2.5	932.5
-473.0	CARBONDALE		SHALE & SANDSTONE	20.0	935.0
-493.0	CARBONDALE	ALLENBY	BONE COAL	1.0	955.0
-494.0	CARBONDALE		CLAYSTONE	1.5	956.0
-495.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	957.5
-498.5	CARBONDALE	LAWSON	SILTY SHALE	5.0	960.5
-503.5	CARBONDALE	LAWSON	GRAY SHALE	3.0	965.5
-506.5	CARBONDALE	LAWSON	SILTY SHALE	5.0	968.5
-511.5	CARBONDALE	LAWSON	GRAY SHALE	14.0	973.5
-525.5	CARBONDALE	CONANT	CARBONACEOUS LIMESTONE	0.6	987.5
-526.1	CARBONDALE	JAMESTOWN	BONE COAL	0.3	988.1
-526.4	CARBONDALE		CLAYSTONE	1.7	988.4
-528.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.5	990.1
-531.6	CARBONDALE	ANNA	BLACK SHALE	1.4	993.6
-533.0	CARBONDALE	HERRIN	COAL	5.5	995.0

MAPID: 06500700000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 4 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.435765 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.111847 DATE COLLECTED:

SURFACE ELEVATION (FT.): 479.0 LOGGED (FT.): 3592.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-471.0	CARBONDALE	DANVILLE	COAL	-	950.0	
-481.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	12.0	960.0	
-501.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	980.0	
-515.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	14.0	994.0	
-547.0	CARBONDALE	HERRIN	COAL	5.0	1026.0	
-555.0	CARBONDALE	VERMILIONVILLE	SANDSTONE/SHALE	32.0	1034.0	
-587.0	CARBONDALE	BRIAR HILL	COAL	-	1066.0	
-627.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1106.0	SHALE ROOF
-644.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	51.0	1123.0	
-703.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1182.0	

MAPID: 06503719000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 4 QUARTERS/FOOTAGES: 2121' N line, 1622' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.440185 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.118749 DATE COLLECTED: 6 / 10 / 1970

SURFACE ELEVATION (FT.): 479.1 LOGGED (FT.): 1150.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-23 WELL TYPE: Coal Test

COMMENT: GAMMA/NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-571.9	CARBONDALE	HERRIN	COAL	6.5	1051.0	
-655.9	CARBONDALE	SPRINGFIELD	COAL	7.0	1135.0	

MAPID: 06503719000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 4 QUARTERS/FOOTAGES: 2121' N line, 1622' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.440185

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.118749

DATE COLLECTED:

SURFACE ELEVATION (FT.): 479.0 LOGGED (FT.): 1057.5

LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-23

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-501.5	CARBONDALE	DANVILLE	COAL	2.5	980.5
-504.0	CARBONDALE		SHALE & SANDSTONE	17.0	983.0
-521.0	CARBONDALE	ALLENBY	COAL	1.5	1000.0
-522.5	CARBONDALE		CLAYSTONE & SHALE	5.0	1001.5
-527.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	1006.5
-531.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	16.0	1010.5
-547.5	CARBONDALE	LAWSON	SANDSTONE	4.0	1026.5
-551.5	CARBONDALE	LAWSON	GRAY SHALE	12.0	1030.5
-563.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.0	1042.5
-565.5	CARBONDALE	ANNA	BLACK SHALE	6.5	1044.5
-572.0	CARBONDALE	HERRIN	COAL	6.5	1051.0

MAPID: 06525111000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 4 QUARTERS/FOOTAGES: 330' N line, 660' W line of NW SE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.430001

GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.113864

DATE COLLECTED: 7 / 13 / 1995

SURFACE ELEVATION (FT.): 466.0 LOGGED (FT.): 1355.0

LOG TYPE: Nuclear Log

SOURCE: WILBANKS EXPLORER INC 2511

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
466.0			UNKNOWN	1263.0	0.0
-797.0	CARBONDALE	COLCHESTER	COAL	1.0	1263.0
-798.0	CARBONDALE		UNKNOWN	46.0	1264.0
-844.0	CARBONDALE	DEKOVEN	COAL	4.0	1310.0
-848.0	CARBONDALE		UNKNOWN	33.0	1314.0
-881.0	CARBONDALE	DEKOVEN	COAL	1.0	1347.0
-882.0	CARBONDALE		UNKNOWN	3.0	1348.0
-885.0	CARBONDALE	DAVIS	COAL	4.0	1351.0

MAPID: 06500699000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 5 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.451898 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.11546 DATE COLLECTED:

SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 1384.0 LOG TYPE: Electric Log

SOURCE: DENZIL WEBSTER 699 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
517.0			UNKNOWN	1316.0	0.0	
-799.0	CARBONDALE	COLCHESTER	COAL	1.0	1316.0	THICKNESS LESS THAN 16"
-800.0	CARBONDALE		UNKNOWN	44.0	1317.0	
-844.0	CARBONDALE	DEKOVEN	COAL	4.0	1361.0	
-848.0	CARBONDALE		UNKNOWN	18.0	1365.0	
-866.0	CARBONDALE	DAVIS	COAL	1.0	1383.0	

MAPID: 06500699000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 5 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.451898 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.11546 DATE COLLECTED:

SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 3607.0 LOG TYPE: Electric Log

SOURCE: WEBSTER DENZIL V WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-481.0	CARBONDALE	DANVILLE	COAL	-	998.0	
-493.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	4.0	1010.0	
-507.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	1024.0	
-516.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	22.0	1033.0	
-555.0	CARBONDALE	HERRIN	COAL	6.0	1072.0	
-593.0	CARBONDALE	BRIAR HILL	COAL	-	1110.0	
-635.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1152.0	SHALE & SILTSTONE ROOF
-710.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1227.0	



MAPID: 06503769000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 5 QUARTERS/FOOTAGES: 552' S line, 396' E line of SW SW

QUADRANGLE: THACKERAY LONGITUDE: -88.461702 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.112968 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 449.1 LOGGED (FT.): 1066.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-42 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-540.9	CARBONDALE	HERRIN	COAL	6.0	990.0	
-610.9	CARBONDALE	SPRINGFIELD	COAL	6.0	1060.0	

MAPID: 06523779000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 5 QUARTERS/FOOTAGES: 1922' N line, 967' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.449218 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.119282 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 515.2 LOGGED (FT.): 1170.3 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-32 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-572.8	CARBONDALE	HERRIN	COAL	-	1088.0	
-655.1	CARBONDALE	SPRINGFIELD	COAL	-	1170.3	

MAPID: 06523779000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 5 QUARTERS/FOOTAGES: 1922' N line, 967' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.449218

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.119282

DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0

LOGGED (FT.): 1094.5

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-32

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-497.3	CARBONDALE	DANVILLE	COAL	3.0	1012.3	
-500.3	CARBONDALE		SHALE & SANDSTONE	15.0	1015.3	
-515.3	CARBONDALE	ALLENBY	COAL	1.5	1030.3	
-516.8	CARBONDALE		CLAYSTONE	1.0	1031.8	
-517.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	1032.8	UPPER BENCH
-520.8	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	1035.8	SHALE PARTING
-522.8	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	1037.8	LOWER BENCH
-524.8	CARBONDALE	LAWSON	SHALE	5.0	1039.8	
-529.8	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	5.5	1044.8	
-535.3	CARBONDALE	LAWSON	CLAYSTONE & SHALE	1.5	1050.3	
-536.8	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	1051.8	
-551.8	CARBONDALE	LAWSON	GRAY SHALE	11.0	1066.8	
-562.8	CARBONDALE	JAMESTOWN	BONE COAL	0.4	1077.8	
-563.2	CARBONDALE		CLAYSTONE & SHALE	3.3	1078.2	
-566.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.0	1081.5	
-569.5	CARBONDALE	ANNA	LIMESTONE W/ SHALE	3.5	1084.5	
-573.0	CARBONDALE	HERRIN	COAL	6.5	1088.0	

MAPID: 06523808000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 5 QUARTERS/FOOTAGES: 766' N line, 149' W line of SE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.450301

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.112345

DATE COLLECTED: 5 / 23 / 1974

SURFACE ELEVATION (FT.): 516.6

LOGGED (FT.): 1186.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-43

WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-481.4	CARBONDALE	DANVILLE	COAL	4.0	998.0	
-503.4	CARBONDALE	ALLENBY	COAL	1.0	1020.0	LOGBOOK SAYS "ALLENBY?"
-549.4	CARBONDALE	HERRIN	COAL	6.0	1066.0	
-623.4	CARBONDALE	SPRINGFIELD	COAL WITH SHALE	10.0	1140.0	4 FOOT SHALE SPLIT

MAPID: 06500635000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 6 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.447245 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.111555 DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.0 LOGGED (FT.): 1313.0 LOG TYPE: Electric Log

SOURCE: CALVERT & WILLIS INC 635 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
449.0			UNKNOWN	1234.0	0.0	
-785.0	CARBONDALE	COLCHESTER	COAL	1.0	1234.0	THICKNESS LESS THAN 16"
-786.0	CARBONDALE		UNKNOWN	32.0	1235.0	
-818.0	CARBONDALE	DEKOVEN	COAL	3.0	1267.0	
-821.0	CARBONDALE		UNKNOWN	39.0	1270.0	
-860.0	CARBONDALE	DAVIS	COAL	4.0	1309.0	

MAPID: 06500635000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 6 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.447245 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.111555 DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.0 LOGGED (FT.): 3587.0 LOG TYPE: Electric Log

SOURCE: CALVERT & WILLIS, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-469.0	CARBONDALE	DANVILLE	COAL	-	918.0	
-479.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	928.0	
-491.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	940.0	
-501.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	18.0	950.0	
-489.0	CARBONDALE	HERRIN	COAL	6.0	938.0	
-568.0	CARBONDALE	BRIAR HILL	COAL	-	1017.0	
-573.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	9.0	1022.0	
-625.0	CARBONDALE	SPRINGFIELD	COAL	8.0	1074.0	SHALE ROOF
-704.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1153.0	

MAPID: 06503712000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 6 QUARTERS/FOOTAGES: 1881' S line, 1571' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.470547 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.116794 DATE COLLECTED: 5 / 3 / 1970

SURFACE ELEVATION (FT.): 451.7 LOGGED (FT.): 1142.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-16 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-587.3	CARBONDALE	HERRIN	COAL	6.0	1039.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY
-678.3	CARBONDALE	SPRINGFIELD	COAL	7.0	1130.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY

MAPID: 06503712000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 6 QUARTERS/FOOTAGES: 1881' S line, 1571' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.470547 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.116794 DATE COLLECTED:

SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 1045.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-16 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-513.5	CARBONDALE	DANVILLE	COAL	3.5	965.5	
-517.0	CARBONDALE		SHALE & SANDSTONE	15.0	969.0	
-532.0	CARBONDALE	ALLENBY	COAL	2.0	984.0	
-534.0	CARBONDALE		CLAYSTONE & SHALE	2.0	986.0	
-536.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	988.0	UPPER BENCH
-539.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	991.0	SHALE PARTING
-541.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	993.0	LOWER BENCH
-544.0	CARBONDALE	LAWSON	SILTY SHALE	4.7	996.0	
-548.7	CARBONDALE	LAWSON	BLACK SHALE	2.0	1000.7	
-550.7	CARBONDALE	LAWSON	SILTY SHALE	5.5	1002.7	
-556.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	7.3	1008.2	
-563.5	CARBONDALE	LAWSON	SILTY SHALE	12.6	1015.5	
-576.0	CARBONDALE	CONANT	LIMESTONE	1.2	1028.0	
-577.2	CARBONDALE		BLACK SHALE	3.2	1029.2	
-580.4	CARBONDALE	BRERETON	LIMESTONE	5.4	1032.4	
-585.8	CARBONDALE	ANNA	BLACK SHALE	1.2	1037.8	
-587.0	CARBONDALE	HERRIN	COAL	6.0	1039.0	

MAPID: 06501051000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: THACKERAY LONGITUDE: -88.475572 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.105301 DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 3520.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-539.0	CARBONDALE	HERRIN	COAL	5.0	998.0	
-573.0	CARBONDALE	BRIAR HILL	COAL	-	1032.0	
-645.0	CARBONDALE	SPRINGFIELD	COAL	11.0	1104.0	SHALE ROOF
-704.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1163.0	

MAPID: 06503641000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 7 QUARTERS/FOOTAGES: 2558' S line, 1513' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.4705 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.104209 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 417.6 LOGGED (FT.): 1086.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-8 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-474.8	CARBONDALE	DANVILLE	COAL	2.4	892.4	
-538.4	CARBONDALE	HERRIN	COAL	5.9	956.0	
-	CARBONDALE	SPRINGFIELD	COAL	5.8		

MAPID: 06503641000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 7 QUARTERS/FOOTAGES: 2558' S line, 1513' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.4705 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.104209 DATE COLLECTED:

SURFACE ELEVATION (FT.): 418.0 LOGGED (FT.): 961.9 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-8 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-472.2	CARBONDALE	DANVILLE	COAL	2.5	890.2	
-474.7	CARBONDALE		SHALE & SANDSTONE	15.0	892.7	
-489.7	CARBONDALE	ALLENBY	COAL	1.0	907.7	
-490.7	CARBONDALE		CLAYSTONE & SHALE	5.0	908.7	
-495.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	913.7	
-498.7	CARBONDALE	LAWSON	SILTY SHALE	30.0	916.7	
-528.7	CARBONDALE	CONANT	LIMESTONE	0.4	946.7	
-529.2	CARBONDALE	JAMESTOWN	BONE COAL	0.4	947.2	
-529.6	CARBONDALE		CLAYSTONE & SHALE	3.0	947.6	
-532.6	CARBONDALE	BRERETON	LIMESTONE	3.7	950.6	
-536.3	CARBONDALE	ANNA	BLACK SHALE	1.8	954.3	
-538.0	CARBONDALE	HERRIN	COAL	5.9	956.0	

MAPID: 06503720000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 7 QUARTERS/FOOTAGES: 77' N line, 34' E line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.465334 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.104146 DATE COLLECTED: 6 / 28 / 1970

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 1120.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-27 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-521.0	CARBONDALE	HERRIN	COAL	5.0	952.0	
-634.2	CARBONDALE	SPRINGFIELD	COAL	8.5	1065.2	"APPROX" DEPTH AND THICKNESS

MAPID: 06500633000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.46161 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.105073 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3539.0 LOG TYPE: Electric Log

SOURCE: PHILLIPS PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	DANVILLE	COAL	-	900.0	
-	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	13.0	903.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	-	926.0	
-	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	936.0	
-	CARBONDALE	HERRIN	COAL	5.0	966.0	
-	CARBONDALE	BRIAR HILL	COAL	-	993.0	
-	CARBONDALE	SPRINGFIELD	COAL	11.0	1066.0	SHALE ROOF
-	CARBONDALE	HOUCHIN CREEK	COAL	-	1124.0	

MAPID: 06503713000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 8 QUARTERS/FOOTAGES: 350' N line, 76' E line of NW SW

QUADRANGLE: THACKERAY LONGITUDE: -88.460757 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.103149 DATE COLLECTED: 6 / 18 / 1970

SURFACE ELEVATION (FT.): 452.6 LOGGED (FT.): 1100.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-24 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-528.4	CARBONDALE	HERRIN	COAL	6.0	981.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY

MAPID: 06503770000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 8 QUARTERS/FOOTAGES: 1890' N line, 2099' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.453553 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.10577 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 484.0 LOGGED (FT.): 1133.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-44 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-528.0	CARBONDALE	HERRIN	COAL	5.8	1012.0	
-632.0	CARBONDALE	SPRINGFIELD	COAL	9.8	1116.0	

MAPID: 06503770000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 8 QUARTERS/FOOTAGES: 1890' N line, 2099' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.453553

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.10577

DATE COLLECTED:

SURFACE ELEVATION (FT.): 484.0

LOGGED (FT.): 1016.8

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-44

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-462.5	CARBONDALE	DANVILLE	COAL	4.0	946.5
-466.5	CARBONDALE		SHALE & SANDSTONE	15.0	950.5
-481.5	CARBONDALE	ALLENBY	COAL	1.0	965.5
-482.5	CARBONDALE		SHALE	3.0	966.5
-485.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	969.5
-488.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	8.0	972.5
-496.5	CARBONDALE	LAWSON	SANDSTONE	3.0	980.5
-499.5	CARBONDALE	LAWSON	GRAY SHALE	6.0	983.5
-505.5	CARBONDALE	LAWSON	SANDSTONE	4.0	989.5
-509.5	CARBONDALE	LAWSON	GRAY SHALE	12.0	993.5
-521.5	CARBONDALE	BRERETON	LIMESTONE	1.5	1005.5
-523.0	CARBONDALE	ANNA	BLACK SHALE	2.5	1007.0
-525.5	CARBONDALE	ENERGY	UNCLASSIFIED	1.5	1009.5
-527.0	CARBONDALE	HERRIN	COAL	5.8	1011.0

MAPID: 06500698000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 9 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW

QUADRANGLE: THACKERAY LONGITUDE: -88.445128

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.102466

DATE COLLECTED:

SURFACE ELEVATION (FT.): 484.0

LOGGED (FT.): 3553.0

LOG TYPE: Electric Log

SOURCE: ARTNELL CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-450.0	CARBONDALE	DANVILLE	COAL	-	934.0
-470.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	12.0	954.0
-508.0	CARBONDALE	HERRIN	COAL	4.0	992.0
-533.0	CARBONDALE	BRIAR HILL	COAL	-	1017.0
-696.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	-	1180.0



**MAPID:** 06503721000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 9    **QUARTERS/FOOTAGES:** 807' N line, 611' W line  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.444031    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.108428    **DATE COLLECTED:** 5 / 9 / 1970  
**SURFACE ELEVATION (FT.):** 476.9    **LOGGED (FT.):** 1137.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AYRSHIRE COLLIERIES    C3-18    **WELL TYPE:** Coal Test  
**COMMENT:** CALIPER LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	5.7		APPROX. THICKNESS

**MAPID:** 06503721000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 9    **QUARTERS/FOOTAGES:** 807' N line, 611' W line  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.444031    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.108428    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 477.0    **LOGGED (FT.):** 1032.7    **LOG TYPE:** Survey Core Study  
**SOURCE:** AYRSHIRE COLLIERIES    C3-18    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-517.8	CARBONDALE	LAWSON	SHALE & SANDSTONE	8.0	994.8	
-525.8	CARBONDALE	LAWSON	SILTY SHALE	2.8	1002.8	
-528.6	CARBONDALE	LAWSON	SILTSTONE	5.3	1005.6	
-533.8	CARBONDALE	LAWSON	SILTY SHALE	6.0	1010.8	
-539.8	CARBONDALE	LAWSON	GRAY SHALE	4.3	1016.8	
-544.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	1021.1	
-544.3	CARBONDALE	JAMESTOWN	BONE COAL	0.3	1021.3	
-544.7	CARBONDALE		CLAYSTONE	0.2	1021.7	
-544.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.5	1021.8	
-546.3	CARBONDALE	ANNA	BLACK SHALE	3.7	1023.3	
-550.0	CARBONDALE	HERRIN	COAL	5.7	1027.0	

**MAPID:** 06500532000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 10    **QUARTERS/FOOTAGES:** SW NW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.417601    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.101211    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 527.0    **LOGGED (FT.):** 5270.0    **LOG TYPE:** Electric Log  
**SOURCE:** NAT ASSOC, JOHNSN V 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-479.0	CARBONDALE	HERRIN	COAL	-	1006.0	
-593.0	CARBONDALE	SPRINGFIELD	COAL	-	1120.0	
-2077.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2604.0	

**MAPID:** 06500537000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 10    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.415244    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.104778    **DATE COLLECTED:** 0 / 0 / 1945  
**SURFACE ELEVATION (FT.):** 501.0    **LOGGED (FT.):** 5010.0    **LOG TYPE:** Electric Log  
**SOURCE:** WISER OC, JOHNSN V 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-465.0	CARBONDALE	HERRIN	COAL	-	966.0	
-2091.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2592.0	

**MAPID:** 06500539000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 10    **QUARTERS/FOOTAGES:** SW NE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.412884    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.10835    **DATE COLLECTED:** 0 / 0 / 1945  
**SURFACE ELEVATION (FT.):** 514.0    **LOGGED (FT.):** 5140.0    **LOG TYPE:** Electric Log  
**SOURCE:** DUNCAN WJR, FLATLEY 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-474.0	CARBONDALE	HERRIN	COAL	-	988.0	
-2096.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2610.0	

**MAPID:** 06500544000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 10    **QUARTERS/FOOTAGES:** SE NE NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.419763    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.108431    **DATE COLLECTED:** 0 / 0 / 1945  
**SURFACE ELEVATION (FT.):** 487.0    **LOGGED (FT.):** 4870.0    **LOG TYPE:** Electric Log  
**SOURCE:** NAT ASSOC, DOWNEN C F0005    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-473.0	CARBONDALE	HERRIN	COAL	-	960.0	

MAPID: 06500697000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 10 QUARTERS/FOOTAGES: 252' N line, 330' W line of SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.426662 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.10692 DATE COLLECTED:

SURFACE ELEVATION (FT.): 492.0 LOGGED (FT.): 3373.0 LOG TYPE: Electric Log

SOURCE: SPIRES H V WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-420.0	CARBONDALE	DANVILLE	COAL	-	912.0	
-428.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	9.0	920.0	
-448.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	16.0	940.0	
-481.0	CARBONDALE	HERRIN	COAL	6.0	973.0	
-488.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	10.0	980.0	
-512.0	CARBONDALE	BRIAR HILL	COAL	-	1004.0	

MAPID: 06502165000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.426612 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.110285 DATE COLLECTED:

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 1032.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-457.0	CARBONDALE	DANVILLE	COAL	2.5	962.0	
-459.5	CARBONDALE		SHALE & SANDSTONE	16.0	964.5	
-475.5	CARBONDALE	ALLENBY	COAL	1.0	980.5	
-476.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	981.5	
-506.5	CARBONDALE	LAWSON	GRAY SHALE	8.0	1011.5	
-514.5	CARBONDALE	JAMESTOWN	BONE COAL	0.5	1019.5	
-515.0	CARBONDALE		CLAYSTONE	2.5	1020.0	
-517.5	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.5	1022.5	
-521.0	CARBONDALE	ANNA	BLACK SHALE	2.0	1026.0	
-523.0	CARBONDALE	HERRIN	COAL	4.0	1028.0	

MAPID: 06524944000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 10 QUARTERS/FOOTAGES: NE NW SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.415279 GEOLOGIST: STRAAYER  
 CONFIDENTIAL: N LATITUDE: 38.102975 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 509.0 LOGGED (FT.): 1328.0 LOG TYPE: Nuclear Log  
 SOURCE: MARATHON OIL COMPANY 24944 WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
509.0			UNKNOWN	1265.0	0.0	
-756.0	CARBONDALE	COLCHESTER	COAL	1.0	1265.0	THICKNESS LESS THAN 16"
-757.0	CARBONDALE		UNKNOWN	28.0	1266.0	
-785.0	CARBONDALE	DEKOVEN	COAL	3.0	1294.0	
-788.0	CARBONDALE		UNKNOWN	26.0	1297.0	
-814.0	CARBONDALE	DEKOVEN	COAL	1.0	1323.0	
-815.0	CARBONDALE		UNKNOWN	1.0	1324.0	
-816.0	CARBONDALE	DAVIS	COAL	3.0	1325.0	

MAPID: 06500248000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 11 QUARTERS/FOOTAGES: SW SW NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.408366 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.104693 DATE COLLECTED: 0 / 0 / 1940  
 SURFACE ELEVATION (FT.): 494.0 LOGGED (FT.): 4940.0 LOG TYPE: Electric Log  
 SOURCE: KINGWOODOC, MCGUIR J M0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-486.0	CARBONDALE	HERRIN	COAL	-	980.0	
-2120.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2614.0	

MAPID: 06500696000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.39226 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.102789 DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 3564.0 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-464.0	CARBONDALE	DANVILLE	COAL	-	884.0	
-482.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	902.0	
-495.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	9.0	915.0	
-523.0	CARBONDALE	HERRIN	COAL	4.0	943.0	
-530.0	CARBONDALE	VERMILIONVILLE	SILTSTONE	6.0	950.0	
-577.0	CARBONDALE	BRIAR HILL	COAL	-	997.0	
-633.0	CARBONDALE	SPRINGFIELD	COAL	9.0	1053.0	SHALE ROOF
-674.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	28.0	1094.0	
-702.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1122.0	

MAPID: 06502175000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.405946 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.110079 DATE COLLECTED:

SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 950.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-439.5	CARBONDALE	DANVILLE	COAL	2.5	894.5	
-442.0	CARBONDALE		SHALE & SANDSTONE	12.0	897.0	
-454.0	CARBONDALE	ALLENBY	COAL	1.0	909.0	
-455.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	26.0	910.0	
-481.0	CARBONDALE	LAWSON	CLAYSTONE	4.0	936.0	
-485.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	940.0	
-488.0	CARBONDALE	ANNA	BLACK SHALE	3.0	943.0	
-491.0	CARBONDALE	HERRIN	COAL	4.0	946.0	

MAPID: 06503646000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 12 QUARTERS/FOOTAGES: 138' N line, 1499' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.377745 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.110409 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 402.7 LOGGED (FT.): 1259.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C1-24 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-491.2	CARBONDALE	BRERETON	LIMESTONE	1.8	893.9	
-494.5	CARBONDALE	HERRIN	COAL	5.0	897.2	REMOVED BY CO.
-820.2	CARBONDALE	COLCHESTER	COAL	0.6	1222.9	

MAPID: 06503646000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 12 QUARTERS/FOOTAGES: 138' N line, 1499' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.377745 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.110409 DATE COLLECTED:

SURFACE ELEVATION (FT.): 403.0 LOGGED (FT.): 902.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C1-24 WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-489.8	CARBONDALE		GRAY SHALE	0.9	892.8	
-490.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.8	893.7	
-492.5	CARBONDALE	ANNA	BLACK SHALE	1.5	895.5	
-494.0	CARBONDALE	HERRIN	COAL	5.0	897.0	

MAPID: 06503646000C    VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 12    QUARTERS/FOOTAGES: 138' N line, 1499' E line

QUADRANGLE: THACKERAY    LONGITUDE: -88.377745    GEOLOGIST: MCBETH

CONFIDENTIAL: N    LATITUDE: 38.110409    DATE COLLECTED:

SURFACE ELEVATION (FT.): 406.6    LOGGED (FT.): 1265.3    LOG TYPE:

SOURCE: AYRSHIRE    C1-24    WELL TYPE:

COMMENT: CARMI 1 BOX#75 COMP.CORE W/ISGS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
406.6			UNCLASSIFIED	845.2	0.0	THICK AND DEPTH FROM E-LOG
-438.6	CARBONDALE	DANVILLE	COAL	1.8	845.2	THICK AND DEPTH FROM E-LOG
-440.4	CARBONDALE		UNCLASSIFIED	51.0	847.0	THICK FROM CORE
-491.4	CARBONDALE	BRERETON	LIMESTONE	1.7	898.0	THICK FROM CORE
-493.1	CARBONDALE	ANNA	BLACK SHALE	1.3	899.7	THICK FROM CORE
-494.4	CARBONDALE	HERRIN	COAL	3.0	901.0	THICK FROM CORE
-497.4	CARBONDALE	HERRIN	PYRITE	0.1	904.0	THICK FROM CORE
-497.5	CARBONDALE	HERRIN	BLUE SHALE	0.1	904.1	THICK FROM CORE
-497.6	CARBONDALE	HERRIN	COAL	1.6	904.2	THICK FROM CORE
-499.2	CARBONDALE		UNDERCLAY	1.0	905.8	THICK FROM CORE
-500.2	CARBONDALE		UNCLASSIFIED	43.2	906.8	THICK AND DEPTH FROM E-LOG
-543.4	CARBONDALE	BRIAR HILL	COAL	1.2	950.0	THICK AND DEPTH FROM E-LOG
-544.6	CARBONDALE		UNCLASSIFIED	4.0	951.2	THICK AND DEPTH FROM E-LOG
-548.6	CARBONDALE	ST. DAVID	LIMESTONE	2.8	955.2	THICK FROM CORE
-551.4	CARBONDALE	TURNER MINE	BLACK SHALE	2.7	958.0	THICK FROM CORE
-554.1	CARBONDALE		UNCLASSIFIED	29.3	960.7	THICK FROM CORE
-583.4	CARBONDALE	SPRINGFIELD	COAL	0.1	990.0	COAL MISSING
-583.4	CARBONDALE		SHALY SANDSTONE	83.2	990.0	THICK FROM CORE
-666.6	CARBONDALE		SANDSTONE	7.5	1073.2	SEV. 1/16" COAL LAYERS AT BASE
-674.1	CARBONDALE		SHALY SILTSTONE	19.1	1080.7	THICK FROM CORE
-693.2	CARBONDALE		SANDSTONE	58.0	1099.8	W/ COAL LAYERS
-751.2	CARBONDALE		BRECCIA	1.0	1157.8	THICK FROM CORE
-752.2	CARBONDALE		SHALY SILTSTONE	11.9	1158.8	THICK FROM CORE
-764.1	CARBONDALE		UNCLASSIFIED	11.3	1170.7	THICK FROM CORE
-775.4	CARBONDALE		GRAY SHALE	2.7	1182.0	THICK FROM CORE
-778.1	CARBONDALE		SANDSTONE	2.8	1184.7	THICK FROM CORE
-780.9	CARBONDALE		SILTSTONE	36.6	1187.5	THICK FROM CORE
-817.5	CARBONDALE		LIMESTONE	0.3	1224.1	THICK FROM CORE
-817.8	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.3	1224.4	MARINE FOSSILS
-820.1	CARBONDALE	COLCHESTER	COAL	0.7	1226.7	THICK FROM CORE
-820.8	CARBONDALE		UNDERCLAY	5.5	1227.4	THICK FROM CORE
-826.3	CARBONDALE		SILTSTONE	7.1	1232.9	THICK FROM CORE
-833.4	CARBONDALE		GRAY SHALE	8.0	1240.0	THICK FROM CORE
-841.4	CARBONDALE	DEKOVEN	COAL	2.7	1248.0	THICK FROM CORE
-844.1	CARBONDALE		UNDERCLAY	1.9	1250.7	THICK FROM CORE
-846.0	CARBONDALE		SANDSTONE	12.7	1252.6	THICK FROM CORE

MAPID: 06500629000C    VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 13    QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: THACKERAY    LONGITUDE: -88.390159    GEOLOGIST: STRAAYER

CONFIDENTIAL: N    LATITUDE: 38.082934    DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0    LOGGED (FT.): 1328.0    LOG TYPE: Electric Log

SOURCE: WALTER DUNCAN    629    WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
433.0			UNKNOWN	1218.0	0.0	
-785.0	CARBONDALE	COLCHESTER	COAL	1.0	1218.0	THICKNESS LESS THAN 16"
-786.0	CARBONDALE		UNKNOWN	49.0	1219.0	
-835.0	CARBONDALE	DEKOVEN	COAL	3.0	1268.0	
-838.0	CARBONDALE		UNKNOWN	53.0	1271.0	
-891.0	CARBONDALE	DAVIS	COAL	4.0	1324.0	

MAPID: 06500695000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 13    QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: THACKERAY    LONGITUDE: -88.390047    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.093775    DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0    LOGGED (FT.): 3485.0    LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-422.0	CARBONDALE	DANVILLE	COAL	-	842.0	
-440.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	860.0	
-447.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	7.0	867.0	
-476.0	CARBONDALE	HERRIN	COAL	4.0	896.0	
-517.0	CARBONDALE	BRIAR HILL	COAL	-	937.0	
-620.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1040.0	SHALE ROOF
-652.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	28.0	1072.0	
-680.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1100.0	



MAPID: 06503650000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 13 QUARTERS/FOOTAGES: 112' S line, 438' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.389788 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.082331 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 458.8 LOGGED (FT.): 0.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C2-17 WELL TYPE: Coal Test

COMMENT: NO DEPTH GIVEN; RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	DANVILLE	COAL	2.5		COAL RMVD BY CO;NO DEPTH MARKS ON CORE
-	CARBONDALE	HERRIN	COAL	3.3		COAL RMVD BY CO;NO DEPTH MARKS ON CORE

MAPID: 06503650000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 13 QUARTERS/FOOTAGES: 112' S line, 438' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.389788 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.082331 DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 941.0 LOG TYPE: Electric Log

SOURCE: AYRSHIRE COLLIERIES C2-17 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-419.5	CARBONDALE	DANVILLE	COAL	2.5	878.5	
-422.0	CARBONDALE		SHALE & SANDSTONE	12.0	881.0	
-434.0	CARBONDALE	ALLENBY	COAL	1.0	893.0	
-435.0	CARBONDALE		CLAYSTONE & SHALE	5.0	894.0	
-440.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	4.0	899.0	
-444.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	25.0	903.0	
-469.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	928.0	
-469.5	CARBONDALE		CLAYSTONE & SHALE	2.0	928.5	
-471.5	CARBONDALE	BRERETON	LIMESTONE	4.0	930.5	
-475.5	CARBONDALE	ANNA	BLACK SHALE	1.5	934.5	
-477.0	CARBONDALE	HERRIN	COAL	5.0	936.0	

MAPID: 0650365000C VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 13 QUARTERS/FOOTAGES: 112' S line, 438' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.389788 GEOLOGIST: MCBETH

CONFIDENTIAL: N LATITUDE: 38.082331 DATE COLLECTED:

SURFACE ELEVATION (FT.): 458.8 LOGGED (FT.): 947.1 LOG TYPE:

SOURCE: AYRSHIRE C2-17 WELL TYPE:

COMMENT: CARMi 2 BOX#75 COMP.CORE W/ISGS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.8			UNCLASSIFIED	877.0	0.0	
-418.2	CARBONDALE	DANVILLE	COAL	2.3	877.0	THICK FROM CORE
-420.5	CARBONDALE	DANVILLE	PYRITE	0.1	879.3	THICK FROM CORE
-420.6	CARBONDALE	DANVILLE	COAL	0.2	879.4	THICK FROM CORE
-420.8	CARBONDALE		CLAYSTONE	1.6	879.6	THICK FROM CORE
-422.4	CARBONDALE		SANDSTONE	7.1	881.2	THICK FROM CORE
-429.5	CARBONDALE		UNCLASSIFIED	42.7	888.3	THICK FROM CORE
-472.2	CARBONDALE	HERRIN	COAL	1.1	931.0	THICK FROM CORE
-473.3	CARBONDALE	HERRIN	PYRITE	0.1	932.1	THICK FROM CORE
-473.4	CARBONDALE	HERRIN	COAL	0.4	932.2	THICK FROM CORE
-473.8	CARBONDALE	HERRIN	PYRITE	0.1	932.6	THICK FROM CORE
-473.9	CARBONDALE	HERRIN	COAL	1.6	932.7	THICK FROM CORE
-475.5	CARBONDALE	HERRIN	CLAYSTONE	4.7	934.3	THICK FROM CORE
-480.2	CARBONDALE		GRAY SHALE	2.5	939.0	THICK FROM CORE
-482.7	CARBONDALE		SANDSTONE	5.6	941.5	THICK FROM CORE

MAPID: 06500249000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 14 QUARTERS/FOOTAGES: NE SE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.40163 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.092047 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 4290.0 LOG TYPE: Electric Log

SOURCE: LOMELN&WMS, BGGRSTFF E0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-476.0	CARBONDALE	HERRIN	COAL	-	905.0	
-2135.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2564.0	

MAPID: 06500694000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.408538 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.095661 DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 3384.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-436.0	CARBONDALE	DANVILLE	COAL	-	926.0	
-445.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	5.0	935.0	
-464.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	954.0	
-496.0	CARBONDALE	HERRIN	COAL	4.0	986.0	
-543.0	CARBONDALE	BRIAR HILL	COAL	-	1033.0	
-603.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1093.0	BLACK SHALE ROOF
-638.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	32.0	1128.0	
-672.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1162.0	

MAPID: 06501518000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 14 QUARTERS/FOOTAGES: 330' S line, 1650' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.404049 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.083075 DATE COLLECTED:

SURFACE ELEVATION (FT.): 470.0 LOGGED (FT.): 930.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-404.5	CARBONDALE	DANVILLE	COAL	3.5	874.5	
-408.0	CARBONDALE		SHALE	11.0	878.0	
-419.0	CARBONDALE	ALLENBY	COAL	1.0	889.0	
-420.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	20.0	890.0	
-440.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	910.0	
-450.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	920.0	
-453.0	CARBONDALE	ANNA	BLACK SHALE	3.0	923.0	
-456.0	CARBONDALE	HERRIN	COAL	4.0	926.0	

MAPID: 06500498000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 15 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.415408 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.095773 DATE COLLECTED:

SURFACE ELEVATION (FT.): 488.0 LOGGED (FT.): 3365.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-497.0	CARBONDALE	HERRIN	COAL	5.0	985.0	
-548.0	CARBONDALE	BRIAR HILL	COAL	-	1036.0	
-594.0	CARBONDALE	SPRINGFIELD	COAL	9.0	1082.0	SHALE & SILTSTONE ROOF
-689.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1177.0	

MAPID: 06500498000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 15 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.415408 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.095773 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 488.0 LOGGED (FT.): 4880.0 LOG TYPE: Electric Log

SOURCE: NAT ASSOC, RUBINACKER0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-500.0	CARBONDALE	HERRIN	COAL	4.0	988.0	
-597.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1085.0	
-2098.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2586.0	

MAPID: 06500498000C VERSION: 3

PROJECT: CONTROL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 15 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.415408 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 38.095773 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3365.0 LOG TYPE: Survey Sample Study

SOURCE: NAT'L. ASSOC. 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.)		COMMENT
				UNIT	OVERBURDEN	
-			NO RECORD	0.0	0.0	

MAPID: 06500498000C    VERSION: 4

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 15    QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: WALPOLE    LONGITUDE: -88.415408    GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N    LATITUDE: 38.095773    DATE COLLECTED: 9 / 0 / 1944

SURFACE ELEVATION (FT.): 488.0    LOGGED (FT.): 1650.0    LOG TYPE: Survey Sample Study

SOURCE: NATIONAL ASSOC. PETROLEUM CO. 1    WELL TYPE: Dry Hole

COMMENT: SAMPLE STUDY CONTROL WELL #194

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
488.0			NO RECORD	78.0	0.0	
410.0			SILTSTONE	19.0	78.0	
391.0			BLACK SHALE	1.0	97.0	COAL STREAK
390.0			SHALE	2.0	98.0	
388.0			SANDSTONE	20.0	100.0	
368.0			SILTSTONE	30.0	120.0	
338.0			SHALE	40.0	150.0	
298.0			SANDSTONE	15.0	190.0	
283.0			SILTSTONE	15.0	205.0	BECOMING QUITE SHALY
268.0			SANDSTONE	12.0	220.0	
256.0			SILTSTONE	6.0	232.0	
250.0			SANDSTONE	30.0	238.0	
220.0			SHALE	67.0	268.0	
153.0			SANDSTONE	15.0	335.0	
138.0			SHALE	10.0	350.0	
128.0			SANDSTONE	2.0	360.0	COAL FILMS
126.0			SHALE	24.0	362.0	
102.0			BLACK SHALE	2.0	386.0	COAL
100.0			SHALE	52.0	388.0	
48.0			SILTSTONE	36.0	440.0	
12.0			SHALE	14.0	476.0	
-2.0			SILTSTONE	24.0	490.0	
-26.0			SHALE	66.0	514.0	
-92.0			SANDSTONE	85.0	580.0	
-177.0			BLACK SHALE	1.0	665.0	COAL STREAK
-178.0			ROCK	6.0	666.0	
-184.0			SANDSTONE	8.0	672.0	
-192.0			SILTSTONE	17.0	680.0	
-209.0			SHALE	3.0	697.0	
-212.0			SILTSTONE	10.0	700.0	
-222.0			SHALE	3.0	710.0	
-225.0			LIMESTONE	4.0	713.0	
-229.0			SHALE	9.0	717.0	
-238.0			SILTSTONE	34.0	726.0	
-272.0			SHALE	5.0	760.0	
-277.0			SILTSTONE	15.0	765.0	
-292.0			SHALE	38.0	780.0	
-330.0			BLACK SHALE	1.0	818.0	COAL
-331.0			SILTSTONE	61.0	819.0	

-392.0	SHALE	44.0	880.0	
-436.0	BLACK SHALE	2.0	924.0	
-438.0	COAL	2.0	926.0	THICKNESS ESTIMATED
-440.0	SHALE	26.0	928.0	
-466.0	SANDSTONE	10.0	954.0	
-476.0	SILTSTONE	6.0	964.0	
-482.0	SHALE	9.0	970.0	
-491.0	LIMESTONE	4.0	979.0	
-495.0	BLACK SHALE	5.0	983.0	
-500.0	COAL	3.0	988.0	THICKNESS ESTIMATED
-503.0	UNDERCLAY	1.0	991.0	
-504.0	SANDSTONE	12.0	992.0	
-516.0	SILTSTONE	43.0	1004.0	
-559.0	LIMESTONE	3.0	1047.0	
-562.0	BLACK SHALE	2.0	1050.0	
-564.0	SHALE	30.0	1052.0	
-594.0	BLACK SHALE	3.0	1082.0	
-597.0	COAL	5.0	1085.0	THICKNESS ESTIMATED
-602.0	UNDERCLAY	1.0	1090.0	
-603.0	SHALE	5.0	1091.0	
-608.0	SILTSTONE	57.0	1096.0	
-665.0	BLACK SHALE	2.0	1153.0	
-667.0	SHALE	4.0	1155.0	
-671.0	BLACK SHALE	5.0	1159.0	
-676.0	SILTSTONE	8.0	1164.0	
-684.0	SHALE	5.0	1172.0	
-689.0	BLACK SHALE	2.0	1177.0	
-691.0	COAL	1.0	1179.0	THICKNESS ESTIMATED
-692.0	SHALE	20.0	1180.0	
-712.0	SILTSTONE	15.0	1200.0	
-727.0	SHALE	5.0	1215.0	
-732.0	SILTSTONE	33.0	1220.0	
-765.0	BLACK SHALE	7.0	1253.0	
-772.0	SILTSTONE	5.0	1260.0	
-777.0	SHALE	20.0	1265.0	
-797.0	BLACK SHALE	1.0	1285.0	
-798.0	COAL	1.0	1286.0	THICKNESS ESTIMATED
-799.0	UNDERCLAY	1.0	1287.0	
-800.0	SHALE	8.0	1288.0	
-808.0	SILTSTONE	4.0	1296.0	
-812.0	SANDSTONE	15.0	1300.0	
-827.0	SHALE	9.0	1315.0	
-836.0	BLACK SHALE	1.0	1324.0	
-837.0	COAL	3.0	1325.0	THICKNESS ESTIMATED
-840.0	SHALE	2.0	1328.0	
-842.0	SANDSTONE	25.0	1330.0	
-867.0	SHALE	10.0	1355.0	

-877.0	BLACK SHALE	3.0	1365.0	COAL STREAK
-880.0	SHALE	2.0	1368.0	
-882.0	SILTSTONE	20.0	1370.0	
-902.0	SANDSTONE	15.0	1390.0	
-917.0	SHALE	10.0	1405.0	
-927.0	BLACK SHALE	1.0	1415.0	
-928.0	SHALE	3.0	1416.0	
-931.0	BLACK SHALE	1.0	1419.0	COAL
-932.0	UNDERCLAY	1.0	1420.0	
-933.0	SHALE	48.0	1421.0	
-981.0	LIMESTONE	1.0	1469.0	
-982.0	BLACK SHALE	8.0	1470.0	
-990.0	COAL	2.0	1478.0	THICKNESS ESTIMATED
-992.0	SHALE	23.0	1480.0	
-1015.0	BLACK SHALE	9.0	1503.0	
-1024.0	SHALE & SANDSTONE	112.0	1512.0	
-1136.0	BLACK SHALE	2.0	1624.0	
-1138.0	SHALE	24.0	1626.0	

MAPID: 06500693000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 15    QUARTERS/FOOTAGES: 330' N line, 330' E line of SE SE

QUADRANGLE: THACKERAY    LONGITUDE: -88.410947    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 38.084913    DATE COLLECTED:

SURFACE ELEVATION (FT.): 468.0    LOGGED (FT.): 3602.0    LOG TYPE: Electric Log

SOURCE: SUPERIOR OIL COMPANY    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-414.0	CARBONDALE	DANVILLE	COAL	-	882.0	
-432.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	24.0	900.0	
-468.0	CARBONDALE	HERRIN	COAL	4.0	936.0	
-507.0	CARBONDALE	BRIAR HILL	COAL	-	975.0	
-600.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1068.0	SHALE ROOF
-682.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1150.0	

MAPID: 06503649000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 15 QUARTERS/FOOTAGES: 1387' S line, 75' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.427915 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.086199 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 510.3 LOGGED (FT.): 1134.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C2-19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-503.7	CARBONDALE	HERRIN	COAL	5.0	1014.0	COAL REMOVED BY CO.
-559.4			COAL	0.8	1069.7	COAL REMOVED BY CO.

MAPID: 06503649000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 15 QUARTERS/FOOTAGES: 1387' S line, 75' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.427915 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.086199 DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 1020.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C2-19 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-441.3	CARBONDALE	DANVILLE	COAL	2.0	951.3	
-443.3	CARBONDALE		SHALE & SANDSTONE	14.0	953.3	
-457.3	CARBONDALE	ALLENBY	COAL	1.0	967.3	
-458.3	CARBONDALE		CLAYSTONE	2.0	968.3	
-460.3	CARBONDALE	LAWSON	SILTY SHALE	10.5	970.3	
-470.8	CARBONDALE	LAWSON	SANDSTONE	3.5	980.8	
-474.3	CARBONDALE	LAWSON	GRAY SHALE	22.0	984.3	
-496.3	CARBONDALE	JAMESTOWN	BONE COAL	0.5	1006.3	
-496.8	CARBONDALE		CLAYSTONE	1.0	1006.8	
-497.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	1007.8	
-502.8	CARBONDALE	ANNA	BLACK SHALE	2.2	1012.8	
-505.0	CARBONDALE	HERRIN	COAL	5.0	1015.0	



MAPID: 06503649000C    VERSION: 3

PROJECT: AVAIL

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 15    QUARTERS/FOOTAGES: 1387' S line, 75' W line

QUADRANGLE: THACKERAY    LONGITUDE: -88.427915    GEOLOGIST: MCBETH

CONFIDENTIAL: N    LATITUDE: 38.086199    DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.3    LOGGED (FT.): 1136.2    LOG TYPE:

SOURCE: AYRSHIRE    C2-19    WELL TYPE:

COMMENT: CARMi 2 BOX#75 COMP.CORE W/ISGS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.3			UNCLASSIFIED	1011.0	0.0	THICK AND DEPTH FROM CORE
-500.7	CARBONDALE	BRERETON	LIMESTONE	0.9	1011.0	THICK AND DEPTH FROM CORE
-501.6	CARBONDALE	ANNA	BLACK SHALE	2.1	1011.9	THICK AND DEPTH FROM CORE
-503.7	CARBONDALE	HERRIN	COAL	3.3	1014.0	THICK AND DEPTH FROM CORE
-507.0	CARBONDALE	HERRIN	GRAY SHALE	0.1	1017.3	THICK AND DEPTH FROM CORE
-507.1	CARBONDALE	HERRIN	COAL	2.1	1017.4	THICK AND DEPTH FROM CORE
-509.2	CARBONDALE		UNDERCLAY	3.8	1019.5	THICK AND DEPTH FROM CORE
-513.0	CARBONDALE		SILTSTONE	0.6	1023.3	THICK AND DEPTH FROM CORE
-513.6	CARBONDALE		UNCLASSIFIED	36.1	1023.9	THICK AND DEPTH FROM CORE
-549.7	CARBONDALE		GRAY SHALE	9.2	1060.0	THICK AND DEPTH FROM CORE
-558.9	CARBONDALE	BRIAR HILL	COAL	1.2	1069.2	THICK AND DEPTH FROM CORE
-560.1	CARBONDALE		GRAY SHALE	1.3	1070.4	THICK AND DEPTH FROM CORE
-561.4	CARBONDALE		SANDSTONE	1.0	1071.7	THICK AND DEPTH FROM CORE
-562.4	CARBONDALE		GRAY SHALE	4.3	1072.7	THICK AND DEPTH FROM CORE
-566.7	CARBONDALE		LIMESTONE	1.3	1077.0	THICK AND DEPTH FROM CORE
-568.0	CARBONDALE		GRAY SHALE	1.3	1078.3	THICK AND DEPTH FROM CORE
-569.3	CARBONDALE		LIMESTONE	1.5	1079.6	THICK AND DEPTH FROM CORE
-570.8	CARBONDALE		GRAY SHALE	1.6	1081.1	THICK AND DEPTH FROM CORE
-572.4	CARBONDALE	ST. DAVID	LIMESTONE	1.2	1082.7	THICK AND DEPTH FROM CORE
-573.6	CARBONDALE	TURNER MINE	BLACK SHALE	1.4	1083.9	THICK AND DEPTH FROM CORE
-575.0	CARBONDALE	TURNER MINE	LIMESTONE	0.3	1085.3	THICK AND DEPTH FROM CORE
-575.3	CARBONDALE	TURNER MINE	BLACK SHALE	1.3	1085.6	THICK AND DEPTH FROM CORE
-576.6	CARBONDALE	TURNER MINE	LIMESTONE	0.7	1086.9	THICK AND DEPTH FROM CORE
-577.3	CARBONDALE	DYKERSBURG	GRAY SHALE	18.7	1087.6	THICK AND DEPTH FROM CORE
-596.0	CARBONDALE	SPRINGFIELD	BONE COAL	1.6	1106.3	THICK AND DEPTH FROM CORE
-597.6	CARBONDALE	SPRINGFIELD	COAL	7.8	1107.9	THICK AND DEPTH FROM CORE
-605.4	CARBONDALE		PYRITE	0.1	1115.7	THICK AND DEPTH FROM CORE
-605.5	CARBONDALE		CLAYSTONE	0.4	1115.8	THICK AND DEPTH FROM CORE
-605.9	CARBONDALE		GRAY SHALE	4.4	1116.2	THICK AND DEPTH FROM CORE
-610.3	CARBONDALE		SANDSTONE	1.3	1120.6	THICK AND DEPTH FROM CORE
-611.6	CARBONDALE		GRAY SHALE	1.0	1121.9	THICK AND DEPTH FROM CORE
-612.6	CARBONDALE		SANDSTONE	1.0	1122.9	THICK AND DEPTH FROM CORE
-613.6	CARBONDALE		SILTSTONE	3.6	1123.9	THICK AND DEPTH FROM CORE
-617.2	CARBONDALE		SANDSTONE	8.7	1127.5	THICK AND DEPTH FROM CORE

MAPID: 06500692000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.445306 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.093456 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3526.0 LOG TYPE: Electric Log

SOURCE: WEINERT, H. H., ESTATE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	DANVILLE	COAL	-	900.0
-	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	5.0	906.0
-	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	920.0
-	CARBONDALE	HERRIN	COAL	7.0	960.0
-	CARBONDALE	BRIAR HILL	COAL	-	980.0
-	CARBONDALE	HOUCHIN CREEK	COAL	-	1160.0

MAPID: 06500800000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 16 QUARTERS/FOOTAGES: 1650' S line, 330' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.429316 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.086889 DATE COLLECTED:

SURFACE ELEVATION (FT.): 505.0 LOGGED (FT.): 1013.0 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
-441.5	CARBONDALE	DANVILLE	COAL	2.5	946.5
-444.0	CARBONDALE		SHALE	14.0	949.0
-458.0	CARBONDALE	ALLENBY	COAL	1.0	963.0
-459.0	CARBONDALE		CLAYSTONE	3.0	964.0
-462.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	1.0	967.0
-463.0	CARBONDALE	LAWSON	SHALE	6.0	968.0
-469.0	CARBONDALE	LAWSON	SANDSTONE	5.0	974.0
-474.0	CARBONDALE	LAWSON	GRAY SHALE	23.0	979.0
-497.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	1002.0
-498.0	CARBONDALE		CLAYSTONE	1.0	1003.0
-499.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	1004.0
-502.0	CARBONDALE	ANNA	BLACK SHALE	1.0	1007.0
-503.0	CARBONDALE	HERRIN	COAL	5.0	1008.0

MAPID: 06500250000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 17 QUARTERS/FOOTAGES: SE NE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.457079 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.093933 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 3498.0 LOG TYPE: Electric Log

SOURCE: DELTA OIL CO., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-437.0	CARBONDALE	DANVILLE	COAL	-	862.0	
-445.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	870.0	
-463.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	8.0	888.0	
-508.0	CARBONDALE	HERRIN	COAL	9.0	933.0	
-535.0	CARBONDALE	BRIAR HILL	COAL	-	960.0	
-621.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1046.0	SHALE ROOF
-675.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1100.0	

MAPID: 06500250000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 17 QUARTERS/FOOTAGES: SE NE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.457079 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.093933 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 4250.0 LOG TYPE: Electric Log

SOURCE: DELTA OPC, HALL CONS 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-509.0	CARBONDALE	HERRIN	COAL	-	934.0	
-620.0	CARBONDALE	SPRINGFIELD	COAL	-	1045.0	
-2165.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2590.0	

MAPID: 06501730000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.457187 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.083081 DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0 LOGGED (FT.): 894.5 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-402.5	CARBONDALE	DANVILLE	COAL	3.0	835.5	
-405.5	CARBONDALE		SILTY SHALE	13.0	838.5	
-418.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	851.5	
-421.5	CARBONDALE	LAWSON	SHALE	3.0	854.5	
-424.5	CARBONDALE	LAWSON	SANDSTONE	11.0	857.5	
-435.5	CARBONDALE	LAWSON	GRAY SHALE	16.0	868.5	
-451.5	CARBONDALE	BRERETON	LIMESTONE	6.0	884.5	
-457.5	CARBONDALE	ANNA	BLACK SHALE	0.5	890.5	
-458.0	CARBONDALE	HERRIN	COAL	3.5	891.0	

MAPID: 06503644000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 18 QUARTERS/FOOTAGES: 620' S line, 1012' W line of SE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.475581 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.084321 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 464.7 LOGGED (FT.): 1035.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-475.1	CARBONDALE	HERRIN	COAL	6.0	939.8	REMOVED BY CO.
-554.3	CARBONDALE	SPRINGFIELD	COAL	4.7	1019.0	REMOVED BY CO., SPLIT COAL?
-562.3	CARBONDALE	SPRINGFIELD	COAL	-	1027.0	REMOVED BY CO., SPLIT COAL?

MAPID: 06503722000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 18 QUARTERS/FOOTAGES: 475' N line, 50' E line of NW

QUADRANGLE: THACKERAY LONGITUDE: -88.474672 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.095884 DATE COLLECTED: 5 / 19 / 1970

SURFACE ELEVATION (FT.): 459.1 LOGGED (FT.): 1093.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-21 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-517.9	CARBONDALE	HERRIN	COAL	6.7	977.0	APPROX. THICKNESS
-619.9	CARBONDALE	SPRINGFIELD	COAL	9.0	1079.0	

MAPID: 0650376000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 18 QUARTERS/FOOTAGES: 45' N line, 151' E line of NE

QUADRANGLE: THACKERAY LONGITUDE: -88.465881 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.096967 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 422.7 LOGGED (FT.): 1032.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-45 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-514.9	CARBONDALE	HERRIN	COAL	6.4	937.6	
-608.3	CARBONDALE	SPRINGFIELD	COAL	10.0	1031.0	

MAPID: 06503762000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 18 QUARTERS/FOOTAGES: 187' N line, 2456' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.47507 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.096682 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 414.1 LOGGED (FT.): 1031.1 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-33 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-523.9	CARBONDALE	HERRIN	COAL	6.0	938.0	ESTIMATED

MAPID: 06503762000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 18 QUARTERS/FOOTAGES: 187' N line, 2456' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.47507 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.096682 DATE COLLECTED:

SURFACE ELEVATION (FT.): 414.0 LOGGED (FT.): 943.5 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-33 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-454.1	CARBONDALE	DANVILLE	COAL	3.0	868.1	
-457.1	CARBONDALE		SHALE & SANDSTONE	13.0	871.1	
-470.1	CARBONDALE	ALLENBY	COAL	1.0	884.1	
-471.1	CARBONDALE		CLAYSTONE	2.0	885.1	
-473.1	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	19.0	887.1	
-492.1	CARBONDALE	LAWSON	GRAY SHALE	21.0	906.1	
-513.1	CARBONDALE	JAMESTOWN	COAL	1.0	927.1	
-514.1	CARBONDALE		GRAY SHALE	4.0	928.1	
-518.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.5	932.1	
-522.5	CARBONDALE	ANNA	BLACK SHALE	1.5	936.5	
-524.0	CARBONDALE	HERRIN	COAL	5.5	938.0	

MAPID: 06503642000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 19 QUARTERS/FOOTAGES: 1243' S line, 371' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.482582 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.071426 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 470.6 LOGGED (FT.): 922.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-2 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-342.0	CARBONDALE	DANVILLE	COAL	2.8	812.6	REMOVED BY CO.
-401.4	CARBONDALE	HERRIN	COAL	5.3	872.0	
-511.7	CARBONDALE	SPRINGFIELD	COAL	7.6	982.3	

MAPID: 06503642000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 19 QUARTERS/FOOTAGES: 1243' S line, 371' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.482582 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.071426 DATE COLLECTED:

SURFACE ELEVATION (FT.): 471.0 LOGGED (FT.): 880.3 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-2 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-342.1	CARBONDALE	DANVILLE	COAL	2.8	813.1	
-344.9	CARBONDALE		SILTY SHALE	10.0	815.9	
-354.9	CARBONDALE	ALLENBY	COAL	1.0	825.9	
-355.9	CARBONDALE		CLAYSTONE	3.0	826.9	
-358.9	CARBONDALE	LAWSON	SHALE & SANDSTONE	35.0	829.9	
-393.9	CARBONDALE	JAMESTOWN	BONE COAL	0.5	864.9	
-394.4	CARBONDALE		CLAYSTONE & SHALE	5.0	865.4	
-399.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.5	870.4	
-401.9	CARBONDALE	ANNA	BLACK SHALE	1.0	872.9	
-402.9	CARBONDALE	ENERGY	UNCLASSIFIED	1.1	873.9	
-404.0	CARBONDALE	HERRIN	COAL	5.3	875.0	

**MAPID:** 06503723000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** 102' S line, 58' E line of SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.465529    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.068231    **DATE COLLECTED:** 6 / 19 / 1970  
**SURFACE ELEVATION (FT.):** 396.0    **LOGGED (FT.):** 927.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AYRSHIRE COLLIERIES    C3-25    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-392.0	CARBONDALE	HERRIN	COAL	4.5	788.0
-509.0	CARBONDALE	SPRINGFIELD	COAL	5.8	905.0

**MAPID:** 06523780000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** 2129' S line, 77' W line of SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.483578    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.073875    **DATE COLLECTED:** 0 / 0 / 1973  
**SURFACE ELEVATION (FT.):** 441.3    **LOGGED (FT.):** 946.3    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-86    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-394.2	CARBONDALE	HERRIN	COAL	5.5	835.5
-491.7	CARBONDALE	SPRINGFIELD	COAL	6.4	933.0

**MAPID:** 06523782000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** 17' S line, 325' W line of SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.48278    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.068043    **DATE COLLECTED:** 0 / 0 / 1973  
**SURFACE ELEVATION (FT.):** 434.1    **LOGGED (FT.):** 920.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-90    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-388.9	CARBONDALE	HERRIN	COAL	5.7	823.0
-483.9	CARBONDALE	SPRINGFIELD	COAL	5.8	918.0

**MAPID:** 06523786000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** 137' N line, 68' E line of NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.474742    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.08222    **DATE COLLECTED:** 0 / 0 / 1973  
**SURFACE ELEVATION (FT.):** 455.0    **LOGGED (FT.):** 995.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-36    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-445.0	CARBONDALE	HERRIN	COAL	6.2	900.0	
-535.0	CARBONDALE	SPRINGFIELD	COAL	6.2	990.0	

**MAPID:** 06523789000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** 48' S line, 456' E line of SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.476214    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.068112    **DATE COLLECTED:** 0 / 0 / 1973  
**SURFACE ELEVATION (FT.):** 424.7    **LOGGED (FT.):** 915.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-63    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-375.3	CARBONDALE	HERRIN	COAL	5.6	800.0	
-482.3	CARBONDALE	SPRINGFIELD	COAL	6.7	907.0	

**MAPID:** 06523793000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** 62' N line, 48' E line of SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.474731    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.075117    **DATE COLLECTED:** 0 / 0 / 1973  
**SURFACE ELEVATION (FT.):** 411.2    **LOGGED (FT.):** 926.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-55    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-397.8	CARBONDALE	HERRIN	COAL	5.2	809.0	
-514.8	CARBONDALE	SPRINGFIELD	COAL	7.8	926.0	



MAPID: 06523795000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 19 QUARTERS/FOOTAGES: 1211' S line, 1173' W line of SW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.479783 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.071332 DATE COLLECTED: 0 / 0 / 1973  
 SURFACE ELEVATION (FT.): 437.6 LOGGED (FT.): 954.0 LOG TYPE: Survey Core Study  
 SOURCE: AMAX C.C. C3-62 WELL TYPE: Coal Test  
 COMMENT: GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-389.4	CARBONDALE	HERRIN	COAL	5.7	827.0
-505.4	CARBONDALE	SPRINGFIELD	COAL	6.9	943.0

MAPID: 06523809000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 19 QUARTERS/FOOTAGES: 61' S line, 686' W line of NW NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.48139 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.079165 DATE COLLECTED: 1 / 31 / 1974  
 SURFACE ELEVATION (FT.): 441.5 LOGGED (FT.): 1025.0 LOG TYPE: Survey Core Study  
 SOURCE: AMAX C.C. C3-87 WELL TYPE: Coal Test  
 COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-367.5	CARBONDALE	DANVILLE	COAL	3.5	809.0
-424.5	CARBONDALE	HERRIN	COAL	5.5	866.0
-539.5	CARBONDALE	SPRINGFIELD	COAL	7.5	981.0

MAPID: 06500691000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 20 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.447825 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.075544 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 3525.0 LOG TYPE: Electric Log  
 SOURCE: GRIFFITH, S. B. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-387.0	CARBONDALE	DANVILLE	COAL	-	839.0
-400.0	CARBONDALE	ANVIL ROCK	SILTSTONE & SHALE	18.0	852.0
-437.0	CARBONDALE	HERRIN	COAL	4.0	889.0
-443.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	10.0	895.0
-465.0	CARBONDALE	BRIAR HILL	COAL	-	917.0
-467.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	4.0	919.0
-524.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	104.0	976.0
-638.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1090.0

MAPID: 06503764000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 20 QUARTERS/FOOTAGES: 380' N line, 1266' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.460836 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.081273 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 1010.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-35 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-460.2	CARBONDALE	HERRIN	COAL	5.8	896.2
-567.6	CARBONDALE	SPRINGFIELD	COAL	6.5	1003.6

MAPID: 06503764000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 20 QUARTERS/FOOTAGES: 380' N line, 1266' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.460836 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.081273 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 902.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-35 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-397.5	CARBONDALE	DANVILLE	COAL	3.5	833.5
-401.0	CARBONDALE		SHALE & SANDSTONE	12.0	837.0
-413.0	CARBONDALE	ALLENBY	COAL	1.5	849.0
-414.5	CARBONDALE		CLAYSTONE	1.0	850.5
-415.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	851.5
-420.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	8.0	856.5
-428.5	CARBONDALE	LAWSON	SANDSTONE	8.0	864.5
-436.5	CARBONDALE	LAWSON	GRAY SHALE	15.0	872.5
-451.5	CARBONDALE	CONANT	CALCAREOUS SHALE	0.2	887.5
-451.6	CARBONDALE	JAMESTOWN	BONE COAL	0.3	887.6
-451.9	CARBONDALE		CLAYSTONE	1.1	887.9
-453.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.5	889.0
-458.5	CARBONDALE	ANNA	BLACK SHALE	1.5	894.5
-460.0	CARBONDALE	HERRIN	COAL	6.0	896.0

MAPID: 06523797000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 20 QUARTERS/FOOTAGES: 112' N line, 452' W line of SW SW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.463733 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.071233 DATE COLLECTED: 0 / 0 / 1973  
 SURFACE ELEVATION (FT.): 425.6 LOGGED (FT.): 961.0 LOG TYPE: Survey Core Study  
 SOURCE: AMAX C.C. C3-30 WELL TYPE: Coal Test  
 COMMENT: GAMMA RAY-NEUTRON INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-525.2	CARBONDALE	SPRINGFIELD	COAL	8.0	950.8	

MAPID: 06500626000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 21 QUARTERS/FOOTAGES: 330' N line, 330' E line of NE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.429558 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.074163 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 3555.0 LOG TYPE: Electric Log  
 SOURCE: NAT'L. ASSOC. PETRO. CO. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-406.0	CARBONDALE	DANVILLE	COAL	-	856.0	
-426.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	876.0	
-469.0	CARBONDALE	HERRIN	COAL	3.0	919.0	
-508.0	CARBONDALE	BRIAR HILL	COAL	-	958.0	
-583.0	CARBONDALE	SPRINGFIELD	COAL	7.0	1033.0	SHALE ROOF
-600.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	56.0	1050.0	

MAPID: 06501372000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 21 QUARTERS/FOOTAGES: 1650' S line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.438581

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.072179

DATE COLLECTED:

SURFACE ELEVATION (FT.): 414.0

LOGGED (FT.): 880.0

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
-405.5	CARBONDALE	DANVILLE	COAL	2.5	819.5
-408.0	CARBONDALE		SHALE	12.0	822.0
-420.0	CARBONDALE	ALLENBY	COAL	1.0	834.0
-421.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	19.0	835.0
-440.0	CARBONDALE	LAWSON	GRAY SHALE	15.0	854.0
-455.0	CARBONDALE	BRERETON	LIMESTONE	6.0	869.0
-461.0	CARBONDALE	ANNA	BLACK SHALE	1.0	875.0
-462.0	CARBONDALE	HERRIN	BONE COAL	4.0	876.0

MAPID: 06500251000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 22 QUARTERS/FOOTAGES: SE NW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.424985

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.072365

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 460.0

LOGGED (FT.): 4600.0

LOG TYPE: Electric Log

SOURCE: ZEPHYR DRC, STEPHENS W0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-462.0	CARBONDALE	HERRIN	COAL	-	922.0
-591.0	CARBONDALE	SPRINGFIELD	COAL	-	1051.0
-2123.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2583.0

MAPID: 06500690000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 22 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.420406 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.070541 DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 3530.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-409.0	CARBONDALE	DANVILLE	COAL	-	868.0	
-427.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	886.0	
-439.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	898.0	
-461.0	CARBONDALE	HERRIN	COAL	4.0	920.0	
-471.0	CARBONDALE	VERMILIONVILLE	SILTSTONE	10.0	930.0	
-499.0	CARBONDALE	BRIAR HILL	COAL	-	958.0	
-601.0	CARBONDALE	SPRINGFIELD	COAL	1.0	1060.0	SHALE ROOF
-667.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1126.0	

MAPID: 06500690000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 22 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.420406 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.070541 DATE COLLECTED:

SURFACE ELEVATION (FT.): 459.0 LOGGED (FT.): 925.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-410.0	CARBONDALE	DANVILLE	COAL	2.5	869.0	
-412.5	CARBONDALE		SILTY SHALE	16.0	871.5	
-428.5	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	887.5	
-431.5	CARBONDALE	LAWSON	SILTY SHALE	10.0	890.5	
-441.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	5.0	900.5	
-446.5	CARBONDALE	LAWSON	CLAYSTONE & SHALE	8.0	905.5	
-454.5	CARBONDALE	BRERETON	LIMESTONE	6.0	913.5	
-460.5	CARBONDALE	ANNA	BLACK SHALE	1.5	919.5	
-462.0	CARBONDALE	HERRIN	COAL	4.0	921.0	

MAPID: 06500625000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 23 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.401992 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.070427 DATE COLLECTED:

SURFACE ELEVATION (FT.): 472.0 LOGGED (FT.): 3561.0 LOG TYPE: Electric Log

SOURCE: TEX HARVEY OIL CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-386.0	CARBONDALE	DANVILLE	COAL	-	858.0	
-393.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	865.0	
-408.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	880.0	
-440.0	CARBONDALE	HERRIN	COAL	4.0	912.0	
-449.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	13.0	921.0	
-496.0	CARBONDALE	BRIAR HILL	COAL	-	968.0	
-544.0	CARBONDALE	SPRINGFIELD	COAL	1.0	1016.0	SHALE ROOF
-588.0	CARBONDALE	SS BELOW NO. 5		-	1060.0	
-638.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1110.0	

MAPID: 06500625000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 23 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.401992 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.070427 DATE COLLECTED:

SURFACE ELEVATION (FT.): 472.0 LOGGED (FT.): 916.5 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-391.5	CARBONDALE	DANVILLE	COAL	2.5	863.5	
-394.0	CARBONDALE		SHALE & SANDSTONE	10.0	866.0	
-404.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	876.0	
-434.0	CARBONDALE	BRERETON	LIMESTONE	3.5	906.0	
-437.5	CARBONDALE	ANNA	BLACK SHALE	3.5	909.5	
-441.0	CARBONDALE	HERRIN	COAL	3.5	913.0	

MAPID: 06525530000C    VERSION: 1

PROJECT: NCRDS 2011

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 25    QUARTERS/FOOTAGES: 110' S line, 1365' W line

QUADRANGLE: THACKERAY    LONGITUDE: -88.38702    GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N    LATITUDE: 38.053445    DATE COLLECTED: 7 / 25 / 1969

SURFACE ELEVATION (FT.): 480.0    LOGGED (FT.): 1033.0    LOG TYPE: Drillers Log

SOURCE: ATLANTIC RICHFIELD    AB-51    WELL TYPE: Coal Test

COMMENT: COAL QUAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.0	PLEISTOCENE		CLAY	20.0	0.0	
460.0			SILTSTONE	10.0	20.0	
450.0			DARK SHALE	100.0	30.0	
350.0			SHALE	30.0	130.0	
320.0			CLAYSTONE & SILTSTONE	40.0	160.0	
280.0			SILTSTONE	20.0	200.0	
260.0			SANDSTONE	70.0	220.0	
190.0			SILTSTONE	10.0	290.0	
180.0			SANDSTONE	10.0	300.0	
170.0			SILTSTONE	30.0	310.0	
140.0			SANDSTONE	60.0	340.0	
80.0			SILTSTONE	20.0	400.0	INTERBEDDED SS
60.0			GRAY SHALE	195.0	420.0	
-135.0	SHELBURN	WEST FRANKLIN	LIMESTONE	10.0	615.0	
-145.0	SHELBURN		CLAYSTONE & SILTSTONE	15.0	625.0	
-160.0	SHELBURN		SILTY SHALE	170.0	640.0	
-330.0	SHELBURN	DANVILLE	COAL	2.5	810.0	
-332.5	SHELBURN		CLAYSTONE & SILTSTONE	3.5	812.5	
-336.0	SHELBURN		SILTY, SANDY SHALE	51.4	816.0	CORING BEGINS 850'
-387.4	SHELBURN		CORE LOSS	2.1	867.4	
-389.5	SHELBURN		DARK SHALE	0.5	869.5	
-390.0	SHELBURN		LIMESTONE	0.3	870.0	
-390.3	SHELBURN		CLAYSTONE & SILTSTONE	0.1	870.3	
-390.4	SHELBURN		BLACK SHALE	8.1	870.4	
-398.4	SHELBURN		DARK SHALE	1.4	878.4	
-399.8	SHELBURN		CORE LOSS	0.7	879.8	
-400.5	CARBONDALE	ANNA	BLACK SHALE	3.9	880.5	
-404.4	CARBONDALE	HERRIN	COAL	5.6	884.4	
-410.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.6	890.0	
-410.6	CARBONDALE		LIMESTONE	0.7	890.6	
-411.3	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	891.3	
-412.0	CARBONDALE		DARK SHALE	2.5	892.0	
-415.5	CARBONDALE		CORE LOSS	1.5	895.5	
-417.0	CARBONDALE		SILTSTONE	3.0	897.0	
-420.0	CARBONDALE		DARK SHALE	70.0	900.0	
-490.0	CARBONDALE		CORE LOSS	1.0	970.0	
-491.0	CARBONDALE	BRIAR HILL	COAL	1.0	971.0	
-492.0	CARBONDALE		CORE LOSS	3.0	972.0	
-495.0	CARBONDALE		DARK SHALE	33.8	975.0	

-528.8	CARBONDALE	TURNER MINE	BLACK SHALE	0.6	1008.8
-529.4	CARBONDALE	SPRINGFIELD	COAL	0.3	1009.4
-529.7	CARBONDALE		HARD SHALE	2.9	1009.7
-532.6	CARBONDALE		CORE LOSS	0.3	1012.6

**MAPID:** 06500689000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 26    **QUARTERS/FOOTAGES:** 1650' S line, 990' W line  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.406818    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.057864    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 443.0    **LOGGED (FT.):** 3509.0    **LOG TYPE:** Electric Log  
**SOURCE:** AUBREY TENNANT OIL    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-367.0	CARBONDALE	DANVILLE	COAL	-	810.0	
-373.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	10.0	816.0	
-384.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	827.0	
-390.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	9.0	833.0	
-421.0	CARBONDALE	HERRIN	COAL	3.0	864.0	
-427.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	10.0	870.0	
-454.0	CARBONDALE	BRIAR HILL	COAL	-	897.0	
-523.0	CARBONDALE	SPRINGFIELD	COAL	1.0	966.0	SHALE ROOF
-617.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1060.0	



MAPID: 06500689000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 26 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.406818 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.057864 DATE COLLECTED:

SURFACE ELEVATION (FT.): 443.0 LOGGED (FT.): 867.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-367.0	CARBONDALE	DANVILLE	COAL	3.0	810.0	
-370.0	CARBONDALE		SHALE & SANDSTONE	15.0	813.0	
-385.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	828.0	
-388.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	831.0	
-400.0	CARBONDALE	LAWSON	SHALE	7.0	843.0	
-407.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.0	850.0	
-411.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	4.0	854.0	
-415.0	CARBONDALE	BRERETON	LIMESTONE	3.0	858.0	
-418.0	CARBONDALE	ANNA	BLACK SHALE	3.0	861.0	
-421.0	CARBONDALE	HERRIN	COAL	3.0	864.0	

MAPID: 06501520000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: THACKERAY LONGITUDE: -88.402102 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.061397 DATE COLLECTED:

SURFACE ELEVATION (FT.): 426.0 LOGGED (FT.): 1232.0 LOG TYPE: Electric Log

SOURCE: JOHNSTON DRILLING CO INC 1520 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
426.0			UNKNOWN	1142.0	0.0	
-716.0	CARBONDALE	COLCHESTER	COAL	1.0	1142.0	THICKNESS LESS THAN 16"
-717.0	CARBONDALE		UNKNOWN	60.0	1143.0	
-777.0	CARBONDALE	DEKOVEN	COAL	3.5	1203.0	
-780.5	CARBONDALE		UNKNOWN	21.5	1206.5	
-802.0	CARBONDALE	DAVIS	COAL	4.0	1228.0	

MAPID: 06500969000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 28 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.443081 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.057814 DATE COLLECTED:

SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 1209.0 LOG TYPE: Electric Log

SOURCE: HERNDON DRILLING CO 969 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.0			UNKNOWN	1120.0	0.0	
-665.0	CARBONDALE	COLCHESTER	COAL	1.0	1120.0	
-666.0	CARBONDALE		UNKNOWN	55.0	1121.0	
-721.0	CARBONDALE	DEKOVEN	COAL	4.0	1176.0	
-725.0	CARBONDALE		UNKNOWN	26.0	1180.0	
-751.0	CARBONDALE	DAVIS	COAL	3.0	1206.0	

MAPID: 06500969000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 28 QUARTERS/FOOTAGES: 1650' S line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.443081 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.057814 DATE COLLECTED:

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 3408.0 LOG TYPE: Electric Log

SOURCE: HERNDON DRLG. CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-401.0	CARBONDALE	HERRIN	COAL	5.0	846.0	
-432.0	CARBONDALE	BRIAR HILL	COAL	-	877.0	
-511.0	CARBONDALE	SPRINGFIELD	COAL	10.0	956.0	
-572.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1017.0	

MAPID: 06500623000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 29 QUARTERS/FOOTAGES: 369' N line, 330' E line of SW

QUADRANGLE: THACKERAY LONGITUDE: -88.457146 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.059467 DATE COLLECTED:

SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 3364.0 LOG TYPE: Electric Log

SOURCE: OLSON DRLG CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-329.0	CARBONDALE	DANVILLE	COAL	-	723.0	
-350.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	20.0	744.0	
-389.0	CARBONDALE	HERRIN	COAL	4.0	783.0	
-396.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	8.0	790.0	
-416.0	CARBONDALE	BRIAR HILL	COAL	-	810.0	
-506.0	CARBONDALE	SPRINGFIELD	COAL	9.0	900.0	SHALE ROOF
-588.0	CARBONDALE	HOUCHIN CREEK	COAL	-	982.0	

MAPID: 06503714000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 29 QUARTERS/FOOTAGES: 2590' S line, 945' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.462126 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.060398 DATE COLLECTED: 6 / 5 / 1970

SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 890.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-26 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-380.0	CARBONDALE	HERRIN	COAL	5.0	769.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY
-481.0	CARBONDALE	SPRINGFIELD	COAL	6.0	870.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY

MAPID: 06503714000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 29 QUARTERS/FOOTAGES: 2590' S line, 945' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.462126 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.060398 DATE COLLECTED:

SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 774.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-26 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-322.7	CARBONDALE	DANVILLE	COAL	3.5	711.7	
-326.2	CARBONDALE		SHALE & SANDSTONE	12.0	715.2	
-338.2	CARBONDALE	ALLENBY	COAL	0.5	727.2	
-338.7	CARBONDALE		CLAYSTONE	1.0	727.7	
-339.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	728.7	UPPER BENCH
-341.7	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	730.7	SHALE PARTING
-342.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.0	731.7	LOWER BENCH
-344.7	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	733.7	
-354.7	CARBONDALE	LAWSON	GRAY SHALE	2.0	743.7	
-356.7	CARBONDALE	LAWSON	SANDSTONE	8.0	745.7	
-364.7	CARBONDALE	LAWSON	GRAY SHALE	8.0	753.7	
-372.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	761.7	
-373.2	CARBONDALE		GRAY SHALE	1.0	762.2	
-374.2	CARBONDALE	BRERETON	LIMESTONE	5.3	763.2	
-379.5	CARBONDALE	ANNA	BLACK SHALE	0.5	768.5	
-380.0	CARBONDALE	HERRIN	COAL	5.0	769.0	

MAPID: 06503715000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 29 QUARTERS/FOOTAGES: 239' S line, 121' E line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.44693 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.053888 DATE COLLECTED: 7 / 23 / 1970

SURFACE ELEVATION (FT.): 460.8 LOGGED (FT.): 954.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-28 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-377.2	CARBONDALE	HERRIN	COAL	6.0	838.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY
-479.2	CARBONDALE	SPRINGFIELD	COAL	7.0	940.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY

MAPID: 06523810000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 29    QUARTERS/FOOTAGES: 94' S line, 54' W line of NW NE

QUADRANGLE: THACKERAY    LONGITUDE: -88.45579    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 38.064341    DATE COLLECTED: 5 / 23 / 1974

SURFACE ELEVATION (FT.): 412.6    LOGGED (FT.): 997.0    LOG TYPE: Survey Core Study

SOURCE: AMAX C.C.    C3-49    WELL TYPE: Coal Test

COMMENT: GAMMA DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-365.4	CARBONDALE	DANVILLE	COAL	3.7	778.0	"?"
-382.4	CARBONDALE	ALLENBY	COAL	1.0	795.0	"?"
-422.4	CARBONDALE	HERRIN	COAL	5.0	835.0	
-543.4	CARBONDALE	SPRINGFIELD	COAL	6.5	956.0	

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MAPID: 06524732000C    VERSION: 1

PROJECT: LUMP

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 29    QUARTERS/FOOTAGES: NW SE SW

QUADRANGLE: THACKERAY    LONGITUDE: -88.459554    GEOLOGIST: D.NORTH

CONFIDENTIAL: N    LATITUDE: 38.055974    DATE COLLECTED: 1 / 30 / 1985

SURFACE ELEVATION (FT.): 385.0    LOGGED (FT.): 869.3    LOG TYPE: Drillers Log

SOURCE: INLAND STEEL COAL CO    C3-170    WELL TYPE: Coal Test

COMMENT: COORDINATES UPDATED. PERMIT 44 MINE #2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
385.0	PLEISTOCENE		CLAY	20.0	0.0	
365.0	PLEISTOCENE		SAND	14.0	20.0	AND GRAVEL
351.0	PLEISTOCENE		CLAY	9.0	34.0	
342.0	PLEISTOCENE		SAND	4.0	43.0	
338.0	PLEISTOCENE		CLAY	12.0	47.0	
326.0	BOND		GRAY SHALE	27.5	59.0	
298.5	BOND		LIMESTONE	1.0	86.5	
297.5	BOND		GRAY SHALE	5.5	87.5	
292.0	BOND		SILTSTONE	30.0	93.0	SANDY
262.0	BOND	MT. CARMEL	SANDSTONE	65.0	123.0	
197.0	BOND	CARTHAGE	LIMESTONE	2.0	188.0	
195.0	MODESTO		GRAY SHALE	8.0	190.0	
187.0	MODESTO		SILTSTONE	12.0	198.0	
175.0	MODESTO		SANDSTONE	13.0	210.0	
162.0	MODESTO		SILTSTONE	17.0	223.0	
145.0	MODESTO		GRAY SHALE	72.0	240.0	
73.0	MODESTO		BLACK SHALE	2.0	312.0	
71.0	MODESTO		GRAY SHALE	15.0	314.0	
56.0	MODESTO		SILTSTONE	14.0	329.0	
42.0	MODESTO		GRAY SHALE	10.0	343.0	
32.0	MODESTO	TRIVOLI	SANDSTONE	94.0	353.0	
-62.0	MODESTO		GRAY SHALE	46.0	447.0	
-108.0	MODESTO		SANDSTONE	67.0	493.0	
-175.0	MODESTO		SILTSTONE	63.0	560.0	
-238.0	MODESTO	FARMINGTON	GRAY SHALE	63.0	623.0	
-301.0	CARBONDALE	DANVILLE	COAL	2.0	686.0	
-303.0	CARBONDALE		GRAY SHALE	5.0	688.0	
-308.0	CARBONDALE		LIMESTONE	1.0	693.0	
-309.0	CARBONDALE		GRAY SHALE	7.0	694.0	
-316.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	701.0	
-319.5	CARBONDALE	ANVIL ROCK	SANDSTONE	10.5	704.5	
-330.0	CARBONDALE		SILTSTONE	22.5	715.0	
-352.5	CARBONDALE	BRERETON	LIMESTONE	4.5	737.5	
-357.0	CARBONDALE	ANNA	BLACK SHALE	1.0	742.0	
-358.0	CARBONDALE	HERRIN	COAL	5.5	743.0	
-363.5	CARBONDALE		GRAY SHALE	3.5	748.5	
-367.0	CARBONDALE		CALCAREOUS SANDSTONE	5.0	752.0	
-372.0	CARBONDALE		SANDSTONE	8.0	757.0	

-380.0	CARBONDALE		GRAY SHALE	22.0	765.0
-402.0	CARBONDALE		CALCAREOUS SANDSTONE	4.0	787.0
-406.0	CARBONDALE	DYKERSBURG	SANDSTONE	19.0	791.0
-425.0	CARBONDALE	DYKERSBURG	SILTSTONE	34.6	810.0
-459.6	CARBONDALE	SPRINGFIELD	COAL	7.5	844.6
-467.1	CARBONDALE		UNDERCLAY	5.4	852.1
-472.5	CARBONDALE		SILTSTONE	11.8	857.5

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MAPID: 06590210000C    VERSION: 1

PROJECT: LUMP

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 29    QUARTERS/FOOTAGES: NW SE SW

QUADRANGLE: THACKERAY    LONGITUDE: -88.459557    GEOLOGIST: NORTH

CONFIDENTIAL: N    LATITUDE: 38.055971    DATE COLLECTED: 1 / 30 / 1985

SURFACE ELEVATION (FT.): 385.0    LOGGED (FT.): 869.3    LOG TYPE: Drillers Log

SOURCE: INLAND STEEL COAL CO.    C3-170    WELL TYPE: Coal Test

COMMENT: PERMIT #44    WHEELER CREEK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
385.0	PLEISTOCENE		CLAY	20.0	0.0
365.0	PLEISTOCENE		SAND & GRAVEL	14.0	20.0
351.0	PLEISTOCENE		CLAY	9.0	34.0
342.0	PLEISTOCENE		SAND	4.0	43.0
338.0	PLEISTOCENE		CLAY	12.0	47.0
326.0			GRAY SHALE	27.5	59.0
298.5			LIMESTONE	1.0	86.5
297.5			GRAY SHALE	5.5	87.5
292.0			SILTSTONE	30.0	93.0
262.0			SANDSTONE	65.0	123.0
197.0			LIMESTONE	2.0	188.0
195.0			GRAY SHALE	8.0	190.0
187.0			SILTSTONE	12.0	198.0
175.0			SANDSTONE	13.0	210.0
162.0			SILTSTONE	17.0	223.0
145.0			GRAY SHALE	72.0	240.0
73.0			BLACK SHALE	2.0	312.0
71.0			GRAY SHALE	15.0	314.0
56.0			SILTSTONE	14.0	329.0
42.0			GRAY SHALE	10.0	343.0
32.0			SANDSTONE	94.0	353.0
-62.0			GRAY SHALE	46.0	447.0
-108.0			SANDSTONE	67.0	493.0
-175.0			SILTSTONE	63.0	560.0
-238.0			GRAY SHALE	63.0	623.0
-301.0	CARBONDALE	DANVILLE	COAL	2.0	686.0
-303.0	CARBONDALE		GRAY SHALE	5.0	688.0
-308.0	CARBONDALE		LIMESTONE	1.0	693.0
-309.0	CARBONDALE		GRAY SHALE	7.0	694.0
-316.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	701.0
-319.5	CARBONDALE		SANDSTONE	10.5	704.5
-330.0	CARBONDALE		SILTSTONE	22.5	715.0
-352.5	CARBONDALE	BRERETON	LIMESTONE	4.5	737.5
-357.0	CARBONDALE	ANNA	BLACK SHALE	1.0	742.0
-358.0	CARBONDALE	HERRIN	COAL	5.5	743.0
-363.5	CARBONDALE		GRAY SHALE	3.5	748.5
-367.0	CARBONDALE		CALCAREOUS SANDSTONE	5.0	752.0
-372.0	CARBONDALE		SANDSTONE	8.0	757.0



-380.0	CARBONDALE		GRAY SHALE	22.0	765.0
-402.0	CARBONDALE		CALCAREOUS SANDSTONE	4.0	787.0
-406.0	CARBONDALE		SANDSTONE	19.0	791.0
-425.0	CARBONDALE		SILTSTONE	34.6	810.0
-459.6	CARBONDALE	SPRINGFIELD	COAL	7.6	844.6
-467.1	CARBONDALE		UNDERCLAY	5.4	852.1
-472.5	CARBONDALE		SILTSTONE	11.8	857.5

**MAPID:** 06501703000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 30    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.482782    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.061552    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 423.0    **LOGGED (FT.):** 3346.0    **LOG TYPE:** Electric Log  
**SOURCE:** PURE OIL CO., THE    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-360.0	CARBONDALE	HERRIN	COAL	5.0	783.0	
-390.0	CARBONDALE	BRIAR HILL	COAL	-	813.0	
-445.0	CARBONDALE	SPRINGFIELD	COAL	5.0	868.0	SHALE ROOF
-531.0	CARBONDALE	HOUCHIN CREEK	COAL	-	954.0	

**MAPID:** 06503724000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 30    **QUARTERS/FOOTAGES:** 63' S line, 2533' E line  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.474356    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.053443    **DATE COLLECTED:** 5 / 24 / 1970  
**SURFACE ELEVATION (FT.):** 392.0    **LOGGED (FT.):** 873.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AYRSHIRE COLLIERIES    C3-17    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-306.0	CARBONDALE	HERRIN	COAL	13.0	698.0	APPROX. THICKNESS
-388.0	CARBONDALE	SPRINGFIELD	COAL	2.1	780.0	UPPER SPLIT OF SPRINGFIELD COAL
-398.3	CARBONDALE	SPRINGFIELD	COAL	4.2	790.3	

MAPID: 06503724000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 30 QUARTERS/FOOTAGES: 63' S line, 2533' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.474356 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.053443 DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 706.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-17 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-249.2	CARBONDALE	DANVILLE	COAL	3.5	641.2
-252.7	CARBONDALE		SILTY SHALE	11.0	644.7
-263.7	CARBONDALE	ALLENBY	COAL	2.5	655.7
-266.2	CARBONDALE		CLAYSTONE	1.0	658.2
-267.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	659.2
-273.2	CARBONDALE	LAWSON	SHALE & SANDSTONE	6.0	665.2
-279.2	CARBONDALE	LAWSON	SHALE	2.0	671.2
-281.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	13.0	673.2
-294.2	CARBONDALE	LAWSON	GRAY SHALE	5.0	686.2
-299.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	691.2
-299.5	CARBONDALE	JAMESTOWN	BONE COAL	0.3	691.5
-299.8	CARBONDALE		CLAYSTONE	0.3	691.8
-300.0	CARBONDALE	BRERETON	CARBONACEOUS LIMESTONE	6.5	692.0
-306.5	CARBONDALE	ANNA	BLACK SHALE	2.5	698.5
-309.0	CARBONDALE	HERRIN	COAL	5.0	701.0

MAPID: 06503771000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 30 QUARTERS/FOOTAGES: 591' S line, 73' E line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.46575 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.054884 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 386.0 LOGGED (FT.): 818.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-47 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-328.0	CARBONDALE	HERRIN	COAL	5.2	714.0
-423.0	CARBONDALE	SPRINGFIELD	COAL	5.8	809.0

**MAPID:** 06523811000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 30    **QUARTERS/FOOTAGES:** 28' N line, 8' W line of NE NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.479241    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.067909    **DATE COLLECTED:** 4 / 12 / 1974  
**SURFACE ELEVATION (FT.):** 427.6    **LOGGED (FT.):** 914.0    **LOG TYPE:** Other Core Study  
**SOURCE:** AMAX C.C.    C3-83    **WELL TYPE:** Coal Test  
**COMMENT:** DATE TAKEN FROM CORE DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-386.4	CARBONDALE	HERRIN	COAL	5.9	814.0	
-471.4	CARBONDALE	SPRINGFIELD	COAL	3.0	899.0	UPPER BENCH - SPLIT
-480.4	CARBONDALE	SPRINGFIELD	COAL	2.8	908.0	LOWER BENCH - SPLIT

**MAPID:** 06523812000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 30    **QUARTERS/FOOTAGES:** 165' S line, 479' W line of NE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.473004    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.061073    **DATE COLLECTED:** 4 / 12 / 1974  
**SURFACE ELEVATION (FT.):** 390.3    **LOGGED (FT.):** 843.3    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-82    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-283.7	CARBONDALE	DANVILLE	COAL	3.5	674.0	
-342.7	CARBONDALE	HERRIN	COAL	5.0	733.0	APPEARS SPLIT
-448.7	CARBONDALE	SPRINGFIELD	COAL	7.0	839.0	

**MAPID:** 06523813000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 30    **QUARTERS/FOOTAGES:** 320' N line, 156' W line of SW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.474168    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.056061    **DATE COLLECTED:** 4 / 11 / 1974  
**SURFACE ELEVATION (FT.):** 391.4    **LOGGED (FT.):** 839.0    **LOG TYPE:** Survey Core Study  
**SOURCE:** AMAX C.C.    C3-75    **WELL TYPE:** Coal Test  
**COMMENT:** GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-259.6	CARBONDALE	DANVILLE	COAL	3.0	651.0	
-314.6	CARBONDALE	HERRIN	COAL	6.0	706.0	
-346.6	CARBONDALE	BRIAR HILL	COAL	1.0	738.0	
-405.6	CARBONDALE	SPRINGFIELD	COAL	7.0	797.0	SPLIT NEAR TOP

MAPID: 06523825000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 30 QUARTERS/FOOTAGES: 160' N line, 180' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.48329 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.067556 DATE COLLECTED:

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 1081.5 LOG TYPE: Other Core Study

SOURCE: INLAND STEEL CO. 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
313.4			COAL	1.0	117.6	
-96.2	MODESTO	CHAPEL	COAL	1.3	527.2	"#8 ?"
-325.8	CARBONDALE	DANVILLE	COAL	2.8	756.8	
-386.0	CARBONDALE	HERRIN	COAL	6.8	817.0	
-479.4	CARBONDALE	SPRINGFIELD	COAL	6.2	910.4	
-588.5	CARBONDALE	SURVANT	COAL	2.4	1019.5	

MAPID: 06500028000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: 400' S line, 50' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.484171 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.039312 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 3940.0 LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0014, MUNSL F M WELL TYPE: Coal Test

COMMENT: SURFACE ELEVATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-302.0	CARBONDALE	HERRIN	COAL	5.6	696.0	
-402.0	CARBONDALE	SPRINGFIELD	COAL	4.8	796.0	

MAPID: 06500028000C    VERSION: 2

PROJECT: NCRDS87

COUNTY: HAMILTON    TWP/RNG: 5S 7E    SECTION: 31    QUARTERS/FOOTAGES: 400' S line, 50' W line

QUADRANGLE: THACKERAY    LONGITUDE: -88.484171    GEOLOGIST: WEIBEL

CONFIDENTIAL: N    LATITUDE: 38.039312    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 394.0    LOGGED (FT.): 802.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO.    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
394.0			UNCONSOLIDATED	21.0	0.0
373.0			SANDSTONE	12.0	21.0
361.0			GRAY SHALE	17.0	33.0
344.0			LIMESTONE	2.0	50.0
342.0			SHALE	43.0	52.0
299.0			SANDSTONE	80.0	95.0
219.0			SHALE	25.0	175.0
194.0			SANDSTONE	10.0	200.0
184.0			SHALE	66.0	210.0
118.0			BLACK SHALE	3.0	276.0
115.0			CLAYSTONE	6.0	279.0
109.0			SHALE	38.0	285.0
71.0			SANDSTONE	79.0	323.0
-8.0			SHALE	7.0	402.0
-15.0			DARK SHALE	4.0	409.0
-19.0			COAL	1.0	413.0
-20.0			SHALE	40.0	414.0
-60.0			SANDSTONE	11.0	454.0
-71.0			SHALE	94.0	465.0
-165.0			COAL	2.4	559.0
-167.4			DARK SHALE	78.6	561.4
-246.0			COAL	2.0	640.0
-248.0			SHALE	9.0	642.0
-257.0			SANDSTONE	1.0	651.0
-258.0			SHALE	3.8	652.0
-261.8	CARBONDALE	DANVILLE	COAL	0.3	655.8
-262.0	CARBONDALE		LIMESTONE	5.0	656.0
-267.0	CARBONDALE		SANDSTONE	19.0	661.0
-286.0	CARBONDALE		DARK SHALE	5.0	680.0
-291.0	CARBONDALE		COAL	0.3	685.0
-291.3	CARBONDALE		SHALE	2.7	685.3
-294.0	CARBONDALE	BRERETON	LIMESTONE	8.0	688.0
-302.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	5.0	696.0
-307.0	CARBONDALE		UNDERCLAY	1.0	701.0
-308.0	CARBONDALE		SHALE	12.0	702.0
-320.0	CARBONDALE		LIMESTONE	6.0	714.0
-326.0	CARBONDALE		DARK SHALE	12.0	720.0
-338.0	CARBONDALE		COAL	1.0	732.0

-339.0	CARBONDALE		SHALE	63.0	733.0
-402.0	CARBONDALE	SPRINGFIELD	COAL	4.9	796.0
-406.9	CARBONDALE		SHALE	1.1	800.9

**MAPID:** 06500028000C    **VERSION:** 3    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 400' S line, 50' W line  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.484171    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.039312    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 394.0    **LOGGED (FT.):** 802.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMERICAN COKE & CHEMICAL    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-246.0	CARBONDALE	DANVILLE	COAL	2.0	640.0	
-257.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	1.0	651.0	
-262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	656.0	
-267.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	19.0	661.0	
-302.0	CARBONDALE	HERRIN	COAL	5.7	696.0	
-338.0	CARBONDALE	BRIAR HILL	COAL	1.0	732.0	
-402.0	CARBONDALE	SPRINGFIELD	COAL	4.9	796.0	SANDY SHALE ROOF

**MAPID:** 06500246000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 5S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** NW SW NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.48293    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.048583    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 396.0    **LOGGED (FT.):** 3960.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, PRINCE 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-302.0	CARBONDALE	HERRIN	COAL	-	698.0	
-398.0	CARBONDALE	SPRINGFIELD	COAL	-	794.0	
-1919.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2315.0	

MAPID: 06500252000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.473812 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.039435 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 3970.0 LOG TYPE: Electric Log

SOURCE: CAMERON OC, GRIFFITH E0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-265.0	CARBONDALE	HERRIN	COAL	-	662.0
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	762.0
-1910.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2307.0

MAPID: 06500253000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.478374 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.044895 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 3890.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, LOGAN M P 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-301.0	CARBONDALE	HERRIN	COAL	-	690.0
-401.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0
-1909.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2298.0

MAPID: 06500254000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.483029 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.044821 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 3920.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, LOGAN M P 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-303.0	CARBONDALE	HERRIN	COAL	-	695.0
-403.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0
-1908.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2300.0

MAPID: 06500255000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: SW NW NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.482879 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.050462 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 4000.0 LOG TYPE: Electric Log  
 SOURCE: KINGWOODOC, SMITH F L 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-305.0	CARBONDALE	HERRIN	COAL	-	705.0
-400.0	CARBONDALE	SPRINGFIELD	COAL	-	800.0
-1918.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2318.0

MAPID: 06500258000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: SW SE SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.478495 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.039306 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 3890.0 LOG TYPE: Electric Log  
 SOURCE: PURE OC, CONSOL MIT0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-277.0	CARBONDALE	HERRIN	COAL	-	666.0
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	754.0
-1892.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2281.0

MAPID: 06500318000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: SE SW SW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.480839 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.039241 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 3820.0 LOG TYPE: Electric Log  
 SOURCE: PURE OC, UNION CEN 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-293.0	CARBONDALE	HERRIN	COAL	-	675.0
-393.0	CARBONDALE	SPRINGFIELD	COAL	-	775.0



MAPID: 06500483000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON

TWP/RNG: 5S 7E

SECTION: 31

QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: AKIN

LONGITUDE: -88.482981

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N

LATITUDE: 38.0467

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 394.0

LOGGED (FT.): 3940.0

LOG TYPE: Electric Log

SOURCE: SNCLR WYOM, PRINCE J W0002

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-301.0	CARBONDALE	HERRIN	COAL	-	695.0	
-401.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	

MAPID: 06500688000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON

TWP/RNG: 5S 7E

SECTION: 31

QUARTERS/FOOTAGES: 330' S line, 165' E line of SW SW

QUADRANGLE: THACKERAY

LONGITUDE: -88.480245

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 38.039235

DATE COLLECTED:

SURFACE ELEVATION (FT.): 382.0

LOGGED (FT.): 3029.0

LOG TYPE: Electric Log

SOURCE: PEARSON E W

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-214.0	CARBONDALE	DANVILLE	COAL	-	596.0	
-221.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	4.0	603.0	
-232.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	614.0	
-236.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	22.0	618.0	
-276.0	CARBONDALE	HERRIN	COAL	4.0	658.0	
-301.0	CARBONDALE	BRIAR HILL	COAL	-	683.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	4.0	752.0	SHALE ROOF
-452.0	CARBONDALE	HOUCHIN CREEK	COAL	-	834.0	

MAPID: 06503767000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON

TWP/RNG: 5S 7E

SECTION: 31

QUARTERS/FOOTAGES: 112' N line, 701' W line

QUADRANGLE: THACKERAY

LONGITUDE: -88.48152

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N

LATITUDE: 38.052974

DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 400.6

LOGGED (FT.): 802.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-39

WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-311.2	CARBONDALE	HERRIN	COAL	5.2	711.8	
-402.0	CARBONDALE	SPRINGFIELD	COAL	5.4	802.6	

MAPID: 06503767000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: 112' N line, 701' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.48152 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.052974 DATE COLLECTED:

SURFACE ELEVATION (FT.): 401.0 LOGGED (FT.): 716.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-39 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-253.5	CARBONDALE	DANVILLE	COAL	2.5	654.5
-256.0	CARBONDALE		SHALE & SANDSTONE	10.0	657.0
-266.0	CARBONDALE	ALLENBY	BONE COAL	1.0	667.0
-267.0	CARBONDALE		CLAYSTONE	1.0	668.0
-268.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	669.0
-272.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	29.0	673.5
-301.5	CARBONDALE	JAMESTOWN	BONE COAL	0.5	702.5
-302.0	CARBONDALE		CLAYSTONE	1.0	703.0
-303.0	CARBONDALE	BRERETON	LIMESTONE	5.5	704.0
-308.5	CARBONDALE	ANNA	BLACK SHALE	2.5	709.5
-311.0	CARBONDALE	HERRIN	COAL	4.0	712.0

MAPID: 06523774000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: 74' S line, 418' E line of SW

QUADRANGLE: THACKERAY LONGITUDE: -88.476456 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.038641 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 391.0 LOGGED (FT.): 743.0 LOG TYPE: Other Core Study

SOURCE: AMAX C.C. C3-76 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-271.0	CARBONDALE	HERRIN	COAL	7.5	662.0
-346.0	CARBONDALE	SPRINGFIELD	COAL	5.5	737.0

MAPID: 06523814000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: 95' S line, 1242' W line of NW

QUADRANGLE: THACKERAY LONGITUDE: -88.479824 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.046068 DATE COLLECTED: 5 / 22 / 1974

SURFACE ELEVATION (FT.): 388.1 LOGGED (FT.): 826.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-68 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-231.9	CARBONDALE	DANVILLE	COAL	2.5	620.0	
-298.9	CARBONDALE	HERRIN	COAL	4.5	687.0	
-398.9	CARBONDALE	SPRINGFIELD	COAL	5.0	787.0	

MAPID: 06523815000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 31 QUARTERS/FOOTAGES: 56' N line, 29' W line of SE NE

QUADRANGLE: THACKERAY LONGITUDE: -88.470073 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.049446 DATE COLLECTED: 5 / 22 / 1974

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 881.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-48 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	DANVILLE	UNCLASSIFIED	0.0		ABSENT
-311.0	CARBONDALE	HERRIN	COAL	6.0	708.0	
-395.0	CARBONDALE	SPRINGFIELD	COAL	3.0	792.0	UPPER BENCH, 10' SHALE BETWEEN BENCHES
-408.0	CARBONDALE	SPRINGFIELD	COAL	3.0	805.0	LOWER BENCH, 10' SHALE BETWEEN BENCHES

MAPID: 06500687000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.448146 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.039794 DATE COLLECTED:

SURFACE ELEVATION (FT.): 396.0 LOGGED (FT.): 3371.0 LOG TYPE: Electric Log

SOURCE: TWAIN, MARK OIL PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-284.0	CARBONDALE	DANVILLE	COAL	-	680.0	
-290.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	8.0	686.0	
-307.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	703.0	
-319.0	CARBONDALE	ANVIL ROCK	SILTSTONE & SHALE	15.0	715.0	
-348.0	CARBONDALE	HERRIN	COAL	4.0	744.0	
-354.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	16.0	750.0	
-382.0	CARBONDALE	BRIAR HILL	COAL	-	778.0	
-434.0	CARBONDALE	CANTON	SILTSTONE & SHALE	10.0	830.0	
-468.0	CARBONDALE	SPRINGFIELD	COAL	8.0	864.0	SHALE AND SANDSTONE ROOF
-511.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	11.0	907.0	
-526.0	CARBONDALE	HOUCHIN CREEK	COAL	-	922.0	

MAPID: 06523778000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 32 QUARTERS/FOOTAGES: 1421' S line, 527' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.463754 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.042691 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 383.7 LOGGED (FT.): 780.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-69 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-317.3	CARBONDALE	HERRIN	COAL	6.6	701.0	
-387.3	CARBONDALE	SPRINGFIELD	COAL	4.4	771.0	

MAPID: 06523778000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 32 QUARTERS/FOOTAGES: 1421' S line, 527' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.463754 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.042691 DATE COLLECTED:

SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 708.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-69 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-252.0	CARBONDALE	DANVILLE	COAL	1.0	636.0
-253.0	CARBONDALE		SHALE & SANDSTONE	13.0	637.0
-266.0	CARBONDALE	ALLENBY	BONE COAL	1.0	650.0
-267.0	CARBONDALE		CLAYSTONE	1.0	651.0
-268.0	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.5	652.0
-270.5	CARBONDALE	LAWSON	SANDSTONE	8.0	654.5
-278.5	CARBONDALE	LAWSON	BLACK SHALE	2.0	662.5
-280.5	CARBONDALE	LAWSON	SANDSTONE	4.0	664.5
-284.5	CARBONDALE	LAWSON	SILTY SHALE	21.0	668.5
-305.5	CARBONDALE	JAMESTOWN	BONE COAL	0.5	689.5
-306.0	CARBONDALE		CLAYSTONE	1.0	690.0
-307.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	9.0	691.0
-316.0	CARBONDALE	ANNA	BLACK SHALE	2.0	700.0
-318.0	CARBONDALE	HERRIN	COAL	6.0	702.0

MAPID: 06500530000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 33 QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: WALPOLE LONGITUDE: -88.438907 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.047 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 496.0 LOGGED (FT.): 4960.0 LOG TYPE: Electric Log

SOURCE: NAT ASSOC, TYLER J M 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-358.0	CARBONDALE	HERRIN	COAL	-	854.0
-464.0	CARBONDALE	SPRINGFIELD	COAL	-	960.0
-2000.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2496.0

MAPID: 06500531000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 33 QUARTERS/FOOTAGES: NW SW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.436632 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.048815 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 481.0 LOGGED (FT.): 4810.0 LOG TYPE: Electric Log

SOURCE: NAT ASSOC, TYLER J M 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-351.0	CARBONDALE	HERRIN	COAL	-	832.0	
-447.0	CARBONDALE	SPRINGFIELD	COAL	-	928.0	
-2017.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2498.0	

MAPID: 06500686000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 33 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.443306 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.050577 DATE COLLECTED:

SURFACE ELEVATION (FT.): 488.0 LOGGED (FT.): 3387.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-296.0	CARBONDALE	DANVILLE	COAL	-	784.0	
-302.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	14.0	790.0	
-318.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	806.0	
-324.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	16.0	812.0	
-359.0	CARBONDALE	HERRIN	COAL	4.0	847.0	
-392.0	CARBONDALE	BRIAR HILL	COAL	-	880.0	
-405.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	27.0	893.0	
-456.0	CARBONDALE	SPRINGFIELD	COAL	7.0	944.0	SHALE AND SANDSTONE ROOF
-500.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	16.0	988.0	
-535.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1023.0	

MAPID: 06503716000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 33 QUARTERS/FOOTAGES: 1270' S line, 2590' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.437854 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.042407 DATE COLLECTED: 5 / 18 / 1970

SURFACE ELEVATION (FT.): 407.2 LOGGED (FT.): 882.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-19 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-335.8	CARBONDALE	HERRIN	COAL	4.0	743.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY
-454.8	CARBONDALE	SPRINGFIELD	COAL	8.0	862.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY

MAPID: 06503716000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 33 QUARTERS/FOOTAGES: 1270' S line, 2590' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.437854 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.042407 DATE COLLECTED:

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 747.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-19 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-277.9	CARBONDALE	DANVILLE	COAL	3.0	684.9	
-280.9	CARBONDALE		SHALE & SANDSTONE	15.0	687.9	
-295.9	CARBONDALE	ALLENBY	COAL	2.0	702.9	
-297.9	CARBONDALE		CLAYSTONE	1.0	704.9	
-298.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.0	705.9	
-303.9	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	710.9	
-313.9	CARBONDALE	LAWSON	SILTY SHALE	11.0	720.9	
-324.9	CARBONDALE	LAWSON	CALCAREOUS SHALE	4.0	731.9	
-328.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.0	735.9	
-332.9	CARBONDALE	ANNA	BLACK SHALE	3.1	739.9	
-336.0	CARBONDALE	HERRIN	COAL	4.0	743.0	

MAPID: 06523775000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 33 QUARTERS/FOOTAGES: 201' S line, 104' E line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.429307 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.039465 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 389.9 LOGGED (FT.): 843.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-72 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-356.1	CARBONDALE	HERRIN	COAL	5.0	746.0	
-437.1	CARBONDALE	SPRINGFIELD	COAL	9.0	827.0	

MAPID: 06524319000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 33 QUARTERS/FOOTAGES: 1650' S line, 1650' E line of SE NW

QUADRANGLE: THACKERAY LONGITUDE: -88.443462 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.050631 DATE COLLECTED: 11 / 28 / 1978

SURFACE ELEVATION (FT.): 495.0 LOGGED (FT.): 1300.0 LOG TYPE: Nuclear Log

SOURCE: AMAX C.C. C-3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-277.0	CARBONDALE	DANVILLE	COAL	2.0	772.0	
-339.0	CARBONDALE	HERRIN	COAL	6.0	834.0	
-433.0	CARBONDALE	SPRINGFIELD	COAL	8.0	928.0	
-519.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1014.0	
-546.0	CARBONDALE	SURVANT	COAL	2.5	1041.0	
-619.0	CARBONDALE	COLCHESTER	COAL	-	1114.0	
-637.0	SPOON	DEKOVEN	COAL	2.5	1132.0	
-669.0	SPOON	DAVIS	COAL	5.0	1164.0	



MAPID: 06500685000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 34 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.414016 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.043457 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3409.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	DANVILLE	COAL	-	693.0
-	CARBONDALE	BANKSTON FORK	LIMESTONE	-	708.0
-	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	713.0
-	CARBONDALE	HERRIN	COAL	5.0	746.0
-	CARBONDALE	BRIAR HILL	COAL	-	770.0
-	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	124.0	826.0
-	CARBONDALE	HOUCHIN CREEK	COAL	-	952.0

MAPID: 06500685000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 34 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.414016 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.043457 DATE COLLECTED:

SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 750.0 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
-289.0	CARBONDALE	DANVILLE	COAL	3.0	694.0
-292.0	CARBONDALE		SILTY SHALE	12.0	697.0
-304.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	709.0
-308.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	9.0	713.0
-317.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	722.0
-327.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	4.0	732.0
-331.0	CARBONDALE	BRERETON	LIMESTONE	7.0	736.0
-338.0	CARBONDALE	ANNA	BLACK SHALE	3.0	743.0
-341.0	CARBONDALE	HERRIN	COAL	4.0	746.0

MAPID: 06500256000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 35 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.393145 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.043327 DATE COLLECTED:

SURFACE ELEVATION (FT.): 482.0 LOGGED (FT.): 3486.0 LOG TYPE: Electric Log

SOURCE: REESE & HEATH WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-298.0	CARBONDALE	DANVILLE	COAL	-	780.0	
-324.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	806.0	
-330.0	CARBONDALE	ANVIL ROCK	SILTSTONE	12.0	812.0	
-368.0	CARBONDALE	HERRIN	COAL	7.0	850.0	
-560.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1042.0	

MAPID: 06500256000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 35 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.393145 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.043327 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 482.0 LOGGED (FT.): 4820.0 LOG TYPE: Electric Log

SOURCE: REESE&HETH, KLEMM 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-368.0	CARBONDALE	HERRIN	COAL	-	850.0	
-2074.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2556.0	

MAPID: 06501717000C VERSION: 1

PROJECT: AVAIL

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 35 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.395441 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.043393 DATE COLLECTED:

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 1175.0 LOG TYPE: Electric Log

SOURCE: LAWRENCE W DYE 1717 WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
457.0			UNKNOWN	1100.0	0.0	
-643.0	CARBONDALE	COLCHESTER	COAL	1.0	1100.0	
-644.0	CARBONDALE		UNKNOWN	24.0	1101.0	
-668.0	CARBONDALE	DEKOVEN	COAL	3.0	1125.0	
-671.0	CARBONDALE		UNKNOWN	33.0	1128.0	
-704.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	1161.0	
-705.0	CARBONDALE		UNKNOWN	10.0	1162.0	
-715.0	CARBONDALE	DAVIS	COAL	3.0	1172.0	

MAPID: 06501717000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 5S 7E SECTION: 35 QUARTERS/FOOTAGES: 1650' S line, 990' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.395441 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.043393 DATE COLLECTED:

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 838.0 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
-309.0	CARBONDALE	DANVILLE	COAL	2.5	766.0
-311.5	CARBONDALE		SILTY SHALE	20.0	768.5
-331.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	788.5
-333.5	CARBONDALE	LAWSON	SILTY SHALE	29.0	790.5
-362.5	CARBONDALE	JAMESTOWN	BONE COAL	0.5	819.5
-363.0	CARBONDALE		SHALE	1.0	820.0
-364.0	CARBONDALE	BRERETON	LIMESTONE	4.5	821.0
-368.5	CARBONDALE	ANNA	BLACK SHALE	4.5	825.5
-373.0	CARBONDALE	HERRIN	COAL	8.0	830.0

MAPID: 06500740000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 1 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.59835 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.026234 DATE COLLECTED:

SURFACE ELEVATION (FT.): 518.0 LOGGED (FT.): 3325.0 LOG TYPE: Electric Log

SOURCE: KAUFMAN, E.H. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-289.0	CARBONDALE	DANVILLE	COAL	-	807.0
-302.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	16.0	820.0
-329.0	CARBONDALE	HERRIN	COAL	4.0	847.0
-379.0	CARBONDALE	BRIAR HILL	COAL	-	897.0
-435.0	CARBONDALE	SPRINGFIELD	COAL	4.0	953.0
-518.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1036.0

BLACK SHALE & LIMESTONE ROOF

MAPID: 06503223000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 1 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.605189

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.02438

DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 909.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-254.0	MODESTO	PIASA	CALCAREOUS SHALE	12.0	764.0	
-266.0	MODESTO		SHALE	39.0	776.0	
-305.0	CARBONDALE	DANVILLE	COAL	1.5	815.0	
-306.5	CARBONDALE		SHALE & SANDSTONE	20.5	816.5	
-327.0	CARBONDALE	ALLENBY	BONE COAL	1.0	837.0	
-328.0	CARBONDALE		CLAYSTONE & SHALE	7.0	838.0	
-335.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	845.0	
-343.0	CARBONDALE	LAWSON	SHALE	4.0	853.0	
-347.0	CARBONDALE	LAWSON	COAL	1.0	857.0	
-348.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	858.0	
-360.0	CARBONDALE	LAWSON	SHALE	13.0	870.0	
-373.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	883.0	
-374.0	CARBONDALE		SHALE	6.0	884.0	
-380.0	CARBONDALE	BRERETON	LIMESTONE	7.5	890.0	
-387.5	CARBONDALE	ANNA	BLACK SHALE	2.5	897.5	
-390.0	CARBONDALE	HERRIN	COAL	9.0	900.0	

MAPID: 06500579000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.6212

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.033628

DATE COLLECTED:

SURFACE ELEVATION (FT.): 508.0 LOGGED (FT.): 3465.0

LOG TYPE: Electric Log

SOURCE: CALVERY & WILLIS

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-280.0	CARBONDALE	DANVILLE	COAL	-	788.0	
-291.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	8.0	799.0	
-318.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	16.0	826.0	
-368.0	CARBONDALE	HERRIN	COAL	7.0	876.0	
-386.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	10.0	894.0	
-417.0	CARBONDALE	SPRINGFIELD	COAL	4.0	925.0	BLACK SHALE & LIMESTONE ROOF
-498.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1006.0	

MAPID: 06501187000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 990' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.628059 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.037375 DATE COLLECTED:

SURFACE ELEVATION (FT.): 489.0 LOGGED (FT.): 870.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-267.0	MODESTO	PIASA	LIMESTONE	4.0	756.0	
-271.0	MODESTO		SHALE	22.0	760.0	
-293.0	CARBONDALE	DANVILLE	COAL	2.0	782.0	
-295.0	CARBONDALE		SHALE & SANDSTONE	21.0	784.0	
-316.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	1.0	805.0	
-317.0	CARBONDALE	LAWSON	SILTY SHALE	9.0	806.0	
-326.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	17.0	815.0	
-343.0	CARBONDALE	LAWSON	SILTY SHALE	17.0	832.0	
-360.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	849.0	
-361.0	CARBONDALE		SHALE	3.0	850.0	
-364.0	CARBONDALE	BRERETON	LIMESTONE	5.0	853.0	
-369.0	CARBONDALE	ANNA	BLACK SHALE	5.0	858.0	
-374.0	CARBONDALE	HERRIN	COAL	7.0	863.0	

MAPID: 06500757000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.639781 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.031823 DATE COLLECTED:

SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 3462.0 LOG TYPE: Electric Log

SOURCE: OIL MANAGEMENT, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-311.0	CARBONDALE	DANVILLE	COAL	-	825.0	
-320.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	10.0	834.0	
-348.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	25.0	862.0	
-392.0	CARBONDALE	HERRIN	COAL	4.0	906.0	
-400.0	CARBONDALE	VERMILIONVILLE	SILTSTONE	6.0	914.0	
-434.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	10.0	948.0	
-462.0	CARBONDALE	SPRINGFIELD	COAL	3.0	976.0	BLACK SHALE & LIMESTONE ROOF
-476.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	12.0	990.0	
-548.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1062.0	

MAPID: 06501133000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 3 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.632666 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.037393 DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 915.0 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
-276.0	MODESTO	PIASA	LIMESTONE	7.0	791.0
-283.0	MODESTO		SHALE	20.0	798.0
-303.0	CARBONDALE	DANVILLE	COAL	3.0	818.0
-306.0	CARBONDALE		SHALE & SANDSTONE	21.0	821.0
-327.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	842.0
-339.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	22.0	854.0
-361.0	CARBONDALE	LAWSON	SILTY SHALE	16.0	876.0
-377.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	892.0
-378.0	CARBONDALE		CLAYSTONE & SHALE	7.0	893.0
-385.0	CARBONDALE	BRERETON	LIMESTONE	4.0	900.0
-389.0	CARBONDALE	ANNA	BLACK SHALE	2.0	904.0
-391.0	CARBONDALE	HERRIN	COAL	9.0	906.0

MAPID: 06502200000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 3 QUARTERS/FOOTAGES: SE SE SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.632226 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.031338 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 67.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. 325 WELL TYPE: Coal Test

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
555.0	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0
542.0			SHALE	18.0	13.0
524.0			LIMESTONE	8.0	31.0
516.0			SHALY LIMESTONE	28.0	39.0

**MAPID:** 06502201000C    **VERSION:** 1    **PROJECT:** NCRDS97  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 3    **QUARTERS/FOOTAGES:** NE NE NW  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.641987    **GEOLOGIST:** C.KOROSE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.037358    **DATE COLLECTED:** 4 / 0 / 1952  
**SURFACE ELEVATION (FT.):** 504.0    **LOGGED (FT.):** 50.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE COLLIERIES CORP. A421    **WELL TYPE:** Coal Test  
**COMMENT:** NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
504.0	PLEISTOCENE		UNCONSOLIDATED	22.0	0.0
482.0			SHALE	10.0	22.0
472.0			SHALY SANDSTONE	18.0	32.0

**MAPID:** 06502202000C    **VERSION:** 1    **PROJECT:** NCRDS97  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 3    **QUARTERS/FOOTAGES:** SE SE SE SW  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.641668    **GEOLOGIST:** C.KOROSE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.024018    **DATE COLLECTED:** 4 / 0 / 1952  
**SURFACE ELEVATION (FT.):** 521.0    **LOGGED (FT.):** 36.4    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE COLLIERIES CORP. 221    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
521.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0
509.0			SHALE	2.0	12.0
507.0			SANDSTONE	7.0	14.0
500.0			SHALE	0.5	21.0
499.5			COAL	0.2	21.5 BLOSSOM
499.3			SANDSTONE	6.0	21.7
493.3			SHALY LIMESTONE	8.8	27.7

**MAPID:** 06502203000C    **VERSION:** 1    **PROJECT:** NCRDS97  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 3    **QUARTERS/FOOTAGES:** NE NE NE NE  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.632085    **GEOLOGIST:** C.KOROSE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.037841    **DATE COLLECTED:** 4 / 0 / 1952  
**SURFACE ELEVATION (FT.):** 506.0    **LOGGED (FT.):** 41.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE COLLIERIES CORP. A425    **WELL TYPE:** Coal Test  
**COMMENT:** NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
506.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0
492.0			SHALE	26.0	14.0
466.0			LIMESTONE	1.0	40.0

MAPID: 06502204000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 4 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.651446 GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N LATITUDE: 38.028232 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 537.0 LOGGED (FT.): 29.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. 267 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
537.0	PLEISTOCENE		UNCONSOLIDATED	17.0	0.0	
520.0			DARK SHALE	6.5	17.0	
513.5			COAL	0.9	23.5	SOFT
512.6			UNDERCLAY	1.8	24.4	
510.7			COAL	0.8	26.3	BONE
510.0			NO RECORD	2.0	27.0	

MAPID: 06502205000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 4 QUARTERS/FOOTAGES: SW SW SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.654253 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.031428 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 41.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. A315 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
514.0			SHALE	8.0	11.0	
506.0			SHALE	17.0	19.0	DARK
489.0			COAL	1.5	36.0	FAIR
487.5			CLAYSTONE	1.8	37.5	
485.7			COAL	0.5	39.3	BONE NO GOOD
485.2			UNDERCLAY	1.3	39.8	



MAPID: 06502206000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 4 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.651375 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.031876 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 554.0 LOGGED (FT.): 45.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. A317 WELL TYPE: Coal Test

COMMENT: C BELOW CLY BND NO GOOD TO LOAD

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
554.0	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
534.0			SHALE	12.0	20.0	
522.0			SHALE	8.0	32.0	BLACK
514.0			COAL	1.5	40.0	GOOD
512.5			CLAYSTONE	0.8	41.5	
511.7			SHALE/COAL	1.3	42.3	POOR
510.4			UNDERCLAY	1.4	43.6	

MAPID: 06502207000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 4 QUARTERS/FOOTAGES: NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.654746 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.034609 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 26.3 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. A365 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
505.0			SHALE	10.0	10.0	DARK
495.0			COAL	1.2	20.0	SOFT
493.8			CLAYSTONE	1.3	21.2	
492.5			COAL	1.8	22.5	BONE
490.7			UNDERCLAY	2.0	24.3	

MAPID: 06502208000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 4 QUARTERS/FOOTAGES: NE SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.65134 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.033698 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 32.1 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. A367 WELL TYPE: Coal Test

COMMENT: COAL BELOW CLAY BAND NO GOOD

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
515.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
505.0			SHALE	9.5	10.0	BLACK
495.5			COAL	1.9	19.5	GOOD
493.6			CLAYSTONE	0.9	21.4	
492.7			SHALE/COAL	1.2	22.3	NO GOOD
491.5			UNDERCLAY	7.6	23.5	
483.9			LIMESTONE	1.0	31.1	

MAPID: 06502209000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 4 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.653538 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.037336 DATE COLLECTED: 4 / 28 / 1952

SURFACE ELEVATION (FT.): 493.0 LOGGED (FT.): 31.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. A415 WELL TYPE: Coal Test

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
493.0	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
478.0			CLAYSTONE	2.0	15.0	
476.0			SHALE	14.0	17.0	

MAPID: 06502210000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 4 QUARTERS/FOOTAGES: NE NE NE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.650691 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.037798 DATE COLLECTED: 4 / 28 / 1952

SURFACE ELEVATION (FT.): 497.0 LOGGED (FT.): 30.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE COLLIERIES CORP. A417 WELL TYPE: Coal Test

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
497.0	PLEISTOCENE		UNCONSOLIDATED	13.5	0.0	
483.5			LIMESTONE	2.5	13.5	
481.0			SHALY LIMESTONE	14.0	16.0	

**MAPID:** 06524412000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 4    **QUARTERS/FOOTAGES:** NE NE SE SE  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.650583    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.027135    **DATE COLLECTED:** 0 / 0 / 1981  
**SURFACE ELEVATION (FT.):** 535.0    **LOGGED (FT.):** 1029.0    **LOG TYPE:** Other Core Study  
**SOURCE:** TENNESSEE VALLEY AUTHORITY    ENCA #37    **WELL TYPE:** Coal Test  
**COMMENT:** NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-402.3	CARBONDALE	HERRIN	COAL	5.7	937.3	REMOVED BY CO.

**MAPID:** 06524518000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 4    **QUARTERS/FOOTAGES:** 50' N line, 750' W line  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.665561    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.038134    **DATE COLLECTED:** 0 / 0 / 1981  
**SURFACE ELEVATION (FT.):** 460.0    **LOGGED (FT.):** 961.0    **LOG TYPE:** Other Core Study  
**SOURCE:** TENNESSEE VALLEY AUTHORITY    ENCA #70    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-419.5	CARBONDALE	HERRIN	COAL	6.1	879.5	REMOVED BY CO.
-489.3	CARBONDALE	SPRINGFIELD	COAL	4.4	949.3	REMOVED BY CO.

**MAPID:** 06502211000C    **VERSION:** 1    **PROJECT:** NCRDS97  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 5    **QUARTERS/FOOTAGES:** NW NW NW SE  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.677375    **GEOLOGIST:** C.KOROSE  
**CONFIDENTIAL:** N    **LATITUDE:** 38.030734    **DATE COLLECTED:** 4 / 30 / 1952  
**SURFACE ELEVATION (FT.):** 510.0    **LOGGED (FT.):** 41.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AYRSHIRE COLLIERIES CORP.    305    **WELL TYPE:** Coal Test  
**COMMENT:** NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.0	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
497.0			SHALY LIMESTONE	28.0	13.0	

MAPID: 06524413000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 5 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.686535 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.037992 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 521.0 LOGGED (FT.): 1050.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #32 WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-440.3	CARBONDALE	HERRIN	COAL	6.6	961.3	
-515.5	CARBONDALE	SPRINGFIELD	COAL	5.3	1036.5	

MAPID: 06500257000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 6 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.688678 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.025001 DATE COLLECTED:

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 3490.0 LOG TYPE: Electric Log

SOURCE: CALLAHAN & MORONEY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-320.0	CARBONDALE	DANVILLE	COAL	-	862.0	
-294.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	836.0	
-366.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	908.0	
-404.0	CARBONDALE	HERRIN	COAL	-	946.0	
-416.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	16.0	958.0	
-448.0	CARBONDALE	BRIAR HILL	COAL	-	990.0	
-453.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	8.0	995.0	
-482.0	CARBONDALE	SPRINGFIELD	COAL	5.0	1024.0	GRAY SHALE ROOF
-516.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	27.0	1058.0	
-545.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1087.0	

MAPID: 06500257000C    VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 6    QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.688678

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 38.025001

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 542.0

LOGGED (FT.): 5420.0

LOG TYPE: Electric Log

SOURCE: CLLHN&MRNY, ULRICH 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-403.0	CARBONDALE	HERRIN	COAL	-	945.0	
-488.0	CARBONDALE	SPRINGFIELD	COAL	-	1030.0	
-1990.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2532.0	

MAPID: 06523901000C    VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 6    QUARTERS/FOOTAGES: 2640' N line, 1320' W line

QUADRANGLE: MACEDONIA    LONGITUDE: -88.701014

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.031164

DATE COLLECTED: 9 / 15 / 1976

SURFACE ELEVATION (FT.): 526.0

LOGGED (FT.): 1022.0

LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-20

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
526.0			UNCLASSIFIED	874.0	0.0	
-348.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	874.0	
-350.0	CARBONDALE		SHALE	27.0	876.0	
-377.0	CARBONDALE		SANDSTONE	0.9	903.0	BEGIN CORE
-377.9	CARBONDALE		GRAY SHALE	15.1	903.9	LIGHT
-393.0	CARBONDALE	JAMESTOWN	GRAY SHALE	0.5	919.0	DARK POSSIBLE VITRAIN LENS
-393.5	CARBONDALE	JAMESTOWN	BLACK SHALE	0.6	919.5	
-394.1	CARBONDALE	BRERETON	LIMESTONE	3.8	920.1	
-397.9	CARBONDALE	ANNA	BLACK SHALE	2.8	923.9	
-400.7	CARBONDALE	ENERGY	GRAY SHALE	5.0	926.7	
-405.7	CARBONDALE	HERRIN	COAL	6.5	931.7	
-412.2	CARBONDALE		UNDERCLAY	1.8	938.2	
-414.0	CARBONDALE		SILTSTONE	7.1	940.0	END CORE
-421.0	CARBONDALE		SHALE	32.0	947.0	NOT CORED
-453.0	CARBONDALE	BRIAR HILL	COAL	2.0	979.0	NOT CORED
-455.0	CARBONDALE		SHALE	10.0	981.0	NOT CORED
-465.0	CARBONDALE		BLACK SHALE	9.4	991.0	BEGIN CORE
-474.4	CARBONDALE	ST. DAVID	LIMESTONE	1.9	1000.4	
-476.3	CARBONDALE	TURNER MINE	BLACK SHALE	7.7	1002.3	
-484.0	CARBONDALE	SPRINGFIELD	COAL	6.1	1010.0	
-490.0	CARBONDALE		SILTSTONE	1.1	1016.0	
-491.1	CARBONDALE		SILTSTONE	4.9	1017.1	
-496.0				0.0	1022.0	

MAPID: 06523901000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 6 QUARTERS/FOOTAGES: 2640' N line, 1320' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.701014 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.031164 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 1016.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-20 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-319.0	CARBONDALE	DANVILLE	COAL	1.0	845.0
-405.7	CARBONDALE	HERRIN	COAL	6.5	931.7
-453.0	CARBONDALE	BRIAR HILL	COAL	2.0	979.0
-484.0	CARBONDALE	SPRINGFIELD	COAL	6.1	1010.0

MAPID: 06524414000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 6 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.687796 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.026206 DATE COLLECTED: 7 / 7 / 1981

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 1051.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #28 WELL TYPE: Coal Test

COMMENT: 495190 N, 397910 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
539.0			UNCLASSIFIED	920.0	0.0
-381.0	CARBONDALE		SHALE & SILTSTONE	22.0	920.0
-403.0	CARBONDALE		BLACK SHALE	6.0	942.0
-409.0	CARBONDALE	BRERETON	LIMESTONE	8.5	948.0
-417.5	CARBONDALE	HERRIN	COAL	5.5	956.5
-423.0	CARBONDALE		UNDERCLAY	5.0	962.0
-428.0	CARBONDALE		SILTSTONE & SHALE	27.5	967.0
-455.5	CARBONDALE		BLACK SHALE	7.5	994.5
-463.0	CARBONDALE	BRIAR HILL	COAL	2.4	1002.0
-465.4	CARBONDALE		SHALE	4.6	1004.4
-470.0	CARBONDALE		SHALE & SILTSTONE	5.0	1009.0
-475.0	CARBONDALE		SANDSTONE	4.0	1014.0
-479.0	CARBONDALE		DARK SHALE	7.0	1018.0
-486.0	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	1025.0
-491.0	CARBONDALE	DYKERSBURG	SHALE	8.0	1030.0
-499.0	CARBONDALE	SPRINGFIELD	COAL	5.5	1038.0
-504.5	CARBONDALE		UNDERCLAY	3.5	1043.5
-508.0	CARBONDALE		SHALE	4.0	1047.0
-512.0				0.0	1051.0

MAPID: 06524414000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 6 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.687796 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.026206 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): LOGGED (FT.): 1049.5 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #28 WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	5.5	956.5	REMOVED BY CO.
-	CARBONDALE	BRIAR HILL	COAL	2.4	1002.0	
-	CARBONDALE	SPRINGFIELD	COAL	5.5	1038.0	REMOVED BY CO.

MAPID: 06500920000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.69103 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.023165 DATE COLLECTED:

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 3470.0 LOG TYPE: Electric Log

SOURCE: SHARP FRANK J WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-408.0	CARBONDALE	HERRIN	COAL	5.0	952.0	
-452.0	CARBONDALE	BRIAR HILL	COAL	-	996.0	
-482.0	CARBONDALE	SPRINGFIELD	COAL	6.0	1026.0	SHALE & SILTSTONE ROOF
-549.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1093.0	

MAPID: 06500920000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.69103

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.023165

DATE COLLECTED:

SURFACE ELEVATION (FT.): 544.0

LOGGED (FT.): 957.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-308.0	MODESTO	PIASA	LIMESTONE	4.0	852.0
-312.0	MODESTO		SHALE	16.0	856.0
-328.0	CARBONDALE	DANVILLE	COAL	2.0	872.0
-330.0	CARBONDALE		SHALE	22.0	874.0
-352.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	896.0
-354.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	40.0	898.0
-394.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	938.0
-395.0	CARBONDALE		CLAYSTONE & SHALE	4.0	939.0
-399.0	CARBONDALE	BRERETON	LIMESTONE	7.5	943.0
-406.5	CARBONDALE	ANNA	BLACK SHALE	0.5	950.5
-408.0	CARBONDALE	HERRIN	COAL	5.0	952.0



MAPID: 06523894000C    VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 7    QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: MACEDONIA    LONGITUDE: -88.688052    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.007504    DATE COLLECTED: 8 / 10 / 1976

SURFACE ELEVATION (FT.): 526.0    LOGGED (FT.): 996.0    LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY    EN-22    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
526.0			UNCLASSIFIED	808.0	0.0	
-282.0	MODESTO	PIASA	LIMESTONE	4.0	808.0	
-286.0	MODESTO		SANDY SHALE	14.0	812.0	
-300.0	CARBONDALE	DANVILLE	COAL	1.0	826.0	
-301.0	CARBONDALE		SHALE	19.0	827.0	
-320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	846.0	
-322.0	CARBONDALE		SHALY SANDSTONE	25.0	848.0	
-347.0	CARBONDALE		GRAY SHALE	5.3	873.0	BEGIN CORE
-352.3	CARBONDALE		BLACK SHALE	1.7	878.3	
-354.0	CARBONDALE		GRAY SHALE	1.2	880.0	LIGHT
-355.2	CARBONDALE		SANDSTONE	6.4	881.2	GRAY
-361.6	CARBONDALE		GRAY SHALE	2.5	887.6	
-364.1	CARBONDALE		SANDSTONE	5.9	890.1	
-370.0	CARBONDALE	JAMESTOWN	COAL	0.2	896.0	
-370.2	CARBONDALE		BLACK SHALE	3.4	896.2	
-373.6	CARBONDALE	BRERETON	LIMESTONE	5.5	899.6	LIGHT
-379.1	CARBONDALE	ANNA	BLACK SHALE	2.3	905.1	
-381.4	CARBONDALE	HERRIN	COAL	7.7	907.4	
-389.1	CARBONDALE		UNDERCLAY	3.0	915.1	
-392.1	CARBONDALE		SANDY SILTSTONE	4.9	918.1	
-397.0	CARBONDALE		GRAY SHALE	2.8	923.0	
-399.8	CARBONDALE		SHALE	34.3	925.8	NOT CORED
-434.0	CARBONDALE		SHALE	7.3	960.0	LIGHT GRAY TO BLACK
-441.3	CARBONDALE	ST. DAVID	LIMESTONE	1.5	967.3	LIGHT
-442.8	CARBONDALE	TURNER MINE	BLACK SHALE	0.8	968.8	
-443.5	CARBONDALE	TURNER MINE	BLACK SHALE	6.5	969.5	FEW GRAY SANDY INCLUSIONS
-450.0	CARBONDALE	DYKERSBURG	GRAY SHALE	9.4	976.0	LIGHT
-459.4	CARBONDALE	SPRINGFIELD	COAL	5.6	985.4	
-465.0	CARBONDALE		UNDERCLAY	0.8	991.0	
-465.8	CARBONDALE		SANDSTONE	4.3	991.8	

MAPID: 06523894000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 7 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.688052

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.007504

DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 991.0

LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-22

WELL TYPE: Coal Test

COMMENT: SUMMER 1976

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.0	CARBONDALE	DANVILLE	COAL	1.0	826.0	
-381.5	CARBONDALE	HERRIN	COAL	7.7	907.5	
-459.4	CARBONDALE	SPRINGFIELD	COAL	5.6	985.4	

MAPID: 06524415000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 7 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.703303

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.017042

DATE COLLECTED: 7 / 9 / 1981

SURFACE ELEVATION (FT.): 501.0 LOGGED (FT.): 980.0

LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #27

WELL TYPE: Coal Test

COMMENT: 491870 N,393430 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
501.0			UNCLASSIFIED	884.0	0.0	
-383.0	CARBONDALE	BRERETON	LIMESTONE	6.6	884.0	
-389.6	CARBONDALE		BLACK SHALE	0.2	890.6	
-389.8	CARBONDALE	ANNA	BLACK SHALE	3.6	890.8	
-393.4	CARBONDALE	HERRIN	COAL	3.0	894.4	
-396.3	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	0.7	897.3	
-397.0	CARBONDALE	HERRIN	COAL	5.0	898.0	
-402.0	CARBONDALE		SHALE	7.0	903.0	LIGHT SOFT
-409.0	CARBONDALE		SHALE	4.3	910.0	DARK
-413.3	CARBONDALE		UNCLASSIFIED	0.2	914.3	

MAPID: 06524416000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 8 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.687342 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.018517 DATE COLLECTED: 7 / 14 / 1981

SURFACE ELEVATION (FT.): 528.0 LOGGED (FT.): 1030.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #30 WELL TYPE: Coal Test

COMMENT: 492390 N, 398030 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
528.0			UNCLASSIFIED	875.0	0.0	
-347.0	CARBONDALE		SHALE	1.2	875.0	
-348.2	CARBONDALE		LIMESTONE	1.6	876.2	
-349.8	CARBONDALE		SHALE	41.3	877.8	
-391.1	CARBONDALE		LIMESTONE	3.6	919.1	
-394.7	CARBONDALE		SHALE	2.5	922.7	
-397.2	CARBONDALE	BRERETON	LIMESTONE	3.4	925.2	
-400.6	CARBONDALE	BRERETON	CALCAREOUS SHALE	4.3	928.6	
-404.9	CARBONDALE	ENERGY	SHALE	0.5	932.9	DARK
-405.4	CARBONDALE	HERRIN	COAL	6.3	933.4	
-411.7	CARBONDALE		UNCLASSIFIED	44.3	939.7	
-456.0	CARBONDALE		SANDSTONE/SHALE	11.6	984.0	
-467.6	CARBONDALE		SHALE	3.1	995.6	
-470.7	CARBONDALE	ST. DAVID	LIMESTONE	3.3	998.7	
-474.0	CARBONDALE	DYKERSBURG	SHALE	12.7	1002.0	
-486.7	CARBONDALE	SPRINGFIELD	COAL	6.6	1014.7	
-493.3	CARBONDALE		SHALE	8.7	1021.3	
-502.0				0.0	1030.0	

MAPID: 06590212000C VERSION: 1

PROJECT: NCRDS02

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 8 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.669022 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 38.020181 DATE COLLECTED: 5 / 1 / 1952

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 57.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 159 WELL TYPE: Coal Test

COMMENT: FLANNIGAN BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
535.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
525.0			GRAY SHALE	2.0	10.0	
523.0			LIMESTONE	3.0	12.0	HARD
520.0			DARK SHALE	0.3	15.0	
519.7			SANDSTONE/SHALE	27.5	15.3	
492.2			GRAY SHALE	1.2	42.8	
491.0			LIMESTONE	1.0	44.0	HARD
490.0			SANDSTONE/SHALE	12.0	45.0	

MAPID: 06500578000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 9 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.667856 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.021083 DATE COLLECTED:

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 3511.0 LOG TYPE: Electric Log

SOURCE: HENSON DRILLING WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	DANVILLE	COAL	-	830.0	
-309.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	8.0	840.0	
-329.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	860.0	
-341.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	11.0	872.0	
-381.0	CARBONDALE	HERRIN	COAL	5.0	912.0	
-389.0	CARBONDALE	VERMILIONVILLE	SANDSTONE/SHALE	17.0	920.0	
-419.0	CARBONDALE	BRIAR HILL	COAL	-	950.0	
-423.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	8.0	954.0	
-447.0	CARBONDALE	SPRINGFIELD	COAL	4.0	978.0	BLACK SHALE & LIMESTONE ROOF
-456.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	7.0	987.0	
-529.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1060.0	

MAPID: 06500578000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 9 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.667856 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.021083 DATE COLLECTED:

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 918.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-281.0	MODESTO	PIASA	LIMESTONE	4.0	812.0	
-285.0	MODESTO		SHALE	17.0	816.0	
-302.0	CARBONDALE	DANVILLE	COAL	2.0	833.0	
-304.0	CARBONDALE		SHALE & SANDSTONE	23.0	835.0	
-327.0	CARBONDALE	LAWSON	SILTY SHALE	14.0	858.0	
-341.0	CARBONDALE	LAWSON	SANDSTONE	13.0	872.0	
-354.0	CARBONDALE	LAWSON	SHALE	16.0	885.0	
-370.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	4.0	901.0	
-374.0	CARBONDALE	BRERETON	LIMESTONE	7.0	905.0	
-381.0	CARBONDALE	ANNA	BLACK SHALE	1.0	912.0	
-382.0	CARBONDALE	HERRIN	COAL	5.0	913.0	

MAPID: 06523897000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 9 QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.655419 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.013585 DATE COLLECTED: 8 / 8 / 1976

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 1019.8 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-21 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.0			UNCLASSIFIED	900.0	0.0	
-340.0	CARBONDALE		GRAY SHALE	2.6	900.0	BEGIN CORE
-342.6	CARBONDALE		SILTSTONE	2.3	902.6	
-344.8	CARBONDALE		SANDY SHALE	5.4	904.8	
-350.3	CARBONDALE		SILTSTONE	0.8	910.3	
-351.0	CARBONDALE		SILTY SHALE	8.0	911.0	
-359.0	CARBONDALE		GRAY SHALE	3.3	919.0	
-362.3	CARBONDALE		BLACK SHALE	0.5	922.3	
-362.8	CARBONDALE	CONANT	LIMESTONE	0.2	922.8	DARK
-363.0	CARBONDALE	JAMESTOWN	BLACK SHALE	3.1	923.0	
-366.1	CARBONDALE	BRERETON	LIMESTONE	6.0	926.1	LIGHT
-372.1	CARBONDALE	ANNA	BLACK SHALE	1.3	932.1	
-373.3	CARBONDALE	HERRIN	COAL	6.9	933.3	
-380.3	CARBONDALE		UNDERCLAY	3.7	940.3	
-383.9	CARBONDALE		SANDSTONE	4.5	943.9	
-388.4	CARBONDALE		SANDY SHALE	2.3	948.4	END CORE
-390.8	CARBONDALE		SHALE	46.3	950.8	NOT CORED
-437.0	CARBONDALE	BRIAR HILL	COAL	1.5	997.0	NOT CORED
-438.5	CARBONDALE		SHALE	9.7	998.5	NOT CORED
-448.2	CARBONDALE	SPRINGFIELD	COAL	1.8	1008.2	NOT CORED
-450.0	CARBONDALE	SPRINGFIELD	COAL	3.7	1010.0	BEGIN CORE
-453.7	CARBONDALE		UNDERCLAY	2.8	1013.7	
-456.5	CARBONDALE		SANDY SHALE	3.3	1016.5	
-459.8				0.0	1019.8	

MAPID: 06523897000C VERSION: 2

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 9 QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.655419 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.013585 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 1013.7 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY EN-21 WELL TYPE: Coal Test

COMMENT: SUMMER 1976

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-373.5	CARBONDALE	HERRIN	COAL	6.7	933.5	
-448.2	CARBONDALE	SPRINGFIELD	COAL	5.5	1008.2	

MAPID: 06524417000C VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 9 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.666332 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.016547 DATE COLLECTED: 7 / 17 / 1981

SURFACE ELEVATION (FT.): 555.0 LOGGED (FT.): 1008.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #36 WELL TYPE: Coal Test

COMMENT: 491650 N, 404080 E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
555.0			UNCLASSIFIED	910.0	0.0	
-355.0	CARBONDALE		SANDSTONE/SHALE	8.1	910.0	SILTY
-363.1	CARBONDALE		LIMESTONE & SHALE	1.6	918.1	
-364.7	CARBONDALE		SHALY LIMESTONE	5.3	919.7	BLACK
-370.0	CARBONDALE	BRERETON	LIMESTONE	6.6	925.0	
-376.6	CARBONDALE	ANNA	BLACK SHALE	0.2	931.6	
-376.8	CARBONDALE	HERRIN	COAL	5.6	931.8	
-382.4	CARBONDALE		UNCLASSIFIED	52.6	937.4	
-435.0	CARBONDALE	DYKERSBURG	SHALE	8.8	990.0	
-443.8	CARBONDALE	SPRINGFIELD	COAL	4.5	998.8	
-448.3	CARBONDALE		SHALE	2.3	1003.3	
-450.6	CARBONDALE		LIMESTONE	2.4	1005.6	
-453.0				0.0	1008.0	

MAPID: 06500758000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 10 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SW

QUADRANGLE: MACEDONIA LONGITUDE: -88.647034 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.013611 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 3414.0 LOG TYPE: Electric Log

SOURCE: KAUFMAN, E.H. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-278.0	CARBONDALE	DANVILLE	COAL	-	776.0	
-279.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	5.0	777.0	
-316.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	34.0	814.0	
-364.0	CARBONDALE	HERRIN	COAL	-	862.0	
-391.0	CARBONDALE	VERMILIONVILLE	SANDSTONE/SHALE	11.0	889.0	
-411.0	CARBONDALE	CANTON	SANDSTONE/SHALE	7.0	909.0	
-442.0	CARBONDALE	SPRINGFIELD	COAL	4.0	940.0	SHALE & SILTSTONE ROOF
-452.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	24.0	950.0	
-531.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1029.0	

MAPID: 06501633000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 10 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.639933

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.013589

DATE COLLECTED:

SURFACE ELEVATION (FT.): 487.0

LOGGED (FT.): 833.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-242.0	MODESTO	PIASA	LIMESTONE	5.0	729.0
-247.0	MODESTO		SHALE	18.0	734.0
-265.0	CARBONDALE	DANVILLE	COAL	2.0	752.0
-267.0	CARBONDALE		SHALE & SANDSTONE	16.0	754.0
-283.0	CARBONDALE	ALLENBY	BONE COAL	1.0	770.0
-284.0	CARBONDALE	LAWSON	SILTY SHALE	13.0	771.0
-297.0	CARBONDALE	LAWSON	SANDSTONE	27.0	784.0
-324.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	811.0
-331.0	CARBONDALE	LAWSON	CLAYSTONE	2.0	818.0
-333.0	CARBONDALE	BRERETON	LIMESTONE	4.0	820.0
-337.0	CARBONDALE	ANNA	BLACK SHALE	4.0	824.0
-341.0	CARBONDALE	HERRIN	COAL	5.0	828.0

MAPID: 06500021000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 11 QUARTERS/FOOTAGES: 610' S line, 2100' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.62085

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.01057

DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 560.4

LOGGED (FT.): 5604.0

LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0008, DARNAL

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-325.6	CARBONDALE	HERRIN	COAL	7.7	886.0
-378.6	CARBONDALE	SPRINGFIELD	COAL	4.3	939.0

MAPID: 06500021000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 11    QUARTERS/FOOTAGES: 610' S line, 2100' E line

QUADRANGLE: MCLEANSBORO

LONGITUDE: -88.62085

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.01057

DATE COLLECTED:

SURFACE ELEVATION (FT.): 560.0

LOGGED (FT.): 893.7

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-212.9	MODESTO	PIASA	LIMESTONE	6.0	772.9
-218.9	MODESTO		GRAY SHALE	24.0	778.9
-242.9	CARBONDALE	DANVILLE	COAL	1.7	802.9
-244.6	CARBONDALE		SILTY SHALE	17.3	804.6
-261.9	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	9.0	821.9
-270.9	CARBONDALE	LAWSON	SANDSTONE	3.0	830.9
-273.9	CARBONDALE	LAWSON	BLACK SHALE	8.0	833.9
-281.9	CARBONDALE	LAWSON	GRAY SHALE	21.0	841.9
-302.9	CARBONDALE	LAWSON	BLACK SHALE	13.5	862.9
-316.4	CARBONDALE	BRERETON	LIMESTONE	3.5	876.4
-319.9	CARBONDALE	ANNA	BLACK SHALE	4.0	879.9
-323.9	CARBONDALE	ENERGY	GRAY SHALE	2.1	883.9
-326.0	CARBONDALE	HERRIN	COAL	7.7	886.0



MAPID: 06500021000C    VERSION: 3

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 11    QUARTERS/FOOTAGES: 610' S line, 2100' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.62085    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.01057    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 560.4    LOGGED (FT.): 943.3    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & COAL    8    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.4	PLEISTOCENE		CLAY	9.5	0.0	
550.9	PLEISTOCENE		BOULDER	2.2	9.5	
548.7	PLEISTOCENE		CLAY	7.2	11.7	
541.6	BOND		SANDSTONE	6.2	18.8	BROKEN
535.4	BOND		SANDSTONE	47.0	25.0	
488.4	BOND		SHALE	42.0	72.0	
446.4	BOND		SANDSTONE	39.0	114.0	
407.4	BOND		SHALE	15.0	153.0	DARK
392.4	BOND		SHALE	3.0	168.0	
389.4	BOND		COAL	1.0	171.0	BONEY
388.4	BOND		SHALE	3.0	172.0	
385.4	BOND		SHALE	67.0	175.0	
318.4	BOND		SHALE	20.7	242.0	BLUE
297.7	BOND		COAL	0.7	262.7	
297.1	BOND		SHALE	0.7	263.3	
296.4	BOND		COAL	0.3	264.0	
296.1	BOND		SHALE	1.7	264.3	
294.4	BOND		COAL	0.7	266.0	
293.7	BOND		SHALE	2.3	266.7	
291.4	BOND		SHALE	27.0	269.0	
264.4	BOND		SHALE	1.2	296.0	BLACK
263.2	BOND		COAL	0.5	297.2	BONEY
262.7	BOND		SHALE	2.3	297.7	
260.4	BOND		SHALE	17.0	300.0	
243.4	BOND	CARTHAGE	LIMESTONE	11.0	317.0	
232.4	MODESTO		SHALE	7.0	328.0	
225.4	MODESTO		SHALE	40.0	335.0	
185.4	MODESTO		SANDSTONE	5.0	375.0	
180.4	MODESTO		SHALE WITH LIMESTONE	13.0	380.0	
167.4	MODESTO		SHALE	52.0	393.0	BLUE
115.4	MODESTO		SHALE	30.0	445.0	
85.4	MODESTO		SHALE	5.0	475.0	BLACK
80.4	MODESTO		SHALE	32.0	480.0	
48.4	MODESTO		SHALY LIMESTONE	6.0	512.0	
42.4	MODESTO		SANDSTONE	13.0	518.0	
29.4	MODESTO		SHALE	64.0	531.0	BLUE
-34.6	MODESTO		SHALE	5.0	595.0	BLACK
-39.6	MODESTO	CHAPEL	COAL	0.7	600.0	
-40.3	MODESTO		SHALE	6.3	600.7	

-46.6	MODESTO		SANDSTONE	3.0	607.0	
-49.6	MODESTO		SHALY SANDSTONE	19.0	610.0	
-68.6	MODESTO		SANDSTONE	37.0	629.0	
-105.6	MODESTO		SHALE	43.0	666.0	
-148.6	MODESTO		SHALE	14.0	709.0	
-162.6	MODESTO		SHALE	15.0	723.0	BLACK
-177.6	MODESTO		SHALE	2.0	738.0	
-179.6	MODESTO		SHALE	5.0	740.0	BROWN
-184.6	MODESTO		SHALE	1.0	745.0	BLUE
-185.6	MODESTO		SHALE	1.5	746.0	
-187.1	MODESTO		SHALE	25.5	747.5	
-212.6	MODESTO	PIASA	LIMESTONE	6.0	773.0	WHITE
-218.6	MODESTO		SHALE	3.0	779.0	
-221.6	MODESTO		SHALE	11.0	782.0	BLUE
-232.6	MODESTO		SHALE WITH LIMESTONE	7.0	793.0	
-239.6	MODESTO		SHALE	3.0	800.0	BLUE
-242.6	CARBONDALE	DANVILLE	COAL	1.7	803.0	
-244.3	CARBONDALE		SHALE	4.3	804.7	
-248.6	CARBONDALE		SHALE	6.0	809.0	
-254.6	CARBONDALE		SHALE	7.0	815.0	
-261.6	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	9.0	822.0	
-270.6	CARBONDALE		SANDSTONE	3.0	831.0	
-273.6	CARBONDALE		SHALE	8.0	834.0	DARK
-281.6	CARBONDALE		SHALE	21.0	842.0	BLUE
-302.6	CARBONDALE		SHALE	13.5	863.0	BLACK
-316.1	CARBONDALE	BRERETON	LIMESTONE	3.5	876.5	BLUE
-319.6	CARBONDALE	ANNA	SHALE	4.0	880.0	BLACK
-323.6	CARBONDALE	ENERGY	SHALE	2.1	884.0	
-325.7	CARBONDALE	HERRIN	COAL	7.7	886.1	
-333.4	CARBONDALE		UNDERCLAY	0.3	893.8	
-333.6	CARBONDALE		SHALE	7.0	894.0	
-340.6	CARBONDALE		SHALE	4.0	901.0	DARK
-344.6	CARBONDALE		SHALE	11.0	905.0	
-355.6	CARBONDALE	ST. DAVID	LIMESTONE	3.0	916.0	BLUE
-358.6	CARBONDALE	TURNER MINE	SHALE	6.0	919.0	BLACK
-364.6	CARBONDALE	DYKERSBURG	SHALE	13.7	925.0	BLUE
-378.3	CARBONDALE	SPRINGFIELD	COAL	4.3	938.7	
-382.6	CARBONDALE		UNDERCLAY	0.3	943.0	

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**MAPID:** 06500103000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 11    **QUARTERS/FOOTAGES:** SE SE NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.623775    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.017086    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 549.0    **LOGGED (FT.):** 5490.0    **LOG TYPE:** Electric Log  
**SOURCE:** REWARD OC, HUNGATE L 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-345.0	CARBONDALE	HERRIN	COAL	-	894.0	
-415.0	CARBONDALE	SPRINGFIELD	COAL	-	964.0	
-1911.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2460.0	

**MAPID:** 06500259000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 11    **QUARTERS/FOOTAGES:** SW SE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.61698    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.009756    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 548.0    **LOGGED (FT.):** 5480.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, HATCHER B 0A1A    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-292.0	CARBONDALE	HERRIN	COAL	-	840.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	910.0	
-1874.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2422.0	

**MAPID:** 06500260000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 11    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.614684    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.00973    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 522.0    **LOGGED (FT.):** 5220.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, COX L 00B1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-288.0	CARBONDALE	HERRIN	COAL	-	810.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	-	880.0	

MAPID: 06500759000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.614506 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.018873 DATE COLLECTED:

SURFACE ELEVATION (FT.): 548.0 LOGGED (FT.): 3233.0 LOG TYPE: Electric Log

SOURCE: KAUFMAN, E.H. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-272.0	CARBONDALE	DANVILLE	COAL	-	820.0	
-288.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	5.0	836.0	
-309.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	13.0	857.0	
-349.0	CARBONDALE	HERRIN	COAL	6.0	897.0	
-378.0	CARBONDALE	BRIAR HILL	COAL	-	926.0	
-412.0	CARBONDALE	SPRINGFIELD	COAL	4.0	960.0	BLACK SHALE & LIMESTONE ROOF
-498.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1046.0	

MAPID: 06501615000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: MACEDONIA LONGITUDE: -88.628388 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.017113 DATE COLLECTED: 3 / 0 / 1969

SURFACE ELEVATION (FT.): 531.0 LOGGED (FT.): 2015.0 LOG TYPE: Electric Log

SOURCE: RUTHERFORD, HOMER WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-619.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1150.0	
-681.0	SPOON	DAVIS	UNCLASSIFIED	-	1212.0	
-1484.0	BASE OF PENN.		UNCLASSIFIED	-	2015.0	

MAPID: 06500261000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.610092 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.009756 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 489.0 LOGGED (FT.): 4890.0 LOG TYPE: Electric Log

SOURCE: REWARD OC, ANDERSN AB0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-321.0	CARBONDALE	HERRIN	COAL	-	810.0	
-376.0	CARBONDALE	SPRINGFIELD	COAL	-	865.0	

MAPID: 06500262000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.603196

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.009829

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 492.0

LOGGED (FT.): 4920.0

LOG TYPE: Electric Log

SOURCE: SHELL OC, VENTRESS C0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-328.0	CARBONDALE	HERRIN	COAL	-	820.0	
-378.0	CARBONDALE	SPRINGFIELD	COAL	-	870.0	

MAPID: 06500263000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.610056

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.011583

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 477.0

LOGGED (FT.): 4770.0

LOG TYPE: Electric Log

SOURCE: REWARD OC, ANDERSN AB0004

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-315.0	CARBONDALE	HERRIN	COAL	-	792.0	
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	842.0	
-1873.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2350.0	

MAPID: 06500264000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: SW NW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.603137

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.013467

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 522.0

LOGGED (FT.): 5220.0

LOG TYPE: Electric Log

SOURCE: SUN OC, MOSS GIDN 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-350.0	CARBONDALE	HERRIN	COAL	-	872.0	
-413.0	CARBONDALE	SPRINGFIELD	COAL	-	935.0	
-1898.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2420.0	

MAPID: 06500265000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: THACKERAY LONGITUDE: -88.598492 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.017139 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 467.0 LOGGED (FT.): 4670.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, BEU L J 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-333.0	CARBONDALE	HERRIN	COAL	-	800.0	
-398.0	CARBONDALE	SPRINGFIELD	COAL	-	865.0	
-1891.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2358.0	

MAPID: 06500266000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.596146 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.020781 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 544.0 LOGGED (FT.): 5440.0 LOG TYPE: Electric Log

SOURCE: SUN OC, MOSS GIDN 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-340.0	CARBONDALE	HERRIN	COAL	-	884.0	
-406.0	CARBONDALE	SPRINGFIELD	COAL	-	950.0	
-1912.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2456.0	

MAPID: 06500267000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.596251 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.013526 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 4360.0 LOG TYPE: Electric Log

SOURCE: PURE OC, COX J A 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-334.0	CARBONDALE	HERRIN	COAL	-	770.0	
-394.0	CARBONDALE	SPRINGFIELD	COAL	-	830.0	
-1886.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2322.0	

**MAPID:** 06500268000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.60084    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.013488    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 448.0    **LOGGED (FT.):** 4480.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, COX E 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-327.0	CARBONDALE	HERRIN	COAL	-	775.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	-	820.0	
-1862.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2310.0	

**MAPID:** 06500269000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:** SW NE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.598548    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.013509    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 439.0    **LOGGED (FT.):** 4390.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, COX E 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-331.0	CARBONDALE	HERRIN	COAL	-	770.0	
-381.0	CARBONDALE	SPRINGFIELD	COAL	-	820.0	

**MAPID:** 06500270000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:** SW SW SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.612388    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.009732    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 543.0    **LOGGED (FT.):** 5430.0    **LOG TYPE:** Electric Log  
**SOURCE:** REWARD OC, ANDERSN AB0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-311.0	CARBONDALE	HERRIN	COAL	-	854.0	
-361.0	CARBONDALE	SPRINGFIELD	COAL	-	904.0	

**MAPID:** 06500271000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:** SE SE SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.605496    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.009803    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 533.0    **LOGGED (FT.):** 5330.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, VENTRESS C0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-332.0	CARBONDALE	HERRIN	COAL	-	865.0
-377.0	CARBONDALE	SPRINGFIELD	COAL	-	910.0
-1872.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2405.0

**MAPID:** 06500272000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.6009    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.009852    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 462.0    **LOGGED (FT.):** 4620.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, VENTRESS C0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-328.0	CARBONDALE	HERRIN	COAL	-	790.0
-383.0	CARBONDALE	SPRINGFIELD	COAL	-	845.0

**MAPID:** 06500273000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:** SE SE SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.596304    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.009899    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 450.0    **LOGGED (FT.):** 4500.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, SMITH E 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-330.0	CARBONDALE	HERRIN	COAL	-	780.0
-390.0	CARBONDALE	SPRINGFIELD	COAL	-	840.0
-1882.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2332.0



MAPID: 06500274000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: SW SE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.5986 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.009876 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 444.0 LOGGED (FT.): 4440.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, SMITH E 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-332.0	CARBONDALE	HERRIN	COAL	-	776.0
-391.0	CARBONDALE	SPRINGFIELD	COAL	-	835.0

MAPID: 06501012000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.598483 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.018939 DATE COLLECTED:

SURFACE ELEVATION (FT.): 521.0 LOGGED (FT.): 866.5 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
-221.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	742.0
-227.0	MODESTO		SHALE	26.0	748.0
-253.0	CARBONDALE	DANVILLE	COAL	2.0	774.0
-255.0	CARBONDALE		SHALE & SANDSTONE	22.0	776.0
-277.0	CARBONDALE	ALLENBY	BONE COAL	1.0	798.0
-278.0	CARBONDALE		CLAYSTONE & SHALE	8.0	799.0
-286.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	807.0
-290.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	36.0	811.0
-326.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	847.0
-327.0	CARBONDALE		CLAYSTONE & SHALE	3.0	848.0
-330.0	CARBONDALE	BRERETON	LIMESTONE	7.0	851.0
-337.0	CARBONDALE	ANNA	BLACK SHALE	1.0	858.0
-339.0	CARBONDALE	HERRIN	COAL	6.5	860.0

MAPID: 06501688000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.612166 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.020699 DATE COLLECTED:

SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 3164.0 LOG TYPE: Electric Log

SOURCE: KAUFMAN, E.H. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-273.0	CARBONDALE	DANVILLE	COAL	-	758.0	
-285.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	770.0	
-301.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	786.0	
-312.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	797.0	
-352.0	CARBONDALE	HERRIN	COAL	4.0	837.0	
-383.0	CARBONDALE	BRIAR HILL	COAL	-	868.0	
-387.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	7.0	872.0	
-419.0	CARBONDALE	SPRINGFIELD	COAL	4.0	904.0	BLACK SHALE & LIMESTONE ROOF
-441.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	12.0	926.0	
-505.0	CARBONDALE	HOUCHIN CREEK	COAL	-	990.0	

MAPID: 06500275000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 13 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.612414 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.007927 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 5530.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, LOCKWD L F0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-312.0	CARBONDALE	HERRIN	COAL	-	865.0	
-357.0	CARBONDALE	SPRINGFIELD	COAL	-	910.0	
-1877.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2430.0	

**MAPID:** 06500276000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** NE NE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.605525    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.007997    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 512.0    **LOGGED (FT.):** 5120.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, ANDERSN AB0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-323.0	CARBONDALE	HERRIN	COAL	-	835.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	-	880.0	
-1878.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2390.0	

**MAPID:** 06500277000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** SE SW NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.610177    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.002597    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 516.0    **LOGGED (FT.):** 5160.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, LOCKWD T 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	HERRIN	COAL	-	815.0	
-359.0	CARBONDALE	SPRINGFIELD	COAL	-	875.0	
-1872.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2388.0	

**MAPID:** 06500278000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.59634    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008094    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 473.0    **LOGGED (FT.):** 4730.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, SMITH E 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-327.0	CARBONDALE	HERRIN	COAL	-	800.0	
-392.0	CARBONDALE	SPRINGFIELD	COAL	-	865.0	

**MAPID:** 06500279000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** SW SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.603321    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.002646    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 503.0    **LOGGED (FT.):** 5030.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, NOHAVA J 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-302.0	CARBONDALE	HERRIN	COAL	-	805.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	865.0	
-1871.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2374.0	

**MAPID:** 06500280000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** SW SW SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.612523    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.995454    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 4800.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, CRABTREE J00B7    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.0	CARBONDALE	HERRIN	COAL	-	780.0	
-355.0	CARBONDALE	SPRINGFIELD	COAL	-	835.0	

**MAPID:** 06500281000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** NE SE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.605687    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.997259    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 487.0    **LOGGED (FT.):** 4870.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, LOCKWD M 0005    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	-	790.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	-	845.0	
-1873.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2360.0	

**MAPID:** 06500282000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.601174    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.995482    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 467.0    **LOGGED (FT.):** 4670.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, LOCKWD T 0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-318.0	CARBONDALE	HERRIN	COAL	-	785.0	
-378.0	CARBONDALE	SPRINGFIELD	COAL	-	845.0	

**MAPID:** 06500283000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** SW SE SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.598903    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.995486    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 460.0    **LOGGED (FT.):** 4600.0    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL, WHITMORE M0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-325.0	CARBONDALE	HERRIN	COAL	-	785.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	-	850.0	

**MAPID:** 06500284000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** NE SE NE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.596424    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.004492    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 517.0    **LOGGED (FT.):** 5170.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, SMITH C A 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-323.0	CARBONDALE	HERRIN	COAL	-	840.0	
-378.0	CARBONDALE	SPRINGFIELD	COAL	-	895.0	
-1883.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2400.0	

MAPID: 06500415000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 13 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.601105 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.99907 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 4780.0 LOG TYPE: Electric Log

SOURCE: REWARD OC, SMITH KNGT0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-322.0	CARBONDALE	HERRIN	COAL	-	800.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	-	850.0	

MAPID: 06500445000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 13 QUARTERS/FOOTAGES: NE NE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.596508 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.000892 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 5130.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, SMITH C A 006A WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-317.0	CARBONDALE	HERRIN	COAL	-	830.0	
-382.0	CARBONDALE	SPRINGFIELD	COAL	-	895.0	
-1873.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2386.0	

MAPID: 06500760000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 13 QUARTERS/FOOTAGES: 351' S line, 1011' W line of NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.600933 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.002732 DATE COLLECTED:

SURFACE ELEVATION (FT.): 498.0 LOGGED (FT.): 5110.0 LOG TYPE: Electric Log

SOURCE: SHELL OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-222.0	CARBONDALE	DANVILLE	COAL	-	720.0	
-232.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	5.0	730.0	
-252.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	750.0	
-258.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SILTSTONE	14.0	756.0	
-302.0	CARBONDALE	HERRIN	COAL	6.0	800.0	
-326.0	CARBONDALE	BRIAR HILL	COAL	-	824.0	
-328.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	6.0	826.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	5.0	860.0	BLACK SHALE & LIMESTONE ROOF
-372.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	17.0	870.0	
-444.0	CARBONDALE	HOUCHIN CREEK	COAL	-	942.0	

MAPID: 06501613000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 13 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.596476 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.002615 DATE COLLECTED:

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 867.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-204.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	743.0	
-211.0	MODESTO		SHALE	28.0	750.0	
-239.0	CARBONDALE	DANVILLE	COAL	2.0	778.0	
-241.0	CARBONDALE		SHALE & SANDSTONE	25.0	780.0	
-266.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	805.0	
-271.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	22.0	810.0	
-293.0	CARBONDALE	LAWSON	SHALE	8.0	832.0	
-301.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	5.0	840.0	
-306.0	CARBONDALE	BRERETON	LIMESTONE	5.0	845.0	
-311.0	CARBONDALE	ANNA	SHALE	10.0	850.0	
-321.0	CARBONDALE	HERRIN	COAL	7.0	860.0	

**MAPID:** 06500285000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:** NW NW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.621587    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.007994    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 573.0    **LOGGED (FT.):** 5730.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, HATCHER 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-297.0	CARBONDALE	HERRIN	COAL	-	870.0	
-367.0	CARBONDALE	SPRINGFIELD	COAL	-	940.0	
-1876.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2449.0	

**MAPID:** 06500286000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:** SE NE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.62389    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.006217    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 534.0    **LOGGED (FT.):** 5340.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, CLARK J O 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-306.0	CARBONDALE	HERRIN	COAL	-	840.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	-	902.0	

**MAPID:** 06500287000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:** SW SW SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.630825    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.995382    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 445.0    **LOGGED (FT.):** 4450.0    **LOG TYPE:** Electric Log  
**SOURCE:** REWARD OC, LOCKWD SAM0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.0	CARBONDALE	HERRIN	COAL	-	745.0	
-385.0	CARBONDALE	SPRINGFIELD	COAL	-	830.0	



MAPID: 06500288000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 14 QUARTERS/FOOTAGES: NE NE SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.623925 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.000815 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 488.0 LOGGED (FT.): 4880.0 LOG TYPE: Electric Log  
 SOURCE: KEWANEE OG, CULWAR 00B6 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-272.0	CARBONDALE	HERRIN	COAL	-	760.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	850.0	
-1877.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2365.0	

MAPID: 06500289000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 14 QUARTERS/FOOTAGES: NW SW NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.62161 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.004403 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 556.0 LOGGED (FT.): 5560.0 LOG TYPE: Electric Log  
 SOURCE: SHELL OC, FLANNIGAN 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-304.0	CARBONDALE	HERRIN	COAL	-	860.0	
-349.0	CARBONDALE	SPRINGFIELD	COAL	-	905.0	
-1864.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2420.0	

MAPID: 06500290000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 14 QUARTERS/FOOTAGES: NE NE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.614763 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.000794 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 4910.0 LOG TYPE: Electric Log  
 SOURCE: SHELL OC, CRABTREE J0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	HERRIN	COAL	-	790.0	
-349.0	CARBONDALE	SPRINGFIELD	COAL	-	840.0	
-1864.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2355.0	

**MAPID:** 06500291000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:** NW SW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.621659    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.997217    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 467.0    **LOGGED (FT.):** 4670.0    **LOG TYPE:** Electric Log  
**SOURCE:** KEWANEE OG, CULPEPER C0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-293.0	CARBONDALE	HERRIN	COAL	-	760.0	
-363.0	CARBONDALE	SPRINGFIELD	COAL	-	830.0	
-1869.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2336.0	

**MAPID:** 06500292000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:** SW NE SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.617067    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999012    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 507.0    **LOGGED (FT.):** 5070.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, CRABTREE J0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-293.0	CARBONDALE	HERRIN	COAL	-	800.0	
-348.0	CARBONDALE	SPRINGFIELD	COAL	-	855.0	
-1863.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2370.0	

**MAPID:** 06500293000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:** SE SE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.623959    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.995409    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 451.0    **LOGGED (FT.):** 4510.0    **LOG TYPE:** Electric Log  
**SOURCE:** KEWANEE OG, CULWAR 00A1    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	HERRIN	COAL	-	750.0	
-369.0	CARBONDALE	SPRINGFIELD	COAL	-	820.0	

MAPID: 06500294000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 14 QUARTERS/FOOTAGES: SW SE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.617093

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.995437

DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 449.0

LOGGED (FT.): 4490.0

LOG TYPE: Electric Log

SOURCE: SHELL OC, TRST SCHLL0002

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	HERRIN	COAL	-	748.0	
-356.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	

MAPID: 06500761000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.626147

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.008032

DATE COLLECTED:

SURFACE ELEVATION (FT.): 562.0

LOGGED (FT.): 3288.0

LOG TYPE: Electric Log

SOURCE: GULF REFINING CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-225.0	CARBONDALE	DANVILLE	COAL	-	787.0	
-236.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	798.0	
-255.0	CARBONDALE	ANVIL ROCK	SILTSTONE/SANDSTONE	14.0	817.0	
-298.0	CARBONDALE	HERRIN	COAL	4.0	860.0	
-330.0	CARBONDALE	BRIAR HILL	COAL	-	892.0	
-334.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	14.0	896.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	5.0	930.0	SHALE & SILTSTONE ROOF
-380.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE & SHALE	13.0	942.0	
-450.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1012.0	

MAPID: 06500761000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.626147 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.008032 DATE COLLECTED:

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 857.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-190.0	MODESTO	PIASA	LIMESTONE	7.0	752.0
-197.0	MODESTO		SILTY SHALE	20.0	759.0
-217.0	CARBONDALE	DANVILLE	COAL	3.0	779.0
-220.0	CARBONDALE		SILTY SHALE	25.0	782.0
-245.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	16.0	807.0
-261.0	CARBONDALE	LAWSON	SILTY SHALE	17.0	823.0
-278.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	840.0
-279.0	CARBONDALE		CLAYSTONE & SHALE	2.0	841.0
-281.0	CARBONDALE	BRERETON	LIMESTONE	7.0	843.0
-288.0	CARBONDALE	ANNA	BLACK SHALE	1.0	850.0
-289.0	CARBONDALE	HERRIN	COAL	6.0	851.0

MAPID: 06500761000C VERSION: 3

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.626147 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.008032 DATE COLLECTED: 9 / 0 / 1954

SURFACE ELEVATION (FT.): 562.0 LOGGED (FT.): 2008.0 LOG TYPE: Electric Log

SOURCE: GULF REFINING CO. WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-553.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1115.0
-614.0	SPOON	DAVIS	UNCLASSIFIED	-	1176.0
-1446.0	BASE OF PENN.		UNCLASSIFIED	-	2008.0

MAPID: 06500295000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 15 QUARTERS/FOOTAGES: NW SE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.635481 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.997233 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 509.0 LOGGED (FT.): 5090.0 LOG TYPE: Electric Log  
 SOURCE: GULF REF, LOCKWD A 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-300.0	CARBONDALE	HERRIN	COAL	-	809.0
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	898.0
-1921.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2430.0

MAPID: 06500296000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 15 QUARTERS/FOOTAGES: SE SE SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.642539 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.995508 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 549.0 LOGGED (FT.): 5490.0 LOG TYPE: Electric Log  
 SOURCE: CURTIS PRO, FOSTER 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-316.0	CARBONDALE	HERRIN	COAL	-	865.0
-407.0	CARBONDALE	SPRINGFIELD	COAL	-	956.0
-1933.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2482.0

MAPID: 06500297000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 15 QUARTERS/FOOTAGES: SE SE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.633145 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.995394 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 461.0 LOGGED (FT.): 4610.0 LOG TYPE: Electric Log  
 SOURCE: GULF REF, LOCKWD A 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-300.0	CARBONDALE	HERRIN	COAL	-	761.0
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	850.0
-1919.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2380.0

MAPID: 06500505000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 15 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: WALPOLE LONGITUDE: -88.647173 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.002762 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 4650.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, HARRELSN B0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-313.0	CARBONDALE	HERRIN	COAL	-	778.0	
-403.0	CARBONDALE	SPRINGFIELD	COAL	-	868.0	
-1925.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2390.0	

MAPID: 06500741000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 15 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SW

QUADRANGLE: AKIN LONGITUDE: -88.647199 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.997351 DATE COLLECTED:

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 3420.0 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-224.0	CARBONDALE	DANVILLE	COAL	-	756.0	
-246.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	778.0	
-260.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	17.0	792.0	
-303.0	CARBONDALE	HERRIN	COAL	5.0	835.0	
-356.0	CARBONDALE	BRIAR HILL	COAL	-	888.0	
-383.0	CARBONDALE	SPRINGFIELD	COAL	4.0	915.0	SHALE & SILTSTONE ROOF
-462.0	CARBONDALE	HOUCHIN CREEK	COAL	-	994.0	

MAPID: 06503266000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 15 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: MACEDONIA LONGITUDE: -88.647222 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.004502 DATE COLLECTED:

SURFACE ELEVATION (FT.): 490.0 LOGGED (FT.): 805.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-218.0	MODESTO	PIASA	LIMESTONE	6.0	708.0	
-224.0	MODESTO		SHALE	15.0	714.0	
-239.0	CARBONDALE	DANVILLE	COAL	2.0	729.0	
-241.0	CARBONDALE		SILTY SHALE	18.0	731.0	
-259.0	CARBONDALE	ALLENBY	BONE COAL	1.0	749.0	
-260.0	CARBONDALE		CLAYSTONE & SHALE	10.0	750.0	
-270.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	760.0	
-280.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	770.0	
-294.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	784.0	
-304.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	794.0	
-305.0	CARBONDALE	ANNA	SHALE	5.0	795.0	
-310.0	CARBONDALE	HERRIN	COAL	5.0	800.0	

MAPID: 06500762000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.654153 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.002836 DATE COLLECTED:

SURFACE ELEVATION (FT.): 472.0 LOGGED (FT.): 3359.0 LOG TYPE: Electric Log

SOURCE: SHULMAN BROS. INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-244.0	CARBONDALE	DANVILLE	COAL	-	716.0	
-256.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	4.0	728.0	
-278.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	26.0	750.0	
-323.0	CARBONDALE	HERRIN	COAL	3.0	795.0	
-344.0	CARBONDALE	VERMILIONVILLE	SANDSTONE/SHALE	21.0	816.0	
-365.0	CARBONDALE	BRIAR HILL	COAL	-	837.0	
-370.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	10.0	842.0	
-404.0	CARBONDALE	SPRINGFIELD	COAL	4.0	876.0	BLACK SHALE & LIMESTONE ROOF
-481.0	CARBONDALE	HOUCHIN CREEK	COAL	-	953.0	

MAPID: 06501262000C    VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 16    QUARTERS/FOOTAGES: 1650' S line, 330' E line

QUADRANGLE: AKIN    LONGITUDE: -88.651875    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.999277    DATE COLLECTED:

SURFACE ELEVATION (FT.): 515.0    LOGGED (FT.): 838.0    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
-223.0	MODESTO	PIASA	LIMESTONE	5.0	738.0
-228.0	MODESTO		SILTY SHALE	14.0	743.0
-242.0	CARBONDALE	DANVILLE	COAL	2.0	757.0
-244.0	CARBONDALE		SHALE & SANDSTONE	18.5	759.0
-262.5	CARBONDALE	ALLENBY	COAL	0.5	777.5
-263.0	CARBONDALE	LAWSON	SILTY SHALE	18.0	778.0
-281.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	20.0	796.0
-301.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	6.0	816.0
-307.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	822.0
-308.0	CARBONDALE		SHALE	1.0	823.0
-309.0	CARBONDALE	BRERETON	LIMESTONE	6.0	824.0
-315.0	CARBONDALE	ANNA	BLACK SHALE	2.0	830.0
-317.0	CARBONDALE	HERRIN	COAL	6.0	832.0



MAPID: 06500008000C    VERSION: 1

PROJECT: NCRDS87

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 17    QUARTERS/FOOTAGES: 1320' S line, 1320' E line

QUADRANGLE: AKIN    LONGITUDE: -88.673762    GEOLOGIST: WEIBEL

CONFIDENTIAL: N    LATITUDE: 37.998537    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 575.0    LOGGED (FT.): 1000.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
575.0			UNCONSOLIDATED	7.0	0.0	
568.0	BOND		SANDSTONE	15.0	7.0	
553.0	BOND		SHALE	9.0	22.0	
544.0	BOND		CONGLOMERATE	1.0	31.0	
543.0	BOND		COAL	0.3	32.0	
542.7	BOND		SHALE & SANDSTONE	319.7	32.3	
223.0	BOND	CARTHAGE	LIMESTONE	12.0	352.0	
211.0	MODESTO		BLACK SHALE	1.0	364.0	
210.0	MODESTO		SHALE & SANDSTONE	143.0	365.0	
67.0	MODESTO		BLACK SHALE	2.0	508.0	
65.0	MODESTO		SHALE	8.0	510.0	
57.0	MODESTO		COAL	0.5	518.0	
56.5	MODESTO		SHALE & SANDSTONE	121.5	518.5	
-65.0	MODESTO		SANDSTONE	1.5	640.0	
-66.5	MODESTO		SHALE	0.7	641.5	
-67.2	MODESTO		COAL	2.8	642.2	
-70.0	MODESTO		UNDERCLAY	4.0	645.0	
-74.0	MODESTO		SHALE & SANDSTONE	127.0	649.0	
-201.0	MODESTO		SHALE	16.5	776.0	
-217.5	MODESTO		COAL	1.1	792.5	
-218.6	MODESTO		SHALE	28.4	793.6	
-247.0	MODESTO		LIMESTONE	5.0	822.0	
-252.0	MODESTO		SHALE	12.0	827.0	
-264.0	MODESTO		BLACK SHALE	2.3	839.0	
-266.3	MODESTO		COAL	1.8	841.3	
-268.2	MODESTO		UNDERCLAY	0.8	843.2	
-269.0	MODESTO		SHALE	6.0	844.0	
-275.0	MODESTO		SANDSTONE	4.0	850.0	
-279.0	MODESTO		SHALE	3.5	854.0	
-282.5	CARBONDALE	DANVILLE	COAL	0.7	857.5	UNCERTAIN CORRELATION
-283.2	CARBONDALE		SHALE	13.8	858.2	
-297.0	CARBONDALE		SANDSTONE	21.0	872.0	
-318.0	CARBONDALE		SHALE	13.0	893.0	
-331.0	CARBONDALE		BLACK SHALE	6.0	906.0	
-337.0	CARBONDALE		SANDSTONE	7.0	912.0	
-344.0	CARBONDALE	ANNA	BLACK SHALE	2.9	919.0	
-346.9	CARBONDALE	HERRIN	COAL	6.4	921.9	
-353.3	CARBONDALE		UNDERCLAY	4.7	928.3	
-283.2	CARBONDALE		SHALE	83.8	858.2	

-367.0	CARBONDALE		SHALE	18.0	942.0
-385.0	CARBONDALE		LIMESTONE	1.3	960.0
-386.3	CARBONDALE		BONE COAL	0.8	961.3
-387.0	CARBONDALE		SHALE	15.0	962.0
-402.0	CARBONDALE	TURNER MINE	BLACK SHALE	8.0	977.0
-410.0	CARBONDALE		SHALE	9.0	985.0
-419.0	CARBONDALE	SPRINGFIELD	COAL	5.9	994.0
-424.9	CARBONDALE		UNDERCLAY	0.1	999.9

**MAPID:** 06500008000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 17    **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.673762    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.998537    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 928.4    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-247.1	MODESTO	PIASA	LIMESTONE	5.0	822.1
-252.1	MODESTO		GRAY SHALE	14.3	827.1
-266.4	CARBONDALE	DANVILLE	COAL	1.8	841.4
-268.3	CARBONDALE		SHALE & SANDSTONE	10.8	843.3
-279.1	CARBONDALE	GALUM	CALCAREOUS SHALE	2.0	854.1
-281.1	CARBONDALE		GRAY SHALE	1.5	856.1
-282.6	CARBONDALE	ALLENBY	BONE COAL	0.7	857.6
-283.3	CARBONDALE	LAWSON	GRAY SHALE	13.8	858.3
-297.1	CARBONDALE	LAWSON	SANDSTONE	21.0	872.1
-318.1	CARBONDALE	LAWSON	SILTY SHALE	10.0	893.1
-328.1	CARBONDALE	LAWSON	GRAY SHALE	3.0	903.1
-331.1	CARBONDALE	LAWSON	BLACK SHALE	6.0	906.1
-337.1	CARBONDALE	BRERETON	LIMESTONE	7.0	912.1
-344.1	CARBONDALE	ANNA	BLACK SHALE	2.9	919.1
-347.0	CARBONDALE	HERRIN	COAL	6.4	922.0

**MAPID:** 06500008000C    **VERSION:** 3    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 17    **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.673762    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.998537    **DATE COLLECTED:** 0 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 5750.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMCOKECHEM, POYNER A B0007    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-347.0	CARBONDALE	HERRIN	COAL	6.4	922.0	
-419.0	CARBONDALE	SPRINGFIELD	COAL	5.5	994.0	

**MAPID:** 06500008000C    **VERSION:** 4    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 17    **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.673762    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.998537    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 575.0    **LOGGED (FT.):** 1000.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMERICAN COKE & CHEMICAL    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-347.0	CARBONDALE	HERRIN	COAL	6.3	922.0	
-386.0	CARBONDALE	BRIAR HILL	COAL	1.5	961.0	
-420.0	CARBONDALE	SPRINGFIELD	COAL	5.5	995.0	GRAY & BLACK SHALE ROOF

MAPID: 06500763000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SW

QUADRANGLE: AKIN LONGITUDE: -88.684233 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.997577 DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0 LOGGED (FT.): 3475.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-267.0	CARBONDALE	DANVILLE	COAL	-	828.0	
-271.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE & SHALE	8.0	832.0	
-307.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	20.0	868.0	
-345.0	CARBONDALE	HERRIN	COAL	6.0	906.0	
-357.0	CARBONDALE	VERMILIONVILLE	SANDSTONE/SHALE	14.0	918.0	
-386.0	CARBONDALE	BRIAR HILL	COAL	-	947.0	
-391.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	5.0	952.0	
-435.0	CARBONDALE	SPRINGFIELD	COAL	6.0	996.0	SHALE & SILTSTONE ROOF
-465.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	8.0	1026.0	
-475.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1036.0	

MAPID: 06501680000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SE

QUADRANGLE: AKIN LONGITUDE: -88.672653 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.995807 DATE COLLECTED: 12 / 0 / 1959

SURFACE ELEVATION (FT.): 574.0 LOGGED (FT.): 2260.0 LOG TYPE: Electric Log

SOURCE: SLAGTER PRODUCING CO. WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-588.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1162.0	
-661.0	SPOON	DAVIS	UNCLASSIFIED	-	1235.0	
-1686.0	BASE OF PENN.		UNCLASSIFIED	-	2260.0	

MAPID: 06524418000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 17 QUARTERS/FOOTAGES: SW NW NE

QUADRANGLE: MACEDONIA LONGITUDE: -88.677218 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.006328 DATE COLLECTED: 0 / 0 / 1981

SURFACE ELEVATION (FT.): 559.0 LOGGED (FT.): 1018.0 LOG TYPE: Other Core Study

SOURCE: TENNESSEE VALLEY AUTHORITY ENCA #33 WELL TYPE: Coal Test

COMMENT: NO ELEVATION GIVEN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-365.5	CARBONDALE	HERRIN	COAL	6.3	924.5	REMOVED BY CO.
-444.7	CARBONDALE	SPRINGFIELD	COAL	6.0	1003.7	REMOVED BY CO.

MAPID: 06500764000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 18 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.68892 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.008501 DATE COLLECTED:

SURFACE ELEVATION (FT.): 542.0 LOGGED (FT.): 3500.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-310.0	CARBONDALE	DANVILLE	COAL	-	852.0	
-332.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	874.0	
-346.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	5.0	888.0	
-390.0	CARBONDALE	HERRIN	COAL	-	932.0	
-402.0	CARBONDALE	VERMILIONVILLE	SANDSTONE/SHALE	16.0	944.0	
-434.0	CARBONDALE	BRIAR HILL	COAL	-	976.0	
-468.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1010.0	BLACK SHALE & LIMESTONE ROOF
-494.0	CARBONDALE	SS BELOW NO. 5	SHALY SANDSTONE	32.0	1036.0	
-528.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1070.0	

MAPID: 06501309000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 18 QUARTERS/FOOTAGES: 990' N line, 2310' E line

QUADRANGLE: MACEDONIA LONGITUDE: -88.695821

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.006716

DATE COLLECTED:

SURFACE ELEVATION (FT.): 476.0

LOGGED (FT.): 880.0

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
-292.0	MODESTO	PIASA	LIMESTONE	5.0	768.0
-297.0	MODESTO		GRAY SHALE	12.0	773.0
-309.0	CARBONDALE	DANVILLE	COAL	2.0	785.0
-311.0	CARBONDALE		GRAY SHALE	12.0	787.0
-323.0	CARBONDALE	ALLENBY	BONE COAL	1.0	799.0
-324.0	CARBONDALE		SILTY SHALE	10.0	800.0
-334.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	18.0	810.0
-352.0	CARBONDALE	LAWSON	SANDSTONE	26.0	828.0
-378.0	CARBONDALE	LAWSON	SHALE	8.0	854.0
-386.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	862.0
-387.0	CARBONDALE		SHALE	1.0	863.0
-388.0	CARBONDALE	BRERETON	LIMESTONE	6.0	864.0
-394.0	CARBONDALE	ANNA	BLACK SHALE	3.0	870.0
-397.0	CARBONDALE	HERRIN	COAL	7.0	873.0

MAPID: 06500765000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 330' W line of SW NE

QUADRANGLE: AKIN LONGITUDE: -88.69592

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.988502

DATE COLLECTED:

SURFACE ELEVATION (FT.): 544.0

LOGGED (FT.): 3425.0

LOG TYPE: Electric Log

SOURCE: HEATH B M ETAL

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-246.0	CARBONDALE	DANVILLE	COAL	-	790.0
-252.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	12.0	796.0
-273.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	817.0
-295.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	839.0
-338.0	CARBONDALE	HERRIN	COAL	3.0	882.0
-352.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	6.0	896.0
-380.0	CARBONDALE	BRIAR HILL	COAL	-	924.0
-428.0	CARBONDALE	SPRINGFIELD	COAL	6.0	972.0
-443.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	8.0	987.0
-460.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1004.0

GRAY SHALE  
ROOF

MAPID: 06501373000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 19 QUARTERS/FOOTAGES: 330' S line, 1650' E line

QUADRANGLE: AKIN LONGITUDE: -88.693724 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.981239 DATE COLLECTED:

SURFACE ELEVATION (FT.): 517.0 LOGGED (FT.): 853.0 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
-228.0	MODESTO	PIASA	LIMESTONE	5.0	745.0
-233.0	MODESTO		GRAY SHALE	10.0	750.0
-243.0	CARBONDALE	DANVILLE	COAL	1.5	760.0
-244.5	CARBONDALE		GRAY SHALE	18.5	761.5
-263.0	CARBONDALE	ALLENBY	BONE COAL	0.5	780.0
-263.5	CARBONDALE		CLAYSTONE & SHALE	7.0	780.5
-270.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.5	787.5
-273.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	43.0	790.0
-316.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	833.0
-317.0	CARBONDALE		SHALE	5.0	834.0
-322.0	CARBONDALE	BRERETON	LIMESTONE	7.0	839.0
-329.0	CARBONDALE	ANNA	BLACK SHALE	2.0	846.0
-331.0	CARBONDALE	HERRIN	COAL	5.0	848.0

MAPID: 06500928000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 20 QUARTERS/FOOTAGES: 1650' N line, 330' E line

QUADRANGLE: AKIN LONGITUDE: -88.670403 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.990349 DATE COLLECTED:

SURFACE ELEVATION (FT.): 547.0 LOGGED (FT.): 897.0 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
-241.0	MODESTO	PIASA	LIMESTONE	7.0	788.0
-248.0	MODESTO		GRAY SHALE	14.0	795.0
-262.0	CARBONDALE	DANVILLE	COAL	3.0	809.0
-265.0	CARBONDALE		SHALE & SANDSTONE	23.0	812.0
-288.0	CARBONDALE	LAWSON	SILTY SHALE	44.0	835.0
-332.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	879.0
-333.0	CARBONDALE		SHALE	1.0	880.0
-334.0	CARBONDALE	BRERETON	LIMESTONE	8.0	881.0
-342.0	CARBONDALE	ANNA	BLACK SHALE	2.0	889.0
-344.0	CARBONDALE	HERRIN	COAL	6.0	891.0

MAPID: 06501639000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 20 QUARTERS/FOOTAGES: 390' S line, 330' W line of NW SE

QUADRANGLE: AKIN LONGITUDE: -88.677469 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.984992 DATE COLLECTED:

SURFACE ELEVATION (FT.): 525.0 LOGGED (FT.): 3321.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-327.0	CARBONDALE	HERRIN	COAL	6.0	852.0	
-351.0	CARBONDALE	BRIAR HILL	COAL	-	876.0	
-419.0	CARBONDALE	SPRINGFIELD	COAL	6.0	944.0	SHALE & SILTSTONE ROOF
-455.0	CARBONDALE	HOUCHIN CREEK	COAL	-	980.0	

MAPID: 06500766000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 21 QUARTERS/FOOTAGES: 990' S line, 330' W line of SE

QUADRANGLE: AKIN LONGITUDE: -88.658926 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.982927 DATE COLLECTED:

SURFACE ELEVATION (FT.): 470.0 LOGGED (FT.): 3328.0 LOG TYPE: Electric Log

SOURCE: VANDENBARK-MCGUIRE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-245.0	CARBONDALE	DANVILLE	COAL	-	715.0	
-250.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	6.0	720.0	
-267.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	737.0	
-288.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	15.0	758.0	
-323.0	CARBONDALE	HERRIN	COAL	7.0	793.0	
-352.0	CARBONDALE	BRIAR HILL	COAL	-	822.0	
-418.0	CARBONDALE	SPRINGFIELD	COAL	8.0	888.0	SHALE & SILTSTONE ROOF
-460.0	CARBONDALE	HOUCHIN CREEK	COAL	-	930.0	



MAPID: 06500906000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 21 QUARTERS/FOOTAGES: 990' N line, 1650' E line

QUADRANGLE: AKIN LONGITUDE: -88.656524 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.99204 DATE COLLECTED:

SURFACE ELEVATION (FT.): 545.0 LOGGED (FT.): 865.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-213.0	MODESTO	PIASA	LIMESTONE	6.0	758.0
-219.0	MODESTO		GRAY SHALE	14.0	764.0
-233.0	CARBONDALE	DANVILLE	COAL	2.0	778.0
-235.0	CARBONDALE		SHALE & SANDSTONE	30.0	780.0
-265.0	CARBONDALE	LAWSON	SILTY SHALE	15.0	810.0
-280.0	CARBONDALE	LAWSON	SANDSTONE	15.0	825.0
-295.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	840.0
-305.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	850.0
-306.0	CARBONDALE		SHALE	2.0	851.0
-308.0	CARBONDALE	BRERETON	LIMESTONE	5.5	853.0
-313.5	CARBONDALE	ANNA	BLACK SHALE	1.5	858.5
-315.0	CARBONDALE	HERRIN	COAL	5.0	860.0

MAPID: 06590006000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 21 QUARTERS/FOOTAGES:

QUADRANGLE: AKIN LONGITUDE: -88.668917 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.991528 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	7.0	

MAPID: 06500298000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 22 QUARTERS/FOOTAGES: NE SE NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.642572 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.990075 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 523.0 LOGGED (FT.): 5230.0 LOG TYPE: Electric Log  
 SOURCE: RING D S, CRADDOCK 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-347.0	CARBONDALE	HERRIN	COAL	-	870.0	
-427.0	CARBONDALE	SPRINGFIELD	COAL	-	950.0	
-1927.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2450.0	

MAPID: 06500299000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 22 QUARTERS/FOOTAGES: SW NW SE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.640272 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.984611 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 5070.0 LOG TYPE: Electric Log  
 SOURCE: SUPRIOR OC, DARNELL F 0005 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-333.0	CARBONDALE	HERRIN	COAL	-	840.0	
-423.0	CARBONDALE	SPRINGFIELD	COAL	-	930.0	
-1915.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2422.0	

MAPID: 06500767000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 22 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE SW  
 QUADRANGLE: AKIN LONGITUDE: -88.64496 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 37.982843 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 485.0 LOGGED (FT.): 3215.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-265.0	CARBONDALE	DANVILLE	COAL	-	750.0	
-283.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	768.0	
-304.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	11.0	789.0	
-351.0	CARBONDALE	HERRIN	COAL	8.0	836.0	
-372.0	CARBONDALE	BRIAR HILL	COAL	-	857.0	
-373.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	7.0	858.0	
-415.0	CARBONDALE	SPRINGFIELD	COAL	7.0	900.0	SHALE & SILTSTONE ROOF
-467.0	CARBONDALE	HOUCHIN CREEK	COAL	-	952.0	

MAPID: 06500836000C    VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 22    QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NW

QUADRANGLE: AKIN    LONGITUDE: -88.644926    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.991921    DATE COLLECTED: 7 / 0 / 1955

SURFACE ELEVATION (FT.): 553.0    LOGGED (FT.): 2020.0    LOG TYPE: Electric Log

SOURCE: KEYSTONE OIL CO    WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-585.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1138.0
-652.0	SPOON	DAVIS	UNCLASSIFIED	-	1205.0
-1467.0	BASE OF PENN.		UNCLASSIFIED	-	2020.0

MAPID: 06501341000C    VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 22    QUARTERS/FOOTAGES: 2310' N line, 330' W line

QUADRANGLE: AKIN    LONGITUDE: -88.649615    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.988317    DATE COLLECTED:

SURFACE ELEVATION (FT.): 543.0    LOGGED (FT.): 872.0    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
-219.0	MODESTO	PIASA	LIMESTONE	5.0	762.0
-224.0	MODESTO		SHALE	19.0	767.0
-243.0	CARBONDALE	DANVILLE	COAL	2.0	786.0
-245.0	CARBONDALE		SHALE	22.0	788.0
-267.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	18.0	810.0
-285.0	CARBONDALE	LAWSON	SILTY SHALE	22.0	828.0
-307.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	850.0
-308.0	CARBONDALE		SHALE	4.0	851.0
-312.0	CARBONDALE	BRERETON	LIMESTONE	7.0	855.0
-319.0	CARBONDALE	ANNA	BLACK SHALE	3.0	862.0
-322.0	CARBONDALE	HERRIN	COAL	7.0	865.0

MAPID: 06500300000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: NE NE NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.623974 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.993604 DATE COLLECTED: 0 / 0 / 1940  
 SURFACE ELEVATION (FT.): 438.0 LOGGED (FT.): 4380.0 LOG TYPE: Electric Log  
 SOURCE: HALBRT ETL, LOCKWD J B0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-302.0	CARBONDALE	HERRIN	COAL	-	740.0	
-377.0	CARBONDALE	SPRINGFIELD	COAL	-	815.0	
-1882.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2320.0	

MAPID: 06500301000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: NW NE NE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.617108 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.993637 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 449.0 LOGGED (FT.): 4490.0 LOG TYPE: Electric Log  
 SOURCE: SHELL OC, CRABTREE J00B3 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-297.0	CARBONDALE	HERRIN	COAL	-	746.0	
-359.0	CARBONDALE	SPRINGFIELD	COAL	-	808.0	
-1865.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2314.0	

MAPID: 06500302000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: SE SE NE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.614873 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.988206 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 4320.0 LOG TYPE: Electric Log  
 SOURCE: WHSNT&TRD, LOCKWD J D0008 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-298.0	CARBONDALE	HERRIN	COAL	-	730.0	
-363.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	
-1890.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2322.0	

**MAPID:** 06500303000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 23    **QUARTERS/FOOTAGES:** NW NW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.621767    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.986368    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 434.0    **LOGGED (FT.):** 4340.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, SLOAN C R 0007    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-310.0	CARBONDALE	HERRIN	COAL	-	744.0	
-371.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	
-1908.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2342.0	

**MAPID:** 06500304000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 23    **QUARTERS/FOOTAGES:** NE NE SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.624059    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.98636    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 4360.0    **LOG TYPE:** Electric Log  
**SOURCE:** LAYTN&MYRS, SMITH J L 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	HERRIN	COAL	-	735.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	-	815.0	
-1906.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2342.0	

**MAPID:** 06500305000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 23    **QUARTERS/FOOTAGES:** SE NW NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.628577    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.991773    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 451.0    **LOGGED (FT.):** 4510.0    **LOG TYPE:** Electric Log  
**SOURCE:** OIL MANGMT, LOCKWD J D0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-324.0	CARBONDALE	HERRIN	COAL	-	775.0	
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	840.0	
-1917.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2368.0	

MAPID: 06500306000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: NE SW SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.619513 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.98275 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 4320.0 LOG TYPE: Electric Log  
 SOURCE: SCHULTE E, WARREN F 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-328.0	CARBONDALE	HERRIN	COAL	-	760.0	
-384.0	CARBONDALE	SPRINGFIELD	COAL	-	816.0	
-1921.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2353.0	

MAPID: 06500307000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: NE SE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.614926 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.982762 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 426.0 LOGGED (FT.): 4260.0 LOG TYPE: Electric Log  
 SOURCE: OIL CARRS, WARREN T A0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-304.0	CARBONDALE	HERRIN	COAL	-	730.0	
-386.0	CARBONDALE	SPRINGFIELD	COAL	-	812.0	
-1900.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2326.0	

MAPID: 06500768000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SW  
 QUADRANGLE: AKIN LONGITUDE: -88.626417 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 37.980928 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 3370.0 LOG TYPE: Electric Log  
 SOURCE: KAUFMAN, E.H. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-235.0	CARBONDALE	DANVILLE	COAL	-	672.0	
-266.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	703.0	
-277.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	13.0	714.0	
-319.0	CARBONDALE	HERRIN	COAL	5.0	756.0	
-335.0	CARBONDALE	BRIAR HILL	COAL	-	772.0	
-385.0	CARBONDALE	SPRINGFIELD	COAL	4.0	822.0	SHALE & SILTSTONE ROOF
-396.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	10.0	833.0	
-461.0	CARBONDALE	HOUCHIN CREEK	COAL	-	898.0	

MAPID: 06501177000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 2310' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.621851 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.980938 DATE COLLECTED: 8 / 0 / 1957

SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 1956.0 LOG TYPE: Electric Log

SOURCE: SPIRES H V WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-570.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1002.0
-633.0	SPOON	DAVIS	UNCLASSIFIED	-	1065.0
-1524.0	BASE OF PENN.		UNCLASSIFIED	-	1956.0

MAPID: 06501177000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES: 330' S line, 2310' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.621851 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.980938 DATE COLLECTED:

SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 770.0 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
-214.0	MODESTO	PIASA	LIMESTONE	5.0	646.0
-219.0	MODESTO		SHALE	17.0	651.0
-236.0	CARBONDALE	DANVILLE	COAL	2.0	668.0
-238.0	CARBONDALE		SILTY SHALE	36.0	670.0
-274.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	706.0
-278.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	30.0	710.0
-308.0	CARBONDALE	LAWSON	SHALE	5.0	740.0
-313.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	745.0
-314.0	CARBONDALE		CLAYSTONE & SHALE	4.0	746.0
-318.0	CARBONDALE	BRERETON	LIMESTONE	8.0	750.0
-326.0	CARBONDALE	ANNA	BLACK SHALE	4.0	758.0
-330.0	CARBONDALE	HERRIN	COAL	8.0	762.0

MAPID: 06590027000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 23 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.616613

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.98373

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		4.0	

MAPID: 06500308000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.610289

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.991845

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 4520.0

LOG TYPE: Electric Log

SOURCE: SHELL OC, CRABTREE J00B2

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-283.0	CARBONDALE	HERRIN	COAL	-	735.0	
-354.0	CARBONDALE	SPRINGFIELD	COAL	-	806.0	
-1882.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2334.0	

MAPID: 06500309000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: NW SW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.612576

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.990027

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 443.0 LOGGED (FT.): 4430.0

LOG TYPE: Electric Log

SOURCE: CAMERON OC, LOCKWOOD 00B1

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-292.0	CARBONDALE	HERRIN	COAL	-	735.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	
-1899.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2342.0	



MAPID: 06500310000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: NW NW NE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.603467 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.993672 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 470.0 LOGGED (FT.): 4700.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, LOCKWD M 0010 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-310.0	CARBONDALE	HERRIN	COAL	-	780.0	
-380.0	CARBONDALE	SPRINGFIELD	COAL	-	850.0	
-1879.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2349.0	

MAPID: 06500311000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: NE SW NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.601228 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.990043 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 4450.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, SMITH L W 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-319.0	CARBONDALE	HERRIN	COAL	-	764.0	
-380.0	CARBONDALE	SPRINGFIELD	COAL	-	825.0	
-1908.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2353.0	

MAPID: 06500312000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: NE NW SE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.601259 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.98641 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 4320.0 LOG TYPE: Electric Log  
 SOURCE: MAGNOLIA, HAMI MCFAR0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-298.0	CARBONDALE	HERRIN	COAL	-	730.0	
-388.0	CARBONDALE	SPRINGFIELD	COAL	-	820.0	
-1908.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2340.0	

MAPID: 06500313000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.603574 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.980959 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 421.0 LOGGED (FT.): 4210.0 LOG TYPE: Electric Log

SOURCE: REDWINE N, MEZO J L 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-309.0	CARBONDALE	HERRIN	COAL	-	730.0	
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	810.0	
-1921.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2342.0	

MAPID: 06500314000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.605798 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.986404 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 426.0 LOGGED (FT.): 4260.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA, HAMILTON J0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-314.0	CARBONDALE	HERRIN	COAL	-	740.0	
-384.0	CARBONDALE	SPRINGFIELD	COAL	-	810.0	
-1896.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2322.0	

MAPID: 06500769000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.598987 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.984598 DATE COLLECTED:

SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 3275.0 LOG TYPE: Electric Log

SOURCE: PEARSON, CHRIS SR., EST. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-229.0	CARBONDALE	DANVILLE	COAL	-	658.0	
-239.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	8.0	668.0	
-259.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	688.0	
-265.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	9.0	694.0	
-307.0	CARBONDALE	HERRIN	COAL	4.0	736.0	
-338.0	CARBONDALE	BRIAR HILL	COAL	-	767.0	
-339.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	34.0	768.0	
-399.0	CARBONDALE	SPRINGFIELD	COAL	3.0	828.0	SHALE & SILTSTONE ROOF
-419.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	6.0	848.0	
-479.0	CARBONDALE	HOUCHIN CREEK	COAL	-	908.0	

MAPID: 06503742000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: 1320' N line, 0' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.595548 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.990951 DATE COLLECTED: 8 / 28 / 1972

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 0.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 69-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-53.0			COAL	1.3	494.0	
-183.6			COAL	1.4	624.6	
-242.0	CARBONDALE	DANVILLE	COAL	2.2	683.0	
-318.7	CARBONDALE	HERRIN	COAL	7.4	759.7	
-389.8	CARBONDALE	SPRINGFIELD	COAL	-	830.8	

MAPID: 06503742000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES: 1320' N line, 0' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.595548 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.990951 DATE COLLECTED:

SURFACE ELEVATION (FT.): 441.0 LOGGED (FT.): 767.4 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 69-C WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-239.7	CARBONDALE	DANVILLE	COAL	2.2	680.7
-241.9	CARBONDALE		GRAY SHALE	26.3	682.9
-268.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.6	709.2
-271.8	CARBONDALE	LAWSON	GRAY SHALE	30.9	712.8
-302.7	CARBONDALE	LAWSON	BLACK SHALE	6.3	743.7
-309.0	CARBONDALE	BRERETON	LIMESTONE	6.0	750.0
-315.0	CARBONDALE	ANNA	BLACK SHALE	4.0	756.0
-319.0	CARBONDALE	HERRIN	COAL	7.4	760.0

MAPID: 06590036000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 24 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.59596 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.992045 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.5	

MAPID: 06500315000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 25 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.605867 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.979144 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 4280.0 LOG TYPE: Electric Log

SOURCE: EASON OC, CULPEPER R0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-307.0	CARBONDALE	HERRIN	COAL	-	735.0
-382.0	CARBONDALE	SPRINGFIELD	COAL	-	810.0
-1909.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2337.0

MAPID: 06500770000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 25 QUARTERS/FOOTAGES: 990' S line, 330' W line of NE

QUADRANGLE: WALPOLE LONGITUDE: -88.603641 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.975543 DATE COLLECTED:

SURFACE ELEVATION (FT.): 421.0 LOGGED (FT.): 3337.0 LOG TYPE: Electric Log

SOURCE: STEWART OIL ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-229.0	CARBONDALE	DANVILLE	COAL	-	650.0	
-255.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	676.0	
-263.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	18.0	684.0	
-307.0	CARBONDALE	HERRIN	COAL	5.0	728.0	
-339.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	7.0	760.0	
-396.0	CARBONDALE	SPRINGFIELD	COAL	3.0	817.0	SHALE ROOF
-406.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	13.0	827.0	
-475.0	CARBONDALE	HOUCHIN CREEK	COAL	-	896.0	

MAPID: 06501142000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 25 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.599136 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.9755 DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 727.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-200.0	MODESTO	PIASA	LIMESTONE	9.0	617.0	
-209.0	MODESTO		SHALE	21.5	626.0	
-230.5	CARBONDALE	DANVILLE	COAL	2.5	647.5	
-233.0	CARBONDALE		SILTY SHALE	25.0	650.0	
-258.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	675.0	
-263.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	23.0	680.0	
-286.0	CARBONDALE	LAWSON	SHALE	8.0	703.0	
-294.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	711.0	
-295.0	CARBONDALE		CLAYSTONE & SHALE	2.0	712.0	
-297.0	CARBONDALE	BRERETON	LIMESTONE	6.0	714.0	
-303.0	CARBONDALE	ANNA	BLACK SHALE	1.0	720.0	
-304.0	CARBONDALE	HERRIN	COAL	6.0	721.0	

MAPID: 06590035000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 25 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.598766

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.976352

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

MAPID: 06500009000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.624207

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.973645

DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 455.6 LOGGED (FT.): 4556.0

LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0004, CARROL GUS

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-339.4	CARBONDALE	HERRIN	COAL	9.1	795.0	
-390.4	CARBONDALE	SPRINGFIELD	COAL	4.8	846.0	

MAPID: 06500009000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.624207 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.973645 DATE COLLECTED:

SURFACE ELEVATION (FT.): 456.0 LOGGED (FT.): 804.1 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-235.2	MODESTO	PIASA	LIMESTONE	5.5	691.2	
-240.7	MODESTO		SHALE	21.0	696.7	
-261.7	CARBONDALE	DANVILLE	COAL	3.5	717.7	
-265.2	CARBONDALE		GRAY SHALE	6.5	721.2	
-271.7	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	14.0	727.7	
-285.7	CARBONDALE	LAWSON	SILTY SHALE	11.0	741.7	
-296.7	CARBONDALE	LAWSON	SANDSTONE	15.0	752.7	
-311.7	CARBONDALE	LAWSON	SILTY SHALE	8.0	767.7	
-319.7	CARBONDALE	LAWSON	GRAY SHALE	3.0	775.7	
-322.7	CARBONDALE	LAWSON	BLACK SHALE	0.5	778.7	
-323.2	CARBONDALE	JAMESTOWN	COAL	0.2	779.2	
-323.3	CARBONDALE		BLACK SHALE	0.5	779.3	
-323.8	CARBONDALE	BRERETON	LIMESTONE	3.3	779.8	
-327.2	CARBONDALE	ANNA	BLACK SHALE	5.5	783.2	
-332.7	CARBONDALE	ENERGY	UNKNOWN	6.3	788.7	
-339.0	CARBONDALE	HERRIN	COAL	9.1	795.0	

MAPID: 06500009000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.624207 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.973645 DATE COLLECTED:

SURFACE ELEVATION (FT.): 456.0 LOGGED (FT.): 851.0 LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-339.0	CARBONDALE	HERRIN	COAL	9.1	795.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	4.8	846.0	SHALE & SILTSTONE ROOF

MAPID: 06500009000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 26    QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WALPOLE    LONGITUDE: -88.624207    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 37.973645    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 455.6    LOGGED (FT.): 851.3    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEM. CO. 4    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.6	PLEISTOCENE		CLAY	9.0	0.0	
446.6	PLEISTOCENE		HARD PAN	3.0	9.0	
443.6			ROCK	2.0	12.0	"BROKEN LEDGE" NOTED IN LOG
441.6			SHALE	50.0	14.0	
391.6			COAL	1.2	64.0	
390.4			UNDERCLAY	3.8	65.2	
386.6			SHALY LIMESTONE	3.0	69.0	
383.6			SHALE	8.0	72.0	
375.6			SHALE	23.0	80.0	
352.6			SHALE	10.0	103.0	
342.6			SHALE	9.0	113.0	BLACK
333.6			LIMESTONE	1.0	122.0	
332.6			SANDSTONE	1.0	123.0	
331.6			SHALE	16.0	124.0	
315.6			COAL	0.3	140.0	BONEY
315.3			SHALE	9.2	140.3	
306.2			COAL	0.7	149.4	BONEY
305.4			SHALE	0.7	150.2	BLACK
304.8			COAL	0.7	150.8	BONEY
304.1			SHALE	10.5	151.5	
293.6			SHALE	8.0	162.0	BLUE
285.6			SHALE	3.0	170.0	BLACK
282.6			SHALE	14.0	173.0	BLUE
268.6			SHALE	6.0	187.0	
262.6			SANDSTONE	53.0	193.0	
209.6			SHALE	18.0	246.0	
191.6			SANDSTONE	5.0	264.0	
186.6			SANDSTONE	1.0	269.0	CONGLOMERATE
185.6			SHALE	48.0	270.0	
137.6			SHALE	10.0	318.0	
127.6			SHALE	18.0	328.0	
109.6			SHALE	11.0	346.0	BLUE
98.6			SHALE	2.0	357.0	
96.6			SHALE	11.0	359.0	BLACK
85.6			SHALE	26.0	370.0	BLUE
59.6			SHALE WITH LIMESTONE	11.0	396.0	
48.6			SHALE	2.0	407.0	BLUE
46.6			SHALE	16.0	409.0	
30.6			SHALE	79.0	425.0	BLUE



-48.4			SHALY LIMESTONE	1.0	504.0	
-49.4	MODESTO	CHAPEL	COAL	1.1	505.0	
-50.5	MODESTO		SHALE	1.9	506.1	BLACK
-52.4	MODESTO		SHALE	4.0	508.0	
-56.4	MODESTO		SHALE	18.0	512.0	
-74.4	MODESTO		SANDSTONE	33.0	530.0	
-107.4	MODESTO		SHALE	61.0	563.0	BLUE
-168.4	MODESTO		SHALE WITH LIMESTONE	21.0	624.0	
-189.4	MODESTO		SHALE	5.0	645.0	BLUE
-194.4	MODESTO		SHALE	5.0	650.0	BROWN
-199.4	MODESTO		SHALE	3.0	655.0	BLACK
-202.4	MODESTO		COAL	0.9	658.0	
-203.3	MODESTO		SHALE	2.1	658.9	
-205.4	MODESTO		SHALE	28.0	661.0	
-233.4	MODESTO	PIASA	LIMESTONE	5.5	689.0	
-238.9	MODESTO		SHALE	4.5	694.5	BLACK
-243.4	MODESTO		SHALE	15.0	699.0	BLUE
-258.4	MODESTO		SHALE	4.0	714.0	BLACK
-262.4	CARBONDALE	DANVILLE	COAL	3.5	718.0	BONEY
-265.9	CARBONDALE		SHALE	6.5	721.5	
-272.4	CARBONDALE	BANKSTON FORK	LIMESTONE	12.0	728.0	WHITE
-284.4	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	2.0	740.0	BLUE
-286.4	CARBONDALE		SHALE	1.0	742.0	BLUE
-287.4	CARBONDALE		SHALE	10.0	743.0	
-297.4	CARBONDALE		SANDSTONE	15.0	753.0	
-312.4	CARBONDALE		SHALE	8.0	768.0	
-320.4	CARBONDALE		SHALE	3.0	776.0	BLUE
-323.4	CARBONDALE		SHALE	0.5	779.0	BLACK
-323.9	CARBONDALE	JAMESTOWN	COAL	0.2	779.5	
-324.1	CARBONDALE		SHALE	0.5	779.7	BLACK
-324.6	CARBONDALE	BRERETON	LIMESTONE	3.3	780.2	BLUE
-327.9	CARBONDALE	ANNA	SHALE	5.5	783.5	BLACK
-333.4	CARBONDALE	ENERGY	SHALE	6.3	789.0	BLUE
-339.7	CARBONDALE	HERRIN	COAL	9.1	795.3	
-348.8	CARBONDALE		UNDERCLAY	1.6	804.4	
-350.4	CARBONDALE		SHALE	6.0	806.0	
-356.4	CARBONDALE		SHALE	2.0	812.0	
-358.4	CARBONDALE		SHALE	1.0	814.0	BLUE
-359.4	CARBONDALE	ST. DAVID	LIMESTONE	1.5	815.0	BLUE
-360.9	CARBONDALE		SHALE	12.5	816.5	BLACK
-373.4	CARBONDALE		SHALE	17.3	829.0	BLUE
-390.7	CARBONDALE	SPRINGFIELD	COAL	4.8	846.3	
-395.5	CARBONDALE		UNDERCLAY	0.3	851.1	

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MAPID: 06500316000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: THACKERAY LONGITUDE: -88.619561 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.979126 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 4290.0 LOG TYPE: Electric Log

SOURCE: KIOWA DRC, BARKER P R0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-331.0	CARBONDALE	HERRIN	COAL	-	760.0	
-391.0	CARBONDALE	SPRINGFIELD	COAL	-	820.0	
-1935.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2364.0	

MAPID: 06500771000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES: 433' S line, 330' E line of NE

QUADRANGLE: WALPOLE LONGITUDE: -88.615089 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.974003 DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0 LOGGED (FT.): 3340.0 LOG TYPE: Electric Log

SOURCE: PHILLIPS PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-235.0	CARBONDALE	DANVILLE	COAL	-	668.0	
-267.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	700.0	
-277.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	18.0	710.0	
-319.0	CARBONDALE	HERRIN	COAL	6.0	752.0	
-335.0	CARBONDALE	BRIAR HILL	COAL	-	768.0	
-387.0	CARBONDALE	SPRINGFIELD	COAL	3.0	820.0	GRAY SHALE ROOF
-399.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	10.0	832.0	
-465.0	CARBONDALE	HOUCHIN CREEK	COAL	-	898.0	

MAPID: 06500847000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE SW

QUADRANGLE: WALPOLE LONGITUDE: -88.62432 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.970057 DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): 515.0 LOGGED (FT.): 2005.0 LOG TYPE: Electric Log

SOURCE: HAM & HURT WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-577.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1092.0	
-643.0	SPOON	DAVIS	UNCLASSIFIED	-	1158.0	
-1490.0	BASE OF PENN.		UNCLASSIFIED	-	2005.0	

MAPID: 06501146000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES: 230' S line, 430' E line of NE NW NE  
 QUADRANGLE: WALPOLE LONGITUDE: -88.61992 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 37.978855 DATE COLLECTED: 4 / 0 / 1957  
 SURFACE ELEVATION (FT.): 430.0 LOGGED (FT.): 1970.0 LOG TYPE: Electric Log  
 SOURCE: TRIANGLE OIL CO., INC. WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-585.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1015.0	
-650.0	SPOON	DAVIS	UNCLASSIFIED	-	1080.0	
-1540.0	BASE OF PENN.		UNCLASSIFIED	-	1970.0	

MAPID: 06590024000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES:  
 QUADRANGLE: WALPOLE LONGITUDE: -88.619882 GEOLOGIST: C TREWORY  
 CONFIDENTIAL: N LATITUDE: 37.965694 DATE COLLECTED: 5 / 1 / 1979  
 SURFACE ELEVATION (FT.): LOGGED (FT.): LOG TYPE: Company map  
 SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test  
 COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		4.0	

MAPID: 06590025000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES:  
 QUADRANGLE: AKIN LONGITUDE: -88.628135 GEOLOGIST: C TREWORY  
 CONFIDENTIAL: N LATITUDE: 37.969804 DATE COLLECTED: 5 / 1 / 1979  
 SURFACE ELEVATION (FT.): LOGGED (FT.): LOG TYPE: Company map  
 SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test  
 COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		4.5	

MAPID: 06590026000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 26 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.623881

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.974648

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		4.8	

MAPID: 06500317000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 27 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: MACEDONIA LONGITUDE: -88.633526

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.966394

DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 5110.0

LOG TYPE: Electric Log

SOURCE: TIDE WATER, DENNIS L A0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-329.0	CARBONDALE	HERRIN	COAL	-	840.0	
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	900.0	
-1957.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2468.0	

MAPID: 06500772000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 27 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE SE SW

QUADRANGLE: AKIN LONGITUDE: -88.642755

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.968286

DATE COLLECTED:

SURFACE ELEVATION (FT.): 548.0 LOGGED (FT.): 3411.0

LOG TYPE: Electric Log

SOURCE: RYAN & SHARP

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-222.0	CARBONDALE	DANVILLE	COAL	-	770.0	
-228.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	4.0	776.0	
-248.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	796.0	
-266.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	814.0	
-318.0	CARBONDALE	HERRIN	COAL	3.0	866.0	
-329.0	CARBONDALE	VERMILIONVILLE		23.0	877.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	4.0	918.0	SHALE & SILTSTONE ROOF
-384.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SILTSTONE	11.0	932.0	

MAPID: 06501259000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 27 QUARTERS/FOOTAGES: 990' N line, 990' E line

QUADRANGLE: AKIN LONGITUDE: -88.635662 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.977305 DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.0 LOGGED (FT.): 787.0 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
-229.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	678.0
-233.0	MODESTO		SHALE	19.0	682.0
-252.0	CARBONDALE	DANVILLE	COAL	2.5	701.0
-254.5	CARBONDALE		SHALE	16.5	703.5
-271.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	720.0
-276.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	35.0	725.0
-311.0	CARBONDALE	LAWSON	SHALE	7.0	760.0
-318.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	767.0
-319.0	CARBONDALE		CLAYSTONE & SHALE	2.0	768.0
-321.0	CARBONDALE	BRERETON	LIMESTONE	5.0	770.0
-326.0	CARBONDALE	ANNA	BLACK SHALE	5.0	775.0
-331.0	CARBONDALE	HERRIN	COAL	7.0	780.0

MAPID: 06590017000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 27 QUARTERS/FOOTAGES:

QUADRANGLE: AKIN LONGITUDE: -88.646021 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.974591 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.2	

MAPID: 06590018000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 27 QUARTERS/FOOTAGES:

QUADRANGLE: AKIN LONGITUDE: -88.640043 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.978721 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.5	

**MAPID:** 06590019000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 27    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.6343    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.978559    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	3.0		

**MAPID:** 06500773000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 28    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW NW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.665961    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.977498    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 534.0    **LOGGED (FT.):** 3262.0    **LOG TYPE:** Electric Log  
**SOURCE:** PHILLIPS PETROLEUM CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-236.0	CARBONDALE	DANVILLE	COAL	-	770.0	
-248.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	4.0	782.0	
-262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	796.0	
-280.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	20.0	814.0	
-333.0	CARBONDALE	HERRIN	COAL	7.0	867.0	
-350.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	7.0	884.0	
-371.0	CARBONDALE	BRIAR HILL	COAL	-	905.0	
-400.0	CARBONDALE	SPRINGFIELD	COAL	6.0	934.0	SHALE & SILTSTONE ROOF
-421.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	30.0	955.0	
-451.0	CARBONDALE	HOUCHIN CREEK	COAL	-	985.0	

**MAPID:** 06503299000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 28    **QUARTERS/FOOTAGES:** 1320' S line, 1980' W line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.662728    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.969369    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 572.0    **LOGGED (FT.):** 882.0    **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
-203.0	MODESTO	PIASA	LIMESTONE	4.0	775.0
-207.0	MODESTO		SHALE	15.0	779.0
-222.0	CARBONDALE	DANVILLE	COAL	1.5	794.0
-223.5	CARBONDALE		SHALE & SANDSTONE	24.5	795.5
-248.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	820.0
-254.0	CARBONDALE	LAWSON	SILTY SHALE	40.0	826.0
-294.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	866.0
-295.0	CARBONDALE		CLAYSTONE & SHALE	5.0	867.0
-300.0	CARBONDALE	BRERETON	LIMESTONE	5.0	872.0
-305.0	CARBONDALE	HERRIN	COAL	5.0	877.0

**MAPID:** 06590010000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 28    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.662208    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.970669    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	6.0	

MAPID: 06500774000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 29 QUARTERS/FOOTAGES: 990' N line, 330' E line of SW SE

QUADRANGLE: AKIN LONGITUDE: -88.675464 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.966632 DATE COLLECTED:

SURFACE ELEVATION (FT.): 533.0 LOGGED (FT.): 3278.0 LOG TYPE: Electric Log

SOURCE: STEWART OIL ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-217.0	CARBONDALE	DANVILLE	COAL	-	750.0	
-221.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	14.0	754.0	
-241.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	774.0	
-263.0	CARBONDALE	ANVIL ROCK	SILTSTONE	6.0	796.0	
-309.0	CARBONDALE	HERRIN	COAL	9.0	842.0	
-331.0	CARBONDALE	VERMILIONVILLE		-	864.0	
-373.0	CARBONDALE	SPRINGFIELD	COAL	7.0	906.0	SHALE & SILTSTONE ROOF
-387.0	CARBONDALE	SS BELOW NO. 5	SHALY SANDSTONE	38.0	920.0	
-427.0	CARBONDALE	HOUCHIN CREEK	COAL	-	960.0	

MAPID: 06500989000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SW

QUADRANGLE: AKIN LONGITUDE: -88.684633 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.972075 DATE COLLECTED: 4 / 0 / 1956

SURFACE ELEVATION (FT.): 572.0 LOGGED (FT.): 2160.0 LOG TYPE: Electric Log

SOURCE: STEWART OIL CO. WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-543.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1115.0	
-613.0	SPOON	DAVIS	UNCLASSIFIED	-	1185.0	
-1588.0	BASE OF PENN.		UNCLASSIFIED	-	2160.0	



**MAPID:** 06501161000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 29    **QUARTERS/FOOTAGES:** 330' N line, 990' W line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.684547    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.979396    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 532.0    **LOGGED (FT.):** 870.0    **LOG TYPE:** Electric Log  
**SOURCE:**    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-222.0	MODESTO	PIASA	LIMESTONE	6.0	754.0	
-228.0	MODESTO		SHALE	13.0	760.0	
-241.0	CARBONDALE	DANVILLE	COAL	1.5	773.0	
-242.5	CARBONDALE		SHALE & SANDSTONE	26.5	774.5	
-269.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	801.0	
-275.0	CARBONDALE	LAWSON	SILTY SHALE	42.0	807.0	
-317.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	849.0	
-318.0	CARBONDALE		CLAYSTONE & SHALE	3.0	850.0	
-321.0	CARBONDALE	BRERETON	LIMESTONE	8.5	853.0	
-329.5	CARBONDALE	ANNA	BLACK SHALE	2.5	861.5	
-332.0	CARBONDALE	HERRIN	COAL	6.0	864.0	

**MAPID:** 06590004000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 29    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.676441    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.967268    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	7.0		

**MAPID:** 06590005000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 29    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.686512    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.969988    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

MAPID: 06500775000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 30 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW SE

QUADRANGLE: AKIN LONGITUDE: -88.696145 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.97026 DATE COLLECTED:

SURFACE ELEVATION (FT.): 536.0 LOGGED (FT.): 3295.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-218.0	CARBONDALE	DANVILLE	COAL	-	754.0	
-229.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SILTSTONE	10.0	765.0	
-241.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	777.0	
-260.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	14.0	796.0	
-294.0	CARBONDALE	HERRIN	COAL	2.0	830.0	
-371.0	CARBONDALE	SPRINGFIELD	COAL	5.0	907.0	SHALE & SILTSTONE ROOF
-428.0	CARBONDALE	HOUCHIN CREEK	COAL	-	964.0	

MAPID: 06501704000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 30 QUARTERS/FOOTAGES: 990' S line, 1650' W line

QUADRANGLE: AKIN LONGITUDE: -88.700716 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.96845 DATE COLLECTED:

SURFACE ELEVATION (FT.): 540.0 LOGGED (FT.): 870.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-209.0	MODESTO	PIASA	LIMESTONE	5.0	749.0	
-214.0	MODESTO		SILTY SHALE	11.0	754.0	
-225.0	CARBONDALE	DANVILLE	COAL	2.0	765.0	
-227.0	CARBONDALE		SHALE & SANDSTONE	17.0	767.0	
-244.0	CARBONDALE	ALLENBY	BONE COAL	0.5	784.0	
-244.5	CARBONDALE		CLAYSTONE & SHALE	5.5	784.5	
-250.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	790.0	
-253.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	793.0	
-261.0	CARBONDALE	LAWSON	COAL	1.0	801.0	
-262.0	CARBONDALE	LAWSON	SILTY SHALE	15.0	802.0	
-277.0	CARBONDALE	LAWSON	SANDSTONE	8.0	817.0	
-285.0	CARBONDALE	LAWSON	GRAY SHALE	16.0	825.0	
-301.0	CARBONDALE	BRERETON	LIMESTONE	5.0	841.0	
-306.0	CARBONDALE	ANNA	BLACK SHALE	3.0	846.0	
-309.0	CARBONDALE	ENERGY	UNKNOWN	11.0	849.0	
-320.0	CARBONDALE	HERRIN	COAL	10.0	860.0	

**MAPID:** 06500742000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.689361    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.959249    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 539.0    **LOGGED (FT.):** 3445.0    **LOG TYPE:** Electric Log  
**SOURCE:** MITCHELL, Q. B.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-218.0	CARBONDALE	DANVILLE	COAL	-	757.0	
-229.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	768.0	
-245.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	784.0	
-269.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	808.0	
-304.0	CARBONDALE	HERRIN	COAL	5.0	843.0	
-334.0	CARBONDALE	BRIAR HILL	COAL	-	873.0	
-341.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	7.0	880.0	
-384.0	CARBONDALE	SPRINGFIELD	COAL	6.0	923.0	SHALE & SILTSTONE ROOF
-411.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	23.0	950.0	
-437.0	CARBONDALE	HOUCHIN CREEK	COAL	-	976.0	

**MAPID:** 06501740000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 1650' N line, 2310' E line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.696265    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.961134    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 508.0    **LOGGED (FT.):** 819.5    **LOG TYPE:** Electric Log  
**SOURCE:**    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-195.5	MODESTO	PIASA	LIMESTONE	5.0	703.5	
-200.5	MODESTO		SHALE	11.0	708.5	
-211.5	CARBONDALE	DANVILLE	COAL	1.5	719.5	
-213.0	CARBONDALE		SHALE & SANDSTONE	18.5	721.0	
-231.5	CARBONDALE	ALLENBY	BONE COAL	1.0	739.5	
-232.5	CARBONDALE		CLAYSTONE & SHALE	9.0	740.5	
-241.5	CARBONDALE	LAWSON	SILTY SHALE	5.0	749.5	
-246.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	754.5	
-261.5	CARBONDALE	LAWSON	SANDSTONE	33.0	769.5	
-294.5	CARBONDALE		SHALE	5.0	802.5	
-299.5	CARBONDALE	BRERETON	LIMESTONE	6.5	807.5	
-306.0	CARBONDALE	ANNA	BLACK SHALE	1.0	814.0	
-307.0	CARBONDALE	HERRIN	COAL	4.5	815.0	

MAPID: 06500776000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW

QUADRANGLE: AKIN LONGITUDE: -88.682425 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.959263 DATE COLLECTED:

SURFACE ELEVATION (FT.): 601.0 LOGGED (FT.): 3521.0 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-207.0	CARBONDALE	DANVILLE	COAL	-	808.0	
-213.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	16.0	814.0	
-237.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	838.0	
-263.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	14.0	864.0	
-296.0	CARBONDALE	HERRIN	COAL	5.0	897.0	
-329.0	CARBONDALE	BRIAR HILL	COAL	-	930.0	
-387.0	CARBONDALE	SPRINGFIELD	COAL	7.0	988.0	SHALE & SILTSTONE ROOF
-421.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1022.0	

MAPID: 06502446000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 32 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: AKIN LONGITUDE: -88.687064 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.964735 DATE COLLECTED:

SURFACE ELEVATION (FT.): 561.0 LOGGED (FT.): 891.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-208.0	MODESTO	PIASA	LIMESTONE	5.0	769.0	
-213.0	MODESTO		SILTY SHALE	12.5	774.0	
-225.5	CARBONDALE	DANVILLE	COAL	2.5	786.5	
-228.0	CARBONDALE		SILTY SHALE	20.0	789.0	
-248.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.0	809.0	
-255.0	CARBONDALE	LAWSON	SILTY SHALE	21.0	816.0	
-276.0	CARBONDALE	LAWSON	SANDSTONE	20.0	837.0	
-296.0	CARBONDALE	LAWSON	SHALE	12.0	857.0	
-308.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	869.0	
-309.0	CARBONDALE		SHALE	2.0	870.0	
-311.0	CARBONDALE	BRERETON	LIMESTONE	7.0	872.0	
-318.0	CARBONDALE	ANNA	BLACK SHALE	3.0	879.0	
-321.0	CARBONDALE	HERRIN	COAL	9.0	882.0	

MAPID: 06500777000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 33 QUARTERS/FOOTAGES: 990' S line, 990' W line

QUADRANGLE: AKIN LONGITUDE: -88.66619 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.95381 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 3210.0 LOG TYPE: Electric Log

SOURCE: REASOR G L WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-217.0	CARBONDALE	DANVILLE	COAL	-	695.0	
-242.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	720.0	
-262.0	CARBONDALE	ANVIL ROCK	SILTSTONE & SHALE	18.0	740.0	
-302.0	CARBONDALE	HERRIN	COAL	8.0	780.0	
-322.0	CARBONDALE	BRIAR HILL	COAL	-	800.0	
-377.0	CARBONDALE	SPRINGFIELD	COAL	7.0	855.0	SHALE & SILTSTONE ROOF
-382.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	7.0	860.0	
-410.0	CARBONDALE	HOUCHIN CREEK	COAL	-	888.0	

MAPID: 06500777000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 33 QUARTERS/FOOTAGES: 990' S line, 990' W line

QUADRANGLE: AKIN LONGITUDE: -88.66619 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.95381 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 790.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-199.0	MODESTO	PIASA	LIMESTONE	5.0	677.0	
-204.0	MODESTO		SHALE	13.0	682.0	
-217.0	CARBONDALE	DANVILLE	COAL	1.5	695.0	
-218.5	CARBONDALE		SILTY SHALE	17.5	696.5	
-236.0	CARBONDALE	ALLENBY	BONE COAL	1.0	714.0	
-237.0	CARBONDALE		CLAYSTONE & SHALE	7.0	715.0	
-244.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	722.0	
-250.0	CARBONDALE	LAWSON	SILTY SHALE	37.0	728.0	
-287.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	765.0	
-288.0	CARBONDALE		SHALE	3.0	766.0	
-291.0	CARBONDALE	BRERETON	LIMESTONE	8.0	769.0	
-299.0	CARBONDALE	ANNA	BLACK SHALE	3.0	777.0	
-303.0	CARBONDALE	HERRIN	COAL	9.0	781.0	

MAPID: 06500778000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 34 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SE

QUADRANGLE: AKIN LONGITUDE: -88.636046 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.95195 DATE COLLECTED:

SURFACE ELEVATION (FT.): 583.0 LOGGED (FT.): 3336.0 LOG TYPE: Electric Log

SOURCE: GULF REFINING CO-EPD WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-229.0	CARBONDALE	DANVILLE	COAL	-	812.0	
-259.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	842.0	
-275.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	5.0	858.0	
-315.0	CARBONDALE	HERRIN	COAL	10.0	898.0	
-339.0	CARBONDALE	BRIAR HILL	COAL	-	922.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	7.0	953.0	SHALE & SILTSTONE ROOF
-435.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1018.0	

MAPID: 06501119000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 34 QUARTERS/FOOTAGES: 2310' S line, 330' W line

QUADRANGLE: AKIN LONGITUDE: -88.649775 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.957403 DATE COLLECTED:

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 900.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-200.0	MODESTO	PIASA	LIMESTONE	5.0	780.0	
-205.0	MODESTO		SHALE	18.0	785.0	
-223.0	CARBONDALE	DANVILLE	COAL	2.0	803.0	
-225.0	CARBONDALE		SHALE	22.0	805.0	
-247.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	827.0	
-253.0	CARBONDALE	LAWSON	SILTY SHALE	9.0	833.0	
-262.0	CARBONDALE	LAWSON	COAL	1.0	842.0	
-263.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	8.0	843.0	
-271.0	CARBONDALE	LAWSON	SHALE	25.0	851.0	
-296.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	876.0	
-297.0	CARBONDALE		SHALE	4.0	877.0	
-301.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	881.0	
-304.0	CARBONDALE	ANNA	SHALE	6.0	884.0	
-310.0	CARBONDALE	HERRIN	COAL	10.0	890.0	

**MAPID:** 06590015000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.648665    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.95542    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.5	

**MAPID:** 06590016000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 34    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.645103    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.958561    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.8	

**MAPID:** 06500050000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 5E    **SECTION:** 35    **QUARTERS/FOOTAGES:** 2310' S line, 1650' E line  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.61998    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.957385    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 500.0    **LOGGED (FT.):** 5000.0    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL, MOORE M C 0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-295.0	CARBONDALE	HERRIN	COAL	6.0	795.0
-368.0	CARBONDALE	SPRINGFIELD	COAL	4.0	868.0
-1944.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2444.0

MAPID: 06500050000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.61998 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.957385 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 806.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-198.0	MODESTO	PIASA	LIMESTONE	4.0	698.0
-202.0	MODESTO		SHALE & SANDSTONE	20.0	702.0
-222.0	CARBONDALE	DANVILLE	COAL	3.0	722.0
-225.0	CARBONDALE		SHALE & SANDSTONE	27.0	725.0
-252.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	752.0
-260.0	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	30.0	760.0
-290.0	CARBONDALE	LAWSON	BLACK SHALE	1.0	790.0
-291.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	791.0
-292.0	CARBONDALE	BRERETON	LIMESTONE	4.0	792.0
-296.0	CARBONDALE	ANNA	BLACK SHALE	4.0	796.0
-300.0	CARBONDALE	HERRIN	COAL	6.0	800.0

MAPID: 06500050000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.61998 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.957385 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 3420.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL CO., THE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-294.0	CARBONDALE	HERRIN	COAL	-	794.0
-365.0	CARBONDALE	SPRINGFIELD	COAL	5.0	865.0 SHALE ROOF
-443.0	CARBONDALE	HOUCHIN CREEK	COAL	-	943.0



MAPID: 06500050000C    VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 35    QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.61998    GEOLOGIST: HINES

CONFIDENTIAL: N    LATITUDE: 37.957385    DATE COLLECTED:

SURFACE ELEVATION (FT.):    LOGGED (FT.): 3420.0    LOG TYPE: Survey Sample Study

SOURCE: OHIO OIL CO., THE    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

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MAPID: 06500050000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 5E    SECTION: 35    QUARTERS/FOOTAGES: 2310' S line, 1650' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.61998    GEOLOGIST: MCCracken

CONFIDENTIAL: N    LATITUDE: 37.957385    DATE COLLECTED: 10 / 0 / 1942

SURFACE ELEVATION (FT.): 500.0    LOGGED (FT.): 884.0    LOG TYPE: Survey Sample Study

SOURCE: OHIO OIL CO.    6    WELL TYPE: Dry Hole

COMMENT: SAMPLE STUDY CONTROL WELL #71

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0			NO RECORD	660.0	0.0	
-160.0			SILTSTONE	6.0	660.0	
-166.0			BLACK SHALE	2.0	666.0	
-168.0			COAL	3.0	668.0	THICKNESS ESTIMATED
-171.0			UNDERCLAY	1.0	671.0	
-172.0			SHALE	5.0	672.0	
-177.0			SANDSTONE	13.0	677.0	
-190.0			SHALE	8.0	690.0	
-198.0			LIMESTONE	4.0	698.0	
-202.0			SILTSTONE	2.0	702.0	
-204.0			SANDSTONE	6.0	704.0	
-210.0			SHALE	10.0	710.0	
-220.0			BLACK SHALE	2.0	720.0	
-222.0	CARBONDALE	DANVILLE	COAL	3.0	722.0	APPROXIMATE THICKNESS
-225.0	CARBONDALE		UNDERCLAY	1.0	725.0	
-226.0	CARBONDALE		SANDSTONE	4.0	726.0	
-230.0	CARBONDALE		SHALE	22.0	730.0	
-252.0	CARBONDALE		LIMESTONE	8.0	752.0	
-260.0	CARBONDALE		SANDSTONE	30.0	760.0	
-290.0	CARBONDALE		BLACK SHALE	1.0	790.0	SILTY
-291.0	CARBONDALE	JAMESTOWN	COAL	1.0	791.0	APPROXIMATE THICKNESS
-292.0	CARBONDALE		BLACK SHALE	4.0	792.0	
-296.0	CARBONDALE		BLACK SHALE	4.0	796.0	
-300.0	CARBONDALE	HERRIN	COAL	6.0	800.0	APPROXIMATE THICKNESS
-306.0	CARBONDALE		UNDERCLAY	4.0	806.0	
-310.0	CARBONDALE		SHALE	4.0	810.0	
-314.0	CARBONDALE		LIMESTONE	4.0	814.0	
-318.0	CARBONDALE		SHALE	4.0	818.0	
-322.0	CARBONDALE		SANDSTONE	26.0	822.0	
-348.0	CARBONDALE		BLACK SHALE	1.0	848.0	
-349.0	CARBONDALE	BRIAR HILL	COAL	1.0	849.0	APPROXIMATE THICKNESS
-350.0	CARBONDALE		SHALE	8.0	850.0	
-358.0	CARBONDALE		SANDSTONE	12.0	858.0	
-370.0	CARBONDALE		BLACK SHALE	2.0	870.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	4.0	872.0	APPROXIMATE THICKNESS
-376.0	CARBONDALE		UNDERCLAY	1.0	876.0	
-377.0	CARBONDALE		SHALE	7.0	877.0	

MAPID: 06500319000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: NE NE NW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.624407 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.964616 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 563.0 LOGGED (FT.): 5630.0 LOG TYPE: Electric Log  
 SOURCE: OHIO OIL, MOORE M C 0005 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-317.0	CARBONDALE	HERRIN	COAL	-	880.0	
-377.0	CARBONDALE	SPRINGFIELD	COAL	-	940.0	
-1943.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2506.0	

MAPID: 06500320000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: NE SE SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.624571 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.95374 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 530.0 LOGGED (FT.): 5300.0 LOG TYPE: Electric Log  
 SOURCE: GULF REF, PARKS M E 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.0	CARBONDALE	HERRIN	COAL	-	830.0	
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	895.0	
-1962.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2492.0	

MAPID: 06500375000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: NE SW NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.619894 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.961004 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 5070.0 LOG TYPE: Electric Log  
 SOURCE: OHIO OIL, MOORE M C 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-298.0	CARBONDALE	HERRIN	COAL	-	805.0	
-363.0	CARBONDALE	SPRINGFIELD	COAL	-	870.0	
-1948.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2455.0	

MAPID: 06500376000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.624517 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.957364 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 526.0 LOGGED (FT.): 5260.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, MOORE M C 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-294.0	CARBONDALE	HERRIN	COAL	-	820.0	
-369.0	CARBONDALE	SPRINGFIELD	COAL	-	895.0	
-1956.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2482.0	

MAPID: 06500378000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: NE SW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.62903 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.960977 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 553.0 LOGGED (FT.): 5530.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, MOORE M C 0004 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.0	CARBONDALE	HERRIN	COAL	-	853.0	
-377.0	CARBONDALE	SPRINGFIELD	COAL	-	930.0	
-1953.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2506.0	

MAPID: 06500779000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 35 QUARTERS/FOOTAGES: 315' N line, 330' E line of NW NW

QUADRANGLE: AKIN LONGITUDE: -88.628982 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.964626 DATE COLLECTED:

SURFACE ELEVATION (FT.): 527.0 LOGGED (FT.): 3447.0 LOG TYPE: Electric Log

SOURCE: GULF REFINING CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-230.0	CARBONDALE	DANVILLE	COAL	-	757.0	
-261.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	788.0	
-315.0	CARBONDALE	HERRIN	COAL	7.0	842.0	
-347.0	CARBONDALE	BRIAR HILL	COAL	-	874.0	
-383.0	CARBONDALE	SPRINGFIELD	COAL	7.0	910.0	SHALE & SILTSTONE ROOF
-407.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	8.0	934.0	
-461.0	CARBONDALE	HOUCHIN CREEK	COAL	-	988.0	

MAPID: 06500519000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 36 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.606193 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.957361 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 461.0 LOGGED (FT.): 4610.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, MOORE M C 0007 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-285.0	CARBONDALE	HERRIN	COAL	-	746.0	
-374.0	CARBONDALE	SPRINGFIELD	COAL	-	835.0	
-1959.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2420.0	

MAPID: 06500780000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE

QUADRANGLE: WALPOLE LONGITUDE: -88.603819 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.964656 DATE COLLECTED:

SURFACE ELEVATION (FT.): 539.0 LOGGED (FT.): 3495.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-221.0	CARBONDALE	DANVILLE	COAL	-	760.0	
-257.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	796.0	
-293.0	CARBONDALE	HERRIN	COAL	4.0	832.0	
-331.0	CARBONDALE	BRIAR HILL	COAL	-	870.0	
-333.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	10.0	872.0	
-388.0	CARBONDALE	SPRINGFIELD	COAL	4.0	927.0	SHALE & SILTSTONE ROOF
-464.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1003.0	

MAPID: 06501153000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 36 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.59706 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.95187 DATE COLLECTED: 6 / 0 / 1957

SURFACE ELEVATION (FT.): 433.0 LOGGED (FT.): 1970.0 LOG TYPE: Electric Log

SOURCE: OIL MANAGEMENT, INC. WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-552.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	985.0	
-610.0	SPOON	DAVIS	UNCLASSIFIED	-	1043.0	
-1537.0	BASE OF PENN.		UNCLASSIFIED	-	1970.0	

MAPID: 06501153000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 36 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.59706 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.95187 DATE COLLECTED:

SURFACE ELEVATION (FT.): 433.0 LOGGED (FT.): 710.0 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
-168.0	MODESTO	PIASA	LIMESTONE	8.0	601.0
-176.0	MODESTO		SHALE	18.0	609.0
-194.0	CARBONDALE	DANVILLE	COAL	1.0	627.0
-195.0	CARBONDALE		SHALE & SANDSTONE	34.0	628.0
-229.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	662.0
-237.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	670.0
-247.0	CARBONDALE	LAWSON	SHALE	17.0	680.0
-264.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	697.0
-265.0	CARBONDALE	BRERETON	LIMESTONE	6.0	698.0
-271.0	CARBONDALE	ANNA	BLACK SHALE	1.0	704.0
-272.0	CARBONDALE	HERRIN	COAL	5.0	705.0

MAPID: 06590034000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 36 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.602689 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.959901 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.8	

MAPID: 06590101000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 5E SECTION: 36 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.596173 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.952316 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.5	

MAPID: 06500321000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 1 QUARTERS/FOOTAGES: NW NE NE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.487913 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.03734 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OC, HALE I 0005 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-314.0	CARBONDALE	HERRIN	COAL	-	695.0
-414.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0
-1891.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2272.0

MAPID: 06500322000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 1 QUARTERS/FOOTAGES: SE SE NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.485614 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.031865 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3790.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OC, HALE I 0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-300.0	CARBONDALE	HERRIN	COAL	-	679.0
-396.0	CARBONDALE	SPRINGFIELD	COAL	-	775.0
-1863.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2242.0

MAPID: 06500323000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 1 QUARTERS/FOOTAGES: SE NE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.485651 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.028234 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3780.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OC, HALE I 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-259.0	CARBONDALE	HERRIN	COAL	-	637.0
-377.0	CARBONDALE	SPRINGFIELD	COAL	-	755.0
-1837.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2215.0

MAPID: 06503490000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 1 QUARTERS/FOOTAGES: 450' S line, 2290' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.495511 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.025254 DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 3081.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-294.0	CARBONDALE	HERRIN	COAL	8.0	677.0	
-383.0	CARBONDALE	SPRINGFIELD	COAL	4.0	766.0	SHALE ROOF
-444.0	CARBONDALE	HOUCHIN CREEK	COAL	-	827.0	

MAPID: 06503490000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 1 QUARTERS/FOOTAGES: 450' S line, 2290' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.495511 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.025254 DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 686.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-216.5	CARBONDALE	DANVILLE	COAL	1.5	599.5	
-218.0	CARBONDALE		SHALE & SANDSTONE	19.0	601.0	
-237.0	CARBONDALE	ALLENBY	BONE COAL	1.0	620.0	
-238.0	CARBONDALE		CLAYSTONE & SHALE	7.0	621.0	
-245.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	628.0	
-249.0	CARBONDALE	LAWSON	SILTY SHALE	35.0	632.0	
-284.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	667.0	
-285.0	CARBONDALE	BRERETON	LIMESTONE	6.0	668.0	
-291.0	CARBONDALE	ANNA	BLACK SHALE	3.0	674.0	
-294.0	CARBONDALE	HERRIN	COAL	9.0	677.0	



MAPID: 06500324000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 2 QUARTERS/FOOTAGES: NW SW SW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.520389 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.026982 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 418.0 LOGGED (FT.): 4180.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, EDWARD ADA0004 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-222.0	CARBONDALE	HERRIN	COAL	-	640.0
-322.0	CARBONDALE	SPRINGFIELD	COAL	-	740.0
-1881.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2299.0

MAPID: 06500325000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 2 QUARTERS/FOOTAGES: SW SW NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.520233 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.032281 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 4050.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OC, GRIMES J F0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-232.0	CARBONDALE	HERRIN	COAL	-	637.0
-327.0	CARBONDALE	SPRINGFIELD	COAL	-	732.0
-1887.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2292.0

MAPID: 06500326000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 2 QUARTERS/FOOTAGES: NW NW NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.520074 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.037581 DATE COLLECTED: 0 / 0 / 1940  
 SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 3980.0 LOG TYPE: Electric Log  
 SOURCE: OHIO OIL, GRIMES R E0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-252.0	CARBONDALE	HERRIN	COAL	-	650.0
-352.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0
-1887.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2285.0

MAPID: 06500379000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 2 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.515925 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.025199 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 419.0 LOGGED (FT.): 4190.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, EDWARD ADA0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-225.0	CARBONDALE	HERRIN	COAL	-	644.0	
-323.0	CARBONDALE	SPRINGFIELD	COAL	-	742.0	
-1975.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2394.0	

MAPID: 06500595000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.518056 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.030482 DATE COLLECTED:

SURFACE ELEVATION (FT.): 414.0 LOGGED (FT.): 3077.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-236.0	CARBONDALE	HERRIN	COAL	-	650.0	
-331.0	CARBONDALE	SPRINGFIELD	COAL	4.0	745.0	SHALE ROOF
-404.0	CARBONDALE	HOUCHIN CREEK	COAL	-	818.0	

MAPID: 06523816000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 2 QUARTERS/FOOTAGES: 470' N line, 1078' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.506969 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.03714 DATE COLLECTED: 4 / 12 / 1974

SURFACE ELEVATION (FT.): 388.5 LOGGED (FT.): 778.7 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-80 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-197.5	CARBONDALE	DANVILLE	COAL	3.5	586.0	
-262.5	CARBONDALE	HERRIN	COAL	6.5	651.0	
-303.5	CARBONDALE	BRIAR HILL	BLACK SHALE	1.5	692.0	LOGBOOK SAYS "#5A ?", "BLACK SHALE"
-356.5	CARBONDALE	SPRINGFIELD	COAL	5.5	745.0	

MAPID: 06523816000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 2 QUARTERS/FOOTAGES: 470' N line, 1078' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.506969

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.03714

DATE COLLECTED:

SURFACE ELEVATION (FT.): 389.0

LOGGED (FT.): 657.5

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-80

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-197.0	CARBONDALE	DANVILLE	COAL	3.5	586.0
-200.5	CARBONDALE		SHALE & SANDSTONE	12.0	589.5
-212.5	CARBONDALE	ALLENBY	BONE COAL	0.5	601.5
-213.0	CARBONDALE		CLAYSTONE & SHALE	2.5	602.0
-215.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	604.5
-221.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	16.0	610.5
-237.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	4.0	626.5
-241.5	CARBONDALE	LAWSON	GRAY SHALE	15.0	630.5
-256.5	CARBONDALE	BRERETON	LIMESTONE	4.4	645.5
-260.9	CARBONDALE	ANNA	BLACK SHALE	1.1	649.9
-262.0	CARBONDALE	HERRIN	COAL	6.5	651.0

MAPID: 06500327000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: THACKERAY LONGITUDE: -88.52465

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.03762

DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 401.0

LOGGED (FT.): 4010.0

LOG TYPE: Electric Log

SOURCE: TEXAS CO, EDWARD G C0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-254.0	CARBONDALE	HERRIN	COAL	-	655.0
-349.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0
-1878.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2279.0

MAPID: 06500328000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.536195 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.03595 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 430.0 LOGGED (FT.): 4300.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, PITTMAN E 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-255.0	CARBONDALE	HERRIN	COAL	-	685.0	
-345.0	CARBONDALE	SPRINGFIELD	COAL	-	775.0	
-2080.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2510.0	

MAPID: 06500329000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.531875 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.025218 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 4270.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, MOORE A B 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-253.0	CARBONDALE	HERRIN	COAL	-	680.0	
-333.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1893.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2320.0	

MAPID: 06500330000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: NW NW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.529444 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.030554 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 4310.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, MATHENY O 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-249.0	CARBONDALE	HERRIN	COAL	-	680.0	
-329.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1871.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2302.0	

MAPID: 06500331000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: NW SE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.524955 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.02699 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 449.0 LOGGED (FT.): 4490.0 LOG TYPE: Electric Log  
 SOURCE: OHIO OIL, MATHENY O 0007 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-216.0	CARBONDALE	HERRIN	COAL	-	665.0
-316.0	CARBONDALE	SPRINGFIELD	COAL	-	765.0
-1881.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2330.0

MAPID: 06500332000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: SW NE SW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.534075 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.02879 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 4240.0 LOG TYPE: Electric Log  
 SOURCE: OHIO OIL, MOORE A B 0004 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-266.0	CARBONDALE	HERRIN	COAL	-	690.0
-356.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0
-1891.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2315.0

MAPID: 06500380000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: NW NW NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.52925 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.037667 DATE COLLECTED: 0 / 0 / 1940  
 SURFACE ELEVATION (FT.): 408.0 LOGGED (FT.): 4080.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, HOOD C W 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-264.0	CARBONDALE	HERRIN	COAL	-	672.0
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0
-1882.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2290.0

MAPID: 06500381000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: NE SW NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.52705 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.034092 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 409.0 LOGGED (FT.): 4090.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, HOOD C W 0009 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-249.0	CARBONDALE	HERRIN	COAL	-	658.0	
-341.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1873.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2282.0	

MAPID: 06500382000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: NE SW SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.536409 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.027007 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 4170.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, FLINT C A 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-263.0	CARBONDALE	HERRIN	COAL	-	680.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1905.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2322.0	

MAPID: 06502505000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 3 QUARTERS/FOOTAGES: 953' S line, 330' E line of NW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.531648 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.034084 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 3074.0 LOG TYPE: Electric Log  
 SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-256.0	CARBONDALE	HERRIN	COAL	5.0	680.0	
-286.0	CARBONDALE	BRIAR HILL	COAL	-	710.0	
-348.0	CARBONDALE	SPRINGFIELD	COAL	5.0	772.0	GRAY SHALE ROOF
-424.0	CARBONDALE	HOUCHIN CREEK	COAL	-	848.0	

MAPID: 06500010000C    VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 4    QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: SPRINGERTON    LONGITUDE: -88.540761    GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 38.037764    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 459.1    LOGGED (FT.): 4591.0    LOG TYPE: Drillers Log

SOURCE: MORRISON C 001, PITTMAN F 0001    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-258.9	CARBONDALE	HERRIN	COAL	6.0	718.0	

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MAPID: 06500036000C    VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 4    QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: BELLE PRAIRIE CITY    LONGITUDE: -88.540761    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.037764    DATE COLLECTED:

SURFACE ELEVATION (FT.): 458.6    LOGGED (FT.): 802.5    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    11    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.6	PLEISTOCENE		CLAY	10.0	0.0	
448.6	PLEISTOCENE		CLAY	16.0	10.0	
432.6	BOND		SHALE	12.0	26.0	BLUE
420.6	BOND		SHALE	1.0	38.0	BLACK
419.6	BOND		COAL	1.0	39.0	
418.6	BOND		UNDERCLAY	1.0	40.0	
417.6	BOND		SHALE	4.5	41.0	
413.1	BOND		SHALE	4.5	45.5	BLUE
408.6	BOND		LIMESTONE	4.0	50.0	
404.6	BOND		SHALY LIMESTONE	8.0	54.0	
396.6	BOND		SHALE	18.0	62.0	
378.6	BOND		SHALE	3.0	80.0	
375.6	BOND		SHALE	1.0	83.0	RED
374.6	BOND		SHALE	31.0	84.0	
343.6	BOND		SHALE	8.0	115.0	BLUE
335.6	BOND		COAL	2.0	123.0	
333.6	BOND		SHALE	16.0	125.0	
317.6	BOND		COAL	1.0	141.0	
316.6	BOND		SHALE	19.0	142.0	
297.6	BOND		LIMESTONE	5.0	161.0	
292.6	BOND		SHALE	8.0	166.0	
284.6	BOND		SHALE	20.0	174.0	
264.6	BOND		SHALE	5.0	194.0	
259.6	BOND	CARTHAGE	LIMESTONE	4.0	199.0	
255.6	MODESTO		SANDSTONE	10.0	203.0	
245.6	MODESTO		SHALE	66.0	213.0	
179.6	MODESTO		SHALE	29.0	279.0	BLUE
150.6	MODESTO		SHALE	8.0	308.0	DARK
142.6	MODESTO		LIMESTONE	1.0	316.0	
141.6	MODESTO		SHALE	16.0	317.0	BLUE
125.6	MODESTO		SHALE	10.0	333.0	
115.6	MODESTO		SANDSTONE	87.0	343.0	
28.6	MODESTO		SHALE	25.0	430.0	BLUE
3.6	MODESTO		SHALE	5.0	455.0	BLACK
-1.4	MODESTO	CHAPEL	COAL	1.3	460.0	
-2.7	MODESTO		SHALE	4.7	461.3	BLUE
-7.4	MODESTO		SHALE	23.0	466.0	
-30.4	MODESTO		SANDSTONE	57.0	489.0	
-87.4	MODESTO		SHALE	9.0	546.0	BLUE



-96.4	MODESTO		SHALE	8.0	555.0	BLUE
-104.4	MODESTO		SHALE	5.0	563.0	
-109.4	MODESTO		SHALE	10.0	568.0	BLUE
-119.4	MODESTO		SHALE	0.8	578.0	BLACK
-120.2	MODESTO		COAL	0.7	578.8	
-120.9	MODESTO		UNDERCLAY	0.5	579.5	
-121.4	MODESTO		SHALE	5.0	580.0	
-126.4	MODESTO		SHALY LIMESTONE	18.0	585.0	
-144.4	MODESTO		SHALE	37.0	603.0	
-181.4	MODESTO		SHALE	9.0	640.0	BLUE
-190.4	MODESTO		SHALE	4.0	649.0	BLACK
-194.4	CARBONDALE	DANVILLE	COAL	2.0	653.0	
-196.4	CARBONDALE		SHALE	5.0	655.0	
-201.4	CARBONDALE		SHALE	7.0	660.0	
-208.4	CARBONDALE		SHALE	3.0	667.0	
-211.4	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	5.0	670.0	
-216.4	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	675.0	
-222.4	CARBONDALE		SHALE	7.0	681.0	
-229.4	CARBONDALE		SHALE	4.0	688.0	BLUE
-233.4	CARBONDALE		SANDSTONE	6.0	692.0	
-239.4	CARBONDALE		SHALE	8.0	698.0	
-247.4	CARBONDALE		SHALE	5.0	706.0	
-252.4	CARBONDALE	CONANT	LIMESTONE	1.0	711.0	
-253.4	CARBONDALE	JAMESTOWN	COAL	0.3	712.0	
-253.7	CARBONDALE		SHALE	3.7	712.3	DARK
-257.4	CARBONDALE	BRERETON	LIMESTONE	2.8	716.0	BLUE
-260.2	CARBONDALE	HERRIN	COAL	4.2	718.8	
-264.4	CARBONDALE	HERRIN	COAL	2.8	723.0	
-267.2	CARBONDALE		UNDERCLAY	1.8	725.8	
-268.9	CARBONDALE		SHALE	10.5	727.5	
-279.4	CARBONDALE		SHALE	7.0	738.0	BLUE
-286.4	CARBONDALE		SHALE	6.0	745.0	BLACK
-292.4	CARBONDALE		SHALE	12.0	751.0	BLUE
-304.4	CARBONDALE	ST. DAVID	LIMESTONE	1.0	763.0	
-305.4	CARBONDALE	TURNER MINE	SHALE	2.0	764.0	BLACK
-307.4	CARBONDALE	DYKERSBURG	SHALE	16.0	766.0	
-323.4	CARBONDALE	DYKERSBURG	SHALE	15.0	782.0	BLUE
-338.4	CARBONDALE	SPRINGFIELD	COAL	5.0	797.0	
-343.4	CARBONDALE		UNDERCLAY	0.5	802.0	

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**MAPID:** 06500036000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 4    **QUARTERS/FOOTAGES:** NE NE NE  
**QUADRANGLE:** BELLE PRAIRIE CITY    **LONGITUDE:** -88.540761    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.037764    **DATE COLLECTED:** 0 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 458.6    **LOGGED (FT.):** 4586.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMCOKECHEM0011, PITTMAN    **WELL TYPE:** Coal Test  
**COMMENT:** EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-260.4	CARBONDALE	HERRIN	COAL	6.4	719.0	
-338.4	CARBONDALE	SPRINGFIELD	COAL	5.0	797.0	

**MAPID:** 06500333000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 4    **QUARTERS/FOOTAGES:** SE SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.545507    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.032359    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 472.0    **LOGGED (FT.):** 4720.0    **LOG TYPE:** Electric Log  
**SOURCE:** CAMERON OC, ROTH D S 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-273.0	CARBONDALE	HERRIN	COAL	-	745.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	-	825.0	
-1904.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2376.0	

**MAPID:** 06500334000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 4    **QUARTERS/FOOTAGES:** NW SW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.547914    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.026979    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 439.0    **LOGGED (FT.):** 4390.0    **LOG TYPE:** Electric Log  
**SOURCE:** EASON OC, HOGAN P T 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-246.0	CARBONDALE	HERRIN	COAL	-	685.0	
-326.0	CARBONDALE	SPRINGFIELD	COAL	-	765.0	
-1907.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2346.0	

MAPID: 06500892000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 4 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.55475 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.032325 DATE COLLECTED:

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 3269.0 LOG TYPE: Electric Log

SOURCE: MCINTYRE, PAUL J. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-316.0	CARBONDALE	HERRIN	COAL	7.0	753.0	
-336.0	CARBONDALE	BRIAR HILL	COAL	-	773.0	
-383.0	CARBONDALE	SPRINGFIELD	COAL	4.0	820.0	SHALE & SILTSTONE ROOF
-463.0	CARBONDALE	HOUCHIN CREEK	COAL	-	900.0	

MAPID: 06501831000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 4 QUARTERS/FOOTAGES: 1320' S line, 1320' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.544435 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.027952 DATE COLLECTED: 4 / 5 / 1972

SURFACE ELEVATION (FT.): 422.0 LOGGED (FT.): 771.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 63-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
135.5			COAL	2.3	286.5	
-248.1	CARBONDALE	HERRIN	COAL	6.4	670.1	
-339.5	CARBONDALE	SPRINGFIELD	COAL	5.0	761.5	

MAPID: 06501831000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 4 QUARTERS/FOOTAGES: 1320' S line, 1320' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.544435 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.027952 DATE COLLECTED:

SURFACE ELEVATION (FT.): 422.0 LOGGED (FT.): 676.4 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 63-C WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-181.0	CARBONDALE	DANVILLE	COAL	0.8	603.0	
-181.8	CARBONDALE		CLAYSTONE & SHALE	20.7	603.8	
-202.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	624.5	
-205.0	CARBONDALE	LAWSON	SANDSTONE	17.0	627.0	
-222.0	CARBONDALE	LAWSON	SILTY SHALE	19.2	644.0	
-241.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.3	663.2	
-247.5	CARBONDALE	ANNA	BLACK SHALE	0.6	669.5	
-248.0	CARBONDALE	HERRIN	COAL	6.4	670.0	

MAPID: 06500721000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.575472 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.027016 DATE COLLECTED:

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 3160.0 LOG TYPE: Electric Log

SOURCE: STEWART OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-272.0	CARBONDALE	DANVILLE	COAL	-	740.0	
-286.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	12.0	754.0	
-306.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	774.0	
-312.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	18.0	780.0	
-360.0	CARBONDALE	HERRIN	COAL	-	828.0	
-386.0	CARBONDALE	BRIAR HILL	COAL	-	854.0	
-422.0	CARBONDALE	SPRINGFIELD	COAL	5.0	890.0	SHALE & SILTSTONE ROOF
-438.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	8.0	906.0	
-504.0	CARBONDALE	HOUCHIN CREEK	COAL	-	972.0	

MAPID: 06502048000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 5 QUARTERS/FOOTAGES: 0' S line, 1980' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.569727 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.024281 DATE COLLECTED: 4 / 25 / 1972

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 824.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 64-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
391.3			COAL	1.0	33.7	
-180.0			COAL	2.5	605.0	
-238.8			COAL	2.2	663.8	
-318.0	CARBONDALE	HERRIN	COAL	6.8	743.0	
-391.2	CARBONDALE	SPRINGFIELD	COAL	4.7	816.2	

MAPID: 06502048000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 5 QUARTERS/FOOTAGES: 0' S line, 1980' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.569727 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.024281 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 749.8 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 64-C WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-238.8	CARBONDALE	DANVILLE	COAL	2.2	663.8
-241.0	CARBONDALE		CLAYSTONE & SHALE	31.1	666.0
-272.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	697.0
-274.7	CARBONDALE	LAWSON	SANDSTONE	14.3	699.7
-289.0	CARBONDALE	LAWSON	GRAY SHALE	19.0	714.0
-308.0	CARBONDALE	LAWSON	SILTY SHALE	3.8	733.0
-311.8	CARBONDALE	BRERETON	LIMESTONE	6.0	736.8
-317.8	CARBONDALE	ANNA	CALCAREOUS SHALE	0.2	742.8
-318.0	CARBONDALE	HERRIN	COAL	6.8	743.0

MAPID: 06502569000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.563959 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.034131 DATE COLLECTED:

SURFACE ELEVATION (FT.): 535.0 LOGGED (FT.): 3206.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-327.0	CARBONDALE	HERRIN	COAL	5.0	862.0
-345.0	CARBONDALE	BRIAR HILL	COAL	-	880.0
-399.0	CARBONDALE	SPRINGFIELD	COAL	4.0	934.0 SHALE & SILTSTONE ROOF
-478.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1013.0

MAPID: 06590060000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 5 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.560476 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.950555 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.1	

MAPID: 06500503000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 6 QUARTERS/FOOTAGES: NW SE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.580005 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.034184 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 514.0 LOGGED (FT.): 5140.0 LOG TYPE: Electric Log

SOURCE: KINGWOODOC, PARKER T A0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-346.0	CARBONDALE	HERRIN	COAL	-	860.0
-418.0	CARBONDALE	SPRINGFIELD	COAL	-	932.0
-1921.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2435.0

MAPID: 06501735000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 6 QUARTERS/FOOTAGES: 2310' S line, 330' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.593717 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.030234 DATE COLLECTED:

SURFACE ELEVATION (FT.): 460.0 LOGGED (FT.): 840.0 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
-250.0	MODESTO	PIASA	LIMESTONE	7.0	710.0
-257.0	MODESTO		SHALE	26.0	717.0
-283.0	CARBONDALE	DANVILLE	COAL	2.0	743.0
-285.0	CARBONDALE		SHALE & SANDSTONE	27.0	745.0
-312.0	CARBONDALE	ALLENBY	BONE COAL	1.0	772.0
-313.0	CARBONDALE		CLAYSTONE & SHALE	8.0	773.0
-321.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	781.0
-327.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	18.0	787.0
-345.0	CARBONDALE	LAWSON	SILTY SHALE	17.0	805.0
-362.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	822.0
-363.0	CARBONDALE		CLAYSTONE & SHALE	5.0	823.0
-368.0	CARBONDALE	BRERETON	LIMESTONE	5.0	828.0
-373.0	CARBONDALE	HERRIN	COAL	7.0	833.0

MAPID: 06502599000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 6 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.589131

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.032062

DATE COLLECTED:

SURFACE ELEVATION (FT.): 424.0

LOGGED (FT.): 3308.0

LOG TYPE: Electric Log

SOURCE: DUNCAN, WALTER

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-373.0	CARBONDALE	HERRIN	COAL	7.0	797.0	
-392.0	CARBONDALE	BRIAR HILL	COAL	-	816.0	
-430.0	CARBONDALE	SPRINGFIELD	COAL	5.0	854.0	SHALE & SILTSTONE ROOF
-510.0	CARBONDALE	HOUCHIN CREEK	COAL	-	934.0	

MAPID: 06500335000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 7 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.587119

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.012157

DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 424.0

LOGGED (FT.): 4240.0

LOG TYPE: Electric Log

SOURCE: TEXAS CO, DIAL COMM 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-325.0	CARBONDALE	HERRIN	COAL	-	749.0	
-401.0	CARBONDALE	SPRINGFIELD	COAL	-	825.0	
-1905.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2329.0	

MAPID: 06500336000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 7 QUARTERS/FOOTAGES: NW SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.593879

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.019325

DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 531.0

LOGGED (FT.): 5310.0

LOG TYPE: Electric Log

SOURCE: OHIO OIL, DIAL A E 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-324.0	CARBONDALE	HERRIN	COAL	-	855.0	
-394.0	CARBONDALE	SPRINGFIELD	COAL	-	925.0	
-1904.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2435.0	

MAPID: 06500484000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 7 QUARTERS/FOOTAGES: NE SW SW

QUADRANGLE: WALPOLE LONGITUDE: -88.591694 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.012099 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 431.0 LOGGED (FT.): 4310.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, JOHNSN C W0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-326.0	CARBONDALE	HERRIN	COAL	-	757.0	
-399.0	CARBONDALE	SPRINGFIELD	COAL	-	830.0	
-1891.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2322.0	

MAPID: 06502603000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.593819 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.022947 DATE COLLECTED:

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 3163.0 LOG TYPE: Electric Log

SOURCE: CALVERT & WILLIS, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-349.0	CARBONDALE	HERRIN	COAL	5.0	817.0	
-374.0	CARBONDALE	BRIAR HILL	COAL	-	842.0	
-415.0	CARBONDALE	SPRINGFIELD	COAL	5.0	883.0	SHALE & SILTSTONE ROOF
-495.0	CARBONDALE	HOUCHIN CREEK	COAL	-	963.0	



MAPID: 06502624000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.578006 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.010411 DATE COLLECTED:

SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 754.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-200.0	MODESTO	PIASA	CALCAREOUS SHALE	6.0	629.0	
-206.0	MODESTO		SHALE	31.0	635.0	
-237.0	CARBONDALE	DANVILLE	COAL	2.0	666.0	
-239.0	CARBONDALE		SHALE & SANDSTONE	20.0	668.0	
-259.0	CARBONDALE	ALLENBY	BONE COAL	1.0	688.0	
-260.0	CARBONDALE		SHALE	12.0	689.0	
-272.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	701.0	
-276.0	CARBONDALE	LAWSON	SHALE	3.0	705.0	
-279.0	CARBONDALE	LAWSON	SANDSTONE	10.0	708.0	
-289.0	CARBONDALE	LAWSON	SHALE	12.0	718.0	
-301.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	730.0	
-302.0	CARBONDALE		SHALE	8.0	731.0	
-310.0	CARBONDALE	ANNA	SHALE	8.0	739.0	
-318.0	CARBONDALE	HERRIN	COAL	7.0	747.0	

MAPID: 06501467000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.561858 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.01597 DATE COLLECTED:

SURFACE ELEVATION (FT.): 404.0 LOGGED (FT.): 3277.0 LOG TYPE: Electric Log

SOURCE: CALVERT & WILLIS, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.0	CARBONDALE	HERRIN	COAL	4.0	704.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	4.0	783.0	SHALE & SILTSTONE ROOF
-458.0	CARBONDALE	HOUCHIN CREEK	COAL	-	862.0	

MAPID: 06502630000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 8 QUARTERS/FOOTAGES: 990' S line, 1650' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.571066

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.012238

DATE COLLECTED: 6 / 0 / 1952

SURFACE ELEVATION (FT.): 407.0

LOGGED (FT.): 1860.0

LOG TYPE: Electric Log

SOURCE: STEWART OIL ETAL

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-565.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	972.0
-625.0	SPOON	DAVIS	UNCLASSIFIED	-	1032.0
-1453.0	BASE OF PENN.		UNCLASSIFIED	-	1860.0

MAPID: 06502630000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 8 QUARTERS/FOOTAGES: 990' S line, 1650' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.571066

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.012238

DATE COLLECTED:

SURFACE ELEVATION (FT.): 407.0

LOGGED (FT.): 718.0

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
-223.5	CARBONDALE	DANVILLE	COAL	1.5	630.5
-225.0	CARBONDALE		SHALE & SANDSTONE	21.0	632.0
-246.0	CARBONDALE	ALLENBY	BONE COAL	1.0	653.0
-247.0	CARBONDALE		SHALE	14.0	654.0
-261.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	668.0
-264.0	CARBONDALE	LAWSON	SHALE	5.0	671.0
-269.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	676.0
-279.0	CARBONDALE	LAWSON	SHALE	15.0	686.0
-294.0	CARBONDALE	BRERETON	LIMESTONE	6.0	701.0
-300.0	CARBONDALE	ANNA	BLACK SHALE	4.0	707.0
-304.0	CARBONDALE	HERRIN	COAL	7.0	711.0

MAPID: 06500866000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 9 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.545685 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.023393 DATE COLLECTED:

SURFACE ELEVATION (FT.): 416.0 LOGGED (FT.): 3136.0 LOG TYPE: Electric Log

SOURCE: DUNCAN, N. V., EST. OF WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-272.0	CARBONDALE	HERRIN	COAL	4.0	688.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	4.0	769.0	SHALE & SILTSTONE ROOF
-430.0	CARBONDALE	HOUCHIN CREEK	COAL	-	846.0	

MAPID: 06500941000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 9 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.54367 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.012507 DATE COLLECTED:

SURFACE ELEVATION (FT.): 399.0 LOGGED (FT.): 692.5 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-151.0	MODESTO	PIASA	CALCAREOUS SHALE	13.0	550.0	
-164.0	MODESTO		SHALE	42.5	563.0	
-206.5	CARBONDALE	DANVILLE	COAL	1.5	605.5	
-208.0	CARBONDALE		SHALE & SANDSTONE	19.0	607.0	
-227.0	CARBONDALE	ALLENBY	BONE COAL	1.0	626.0	
-228.0	CARBONDALE		CLAYSTONE & SHALE	7.0	627.0	
-235.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	634.0	
-241.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	24.0	640.0	
-265.0	CARBONDALE	LAWSON	SHALE	12.0	664.0	
-277.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	676.0	
-278.0	CARBONDALE		SHALE	3.0	677.0	
-281.0	CARBONDALE	BRERETON	LIMESTONE	5.5	680.0	
-286.5	CARBONDALE	ANNA	BLACK SHALE	1.5	685.5	
-288.0	CARBONDALE	HERRIN	COAL	5.5	687.0	

**MAPID:** 06500337000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 10    **QUARTERS/FOOTAGES:** NE NE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.531913    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.023421    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 420.0    **LOGGED (FT.):** 4200.0    **LOG TYPE:** Electric Log  
**SOURCE:** OHIO OIL, BETHELL J 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-238.0	CARBONDALE	HERRIN	COAL	-	658.0	
-325.0	CARBONDALE	SPRINGFIELD	COAL	-	745.0	
-1892.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2312.0	

**MAPID:** 06500338000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 10    **QUARTERS/FOOTAGES:** NW SW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.529666    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.019783    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 428.0    **LOGGED (FT.):** 4280.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, LAGER B 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-247.0	CARBONDALE	HERRIN	COAL	-	675.0	
-327.0	CARBONDALE	SPRINGFIELD	COAL	-	755.0	
-1896.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2324.0	

**MAPID:** 06501469000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 10    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.534234    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.021608    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 418.0    **LOGGED (FT.):** 3069.0    **LOG TYPE:** Electric Log  
**SOURCE:** ASHLAND OIL&REF. CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-242.0	CARBONDALE	HERRIN	COAL	4.0	660.0	
-344.0	CARBONDALE	SPRINGFIELD	COAL	4.0	762.0	SHALE ROOF
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	-	830.0	

MAPID: 06502678000C    VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 10    QUARTERS/FOOTAGES: 2310' S line, 2310' E line

QUADRANGLE: MCLEANSBORO

LONGITUDE: -88.529677

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.016158

DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0

LOGGED (FT.): 673.0

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	CARBONDALE	DANVILLE	COAL	2.0	588.0
-173.0	CARBONDALE		SHALE & SANDSTONE	18.0	590.0
-191.0	CARBONDALE	ALLENBY	BONE COAL	1.0	608.0
-192.0	CARBONDALE		LIMESTONE	6.0	609.0
-198.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	615.0
-203.0	CARBONDALE	LAWSON	SILTY SHALE	8.0	620.0
-211.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	22.0	628.0
-233.0	CARBONDALE	LAWSON	SHALE	5.0	650.0
-238.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	655.0
-239.0	CARBONDALE		SHALE	3.0	656.0
-242.0	CARBONDALE	BRERETON	LIMESTONE	6.0	659.0
-248.0	CARBONDALE	ANNA	SHALE	2.0	665.0
-250.0	CARBONDALE	HERRIN	COAL	6.0	667.0

MAPID: 06500011000C VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: BUNGAY LONGITUDE: -88.520469 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 38.023418 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 419.3 LOGGED (FT.): 753.9 LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & COAL 5 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
419.3	PLEISTOCENE		CLAY	12.0	0.0	
407.3	PLEISTOCENE		SAND & GRAVEL	2.0	12.0	
405.3			SHALE	17.0	14.0	
388.3			SHALE	27.0	31.0	
361.3			COAL	0.5	58.0	
360.8			SHALE	53.5	58.5	
307.3			SANDSTONE	27.0	112.0	
280.3			SHALE	73.0	139.0	
207.3			SHALE	15.0	212.0	
192.3			SHALE	2.0	227.0	BLACK
190.3			SHALE WITH LIMESTONE	10.5	229.0	
179.8			COAL	1.2	239.5	
178.6			SHALE	5.3	240.7	
173.3			SHALY SANDSTONE	31.0	246.0	
142.3			SANDSTONE	148.0	277.0	
-5.7			SHALY SANDSTONE	15.0	425.0	
-20.7			SHALE	16.0	440.0	BLUE
-36.7			SHALE	31.0	456.0	
-67.7			LIMESTONE	8.0	487.0	BLUE
-75.7			SHALE	52.0	495.0	
-127.7			SHALE	27.5	547.0	BLUE
-155.2	CARBONDALE	DANVILLE	COAL	1.3	574.5	
-156.5	CARBONDALE		SHALE	9.2	575.8	BLUE
-165.7	CARBONDALE		SANDSTONE	5.0	585.0	
-170.7	CARBONDALE		SHALE	1.5	590.0	BLACK
-172.2	CARBONDALE	ALLENBY	COAL	0.3	591.5	BONEY
-172.5	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	2.3	591.8	BLUE
-174.7	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	6.0	594.0	
-180.7	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	600.0	WHITE
-186.2	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	1.5	605.5	
-187.7	CARBONDALE		SHALY SANDSTONE	13.0	607.0	
-200.7	CARBONDALE		SHALE	11.0	620.0	
-211.7	CARBONDALE		SHALE	3.3	631.0	BLACK
-215.0	CARBONDALE	BRERETON	LIMESTONE	5.0	634.3	BLUE
-220.0	CARBONDALE	ANNA	SHALE	1.2	639.3	BLACK
-221.1	CARBONDALE	HERRIN	COAL	5.3	640.4	
-226.4	CARBONDALE		UNDERCLAY	1.3	645.7	
-227.7	CARBONDALE		SHALE	4.0	647.0	BLUE
-231.7	CARBONDALE		SHALY SANDSTONE	5.3	651.0	

-237.0	CARBONDALE		LIMESTONE	0.7	656.3	WHITE
-237.7	CARBONDALE		SHALE	16.0	657.0	BLACK
-253.7	CARBONDALE		SHALE	73.0	673.0	
-326.7	CARBONDALE		SHALE	1.4	746.0	BLUE
-328.1	CARBONDALE	SPRINGFIELD	COAL	6.1	747.4	
-334.2	CARBONDALE		UNDERCLAY	0.4	753.5	

**MAPID:** 06500011000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** NW NW NW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.520469    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.023418    **DATE COLLECTED:** 0 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 419.3    **LOGGED (FT.):** 4193.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMCOKECHEM0005, MCDONALD    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-220.7	CARBONDALE	HERRIN	COAL	5.3	640.0	
-327.7	CARBONDALE	SPRINGFIELD	COAL	6.1	747.0	

**MAPID:** 06500048000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 1980' N line, 2615' E line  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.512676    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.018837    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 403.0    **LOGGED (FT.):** 4030.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, MCDONALD E0006    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-242.0	CARBONDALE	HERRIN	COAL	5.5	645.0	
-327.0	CARBONDALE	SPRINGFIELD	COAL	4.0	730.0	
-1875.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2278.0	

MAPID: 06500048000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: 1980' N line, 2615' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512676 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.018837 DATE COLLECTED:

SURFACE ELEVATION (FT.): 403.0 LOGGED (FT.): 647.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-153.0	CARBONDALE	DANVILLE	COAL	4.0	556.0	
-157.0	CARBONDALE		ROCK	30.0	560.0	
-187.0	CARBONDALE	ALLENBY	COAL	1.0	590.0	
-188.0	CARBONDALE		BLACK SHALE	1.0	591.0	
-189.0	CARBONDALE	LAWSON	GRAY SHALE	12.0	592.0	
-201.0	CARBONDALE	LAWSON	SILTY SHALE	6.0	604.0	
-207.0	CARBONDALE	LAWSON	SILTSTONE	22.0	610.0	
-229.0	CARBONDALE	BRERETON	LIMESTONE	4.0	632.0	
-233.0	CARBONDALE	ANNA	BLACK SHALE	6.0	636.0	
-239.0	CARBONDALE	HERRIN	COAL	5.0	642.0	

MAPID: 06500048000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: 1980' N line, 2615' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512676 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.018837 DATE COLLECTED:

SURFACE ELEVATION (FT.): 403.0 LOGGED (FT.): 3076.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-237.0	CARBONDALE	HERRIN	COAL	7.0	640.0	
-322.0	CARBONDALE	SPRINGFIELD	COAL	5.0	725.0	SHALE ROOF
-381.0	CARBONDALE	HOUCHIN CREEK	COAL	-	784.0	

MAPID: 06500048000C VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: 1980' N line, 2615' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512676 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 38.018837 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3076.0 LOG TYPE: Survey Sample Study

SOURCE: TEXAS COMPANY, THE WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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



MAPID: 06500048000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 11    QUARTERS/FOOTAGES: 1980' N line, 2615' E line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.512676    GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N    LATITUDE: 38.018837    DATE COLLECTED: 10 / 0 / 1942

SURFACE ELEVATION (FT.): 403.0    LOGGED (FT.): 960.0    LOG TYPE: Survey Sample Study

SOURCE: TEXAS CO    6    WELL TYPE: Dry Hole

COMMENT: SAMPLE STUDY CONTROL WELL #69

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
403.0			NO RECORD	150.0	0.0	
253.0			SANDSTONE	28.0	150.0	INTERBEDDED WITH SHALE AND SILTSTONE
225.0			SHALE	26.0	178.0	
199.0			BLACK SHALE	2.0	204.0	COAL FRAGMENTS
197.0			SHALE	8.0	206.0	
189.0			BLACK SHALE	4.0	214.0	WITH UNDERCLAY
185.0			LIMESTONE	2.0	218.0	
183.0			SILTSTONE	8.0	220.0	WITH SHALE
175.0			SANDSTONE	36.0	228.0	WITH SHALE, LIMESTONE
139.0			SHALE	4.0	264.0	
135.0			SANDSTONE	72.0	268.0	
63.0			BLACK SHALE	3.0	340.0	
60.0			COAL	1.0	343.0	THICKNESS ESTIMATED
59.0			UNDERCLAY	2.0	344.0	
57.0			SANDSTONE	28.0	346.0	SHALE AND SILTSTONE
29.0			SHALE	5.0	374.0	
24.0			SANDSTONE	53.0	379.0	WITH SILTSTONE
-29.0			LIMESTONE	2.0	432.0	
-31.0			SANDSTONE	6.0	434.0	
-37.0			SHALE	5.0	440.0	
-42.0			BLACK SHALE	1.0	445.0	
-43.0			COAL	1.0	446.0	THICKNESS ESTIMATED
-44.0			UNDERCLAY	1.0	447.0	
-45.0			SHALE	4.0	448.0	
-49.0			LIMESTONE	2.0	452.0	
-51.0			SILTSTONE	58.0	454.0	WITH SHALE, LIMESTONE, SANDSTONE
-109.0			SHALE	43.0	512.0	
-152.0			BLACK SHALE	1.0	555.0	
-153.0	CARBONDALE	DANVILLE	COAL	4.0	556.0	APPROXIMATE THICKNESS
-157.0	CARBONDALE		UNDERCLAY	1.0	560.0	
-158.0	CARBONDALE		SHALE	29.0	561.0	
-187.0	CARBONDALE		BLACK SHALE	2.0	590.0	WITH COAL
-189.0	CARBONDALE		SHALE	18.0	592.0	
-207.0	CARBONDALE		SILTSTONE	22.0	610.0	
-229.0	CARBONDALE		LIMESTONE	4.0	632.0	WITH BLACK SHALE
-233.0	CARBONDALE		SHALE	4.0	636.0	
-237.0	CARBONDALE		BLACK SHALE	2.0	640.0	
-239.0	CARBONDALE	HERRIN	COAL	5.0	642.0	APPOXIMATE THICKNESS

-244.0	CARBONDALE		UNDERCLAY	2.0	647.0	
-246.0	CARBONDALE		SHALE	5.0	649.0	WITH LIMESTONE AND SANDSTONE
-251.0	CARBONDALE		SANDSTONE	26.0	654.0	
-277.0	CARBONDALE		SILTSTONE	43.0	680.0	WITH SHALE
-320.0	CARBONDALE		BLACK SHALE	1.0	723.0	
-321.0	CARBONDALE	SPRINGFIELD	COAL	5.0	724.0	APPROXIMATE THICKNESS
-326.0	CARBONDALE		SHALE	41.0	729.0	
-367.0	CARBONDALE		LIMESTONE	2.0	770.0	
-369.0	CARBONDALE		BLACK SHALE	48.0	772.0	WITH LIMESTONE
-417.0	CARBONDALE		SILTSTONE	40.0	820.0	
-457.0	CARBONDALE		BLACK SHALE	3.0	860.0	
-460.0	CARBONDALE		COAL	1.0	863.0	APPROXIMATE THICKNESS
-461.0	CARBONDALE		SANDSTONE	26.0	864.0	WITH BLACK SHALE
-487.0	CARBONDALE		SILTSTONE	14.0	890.0	
-501.0	CARBONDALE		LIMESTONE	1.0	904.0	
-502.0	CARBONDALE		SANDSTONE	55.0	905.0	WITH BLACK SHALE

**MAPID:** 06500104000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** NE SW SW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.518239    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.012463    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 409.0    **LOGGED (FT.):** 4090.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, BETTS BRKR0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-271.0	CARBONDALE	HERRIN	COAL	-	680.0	
-351.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1916.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2325.0	

**MAPID:** 06500339000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** NW SE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.506934    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.019726    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 387.0    **LOGGED (FT.):** 3870.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, DAVNPRT G 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-248.0	CARBONDALE	HERRIN	COAL	-	635.0	
-338.0	CARBONDALE	SPRINGFIELD	COAL	-	725.0	
-1883.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2270.0	

MAPID: 06500340000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: SW NW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.511469 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.014271 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 4050.0 LOG TYPE: Electric Log

SOURCE: FORD GEO, ANDERSON 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-240.0	CARBONDALE	HERRIN	COAL	-	645.0
-330.0	CARBONDALE	SPRINGFIELD	COAL	-	735.0
-1885.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2290.0

MAPID: 06500345000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.518227 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.017938 DATE COLLECTED: 8 / 0 / 1944

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 1860.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL CO., THE WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-503.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	928.0
-605.0	SPOON	DAVIS	UNCLASSIFIED	-	1030.0
-1435.0	BASE OF PENN.		UNCLASSIFIED	-	1860.0

MAPID: 06500345000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.518227 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.017938 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 4250.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, DURNELL F 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-235.0	CARBONDALE	HERRIN	COAL	-	660.0
-329.0	CARBONDALE	SPRINGFIELD	COAL	-	754.0
-1882.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2307.0

**MAPID:** 06500346000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** NW NE SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.515973    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.016107    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 423.0    **LOGGED (FT.):** 4230.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, MCDONALD E0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-237.0	CARBONDALE	HERRIN	COAL	-	660.0	
-327.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1886.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2309.0	

**MAPID:** 06500347000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** NE NW NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.518211    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.02341    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 411.0    **LOGGED (FT.):** 4110.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, TURNER J R0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-223.0	CARBONDALE	HERRIN	COAL	-	634.0	
-334.0	CARBONDALE	SPRINGFIELD	COAL	-	745.0	

**MAPID:** 06500348000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** NW SE SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.515985    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.012458    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 413.0    **LOGGED (FT.):** 4130.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HNDRSN COM0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-242.0	CARBONDALE	HERRIN	COAL	-	655.0	
-317.0	CARBONDALE	SPRINGFIELD	COAL	-	730.0	
-1884.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2297.0	

MAPID: 06500349000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.509223

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.010619

DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 413.0 LOGGED (FT.): 4130.0

LOG TYPE: Electric Log

SOURCE: TEXAS CO, HNDRSN COM0002

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-237.0	CARBONDALE	HERRIN	COAL	-	650.0	
-337.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1892.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2305.0	

MAPID: 06500867000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.513751

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.012452

DATE COLLECTED: 9 / 0 / 1955

SURFACE ELEVATION (FT.): 423.0 LOGGED (FT.): 2000.0

LOG TYPE: Electric Log

SOURCE: TEXACO, INC.

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-495.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	918.0	
-559.0	SPOON	DAVIS	UNCLASSIFIED	-	982.0	
-1577.0	BASE OF PENN.		UNCLASSIFIED	-	2000.0	

MAPID: 06502687000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.504685

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.023362

DATE COLLECTED:

SURFACE ELEVATION (FT.): 391.0 LOGGED (FT.): 3041.0

LOG TYPE: Electric Log

SOURCE: SHELL OIL COMPANY

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-253.0	CARBONDALE	HERRIN	COAL	5.0	644.0	
-279.0	CARBONDALE	BRIAR HILL	COAL	-	670.0	
-346.0	CARBONDALE	SPRINGFIELD	COAL	5.0	737.0	SHALE ROOF
-419.0	CARBONDALE	HOUCHIN CREEK	COAL	-	810.0	

**MAPID:** 06500105000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 12    **QUARTERS/FOOTAGES:** SE NE SW  
**QUADRANGLE:** BUNGAY    **LONGITUDE:** -88.495235    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.014023    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 391.0    **LOGGED (FT.):** 3910.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, IRWIN M 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-274.0	CARBONDALE	HERRIN	COAL	-	665.0	
-359.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1887.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2278.0	

**MAPID:** 06500341000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 12    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.502371    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.016037    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 383.0    **LOGGED (FT.):** 3830.0    **LOG TYPE:** Electric Log  
**SOURCE:** CARTER OC, MAYBERRY M0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-282.0	CARBONDALE	HERRIN	COAL	-	665.0	
-357.0	CARBONDALE	SPRINGFIELD	COAL	-	740.0	
-1889.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2272.0	

**MAPID:** 06500342000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 12    **QUARTERS/FOOTAGES:** NW SW SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.502387    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.012396    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 389.0    **LOGGED (FT.):** 3890.0    **LOG TYPE:** Electric Log  
**SOURCE:** CARTER OC, MAYBERRY J0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-261.0	CARBONDALE	HERRIN	COAL	-	650.0	
-361.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1897.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2286.0	

MAPID: 06500343000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: SE SW SW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.500012 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.010514 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 3950.0 LOG TYPE: Electric Log  
 SOURCE: CARTER OC, MAYBERRY J0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-285.0	CARBONDALE	HERRIN	COAL	-	680.0
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0
-1909.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2304.0

MAPID: 06500350000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: NE NE NE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.4857 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.022793 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log  
 SOURCE: SHELL OC, DAILY W W 0006 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-229.0	CARBONDALE	HERRIN	COAL	-	610.0
-329.0	CARBONDALE	SPRINGFIELD	COAL	-	710.0
-1830.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2211.0

MAPID: 06500351000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: NE NE SE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.485704 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.015568 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 3830.0 LOG TYPE: Electric Log  
 SOURCE: SHELL OC, DAILY W W 0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-232.0	CARBONDALE	HERRIN	COAL	-	615.0
-343.0	CARBONDALE	SPRINGFIELD	COAL	-	726.0
-1861.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2244.0

MAPID: 06500352000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: NW NW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.492848 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.015769 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 385.0 LOGGED (FT.): 3850.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, SHORT P 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-253.0	CARBONDALE	HERRIN	COAL	-	638.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	-	738.0	
-1881.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2266.0	

MAPID: 06500353000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: NW NE NW

QUADRANGLE: THACKERAY LONGITUDE: -88.497588 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.023171 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3800.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, RAWLS J E 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-278.0	CARBONDALE	HERRIN	COAL	-	658.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1888.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2268.0	

MAPID: 06500354000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: NW SW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.502359 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.019678 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 3880.0 LOG TYPE: Electric Log

SOURCE: SHELL&PURE, RAWLS J E 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-270.0	CARBONDALE	HERRIN	COAL	-	658.0	
-364.0	CARBONDALE	SPRINGFIELD	COAL	-	752.0	
-1890.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2278.0	



MAPID: 06500355000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: NW SE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.488081 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.019253 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, DAILY W W 0007 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-239.0	CARBONDALE	HERRIN	COAL	-	620.0	
-344.0	CARBONDALE	SPRINGFIELD	COAL	-	725.0	
-1845.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2226.0	

MAPID: 06500356000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: NE SW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.490471 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.012082 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 415.0 LOGGED (FT.): 4150.0 LOG TYPE: Electric Log

SOURCE: CARTER OC, JOHNSN CAR0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-257.0	CARBONDALE	HERRIN	COAL	-	672.0	
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0	
-1797.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2212.0	

MAPID: 06503479000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: 1195' N line, 2615' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.493635 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.020651 DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 3062.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-271.0	CARBONDALE	HERRIN	COAL	6.0	654.0	
-373.0	CARBONDALE	SPRINGFIELD	COAL	5.0	756.0	SHALE ROOF
-427.0	CARBONDALE	HOUCHIN CREEK	COAL	-	810.0	

MAPID: 06503479000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 12 QUARTERS/FOOTAGES: 1195' N line, 2615' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.493635 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.020651 DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 660.0 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
-183.5	CARBONDALE	DANVILLE	COAL	2.0	566.5
-185.5	CARBONDALE		SILTY SHALE	26.0	568.5
-211.5	CARBONDALE	ALLENBY	BONE COAL	0.5	594.5
-212.0	CARBONDALE		CLAYSTONE & SHALE	6.0	595.0
-218.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	5.0	601.0
-223.0	CARBONDALE	LAWSON	SILTY SHALE	34.0	606.0
-257.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	640.0
-258.0	CARBONDALE		CLAYSTONE & SHALE	3.0	641.0
-261.0	CARBONDALE	BRERETON	LIMESTONE	6.0	644.0
-267.0	CARBONDALE	ANNA	BLACK SHALE	3.0	650.0
-270.0	CARBONDALE	HERRIN	COAL	7.0	653.0

MAPID: 06500012000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 13 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.500157 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.006871 DATE COLLECTED: 0 / 0 / 1909

SURFACE ELEVATION (FT.): 396.6 LOGGED (FT.): 3966.0 LOG TYPE: Drillers Log

SOURCE: ROTRML TOM, CLARK E W WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-306.4	CARBONDALE	HERRIN	COAL	7.8	703.0
-391.4	CARBONDALE	SPRINGFIELD	COAL	5.5	788.0

MAPID: 06500012000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 13 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.500157 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.006871 DATE COLLECTED:

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 710.8 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-232.3	CARBONDALE	DANVILLE	COAL	1.5	629.3	
-233.8	CARBONDALE		GRAY SHALE	18.5	630.8	
-252.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	649.3	
-256.3	CARBONDALE	LAWSON	SANDSTONE	2.0	653.3	
-258.3	CARBONDALE	LAWSON	SILTY SHALE	7.0	655.3	
-265.3	CARBONDALE	LAWSON	SANDSTONE	14.0	662.3	
-279.3	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	4.0	676.3	
-283.3	CARBONDALE	LAWSON	SILTY SHALE	11.7	680.3	
-294.9	CARBONDALE	JAMESTOWN	COAL	0.3	691.9	
-295.3	CARBONDALE		BLACK SHALE	5.5	692.3	
-300.8	CARBONDALE	BRERETON	LIMESTONE	2.5	697.8	
-303.3	CARBONDALE	ANNA	BLACK SHALE	2.8	700.3	
-306.0	CARBONDALE	HERRIN	COAL	7.8	703.0	

MAPID: 06500012000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 13 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.500157 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.006871 DATE COLLECTED:

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 795.0 LOG TYPE: Drillers Log

SOURCE: NO COMPANY WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-306.0	CARBONDALE	HERRIN	COAL	7.8	703.0	
-391.0	CARBONDALE	SPRINGFIELD	COAL	5.5	788.0	SHALE ROOF

MAPID: 06500012000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 13    QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.500157    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.006871    DATE COLLECTED: 6 / 20 / 1918

SURFACE ELEVATION (FT.): 396.6    LOGGED (FT.): 795.0    LOG TYPE: Drillers Log

SOURCE: TOM ROTRAMEL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
396.6	PLEISTOCENE		UNCONSOLIDATED	21.5	0.0	
375.1			LIMESTONE	0.5	21.5	
374.6			SHALE WITH LIMESTONE	8.0	22.0	
366.6			SHALE	4.0	30.0	
362.6			SHALY LIMESTONE	1.0	34.0	
361.6			SHALE	6.0	35.0	
355.6			SHALE	1.0	41.0	BROWN
354.6			SHALE WITH LIMESTONE	8.0	42.0	
346.6			SHALE	4.0	50.0	
342.6			SHALE	7.0	54.0	
335.6			LIMESTONE	2.0	61.0	
333.6			SHALE	17.0	63.0	
316.6			SHALE	20.0	80.0	
296.6			SHALE	10.0	100.0	
286.6			SHALE	2.0	110.0	DARK
284.6			SHALE	1.2	112.0	
283.4			SHALE	0.7	113.2	
282.8			SHALE	8.2	113.8	
274.6			SHALE	10.0	122.0	
264.6			SANDSTONE	40.0	132.0	
224.6			SANDSTONE	51.0	172.0	
173.6			SANDSTONE	10.0	223.0	
163.6			SHALE	15.0	233.0	
148.6			SHALE	28.0	248.0	
120.6			SHALE	29.0	276.0	
91.6			SANDSTONE	28.0	305.0	
63.6			SANDSTONE	27.0	333.0	
36.6			SANDSTONE	33.0	360.0	
3.6			SANDSTONE	13.0	393.0	
-9.4			SHALE	6.0	406.0	
-15.4			SHALE	3.0	412.0	
-18.4	MODESTO	CHAPEL	COAL	0.3	415.0	
-18.7	MODESTO		SHALE	3.7	415.3	
-22.4	MODESTO		SHALE	11.0	419.0	
-33.4	MODESTO		SHALE	79.0	430.0	
-112.4	MODESTO		COAL	0.2	509.0	
-112.6	MODESTO		SHALE	2.8	509.2	
-115.4	MODESTO		SHALE	16.0	512.0	
-131.4	MODESTO		SHALY LIMESTONE	3.0	528.0	

-134.4	MODESTO		SHALE WITH LIMESTONE	9.0	531.0	
-143.4	MODESTO		SHALE	30.0	540.0	
-173.4	MODESTO		SHALE	35.0	570.0	
-208.4	MODESTO		SHALE	26.0	605.0	
-234.4	CARBONDALE	DANVILLE	COAL	1.5	631.0	
-235.9	CARBONDALE		UNDERCLAY	1.5	632.5	
-237.4	CARBONDALE		SHALE	17.0	634.0	
-254.4	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	651.0	GRAY
-258.4	CARBONDALE		SANDSTONE	2.0	655.0	
-260.4	CARBONDALE		SHALE	6.0	657.0	
-266.4	CARBONDALE		SHALE	1.0	663.0	
-267.4	CARBONDALE		SANDSTONE	14.0	664.0	
-281.4	CARBONDALE		SANDSTONE/COAL	4.0	678.0	
-285.4	CARBONDALE		SHALE	3.0	682.0	
-288.4	CARBONDALE		SHALE	6.0	685.0	
-294.4	CARBONDALE		SHALE	0.7	691.0	
-295.1	CARBONDALE	JAMESTOWN	COAL	0.3	691.7	
-295.4	CARBONDALE		SHALE	5.5	692.0	DARK
-300.9	CARBONDALE	BRERETON	LIMESTONE	2.5	697.5	
-303.4	CARBONDALE		SHALE	2.8	700.0	DARK
-306.2	CARBONDALE	HERRIN	COAL	7.8	702.8	
-313.9	CARBONDALE		UNDERCLAY	1.0	710.5	
-314.9	CARBONDALE		SHALE	48.5	711.5	
-363.4	CARBONDALE		SHALE	28.3	760.0	
-391.7	CARBONDALE	SPRINGFIELD	COAL	5.5	788.3	
-397.2	CARBONDALE		UNDERCLAY	1.3	793.8	

**MAPID:** 06500357000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 13    **QUARTERS/FOOTAGES:** SE NE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.485793    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.006527    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 412.0    **LOGGED (FT.):** 4120.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNSN R R0012    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-258.0	CARBONDALE	HERRIN	COAL	-	670.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1917.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2329.0	

MAPID: 06500358000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 13 QUARTERS/FOOTAGES: NW NW NE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.492873 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.008514 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 429.0 LOGGED (FT.): 4290.0 LOG TYPE: Electric Log  
 SOURCE: POLOTIS A, MAYBERRY 0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-273.0	CARBONDALE	HERRIN	COAL	-	702.0	
-361.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0	
-1932.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2361.0	

MAPID: 06500359000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 13 QUARTERS/FOOTAGES: NW NW NW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.502385 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.00874 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 408.0 LOGGED (FT.): 4080.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, JOHNSN J A0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-287.0	CARBONDALE	HERRIN	COAL	-	695.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1917.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2325.0	

MAPID: 06500360000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 13 QUARTERS/FOOTAGES: NW NE NW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.497627 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.008627 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 408.0 LOGGED (FT.): 4080.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, HALL J C 00C1 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-282.0	CARBONDALE	HERRIN	COAL	-	690.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0	
-1917.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2325.0	

**MAPID:** 06500363000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 13    **QUARTERS/FOOTAGES:** NW SW NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.50246    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.005069    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 406.0    **LOGGED (FT.):** 4060.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HATTON M F0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-279.0	CARBONDALE	HERRIN	COAL	-	685.0	
-374.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0	
-1934.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2340.0	

**MAPID:** 06500446000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 13    **QUARTERS/FOOTAGES:** SW SE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.488275    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.002951    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 443.0    **LOGGED (FT.):** 4430.0    **LOG TYPE:** Electric Log  
**SOURCE:** MARKHM DRC, PEARSN G E0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-287.0	CARBONDALE	HERRIN	COAL	-	730.0	
-395.0	CARBONDALE	SPRINGFIELD	COAL	-	838.0	
-1942.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2385.0	

**MAPID:** 06502738000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 13    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SE NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.497748    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.004973    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 407.0    **LOGGED (FT.):** 3136.0    **LOG TYPE:** Electric Log  
**SOURCE:** FREEZE J O    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-283.0	CARBONDALE	HERRIN	COAL	4.0	690.0	
-313.0	CARBONDALE	BRIAR HILL	COAL	-	720.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	4.0	786.0	GRAY SHALE ROOF
-451.0	CARBONDALE	HOUCHIN CREEK	COAL	-	858.0	

**MAPID:** 06590091000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 13    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.496171    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999459    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		5.5	

**MAPID:** 06500361000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 14    **QUARTERS/FOOTAGES:** NE NW NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.509241    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008794    **DATE COLLECTED:** 0 / 0 / 1940  
**SURFACE ELEVATION (FT.):** 419.0    **LOGGED (FT.):** 4190.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, WARING 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-261.0	CARBONDALE	HERRIN	COAL	-	680.0	
-351.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1910.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2329.0	

**MAPID:** 06500362000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 14    **QUARTERS/FOOTAGES:** NW NE NE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.506987    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008786    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 414.0    **LOGGED (FT.):** 4140.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNSN J A0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-251.0	CARBONDALE	HERRIN	COAL	-	665.0	
-351.0	CARBONDALE	SPRINGFIELD	COAL	-	765.0	



MAPID: 06501127000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.51377 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.008805 DATE COLLECTED:

SURFACE ELEVATION (FT.): 406.0 LOGGED (FT.): 3133.0 LOG TYPE: Electric Log

SOURCE: HOUY CARL A WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-271.0	CARBONDALE	HERRIN	COAL	7.0	677.0	
-357.0	CARBONDALE	SPRINGFIELD	COAL	5.0	763.0	SHALE ROOF
-432.0	CARBONDALE	HOUCHIN CREEK	COAL	-	838.0	

MAPID: 06503756000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 14 QUARTERS/FOOTAGES: 2640' N line, 2640' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512926 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.002426 DATE COLLECTED: 12 / 20 / 1971

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 809.0 LOG TYPE: Other Core Study

SOURCE: KERR-MCGEE COAL CO. KM-37 WELL TYPE: Coal Test

COMMENT: CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-307.3	CARBONDALE	HERRIN	COAL	6.4	707.3	
-401.3	CARBONDALE	SPRINGFIELD	COAL	4.9	801.3	

MAPID: 06503756000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 14 QUARTERS/FOOTAGES: 2640' N line, 2640' E line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.512926 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.002426 DATE COLLECTED:

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 713.4 LOG TYPE: Survey Core Study

SOURCE: KERR-MCGEE COAL CO. KM-37 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-235.4	CARBONDALE	DANVILLE	COAL	2.5	635.4
-237.9	CARBONDALE		SHALE & SANDSTONE	14.2	637.9
-252.0	CARBONDALE	ALLENBY	COAL	0.5	652.0
-252.5	CARBONDALE		CALCAREOUS SHALE	4.6	652.5
-257.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.4	657.1
-262.6	CARBONDALE	LAWSON	SILTY SHALE	33.6	662.6
-296.1	CARBONDALE	JAMESTOWN	COAL	0.3	696.1
-296.4	CARBONDALE		BLACK SHALE	3.5	696.4
-299.9	CARBONDALE	BRERETON	LIMESTONE	6.2	699.9
-306.1	CARBONDALE	ANNA	BLACK SHALE	1.0	706.1
-307.0	CARBONDALE	HERRIN	COAL	6.4	707.0

MAPID: 06590084000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 14 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.512648 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.998799 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.9	2.60% SULFUR

MAPID: 06500720000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 15 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.53213 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.005254 DATE COLLECTED:

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 3300.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-196.0	CARBONDALE	DANVILLE	COAL	-	596.0	
-222.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	622.0	
-237.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	15.0	637.0	
-278.0	CARBONDALE	HERRIN	COAL	5.0	678.0	
-364.0	CARBONDALE	SPRINGFIELD	COAL	4.0	764.0	SHALE ROOF
-440.0	CARBONDALE	HOUCHIN CREEK	COAL	-	840.0	

MAPID: 06500843000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 15 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.53914 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.008921 DATE COLLECTED: 7 / 0 / 1955

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 1890.0 LOG TYPE: Electric Log

SOURCE: SANDERS & FYE DRILLING WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-555.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	952.0	
-619.0	SPOON	DAVIS	UNCLASSIFIED	-	1016.0	
-1493.0	BASE OF PENN.		UNCLASSIFIED	-	1890.0	

MAPID: 06500843000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 15 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.53914 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.008921 DATE COLLECTED:

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 3256.0 LOG TYPE: Electric Log

SOURCE: SANDERS & FYE DRILLING WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-313.0	CARBONDALE	HERRIN	COAL	10.0	710.0	
-369.0	CARBONDALE	SPRINGFIELD	COAL	5.0	766.0	SHALE ROOF
-446.0	CARBONDALE	HOUCHIN CREEK	COAL	-	843.0	

MAPID: 06503734000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 15 QUARTERS/FOOTAGES: 0' N line, 0' E line  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.521626 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 38.009734 DATE COLLECTED: 3 / 27 / 1972  
 SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 750.3 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 61-C WELL TYPE: Coal Test  
 COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
347.0			COAL	1.0	58.0
-209.6			COAL	1.0	614.6
-273.9	CARBONDALE	HERRIN	COAL	6.2	678.9
-338.0	CARBONDALE	SPRINGFIELD	COAL	5.0	743.0

MAPID: 06503734000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 15 QUARTERS/FOOTAGES: 0' N line, 0' E line  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.521626 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 38.009734 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 685.2 LOG TYPE: Survey Core Study  
 SOURCE: PEABODY COAL CO. 61-C WELL TYPE: Coal Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-209.7	CARBONDALE	DANVILLE	COAL	1.0	614.7
-210.7	CARBONDALE		SILTY SHALE	21.4	615.7
-232.1	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	637.1
-236.3	CARBONDALE	LAWSON	GRAY SHALE	12.0	641.3
-248.3	CARBONDALE	LAWSON	SILTY SHALE	15.8	653.3
-264.1	CARBONDALE	LAWSON	CALCAREOUS SHALE	6.7	669.1
-270.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.2	675.8
-274.0	CARBONDALE	HERRIN	COAL	6.2	679.0

MAPID: 06502746000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 16 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.548259 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 38.008776 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 3292.0 LOG TYPE: Electric Log  
 SOURCE: RUTHERFORD, HOMER WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-310.0	CARBONDALE	HERRIN	COAL	8.0	710.0
-368.0	CARBONDALE	SPRINGFIELD	COAL	3.0	768.0 SHALE ROOF
-444.0	CARBONDALE	HOUCHIN CREEK	COAL	-	844.0

MAPID: 06503730000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 16 QUARTERS/FOOTAGES: 0' S line, 1320' E line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.544971 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 37.995185 DATE COLLECTED: 3 / 14 / 1972  
 SURFACE ELEVATION (FT.): 396.0 LOGGED (FT.): 770.0 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 60-C WELL TYPE: Coal Test  
 COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
300.0			COAL	1.4	96.0
99.4			COAL	1.3	296.6
-25.3			COAL	2.6	421.3
-208.5			COAL	1.0	604.5
-281.1	CARBONDALE	HERRIN	COAL	6.0	677.1
-366.9	CARBONDALE	SPRINGFIELD	COAL	4.5	762.9

MAPID: 06503730000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 16 QUARTERS/FOOTAGES: 0' S line, 1320' E line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.544971 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 37.995185 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 396.0 LOGGED (FT.): 683.0 LOG TYPE: Survey Core Study  
 SOURCE: PEABODY COAL CO. 60-C WELL TYPE: Coal Test  
 COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-208.4	CARBONDALE	DANVILLE	COAL	1.0	604.4
-209.4	CARBONDALE		CLAYSTONE & SHALE	27.1	605.4
-236.5	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	632.5
-240.7	CARBONDALE	LAWSON	GRAY SHALE	13.2	636.7
-253.9	CARBONDALE	LAWSON	SILTY SHALE	18.5	649.9
-272.4	CARBONDALE	BRERETON	LIMESTONE	6.3	668.4
-278.7	CARBONDALE	ANNA	BLACK SHALE	2.3	674.7
-281.0	CARBONDALE	HERRIN	COAL	6.0	677.0

MAPID: 06500013000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 17 QUARTERS/FOOTAGES: 2310' N line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.573508 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.00313 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 449.7 LOGGED (FT.): 4497.0 LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0002, PRINCE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-318.3	CARBONDALE	HERRIN	COAL	9.1	768.0
-375.3	CARBONDALE	SPRINGFIELD	COAL	4.6	825.0

MAPID: 06500013000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 17 QUARTERS/FOOTAGES: 2310' N line, 990' W line

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.573508 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.00313 DATE COLLECTED:

SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 777.1 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-190.0	MODESTO	PIASA	LIMESTONE & SHALE	6.5	640.0
-196.5	MODESTO		GRAY SHALE	31.5	646.5
-228.0	CARBONDALE	DANVILLE	COAL	1.9	678.0
-229.9	CARBONDALE		SHALE & SANDSTONE	21.1	679.9
-250.9	CARBONDALE	ALLENBY	BONE COAL	0.5	700.9
-251.4	CARBONDALE		CLAYSTONE & SHALE	13.0	701.4
-264.4	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	7.5	714.4
-271.9	CARBONDALE	LAWSON	SILTY SHALE	7.6	721.9
-279.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	5.1	729.5
-284.6	CARBONDALE	LAWSON	SILTY SHALE	7.3	734.6
-291.9	CARBONDALE	LAWSON	GRAY SHALE	7.8	741.9
-299.7	CARBONDALE	CONANT	CALCAREOUS SHALE	0.2	749.7
-299.8	CARBONDALE	JAMESTOWN	BONE COAL	0.2	749.8
-300.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	2.0	750.0
-302.0	CARBONDALE	ANNA	BLACK SHALE	5.3	752.0
-307.3	CARBONDALE	ENERGY	GRAY SHALE	3.0	757.3
-310.3	CARBONDALE	ENERGY	BLACK SHALE	1.0	760.3
-311.3	CARBONDALE	ENERGY	CARBONACEOUS SHALE	2.0	761.3
-313.3	CARBONDALE	ENERGY	GRAY SHALE	4.8	763.3
-318.0	CARBONDALE	HERRIN	COAL	9.1	768.0

MAPID: 06500013000C    VERSION: 3

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 17    QUARTERS/FOOTAGES: 2310' N line, 990' W line

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.573508    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 38.00313    DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.7    LOGGED (FT.): 835.0    LOG TYPE: Survey Core Study

SOURCE: AMERICAN COKE & CHEM. CO. 2    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
449.7	PLEISTOCENE		UNCLASSIFIED	30.0	0.0	
419.7	BOND		SHALE	16.3	30.0	
403.4	BOND		SHALE	4.3	46.3	
399.0	BOND		COAL	1.2	50.7	
397.9	BOND		SHALE	4.2	51.8	
393.7	BOND		SHALE	13.1	56.0	GRAY-GREEN
380.6	BOND		LIMESTONE	0.9	69.1	
379.7	BOND		SHALE	8.0	70.0	
371.7	BOND		SHALE	7.0	78.0	
364.7	BOND		SHALE	1.5	85.0	
363.2	BOND		SHALE	2.5	86.5	
360.7	BOND		SHALE	2.0	89.0	
358.7	BOND		SHALE	1.0	91.0	GREEN
357.7	BOND		SHALE	22.3	92.0	
335.4	BOND		SHALE	13.3	114.3	
322.2	BOND		SHALE	2.5	127.5	
319.7	BOND		COAL	1.3	130.0	
318.4	BOND		SHALE	2.2	131.3	
316.3	BOND		COAL	0.9	133.4	
315.4	BOND		SHALE	0.7	134.3	
314.7	BOND		SHALE	9.0	135.0	
305.7	BOND		SHALE	9.7	144.0	WITH COAL PARTINGS
296.0	BOND		COAL	0.3	153.7	
295.7	BOND		SHALE	6.3	154.0	
289.4	BOND		SHALE	47.8	160.3	
241.5	BOND		SANDSTONE	6.8	208.2	LIGHT
234.7	BOND		SANDSTONE	12.3	215.0	
222.4	BOND	CARTHAGE	LIMESTONE	4.1	227.3	
218.4	MODESTO		SHALY SANDSTONE	10.7	231.3	
207.7	MODESTO		SHALE	7.0	242.0	
200.7	MODESTO		SHALE	89.3	249.0	
111.4	MODESTO		SHALE	3.4	338.3	
108.0	MODESTO		SHALE	2.6	341.7	BLACK
105.4	MODESTO		SHALE	2.8	344.3	
102.7	MODESTO		SHALE	3.0	347.0	
99.7	MODESTO		SHALE	24.2	350.0	
75.5	MODESTO		COAL	1.2	374.2	
74.4	MODESTO		SHALE	84.4	375.3	
-10.1	MODESTO		SANDSTONE	3.8	459.8	WHITE

-13.9	MODESTO		SHALE	14.4	463.6	
-28.3	MODESTO		SHALE	4.7	478.0	DARK GRAY
-33.0	MODESTO		SHALE	5.3	482.7	BLACK
-38.3	MODESTO		SHALE	4.3	488.0	
-42.6	MODESTO	CHAPEL	SHALE/COAL	1.9	492.3	
-44.6	MODESTO		SHALE	1.6	494.3	
-46.1	MODESTO		SHALE	13.7	495.8	
-59.8	MODESTO		SHALE	19.0	509.5	CONCRETIONS NOTED
-78.8	MODESTO		SANDSTONE	32.3	528.5	WHITE
-111.1	MODESTO		SHALE	30.2	560.8	CONCRETIONS NOTED
-141.3	MODESTO		SHALE	2.4	591.0	
-143.7	MODESTO		SHALE	0.2	593.4	BLACK
-143.9	MODESTO		COAL	0.2	593.6	
-144.1	MODESTO		SHALE	1.0	593.8	
-145.1	MODESTO		SHALE	1.7	594.8	
-146.7	MODESTO		SHALE	3.6	596.4	
-150.3	MODESTO		SHALE	4.6	600.0	
-154.9	MODESTO		SHALE	6.4	604.6	
-161.3	MODESTO		SHALE	8.3	611.0	BLACK
-169.6	MODESTO		COAL	0.8	619.3	
-170.3	MODESTO		SHALE	5.3	620.0	
-175.6	MODESTO		SHALE	5.8	625.3	
-181.3	MODESTO		SANDSTONE	9.0	631.0	WHITE
-190.3	MODESTO		SHALE	2.0	640.0	
-192.3	MODESTO	PIASA	LIMESTONE	6.5	642.0	
-198.8	MODESTO		SHALE	30.3	648.5	CONCRETIONS NOTED
-229.1	MODESTO		SHALE	1.3	678.8	
-230.3	CARBONDALE	DANVILLE	COAL	1.9	680.0	
-232.2	CARBONDALE		SHALE	8.5	681.9	
-240.7	CARBONDALE		SHALY SANDSTONE	10.6	690.4	
-251.3	CARBONDALE	ALLENBY	COAL	0.5	701.0	
-251.8	CARBONDALE		SHALE WITH LIMESTONE	13.0	701.5	
-264.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.5	714.5	
-272.3	CARBONDALE		SHALE	7.6	722.0	
-279.9	CARBONDALE		SANDSTONE	5.1	729.6	LIGHT GRAY
-285.0	CARBONDALE		SHALE	7.3	734.7	
-292.3	CARBONDALE		SHALE	7.8	742.0	
-300.1	CARBONDALE	BRERETON	LIMESTONE	2.0	749.8	BLACK
-302.1	CARBONDALE	ANNA	SHALE	5.3	751.8	BLACK
-307.3	CARBONDALE		SHALE	10.8	757.0	CONCRETIONS NOTED IN LOG; DARK
-318.1	CARBONDALE	HERRIN	COAL	9.1	767.8	
-327.1	CARBONDALE		SHALE	4.2	776.8	CONCRETIONS NOTED
-331.3	CARBONDALE		SHALE & SANDSTONE	3.0	781.0	
-334.3	CARBONDALE		SANDSTONE	6.0	784.0	WHITE, LIGHT GREEN
-340.3	CARBONDALE		SHALE	2.4	790.0	
-342.7	CARBONDALE		CONGLOMERATE	2.3	792.4	BROWN
-345.0	CARBONDALE	ST. DAVID	LIMESTONE	0.9	794.7	BLACK



-345.9	CARBONDALE	TURNER MINE	SHALE	2.2	795.6	BLACK
-348.1	CARBONDALE	DYKERSBURG	SHALE	27.2	797.8	
-375.2	CARBONDALE	SPRINGFIELD	COAL	4.6	824.9	
-379.8	CARBONDALE		SHALE	5.5	829.5	

**MAPID:** 06500523000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 17    **QUARTERS/FOOTAGES:** SE SE NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.568954    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.003176    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 438.0    **LOGGED (FT.):** 4380.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HARRISON R0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-308.0	CARBONDALE	HERRIN	COAL	-	746.0	
-367.0	CARBONDALE	SPRINGFIELD	COAL	-	805.0	
-1937.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2375.0	

**MAPID:** 06501239000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 17    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.568893    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 38.006798    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 416.0    **LOGGED (FT.):** 3294.0    **LOG TYPE:** Electric Log  
**SOURCE:** STEWART OIL CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-317.0	CARBONDALE	HERRIN	COAL	5.0	733.0	
-374.0	CARBONDALE	SPRINGFIELD	COAL	4.0	790.0	SHALE & SILTSTONE ROOF
-454.0	CARBONDALE	HOUCHIN CREEK	COAL	-	870.0	

**MAPID:** 06503631000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 17    **QUARTERS/FOOTAGES:** SE SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.561088    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.996834    **DATE COLLECTED:** 1 / 15 / 1969  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 804.3    **LOG TYPE:** Other Core Study  
**SOURCE:** PEABODY COAL CO.    15    **WELL TYPE:** Coal Test  
**COMMENT:** SURVEY CORE STUDY; C-7060

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			COAL	1.4	350.2
-			COAL	2.1	651.6
-	CARBONDALE	HERRIN	COAL	8.4	736.8
-	CARBONDALE	SPRINGFIELD	COAL	4.4	797.6

**MAPID:** 06523852000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 17    **QUARTERS/FOOTAGES:** NE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.560846    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.007687    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 400.0    **LOGGED (FT.):** 791.4    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    28-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-310.1	CARBONDALE	HERRIN	COAL	6.3	710.1
-384.0	CARBONDALE	SPRINGFIELD	COAL	4.8	784.0

**MAPID:** 06500364000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NE SW SW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.591998    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.997709    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 496.0    **LOGGED (FT.):** 4960.0    **LOG TYPE:** Electric Log  
**SOURCE:** SMOKEY OC, CLUCK J D 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-334.0	CARBONDALE	HERRIN	COAL	-	830.0
-399.0	CARBONDALE	SPRINGFIELD	COAL	-	895.0
-1904.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2400.0

MAPID: 06500365000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 18 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.589619 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.001313 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 513.0 LOGGED (FT.): 5130.0 LOG TYPE: Electric Log

SOURCE: PURE OC, ALLEN MER 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-332.0	CARBONDALE	HERRIN	COAL	-	845.0	
-397.0	CARBONDALE	SPRINGFIELD	COAL	-	910.0	
-1902.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2415.0	

MAPID: 06500366000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 18 QUARTERS/FOOTAGES: SW NW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.594083 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.006662 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 4680.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, HALL J C 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-337.0	CARBONDALE	HERRIN	COAL	-	805.0	
-387.0	CARBONDALE	SPRINGFIELD	COAL	-	855.0	
-1897.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2365.0	

MAPID: 06500367000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 18 QUARTERS/FOOTAGES: NW SE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.589542 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.004904 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 532.0 LOGGED (FT.): 5320.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, GOTT F 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-328.0	CARBONDALE	HERRIN	COAL	-	860.0	
-393.0	CARBONDALE	SPRINGFIELD	COAL	-	925.0	

**MAPID:** 06500486000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NW SW NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.584957    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.004936    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 468.0    **LOGGED (FT.):** 4680.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, DAVIS MRT 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-322.0	CARBONDALE	HERRIN	COAL	-	790.0	
-392.0	CARBONDALE	SPRINGFIELD	COAL	-	860.0	
-1912.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2380.0	

**MAPID:** 06500501000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NE NE NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.587176    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008515    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 448.0    **LOGGED (FT.):** 4480.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HALL J C 00A3    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-342.0	CARBONDALE	HERRIN	COAL	-	790.0	
-397.0	CARBONDALE	SPRINGFIELD	COAL	-	845.0	
-1902.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2350.0	

**MAPID:** 06501071000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 18    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NE SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.578166    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999576    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 480.0    **LOGGED (FT.):** 3265.0    **LOG TYPE:** Electric Log  
**SOURCE:** LEE EVANS DRLG    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-313.0	CARBONDALE	HERRIN	COAL	7.0	793.0	
-373.0	CARBONDALE	SPRINGFIELD	COAL	4.0	853.0	SHALE & SILTSTONE ROOF
-454.0	CARBONDALE	HOUCHIN CREEK	COAL	-	934.0	

MAPID: 06503396000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 18 QUARTERS/FOOTAGES: 1650' S line, 2310' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.585074 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.999592 DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 823.0 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
-207.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	687.0
-214.0	MODESTO		SHALE	29.0	694.0
-243.0	CARBONDALE	DANVILLE	COAL	2.0	723.0
-245.0	CARBONDALE		SHALE & SANDSTONE	17.5	725.0
-262.5	CARBONDALE	ALLENBY	BONE COAL	0.5	742.5
-263.0	CARBONDALE		CLAYSTONE & SHALE	14.0	743.0
-277.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	757.0
-284.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	18.0	764.0
-302.0	CARBONDALE	LAWSON	SILTY SHALE	18.0	782.0
-320.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	800.0
-321.0	CARBONDALE		BLACK SHALE	4.5	801.0
-325.5	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.5	805.5
-330.0	CARBONDALE	ANNA	BLACK SHALE	4.0	810.0
-334.0	CARBONDALE	HERRIN	COAL	9.0	814.0

MAPID: 06500504000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 19 QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: WALPOLE LONGITUDE: -88.594367 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.986906 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 4370.0 LOG TYPE: Electric Log

SOURCE: MAGNOLIA, CLARK J S 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-307.0	CARBONDALE	HERRIN	COAL	-	744.0
-397.0	CARBONDALE	SPRINGFIELD	COAL	-	834.0
-1938.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2375.0

MAPID: 06500895000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 19 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.587461 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.986873 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 3168.0 LOG TYPE: Electric Log

SOURCE: STEWART OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-307.0	CARBONDALE	HERRIN	COAL	5.0	732.0	
-411.0	CARBONDALE	SPRINGFIELD	COAL	4.0	836.0	SHALE AND SANDSTONE ROOF
-489.0	CARBONDALE	HOUCHIN CREEK	COAL	-	914.0	

MAPID: 06500895000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 19 QUARTERS/FOOTAGES: 2310' S line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.587461 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.986873 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 737.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-206.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	631.0	
-213.0	MODESTO		SHALE	25.0	638.0	
-238.0	CARBONDALE	DANVILLE	COAL	2.0	663.0	
-240.0	CARBONDALE		SHALE & SANDSTONE	24.0	665.0	
-264.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	25.0	689.0	
-289.0	CARBONDALE	LAWSON	SILTY SHALE	11.0	714.0	
-300.0	CARBONDALE	BRERETON	LIMESTONE	7.0	725.0	
-307.0	CARBONDALE	ANNA	BLACK SHALE	1.0	732.0	
-308.0	CARBONDALE	HERRIN	COAL	4.0	733.0	

MAPID: 06590048000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 19 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.588791 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.987071 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

MAPID: 06502791000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 20 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW

QUADRANGLE: WALPOLE LONGITUDE: -88.571407 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.988591 DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 3337.0 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	5.0	720.0	
-333.0	CARBONDALE	BRIAR HILL	COAL	-	750.0	
-397.0	CARBONDALE	SPRINGFIELD	COAL	4.0	814.0	SHALE AND SANDSTONE ROOF
-481.0	CARBONDALE	HOUCHIN CREEK	COAL	-	898.0	

MAPID: 06503731000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 20 QUARTERS/FOOTAGES: 0' N line, 2640' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.568058 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.995038 DATE COLLECTED: 3 / 9 / 1972

SURFACE ELEVATION (FT.): 370.0 LOGGED (FT.): 819.0 LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 57-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY; C-8982

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
27.0			COAL	1.2	343.0	
-106.1			COAL	2.1	476.1	
-368.2	CARBONDALE	HERRIN	COAL	6.6	738.2	
-441.0	CARBONDALE	SPRINGFIELD	COAL	4.5	811.0	

MAPID: 06503731000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 20    QUARTERS/FOOTAGES: 0' N line, 2640' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.568058    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.995038    DATE COLLECTED:

SURFACE ELEVATION (FT.): 438.0    LOGGED (FT.): 744.5    LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO.    57-C    WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-248.7	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	686.7
-254.0	CARBONDALE	LAWSON	SILTY SHALE	3.0	692.0
-257.0	CARBONDALE	LAWSON	SANDSTONE	14.0	695.0
-271.0	CARBONDALE	LAWSON	CALCAREOUS SHALE	16.0	709.0
-287.0	CARBONDALE	CONANT	CALCAREOUS SHALE	0.1	725.0
-287.1	CARBONDALE	JAMESTOWN	COAL	0.3	725.1
-287.3	CARBONDALE		BLACK SHALE	3.9	725.3
-291.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.5	729.2
-295.7	CARBONDALE	ANNA	BLACK SHALE	4.3	733.7
-300.0	CARBONDALE	HERRIN	COAL	6.5	738.0

MAPID: 06500368000C    VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 21    QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: MCLEANSBORO    LONGITUDE: -88.546212    GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N    LATITUDE: 37.985013    DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 401.0    LOGGED (FT.): 4010.0    LOG TYPE: Electric Log

SOURCE: TEXAS CO, MANN J 0001    WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-289.0	CARBONDALE	HERRIN	COAL	-	690.0
-381.0	CARBONDALE	SPRINGFIELD	COAL	-	782.0
-1989.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2390.0



MAPID: 06502794000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 1650' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.546282 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.981306 DATE COLLECTED:

SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 678.0 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
-166.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	560.0
-171.0	MODESTO		SHALE	35.0	565.0
-206.0	CARBONDALE	DANVILLE	COAL	2.0	600.0
-208.0	CARBONDALE		GRAY SHALE	22.0	602.0
-230.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	624.0
-236.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	630.0
-248.0	CARBONDALE	LAWSON	SHALE	18.0	642.0
-266.0	CARBONDALE	JAMESTOWN	COAL	0.5	660.0
-266.5	CARBONDALE	BRERETON	LIMESTONE	8.0	660.5
-274.5	CARBONDALE	ANNA	BLACK SHALE	2.5	668.5
-277.0	CARBONDALE	HERRIN	COAL	7.0	671.0

MAPID: 06502795000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 21 QUARTERS/FOOTAGES: 330' S line, 330' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.541677 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.981356 DATE COLLECTED:

SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 2483.0 LOG TYPE: Electric Log

SOURCE: SKILES, C. E., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-273.0	CARBONDALE	HERRIN	COAL	6.0	667.0
-291.0	CARBONDALE	BRIAR HILL	COAL	-	685.0
-358.0	CARBONDALE	SPRINGFIELD	COAL	6.0	752.0 SHALE ROOF
-440.0	CARBONDALE	HOUCHIN CREEK	COAL	-	834.0

**MAPID:** 06590064000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 21    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.54615    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.981562    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.5	

**MAPID:** 06590065000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 21    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.545953    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.988741    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.5	

**MAPID:** 06500023000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 22    **QUARTERS/FOOTAGES:** 1450' N line, 90' E line  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.52203    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.99132    **DATE COLLECTED:** 0 / 0 / 1920  
**SURFACE ELEVATION (FT.):** 379.4    **LOGGED (FT.):** 3794.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMCOKECHEM0010    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-301.6	CARBONDALE	HERRIN	COAL	6.7	681.0
-398.6	CARBONDALE	SPRINGFIELD	COAL	4.8	778.0

MAPID: 06500023000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 22    QUARTERS/FOOTAGES: 1450' N line, 90' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.52203    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.99132    DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0    LOGGED (FT.): 688.0    LOG TYPE: Drillers Log

SOURCE:    WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-219.0	CARBONDALE	DANVILLE	COAL	2.0	598.0	
-221.0	CARBONDALE		GRAY SHALE	20.0	600.0	
-241.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	10.0	620.0	
-251.0	CARBONDALE	LAWSON	GRAY SHALE	6.0	630.0	
-257.0	CARBONDALE	LAWSON	SANDSTONE	9.0	636.0	
-266.0	CARBONDALE	LAWSON	SILTY SHALE	30.0	645.0	
-296.0	CARBONDALE	BRERETON	LIMESTONE	3.0	675.0	
-299.0	CARBONDALE	ANNA	BLACK SHALE	3.0	678.0	
-302.0	CARBONDALE	HERRIN	COAL	7.0	681.0	

MAPID: 06500023000C    VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 22    QUARTERS/FOOTAGES: 1450' N line, 90' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.52203    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.99132    DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0    LOGGED (FT.): 784.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-302.0	CARBONDALE	HERRIN	COAL	7.0	681.0	
-399.0	CARBONDALE	SPRINGFIELD	COAL	5.0	778.0	SHALE ROOF

MAPID: 06500023000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 22    QUARTERS/FOOTAGES: 1450' N line, 90' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.52203    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 37.99132    DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.4    LOGGED (FT.): 784.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE AND CHEM. CO. 10    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
379.4	PLEISTOCENE		CLAY	60.0	0.0	
319.4			SHALE	50.0	60.0	
269.4			SANDSTONE	30.0	110.0	
239.4			SHALE	3.0	140.0	
236.4			SANDSTONE	14.0	143.0	
222.4			SHALE	29.0	157.0	BLUE
193.4			SHALE	84.0	186.0	DARK
109.4			SHALE	28.0	270.0	
81.4			COAL	1.0	298.0	
80.4			SHALE	6.0	299.0	LIGHT
74.4			SHALE	10.0	305.0	BLUE
64.4			SHALE	28.0	315.0	
36.4			SHALE	37.0	343.0	DARK
-0.6			SHALE	10.0	380.0	BLUE
-10.6			SHALE	8.0	390.0	BLACK
-18.6			SHALE	32.0	398.0	
-50.6			SANDSTONE	10.0	430.0	
-60.6			SHALE	62.0	440.0	
-122.6			SHALE	7.0	502.0	DARK
-129.6			SANDSTONE	6.0	509.0	
-135.6			SHALE	5.0	515.0	
-140.6			SHALE	8.0	520.0	DARK
-148.6			COAL	1.0	528.0	
-149.6			SHALE	20.0	529.0	
-169.6			SHALE	25.0	549.0	LIGHT
-194.6			SHALE	24.0	574.0	DARK
-218.6	CARBONDALE	DANVILLE	COAL	2.0	598.0	
-220.6	CARBONDALE		SHALE	15.0	600.0	LIGHT
-235.6	CARBONDALE		SHALE	5.0	615.0	DARK
-240.6	CARBONDALE	BANKSTON FORK	LIMESTONE	10.0	620.0	
-250.6	CARBONDALE		SHALE	6.0	630.0	BLUE
-256.6	CARBONDALE		SANDSTONE	9.0	636.0	
-265.6	CARBONDALE		SHALE	30.0	645.0	
-295.6	CARBONDALE	BRERETON	LIMESTONE	3.0	675.0	
-298.6	CARBONDALE		SHALE	3.0	678.0	
-301.6	CARBONDALE	HERRIN	COAL	7.0	681.0	
-308.6	CARBONDALE		SHALE	11.0	688.0	
-319.6	CARBONDALE		SHALE	19.0	699.0	
-338.6	CARBONDALE		SHALE	19.0	718.0	BLUE

-357.6	CARBONDALE		SHALE	20.0	737.0	DARK
-377.6	CARBONDALE		SHALE	21.0	757.0	
-398.6	CARBONDALE	SPRINGFIELD	COAL	5.0	778.0	
-403.6	CARBONDALE		UNDERCLAY	1.0	783.0	

**MAPID:** 06500369000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 22    **QUARTERS/FOOTAGES:** NW SE NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.534577    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.990637    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 386.0    **LOGGED (FT.):** 3860.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JHNSN A G 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-259.0	CARBONDALE	HERRIN	COAL	-	645.0	
-354.0	CARBONDALE	SPRINGFIELD	COAL	-	740.0	
-1974.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2360.0	

**MAPID:** 06500447000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 22    **QUARTERS/FOOTAGES:** NW SE SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.534645    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.983233    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 388.0    **LOGGED (FT.):** 3880.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, TEDFORD C 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-260.0	CARBONDALE	HERRIN	COAL	-	648.0	
-352.0	CARBONDALE	SPRINGFIELD	COAL	-	740.0	
-1961.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2349.0	

**MAPID:** 06500448000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 22    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.527624    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.981379    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 385.0    **LOGGED (FT.):** 3850.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNSN G T0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-265.0	CARBONDALE	HERRIN	COAL	-	650.0	
-365.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1949.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2334.0	

**MAPID:** 06501025000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 22    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of NW NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.527521    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.994387    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 385.0    **LOGGED (FT.):** 3281.0    **LOG TYPE:** Electric Log  
**SOURCE:** MASSAC PET ENTERPRIS    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-287.0	CARBONDALE	HERRIN	COAL	4.0	672.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	5.0	775.0	SHALE ROOF
-465.0	CARBONDALE	HOUCHIN CREEK	COAL	-	850.0	

**MAPID:** 06590075000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 22    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.522195    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.988417    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.6		1.61% SULFUR

**MAPID:** 06590076000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 22    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.522652    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.990732    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

MAPID: 06590077000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 22 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.527089

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.99435

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

MAPID: 06501657000C VERSION: 1

PROJECT: CIRC 431

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

QUADRANGLE: WALPOLE LONGITUDE: -88.520566

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.990747

DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 3325.0

LOG TYPE: Electric Log

SOURCE: STANFORD OIL & GAS

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-321.0	CARBONDALE	HERRIN	COAL	6.0	704.0	
-409.0	CARBONDALE	SPRINGFIELD	COAL	4.0	792.0	SHALE ROOF
-485.0	CARBONDALE	HOUCHIN CREEK	COAL	-	868.0	

MAPID: 06501657000C VERSION: 2

PROJECT: ROOF STUDY

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

QUADRANGLE: WALPOLE LONGITUDE: -88.520566 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.990747 DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 712.0 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
-176.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	559.0
-180.0	MODESTO		SHALE	53.0	563.0
-233.0	CARBONDALE	DANVILLE	COAL	2.0	616.0
-235.0	CARBONDALE		SHALE & SANDSTONE	23.0	618.0
-258.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	641.0
-264.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	32.0	647.0
-296.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	679.0
-306.0	CARBONDALE	JAMESTOWN	COAL	3.0	689.0
-309.0	CARBONDALE		SHALE	2.0	692.0
-311.0	CARBONDALE	BRERETON	LIMESTONE	8.0	694.0
-319.0	CARBONDALE	ANNA	BLACK SHALE	3.0	702.0
-322.0	CARBONDALE	HERRIN	COAL	7.0	705.0

MAPID: 06500524000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 24 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.486157 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.993833 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 394.0 LOGGED (FT.): 3940.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, WEBB E M 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-290.0	CARBONDALE	HERRIN	COAL	-	684.0
-394.0	CARBONDALE	SPRINGFIELD	COAL	-	788.0
-1950.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2344.0



MAPID: 06502802000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 24 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.490843 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.986586 DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 3360.0 LOG TYPE: Electric Log

SOURCE: REASOR G L WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-273.0	CARBONDALE	HERRIN	COAL	4.0	668.0	
-385.0	CARBONDALE	SPRINGFIELD	COAL	5.0	780.0	SHALE & SILTSTONE ROOF
-457.0	CARBONDALE	HOUCHIN CREEK	COAL	-	852.0	

MAPID: 06503457000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 24 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.488431 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.993867 DATE COLLECTED:

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 709.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-231.5	CARBONDALE	DANVILLE	COAL	2.5	631.5	
-234.0	CARBONDALE		SILTY SHALE	20.0	634.0	
-254.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	654.0	
-256.0	CARBONDALE	LAWSON	SILTY SHALE	37.0	656.0	
-293.0	CARBONDALE	JAMESTOWN	COAL	1.0	693.0	
-294.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.0	694.0	
-299.0	CARBONDALE	ANNA	BLACK SHALE	3.0	699.0	
-302.0	CARBONDALE	HERRIN	COAL	7.0	702.0	

MAPID: 06500370000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 25 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.502612 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.979331 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 3760.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, MILLER V H001A WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-314.0	CARBONDALE	HERRIN	COAL	-	690.0	
-414.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0	
-1973.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2349.0	

MAPID: 06500547000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 25 QUARTERS/FOOTAGES: 1980' S line, 1980' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.496779 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.971111 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 373.0 LOGGED (FT.): 3730.0 LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0017, UNDERWOOD WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-259.0	CARBONDALE	HERRIN	COAL	4.3	632.0
-433.0	CARBONDALE	SPRINGFIELD	COAL	3.7	806.0

MAPID: 06500547000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 25 QUARTERS/FOOTAGES: 1980' S line, 1980' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.496779 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.971111 DATE COLLECTED:

SURFACE ELEVATION (FT.): 373.0 LOGGED (FT.): 636.3 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-193.3	CARBONDALE	DANVILLE	COAL	2.1	566.3
-195.4	CARBONDALE		GRAY SHALE	9.4	568.4
-204.8	CARBONDALE	ALLENBY	BLACK SHALE	1.0	577.8
-205.8	CARBONDALE		GRAY SHALE	14.0	578.8
-219.8	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	592.8
-225.8	CARBONDALE	LAWSON	SILTY SHALE	9.0	598.8
-234.8	CARBONDALE	LAWSON	SANDSTONE	10.0	607.8
-244.8	CARBONDALE	LAWSON	GRAY SHALE	4.0	617.8
-248.8	CARBONDALE	BRERETON	LIMESTONE	6.0	621.8
-254.8	CARBONDALE	ANNA	BLACK SHALE	4.2	627.8
-259.0	CARBONDALE	HERRIN	COAL	4.3	632.0

MAPID: 06500547000C    VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 25    QUARTERS/FOOTAGES: 1980' S line, 1980' W line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.496779    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.971111    DATE COLLECTED:

SURFACE ELEVATION (FT.): 373.0    LOGGED (FT.): 844.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-259.0	CARBONDALE	HERRIN	COAL	4.3	632.0	
-294.0	CARBONDALE	BRIAR HILL	COAL	0.3	667.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	4.0	743.0	SHALE AND SANDSTONE ROOF
-433.0	CARBONDALE	HOUCHIN CREEK	COAL	3.7	806.0	

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MAPID: 06500547000C    VERSION: 4

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 25    QUARTERS/FOOTAGES: 1980' S line, 1980' W line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.496779    GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N    LATITUDE: 37.971111    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 373.0    LOGGED (FT.): 844.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL 17    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
373.0	PLEISTOCENE		UNCONSOLIDATED	61.6	0.0
311.4			SHALE	4.4	61.6
307.0			BLACK SHALE	1.5	66.0
305.5			SHALE	13.5	67.5
292.0			SANDSTONE	75.5	81.0
216.5			SHALE	68.5	156.5
148.0			DARK SHALE	2.0	225.0
146.0			SHALE	31.0	227.0
115.0			SANDSTONE	12.0	258.0
103.0			SANDY SHALE	11.0	270.0
92.0			SANDSTONE	67.0	281.0
25.0			DARK SHALE	2.0	348.0
23.0			SHALE	16.0	350.0
7.0			BLACK SHALE	2.8	366.0
4.2			COAL	0.2	368.8
4.0			SANDSTONE/SHALE	21.0	369.0
-17.0			DARK SHALE	13.0	390.0
-30.0			SANDSTONE	2.0	403.0
-32.0			SHALE	19.0	405.0
-51.0			DARK SHALE	17.0	424.0
-68.0			SHALE	48.0	441.0
-116.0			BLACK SHALE	7.0	489.0
-123.0			COAL	0.7	496.0
-123.7			UNDERCLAY	3.3	496.7
-127.0			SHALE	66.5	500.0
-193.5	CARBONDALE	DANVILLE	COAL	2.1	566.5
-195.6	CARBONDALE		SHALE	9.4	568.6
-205.0	CARBONDALE		BLACK SHALE	1.0	578.0
-206.0	CARBONDALE		SHALE	14.0	579.0
-220.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	593.0
-226.0	CARBONDALE		SANDY SHALE	9.0	599.0
-235.0	CARBONDALE		SANDSTONE	10.0	608.0
-245.0	CARBONDALE		SHALE	4.0	618.0
-249.0	CARBONDALE	BRERETON	LIMESTONE	6.0	622.0
-255.0	CARBONDALE	ANNA	BLACK SHALE	4.2	628.0
-259.2	CARBONDALE	HERRIN	COAL	4.3	632.2
-263.5	CARBONDALE		SHALE	30.2	636.5
-293.7	CARBONDALE	BRIAR HILL	COAL	0.3	666.7
-294.0	CARBONDALE		SHALE	7.0	667.0

-301.0	CARBONDALE		DARK SHALE	4.0	674.0	
-305.0	CARBONDALE		SHALE	50.0	678.0	
-355.0	CARBONDALE		SANDSTONE	1.0	728.0	
-356.0	CARBONDALE		DARK SHALE	14.0	729.0	COAL STREAKS
-370.0	CARBONDALE	SPRINGFIELD	COAL	4.0	743.0	
-374.0	CARBONDALE		BLACK SHALE	2.0	747.0	
-376.0	CARBONDALE		SHALE	55.0	749.0	
-431.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	804.0	
-433.0	CARBONDALE	HOUCHIN CREEK	COAL	0.3	806.0	
-433.3	CARBONDALE		BLACK SHALE	3.7	806.3	
-437.0	CARBONDALE		SHALE	24.0	810.0	
-461.0	CARBONDALE		DARK SHALE	2.5	834.0	
-463.5	CARBONDALE	SURVANT	COAL	1.0	836.5	SHALE BANDS
-464.5	CARBONDALE	SURVANT	COAL	1.0	837.5	DIRTY
-465.5	CARBONDALE	SURVANT	DARK SHALE	2.7	838.5	
-468.2	CARBONDALE	SURVANT	COAL	0.8	841.2	BONEY
-469.0	CARBONDALE		SHALE	2.0	842.0	

**MAPID:** 06501328000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 25    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.500224    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.975671    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 376.0    **LOGGED (FT.):** 3270.0    **LOG TYPE:** Electric Log  
**SOURCE:** LOUDON PIPELINE CO    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-271.0	CARBONDALE	HERRIN	COAL	5.0	647.0	
-304.0	CARBONDALE	BRIAR HILL	COAL	-	680.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	6.0	766.0	SHALE ROOF
-452.0	CARBONDALE	HOUCHIN CREEK	COAL	-	828.0	

**MAPID:** 06523828000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 25    **QUARTERS/FOOTAGES:** 1850' N line, 0' line of NW NE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.492053    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.978369    **DATE COLLECTED:** 1 / 20 / 1972  
**SURFACE ELEVATION (FT.):** 375.0    **LOGGED (FT.):** 702.0    **LOG TYPE:** Other Core Study  
**SOURCE:** KERR-MCGEE COAL CO.    KM-42    **WELL TYPE:** Coal Test  
**COMMENT:** CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-128.1			COAL	1.2	503.1	
-206.1	CARBONDALE	DANVILLE	COAL	0.9	581.1	
-267.8	CARBONDALE	HERRIN	COAL	4.7	642.8	
-296.4	CARBONDALE	BRIAR HILL	COAL	0.8	671.4	
-376.3	CARBONDALE	SPRINGFIELD	COAL	5.9	751.3	

**MAPID:** 06590089000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 25    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.498976    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.972165    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.0		

**MAPID:** 06590090000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 25    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.49436    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.977771    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.8		1.52% SULFUR

MAPID: 06500371000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: SW NW NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.52067 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.977692 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, IRWIN H 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-277.0	CARBONDALE	HERRIN	COAL	-	658.0	
-377.0	CARBONDALE	SPRINGFIELD	COAL	-	758.0	
-1953.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2334.0	

MAPID: 06500372000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: SW SW NW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.520716 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.974031 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 3880.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, IRWIN O 0006 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-264.0	CARBONDALE	HERRIN	COAL	-	652.0	
-367.0	CARBONDALE	SPRINGFIELD	COAL	-	755.0	
-1939.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2327.0	

MAPID: 06500373000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: SE NW SW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.518479 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.970349 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log  
 SOURCE: TUESDAY OC, HALL PHIL 0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-259.0	CARBONDALE	HERRIN	COAL	-	640.0	
-364.0	CARBONDALE	SPRINGFIELD	COAL	-	745.0	
-1919.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2300.0	

MAPID: 06500374000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: NW SE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.516213 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.968496 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 3880.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, JOHNSN R F0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-250.0	CARBONDALE	HERRIN	COAL	-	638.0	
-352.0	CARBONDALE	SPRINGFIELD	COAL	-	740.0	
-1912.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2300.0	

MAPID: 06500525000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: WALPOLE LONGITUDE: -88.509367 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.970257 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3780.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, JOHNSN R F0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-268.0	CARBONDALE	HERRIN	COAL	-	646.0	
-366.0	CARBONDALE	SPRINGFIELD	COAL	-	744.0	
-1934.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2312.0	

MAPID: 06501683000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: 330' N line, 1310' W line of SW NW

QUADRANGLE: WALPOLE LONGITUDE: -88.517256 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.97583 DATE COLLECTED: 12 / 0 / 1959

SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 1890.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-568.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	952.0	
-631.0	SPOON	DAVIS	UNCLASSIFIED	-	1015.0	
-1506.0	BASE OF PENN.		UNCLASSIFIED	-	1890.0	



MAPID: 06503371000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.513891 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.96664 DATE COLLECTED:

SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 627.0 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
-129.0	MODESTO	PIASA	CALCAREOUS SHALE	4.0	511.0
-133.0	MODESTO		GRAY SHALE	41.0	515.0
-174.0	CARBONDALE	DANVILLE	COAL	2.0	556.0
-176.0	CARBONDALE		SILTY SHALE	22.0	558.0
-198.0	CARBONDALE	BANKSTON FORK	SHALE	8.0	580.0
-206.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	28.0	588.0
-234.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	616.0
-235.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	617.0
-238.0	CARBONDALE	ANNA	BLACK SHALE	2.0	620.0
-240.0	CARBONDALE	HERRIN	COAL	5.0	622.0

MAPID: 06503459000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.507099 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.973887 DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3262.0 LOG TYPE: Electric Log

SOURCE: FARRAR OIL CO., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-279.0	CARBONDALE	HERRIN	COAL	6.0	657.0
-382.0	CARBONDALE	SPRINGFIELD	COAL	5.0	760.0 SHALE ROOF
-458.0	CARBONDALE	HOUCHIN CREEK	COAL	-	836.0

MAPID: 06590083000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 26 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.520961 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.976275 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	6.0	

MAPID: 06500052000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: 676' N line, 2310' W line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.532478 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.978587 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 385.0 LOGGED (FT.): 3850.0 LOG TYPE: Electric Log  
 SOURCE: PIERSON, LEE 0003 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-258.0	CARBONDALE	HERRIN	COAL	5.0	643.0
-360.0	CARBONDALE	SPRINGFIELD	COAL	3.0	745.0

MAPID: 06500052000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: 676' N line, 2310' W line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.532478 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 37.978587 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 650.0 LOG TYPE: Drillers Log  
 SOURCE: WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-148.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	532.0
-153.0	MODESTO		GRAY SHALE	40.0	537.0
-193.0	CARBONDALE	DANVILLE	COAL	1.0	577.0
-194.0	CARBONDALE		SILTY SHALE	21.0	578.0
-215.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	599.0
-222.0	CARBONDALE	LAWSON	BLACK SHALE	2.0	606.0
-224.0	CARBONDALE	LAWSON	SILTY SHALE	5.0	608.0
-229.0	CARBONDALE	LAWSON	SANDSTONE	6.0	613.0
-235.0	CARBONDALE	LAWSON	SILTY SHALE	20.0	619.0
-255.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	5.0	639.0
-260.0	CARBONDALE	ANNA	BLACK SHALE	2.0	644.0
-262.0	CARBONDALE	HERRIN	COAL	4.0	646.0

MAPID: 06500052000C VERSION: 3

PROJECT: CONTROL

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: 676' N line, 2310' W line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.532478 GEOLOGIST: HINES  
 CONFIDENTIAL: N LATITUDE: 37.978587 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): LOGGED (FT.): 3112.0 LOG TYPE: Survey Sample Study  
 SOURCE: PERRINE & PEARSON 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: 06500052000C    VERSION: 4

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 27    QUARTERS/FOOTAGES: 676' N line, 2310' W line

QUADRANGLE: WALPOLE    LONGITUDE: -88.532478    GEOLOGIST: MCCracken

CONFIDENTIAL: N    LATITUDE: 37.978587    DATE COLLECTED: 6 / 0 / 1943

SURFACE ELEVATION (FT.): 388.0    LOGGED (FT.): 1108.0    LOG TYPE: Survey Sample Study

SOURCE: AM PERRINE & C.PEARSON    3    WELL TYPE: Dry Hole

COMMENT: COAL DIVISION CONTROL WELL #149

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
388.0			NO RECORD	145.0	0.0	
243.0			SANDSTONE	15.0	145.0	
228.0			SILTSTONE	50.0	160.0	
178.0			SHALE	34.0	210.0	
144.0			LIMESTONE	1.0	244.0	
143.0			SHALE	3.0	245.0	
140.0			BLACK SHALE	3.0	248.0	
137.0			UNDERCLAY	3.0	251.0	
134.0			SILTSTONE	6.0	254.0	
128.0			SANDSTONE	10.0	260.0	WITH SILTSTONE
118.0			SHALE	2.0	270.0	
116.0			COAL	2.0	272.0	WITH BLACK SHALE
114.0			UNDERCLAY	1.0	274.0	
113.0			SHALE	42.0	275.0	
71.0			COAL	1.0	317.0	WITH BLACK SHALE
70.0			SANDSTONE	4.0	318.0	
66.0			SHALE	50.0	322.0	
16.0			BLACK SHALE	7.0	372.0	
9.0			UNDERCLAY	3.0	379.0	
6.0			SANDSTONE	38.0	382.0	
-32.0			SHALE & SANDSTONE	34.0	420.0	
-66.0			SANDSTONE	10.0	454.0	
-76.0			SHALE	21.0	464.0	
-97.0			BLACK SHALE	5.0	485.0	
-102.0			SHALE	12.0	490.0	
-114.0			BLACK SHALE	12.0	502.0	
-126.0			COAL	1.0	514.0	THICKNESS ESTIMATED
-127.0			UNDERCLAY	1.0	515.0	
-128.0			SHALE	4.0	516.0	
-132.0			SILTSTONE	9.0	520.0	
-141.0			SHALE	3.0	529.0	
-144.0			LIMESTONE	5.0	532.0	
-149.0			SHALE	37.0	537.0	
-186.0			DARK SHALE	2.0	574.0	PYRITIC
-188.0			BLACK SHALE	1.0	576.0	
-189.0			COAL	1.0	577.0	THICKNESS ESTIMATED
-190.0			UNDERCLAY	1.0	578.0	
-191.0			SILTSTONE	11.0	579.0	
-202.0			SHALE	9.0	590.0	

-211.0			LIMESTONE	7.0	599.0	
-218.0			BLACK SHALE	2.0	606.0	
-220.0			SHALE	5.0	608.0	
-225.0			SANDSTONE	6.0	613.0	
-231.0	CARBONDALE		SHALE	20.0	619.0	
-251.0	CARBONDALE	BRERETON	LIMESTONE	5.0	639.0	
-256.0	CARBONDALE	ANNA	BLACK SHALE	2.0	644.0	
-258.0	CARBONDALE	HERRIN	COAL	4.0	646.0	APPROXIMATE THICKNESS
-262.0	CARBONDALE		UNDERCLAY	2.0	650.0	
-264.0	CARBONDALE		SHALE	5.0	652.0	
-269.0	CARBONDALE		SANDSTONE/SHALE	2.0	657.0	
-271.0	CARBONDALE		LIMESTONE	4.0	659.0	
-275.0	CARBONDALE		SHALE	85.0	663.0	
-360.0	CARBONDALE	SPRINGFIELD	COAL	3.0	748.0	APPROXIMATE THICKNESS
-363.0	CARBONDALE		UNDERCLAY	1.0	751.0	
-364.0	CARBONDALE		SHALE	4.0	752.0	
-368.0	CARBONDALE		LIMESTONE	6.0	756.0	
-374.0	CARBONDALE		SANDSTONE	10.0	762.0	
-384.0	CARBONDALE		SILTSTONE	5.0	772.0	
-389.0	CARBONDALE		SHALE	48.0	777.0	
-437.0	CARBONDALE		DARK SHALE	7.0	825.0	WITH BLACK SHALE
-444.0			BLACK SHALE	2.0	832.0	WITH UNDERCLAY
-446.0			SILTSTONE	10.0	834.0	
-456.0			SHALE	26.0	844.0	
-482.0			BLACK SHALE	1.0	870.0	
-483.0			COAL	3.0	871.0	THICKNESS ESTIMATED
-486.0			UNDERCLAY	1.0	874.0	
-487.0			SANDSTONE	10.0	875.0	
-497.0			SHALE	10.0	885.0	
-507.0			SANDSTONE	7.0	895.0	
-514.0			SHALE	32.0	902.0	
-546.0			BLACK SHALE	3.0	934.0	
-549.0			SANDSTONE	5.0	937.0	
-554.0			LIMESTONE	1.0	942.0	
-555.0			SANDSTONE	1.0	943.0	
-556.0			LIMESTONE	2.0	944.0	
-558.0			SANDSTONE	2.0	946.0	
-560.0			SHALE	9.0	948.0	
-569.0			SANDSTONE	21.0	957.0	
-590.0			SILTSTONE	10.0	978.0	
-600.0			SHALE	6.0	988.0	
-606.0			BLACK SHALE	2.0	994.0	
-608.0			COAL	2.0	996.0	THICKNESS ESTIMATED
-610.0			UNDERCLAY	1.0	998.0	
-611.0			SANDSTONE	12.0	999.0	
-623.0			SHALE	8.0	1011.0	
-631.0			SANDSTONE	5.0	1019.0	

-636.0	SHALE	16.0	1024.0	WITH BLACK SHALE
-652.0	BLACK SHALE	1.0	1040.0	
-653.0	SHALE	45.0	1041.0	
-698.0	BLACK SHALE	2.0	1086.0	
-700.0	COAL	1.0	1088.0	WITH UNDERCLAY
-701.0	SANDSTONE	3.0	1089.0	
-704.0	SILTSTONE	5.0	1092.0	
-709.0	SHALE	5.0	1097.0	
-714.0	DARK SHALE	4.0	1102.0	WITH BLACK SHALE
-718.0	BLACK SHALE	1.0	1106.0	WITH COAL
-719.0	UNDERCLAY	1.0	1107.0	

**MAPID:** 06500344000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW NE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.534681    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.977678    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 388.0    **LOGGED (FT.):** 3880.0    **LOG TYPE:** Electric Log  
**SOURCE:** PERRN&PRSN, LEE J R 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-256.0	CARBONDALE	HERRIN	COAL	-	644.0	
-354.0	CARBONDALE	SPRINGFIELD	COAL	-	742.0	
-1951.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2339.0	

**MAPID:** 06500383000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** SW SW NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.539366    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.973954    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 388.0    **LOGGED (FT.):** 3880.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HALL RNYR 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-247.0	CARBONDALE	HERRIN	COAL	-	635.0	
-342.0	CARBONDALE	SPRINGFIELD	COAL	-	730.0	
-1952.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2340.0	

MAPID: 06500384000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.527721 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.970336 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 386.0 LOGGED (FT.): 3860.0 LOG TYPE: Electric Log

SOURCE: YNGBLD J L, JOHNSN R M0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-264.0	CARBONDALE	HERRIN	COAL	-	650.0	
-364.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1934.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2320.0	

MAPID: 06500385000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: SW SW NE

QUADRANGLE: THACKERAY LONGITUDE: -88.530022 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.974003 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 386.0 LOGGED (FT.): 3860.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, SHAVITZ F 0004 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-248.0	CARBONDALE	HERRIN	COAL	-	634.0	
-349.0	CARBONDALE	SPRINGFIELD	COAL	-	735.0	
-1921.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2307.0	

MAPID: 06500386000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: THACKERAY LONGITUDE: -88.539366 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.972096 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 3880.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, MCGILL R L0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-252.0	CARBONDALE	HERRIN	COAL	-	640.0	
-352.0	CARBONDALE	SPRINGFIELD	COAL	-	740.0	
-1954.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2342.0	

MAPID: 06500387000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: NE SW SW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.537041 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.968405 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 387.0 LOGGED (FT.): 3870.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, WILSON F R0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-261.0	CARBONDALE	HERRIN	COAL	-	648.0
-363.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0
-1938.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2325.0

MAPID: 06500388000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: NE NE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.52304 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.972207 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 3830.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, IRWIN O 0007 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-247.0	CARBONDALE	HERRIN	COAL	-	630.0
-347.0	CARBONDALE	SPRINGFIELD	COAL	-	730.0
-1928.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2311.0

MAPID: 06500389000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 27 QUARTERS/FOOTAGES: NW SE SE  
 QUADRANGLE: THACKERAY LONGITUDE: -88.525412 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.968519 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 3840.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, JOHNSON C 0004 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-254.0	CARBONDALE	HERRIN	COAL	-	638.0
-366.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0
-1920.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2304.0

**MAPID:** 06501777000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:** 681' N line, 615' W line of SW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.529087    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.967524    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 3585.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXACO, INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-254.0	CARBONDALE	HERRIN	COAL	5.0	644.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	4.0	748.0	SHALE ROOF
-437.0	CARBONDALE	HOUCHIN CREEK	COAL	-	827.0	

**MAPID:** 06590073000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.528342    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.971366    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		4.5	

**MAPID:** 06590074000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 27    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.533819    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.977737    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		3.0	



MAPID: 06500390000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: THACKERAY LONGITUDE: -88.541679 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.973941 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 3920.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, HALL R 0005 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-243.0	CARBONDALE	HERRIN	COAL	-	635.0	
-343.0	CARBONDALE	SPRINGFIELD	COAL	-	735.0	
-1956.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2348.0	

MAPID: 06500391000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.54168 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.966509 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 418.0 LOGGED (FT.): 4180.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, WILSON F R0004 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-267.0	CARBONDALE	HERRIN	COAL	-	685.0	
-364.0	CARBONDALE	SPRINGFIELD	COAL	-	782.0	
-1966.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2384.0	

MAPID: 06500449000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.541679 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.970225 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 3920.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, MCGILL R L0006 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-262.0	CARBONDALE	HERRIN	COAL	-	654.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	754.0	
-1956.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2348.0	

MAPID: 06501311000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NW

QUADRANGLE: WALPOLE LONGITUDE: -88.550838 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.975742 DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 3157.0 LOG TYPE: Electric Log

SOURCE: LOUDON PIPELINE CO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-292.0	CARBONDALE	HERRIN	COAL	4.0	684.0	
-386.0	CARBONDALE	SPRINGFIELD	COAL	4.0	778.0	SHALE ROOF
-470.0	CARBONDALE	HOUCHIN CREEK	COAL	-	862.0	

MAPID: 06502841000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW SE

QUADRANGLE: WALPOLE LONGITUDE: -88.548557 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.970185 DATE COLLECTED: 10 / 0 / 1951

SURFACE ELEVATION (FT.): 396.0 LOGGED (FT.): 1920.0 LOG TYPE: Electric Log

SOURCE: AUBREY TENNANT OIL WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-559.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	955.0	
-616.0	SPOON	DAVIS	UNCLASSIFIED	-	1012.0	
-1524.0	BASE OF PENN.		UNCLASSIFIED	-	1920.0	

MAPID: 06503281000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.543982 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.968311 DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 671.7 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-183.0	MODESTO	PIASA	LIMESTONE & SHALE	6.1	578.0	
-189.1	MODESTO		GRAY SHALE	10.6	584.1	
-199.7	CARBONDALE	DANVILLE	COAL	3.4	594.7	
-203.1	CARBONDALE		SHALE & SANDSTONE	10.7	598.1	
-213.8	CARBONDALE	ALLENBY	COAL	1.6	608.8	
-215.4	CARBONDALE		CLAYSTONE & SHALE	5.0	610.4	
-220.4	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	615.4	UPPER BENCH
-223.4	CARBONDALE	BANKSTON FORK	SHALE	1.1	618.4	SHALE PARTING
-224.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	619.5	LOWER BENCH
-226.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	19.5	621.5	
-246.0	CARBONDALE	LAWSON	SILTY SHALE	14.0	641.0	
-260.0	CARBONDALE	CONANT	LIMESTONE & SHALE	0.9	655.0	
-260.9	CARBONDALE	JAMESTOWN	BONE COAL	1.8	655.9	
-262.7	CARBONDALE	BRERETON	LIMESTONE	5.6	657.7	
-268.3	CARBONDALE	ANNA	BLACK SHALE	1.7	663.3	
-270.0	CARBONDALE	HERRIN	COAL	6.7	665.0	

MAPID: 06503725000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES: 2310' N line, 0' W line of SW NW

QUADRANGLE: WALPOLE LONGITUDE: -88.558883 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.970212 DATE COLLECTED: 6 / 15 / 1972

SURFACE ELEVATION (FT.): 395.0 LOGGED (FT.): 826.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 66-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-324.9	CARBONDALE	HERRIN	COAL	6.3	719.9	
-423.2	CARBONDALE	SPRINGFIELD	COAL	4.9	818.2	

MAPID: 06590063000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 28 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.551254

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.975945

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

MAPID: 06500022000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 29 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.576083

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.977602

DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 404.4 LOGGED (FT.): 4044.0

LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0009

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-330.6	CARBONDALE	HERRIN	COAL	6.5	735.0	
-433.6	CARBONDALE	SPRINGFIELD	COAL	4.1	838.0	

MAPID: 06500022000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 29 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.576083 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.977602 DATE COLLECTED:

SURFACE ELEVATION (FT.): 404.0 LOGGED (FT.): 741.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-230.0	MODESTO	PIASA	CALCAREOUS SHALE	3.0	634.0
-233.0	MODESTO		GRAY SHALE	27.3	637.0
-260.3	CARBONDALE	DANVILLE	COAL	2.7	664.3
-263.0	CARBONDALE		SHALE	25.0	667.0
-288.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	692.0
-293.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	697.0
-301.0	CARBONDALE	LAWSON	SANDSTONE	12.0	705.0
-313.0	CARBONDALE	LAWSON	GRAY SHALE	14.0	717.0
-327.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	731.0
-327.5	CARBONDALE		BLACK SHALE	0.5	731.5
-328.0	CARBONDALE	BRERETON	LIMESTONE	2.0	732.0
-330.0	CARBONDALE	ANNA	BLACK SHALE	1.0	734.0
-331.0	CARBONDALE	HERRIN	COAL	6.5	735.0

MAPID: 06500022000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 29 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.576083 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.977602 DATE COLLECTED:

SURFACE ELEVATION (FT.): 404.0 LOGGED (FT.): 842.0 LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-260.0	CARBONDALE	DANVILLE	COAL	2.7	664.0
-288.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	692.0
-301.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	705.0
-331.0	CARBONDALE	HERRIN	COAL	6.5	735.0
-366.0	CARBONDALE	CANTON	SANDSTONE/SHALE	8.0	770.0
-434.0	CARBONDALE	SPRINGFIELD	COAL	4.1	838.0

SHALE & SILTSTONE  
ROOF

MAPID: 06500022000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 29    QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: WALPOLE    LONGITUDE: -88.576083    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 37.977602    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 404.4    LOGGED (FT.): 842.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE AND CHEM. CO. 9    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
404.4	PLEISTOCENE		CLAY	27.0	0.0	
377.4	PLEISTOCENE		SAND	8.0	27.0	
369.4	PLEISTOCENE		GRAVEL	7.0	35.0	
362.4			ROCK	3.0	42.0	"BROKEN LEDGE" NOTED IN LOG
359.4			SHALE	5.0	45.0	
354.4			SHALE	2.0	50.0	BLACK
352.4			SHALE	15.0	52.0	
337.4			SHALE	4.0	67.0	
333.4			SHALE	18.0	71.0	
315.4			LIMESTONE	3.0	89.0	
312.4			SHALE	16.0	92.0	BLUE
296.4			SHALE	4.0	108.0	
292.4			COAL	1.5	112.0	
290.9			SHALE	22.5	113.5	
268.4			COAL	1.0	136.0	
267.4			SHALE	2.0	137.0	
265.4			SHALE	22.0	139.0	
243.4			SANDSTONE	68.0	161.0	
175.4			SHALE	42.0	229.0	
133.4			SHALE	75.0	271.0	
58.4			SHALE	18.0	346.0	
40.4			COAL	1.5	364.0	
38.9			SANDSTONE	27.5	365.5	
11.4			SHALE	18.0	393.0	
-6.6			SHALE	62.0	411.0	BLUE
-68.6	MODESTO	CHAPEL	COAL	1.1	473.0	
-69.7	MODESTO		SHALE	5.9	474.1	
-75.6	MODESTO		SHALE	29.0	480.0	
-104.6	MODESTO		SHALY SANDSTONE	11.0	509.0	
-115.6	MODESTO		SANDSTONE	31.0	520.0	
-146.6	MODESTO		SHALE	45.0	551.0	BLUE
-191.6	MODESTO		SHALE	3.5	596.0	BROWN
-195.1	MODESTO		SHALE	2.0	599.5	BLUE
-197.1	MODESTO		COAL	2.2	601.5	
-199.3	MODESTO		SHALE	4.3	603.7	
-203.6	MODESTO		SANDSTONE	9.0	608.0	
-212.6	MODESTO		SHALE	7.0	617.0	
-219.6	MODESTO		SHALE	5.0	624.0	BLUE
-224.6	MODESTO		SHALE	5.0	629.0	BLACK

-229.6	MODESTO	PIASA	SHALY LIMESTONE	3.0	634.0	
-232.6	MODESTO		SHALE	24.0	637.0	BLUE
-256.6	MODESTO		SHALE	3.3	661.0	BLACK
-259.9	CARBONDALE	DANVILLE	COAL	2.7	664.3	
-262.6	CARBONDALE		SHALE	2.0	667.0	
-264.6	CARBONDALE		SHALE	9.0	669.0	
-273.6	CARBONDALE		SHALE	3.0	678.0	BLACK
-276.6	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	11.0	681.0	
-287.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	692.0	WHITE
-292.6	CARBONDALE		SHALE	8.0	697.0	
-300.6	CARBONDALE		SANDSTONE	12.0	705.0	
-312.6	CARBONDALE		SHALE	8.0	717.0	BLUE
-320.6	CARBONDALE		SHALE	6.0	725.0	DARK
-326.6	CARBONDALE		SHALE	1.0	731.0	BLACK
-327.6	CARBONDALE	BRERETON	LIMESTONE	2.0	732.0	BLUE
-329.6	CARBONDALE	ANNA	SHALE	1.0	734.0	BLACK
-330.6	CARBONDALE	HERRIN	COAL	6.5	735.0	
-337.1	CARBONDALE		UNDERCLAY	3.5	741.5	
-340.6	CARBONDALE		SHALE	17.0	745.0	
-357.6	CARBONDALE		SHALE	8.0	762.0	
-365.6	CARBONDALE		SHALY SANDSTONE	8.0	770.0	
-373.6	CARBONDALE		SHALE	4.0	778.0	
-377.6	CARBONDALE	ST. DAVID	LIMESTONE	2.0	782.0	
-379.6	CARBONDALE		SHALE	16.0	784.0	BLUE
-395.6	CARBONDALE		SHALE	14.0	800.0	
-409.6	CARBONDALE		SHALE	17.0	814.0	BLUE
-426.6	CARBONDALE		SHALE	6.8	831.0	DARK
-433.4	CARBONDALE	SPRINGFIELD	COAL	4.1	837.8	
-437.5	CARBONDALE		UNDERCLAY	0.1	841.9	

**MAPID:** 06590052000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 29    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.575559    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.974382    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.4	

MAPID: 06590053000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 29 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.559186

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.971822

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.3		

MAPID: 06501059000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 30 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.587581

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.974119

DATE COLLECTED:

SURFACE ELEVATION (FT.): 414.0 LOGGED (FT.): 3332.0

LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	5.0	717.0	
-410.0	CARBONDALE	SPRINGFIELD	COAL	5.0	824.0	SHALE AND SANDSTONE ROOF
-489.0	CARBONDALE	HOUCHIN CREEK	COAL	-	903.0	

MAPID: 06501059000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 30 QUARTERS/FOOTAGES: 2310' N line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.587581

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.974119

DATE COLLECTED:

SURFACE ELEVATION (FT.): 414.0 LOGGED (FT.): 723.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-204.0	MODESTO	PIASA	CALCAREOUS SHALE	6.0	618.0	
-210.0	MODESTO		SHALE	22.0	624.0	
-232.0	CARBONDALE	DANVILLE	COAL	2.0	646.0	
-234.0	CARBONDALE		SHALE & SANDSTONE	28.0	648.0	
-262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	676.0	
-266.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	17.0	680.0	
-283.0	CARBONDALE	LAWSON	GRAY SHALE	10.0	697.0	
-293.0	CARBONDALE	BRERETON	LIMESTONE	6.0	707.0	
-299.0	CARBONDALE	ANNA	BLACK SHALE	4.0	713.0	
-303.0	CARBONDALE	HERRIN	COAL	6.0	717.0	



MAPID: 06590046000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 30 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.593838

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.974395

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		4.5	

MAPID: 06590047000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 30 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.587262

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.974818

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		6.0	

MAPID: 06500392000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 31 QUARTERS/FOOTAGES: SW NE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.580909

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.955557

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 488.0 LOGGED (FT.): 4880.0

LOG TYPE: Electric Log

SOURCE: KINGWOODOC, LASSWELL D0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-282.0	CARBONDALE	HERRIN	COAL	-	770.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	-	860.0	
-1982.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2470.0	

**MAPID:** 06501265000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.585486    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.959235    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 446.0    **LOGGED (FT.):** 3235.0    **LOG TYPE:** Electric Log  
**SOURCE:** GANGUEER, R. C.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-264.0	CARBONDALE	HERRIN	COAL	4.0	710.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	4.0	818.0	SHALE AND SANDSTONE ROOF
-446.0	CARBONDALE	HOUCHIN CREEK	COAL	-	892.0	

**MAPID:** 06501303000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 2310' S line, 1650' W line  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.590109    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.95734    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 462.0    **LOGGED (FT.):** 743.0    **LOG TYPE:** Electric Log  
**SOURCE:**    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-177.0	MODESTO	PIASA	LIMESTONE	7.0	639.0	
-184.0	MODESTO		SHALE	22.0	646.0	
-206.0	CARBONDALE	DANVILLE	COAL	1.5	668.0	
-207.5	CARBONDALE		SHALE	27.5	669.5	
-235.0	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	697.0	
-248.0	CARBONDALE	LAWSON	SHALE	19.0	710.0	
-267.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	729.0	
-268.0	CARBONDALE		SHALE	1.0	730.0	
-269.0	CARBONDALE	BRERETON	LIMESTONE	8.0	731.0	
-277.0	CARBONDALE	HERRIN	COAL	4.0	739.0	

**MAPID:** 06523854000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 31    **QUARTERS/FOOTAGES:** SW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.584385    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.952805    **DATE COLLECTED:** 5 / 22 / 1970  
**SURFACE ELEVATION (FT.):** 459.0    **LOGGED (FT.):** 796.0    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    38-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-279.9	CARBONDALE	HERRIN	COAL	6.4	738.9	
-386.0	CARBONDALE	SPRINGFIELD	COAL	4.5	845.0	

**MAPID:** 06590044000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 31    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.585521    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.953982    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.6	

**MAPID:** 06590045000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 31    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.58905    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.956161    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.5	

**MAPID:** 06501111000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 32    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.560102    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.96099    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 467.0    **LOGGED (FT.):** 3347.0    **LOG TYPE:** Electric Log  
**SOURCE:** EASTERN PETROLEUM CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-303.0	CARBONDALE	HERRIN	COAL	5.0	770.0
-333.0	CARBONDALE	BRIAR HILL	COAL	-	800.0
-401.0	CARBONDALE	SPRINGFIELD	COAL	4.0	868.0    SHALE ROOF
-479.0	CARBONDALE	HOUCHIN CREEK	COAL	-	946.0

MAPID: 06502862000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 32 QUARTERS/FOOTAGES: 1650' S line, 330' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.560147 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.955439 DATE COLLECTED:

SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 770.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-199.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	654.0
-206.0	MODESTO		SHALE	27.0	661.0
-233.0	CARBONDALE	DANVILLE	COAL	1.5	688.0
-234.5	CARBONDALE		SHALE	12.5	689.5
-247.0	CARBONDALE	ALLENBY	BONE COAL	1.0	702.0
-248.0	CARBONDALE		CLAYSTONE & SHALE	17.0	703.0
-265.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	720.0
-272.0	CARBONDALE	LAWSON	SILTY SHALE	29.0	727.0
-301.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	756.0
-302.0	CARBONDALE	BRERETON	LIMESTONE	7.0	757.0
-309.0	CARBONDALE	ANNA	BLACK SHALE	1.0	764.0
-310.0	CARBONDALE	HERRIN	COAL	5.0	765.0

MAPID: 06523864000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 32 QUARTERS/FOOTAGES: 1650' N line, 2310' E line of SW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.571649 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.957388 DATE COLLECTED: 6 / 26 / 1972

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 920.0 LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 67-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-321.3	CARBONDALE	HERRIN	COAL	6.5	821.3

MAPID: 06500014000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 33 QUARTERS/FOOTAGES: 700' N line, 100' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.540892 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.963647 DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 409.7 LOGGED (FT.): 4097.0 LOG TYPE: Drillers Log

SOURCE: AMCOKECHEM0003, COTTER E WELL TYPE: Coal Test

COMMENT: EXACT LOCATION UNCERTAIN

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-257.3	CARBONDALE	HERRIN	COAL	5.9	667.0
-358.3	CARBONDALE	SPRINGFIELD	COAL	4.3	768.0

MAPID: 06500014000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 33 QUARTERS/FOOTAGES: 700' N line, 100' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.540892 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.963647 DATE COLLECTED:

SURFACE ELEVATION (FT.): 410.0 LOGGED (FT.): 672.9 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-148.4	MODESTO	PIASA	LIMESTONE	7.0	558.4	
-155.4	MODESTO		GRAY SHALE	30.8	565.4	
-186.3	CARBONDALE	DANVILLE	COAL	2.3	596.3	
-188.6	CARBONDALE		SHALE & SANDSTONE	27.8	598.6	
-216.4	CARBONDALE	BANKSTON FORK	SILTY SHALE	6.0	626.4	
-222.4	CARBONDALE	LAWSON	SANDSTONE	8.0	632.4	
-230.4	CARBONDALE	LAWSON	GRAY SHALE	10.0	640.4	
-240.4	CARBONDALE	LAWSON	BLACK SHALE	7.0	650.4	
-247.4	CARBONDALE	LAWSON	SILTY SHALE	2.0	657.4	
-249.4	CARBONDALE	BRERETON	LIMESTONE	5.8	659.4	
-255.3	CARBONDALE	ANNA	BLACK SHALE	1.8	665.3	
-257.0	CARBONDALE	HERRIN	COAL	5.9	667.0	

MAPID: 06500014000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 33 QUARTERS/FOOTAGES: 700' N line, 100' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.540892 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.963647 DATE COLLECTED:

SURFACE ELEVATION (FT.): 410.0 LOGGED (FT.): 772.0 LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-257.0	CARBONDALE	HERRIN	COAL	5.9	667.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	4.3	768.0	LIMESTONE W/ SHALE ROOF

MAPID: 06500014000C    VERSION: 4

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 33    QUARTERS/FOOTAGES: 700' N line, 100' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.540892    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 37.963647    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 409.7    LOGGED (FT.): 772.2    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE AND CHEM. CO. 3    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
409.7	PLEISTOCENE		CLAY	23.0	0.0	
386.7			ROCK	2.8	23.0	"BROKEN LEDGE" NOTED IN LOG
383.9			SHALE	23.4	25.8	
360.5			COAL	0.8	49.2	
359.7			SHALE	1.0	50.0	
358.7			SHALE	3.2	51.0	
355.5			COAL	0.3	54.2	BONEY
355.2			UNDERCLAY	1.5	54.5	
353.7			SANDSTONE	2.0	56.0	
351.7			SHALE	5.0	58.0	
346.7			SHALE	9.0	63.0	
337.7			SANDSTONE	88.0	72.0	
249.7			SHALE	20.0	160.0	
229.7			SHALE	41.0	180.0	
188.7			SHALE	7.0	221.0	
181.7			SHALE	37.0	228.0	
144.7			SHALE	6.0	265.0	BLUE
138.7			SHALE	2.0	271.0	BLACK
136.7			SHALE	3.0	273.0	
133.7			SHALE WITH LIMESTONE	4.0	276.0	
129.7			SHALE	24.0	280.0	
105.7			COAL	2.0	304.0	BONEY
103.7			SHALE	13.0	306.0	
90.7			SHALE	73.0	319.0	
17.7			SHALE	7.0	392.0	BLACK
10.7	MODESTO	CHAPEL	COAL	0.5	399.0	BONEY
10.2	MODESTO		SHALE	3.5	399.5	
6.7	MODESTO		SHALY SANDSTONE	35.0	403.0	
-28.3	MODESTO		SANDSTONE	4.0	438.0	
-32.3	MODESTO		SHALE	37.0	442.0	BLUE
-69.3	MODESTO		SHALE	4.0	479.0	
-73.3	MODESTO		SHALY SANDSTONE	12.0	483.0	
-85.3	MODESTO		SHALE	5.0	495.0	
-90.3	MODESTO		SHALE	18.0	500.0	BLACK
-108.3	MODESTO		SHALE	5.0	518.0	
-113.3	MODESTO		SHALE	2.0	523.0	BLACK
-115.3	MODESTO		SHALE	10.0	525.0	DARK
-125.3	MODESTO		SHALE	1.0	535.0	BLACK
-126.3	MODESTO		COAL	0.8	536.0	

-127.1	MODESTO		UNDERCLAY	3.2	536.8	
-130.3	MODESTO		SHALY LIMESTONE	3.0	540.0	
-133.3	MODESTO		SHALY SANDSTONE	10.0	543.0	
-143.3	MODESTO		SHALE	5.0	553.0	
-148.3	MODESTO	PIASA	LIMESTONE	7.0	558.0	
-155.3	MODESTO		SHALE	30.8	565.0	BLUE
-186.1	CARBONDALE	DANVILLE	COAL	2.3	595.8	
-188.5	CARBONDALE		SHALE	3.8	598.2	
-192.3	CARBONDALE		SHALE	3.0	602.0	
-195.3	CARBONDALE		SANDSTONE	4.0	605.0	
-199.3	CARBONDALE		SHALE	17.0	609.0	BLUE
-216.3	CARBONDALE		SHALE	6.0	626.0	
-222.3	CARBONDALE		SANDSTONE	8.0	632.0	
-230.3	CARBONDALE		SHALE	10.0	640.0	BLUE
-240.3	CARBONDALE		SHALE	7.0	650.0	BLACK
-247.3	CARBONDALE		SHALE	2.0	657.0	
-249.3	CARBONDALE		SANDSTONE	5.8	659.0	BLUE
-255.1	CARBONDALE		SHALE	1.8	664.8	BLACK
-256.9	CARBONDALE	HERRIN	COAL	5.9	666.6	
-262.8	CARBONDALE		UNDERCLAY	3.5	672.5	
-266.3	CARBONDALE		SHALE	1.0	676.0	
-267.3	CARBONDALE		LIMESTONE	5.0	677.0	
-272.3	CARBONDALE		SHALE	7.0	682.0	
-279.3	CARBONDALE		LIMESTONE	1.0	689.0	
-280.3	CARBONDALE		SHALE	77.5	690.0	
-357.8	CARBONDALE	SPRINGFIELD	COAL	0.2	767.5	BONEY
-358.0	CARBONDALE	SPRINGFIELD	COAL	4.3	767.7	
-362.2	CARBONDALE		UNDERCLAY	0.3	771.9	

MAPID: 06502863000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 33    QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: WALPOLE

LONGITUDE: -88.550921

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 37.959139

DATE COLLECTED:

SURFACE ELEVATION (FT.): 447.0

LOGGED (FT.): 3185.0

LOG TYPE: Electric Log

SOURCE: REASOR G L

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-278.0	CARBONDALE	HERRIN	COAL	5.0	725.0	
-303.0	CARBONDALE	BRIAR HILL	COAL	-	750.0	
-377.0	CARBONDALE	SPRINGFIELD	COAL	5.0	824.0	SHALE ROOF
-458.0	CARBONDALE	HOUCHIN CREEK	COAL	-	905.0	

MAPID: 06590061000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 33 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.554395

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.957473

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.0	

MAPID: 06590062000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 33 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.541951

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.963167

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.3	

MAPID: 06500051000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: 25' N line, 1295' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.526476

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.965685

DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 387.0 LOGGED (FT.): 3870.0

LOG TYPE: Electric Log

SOURCE: TEXAS CO, JOHNSON C 0005

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-259.0	CARBONDALE	HERRIN	COAL	6.0	646.0
-365.0	CARBONDALE	SPRINGFIELD	COAL	4.0	752.0
-1918.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2305.0



MAPID: 06500051000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: 25' N line, 1295' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.526476 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.965685 DATE COLLECTED:

SURFACE ELEVATION (FT.): 387.0 LOGGED (FT.): 648.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-184.0	CARBONDALE	DANVILLE	COAL	3.0	571.0	
-187.0	CARBONDALE		SILTY SHALE	21.0	574.0	
-208.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	595.0	
-216.0	CARBONDALE	LAWSON	SILTSTONE	5.0	603.0	
-221.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	608.0	
-229.0	CARBONDALE	LAWSON	SILTSTONE	19.0	616.0	
-248.0	CARBONDALE	BRERETON	LIMESTONE	5.0	635.0	
-253.0	CARBONDALE	ANNA	BLACK SHALE	2.0	640.0	
-255.0	CARBONDALE	HERRIN	COAL	6.0	642.0	

MAPID: 06500051000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: 25' N line, 1295' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.526476 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.965685 DATE COLLECTED:

SURFACE ELEVATION (FT.): 387.0 LOGGED (FT.): 3103.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-253.0	CARBONDALE	HERRIN	COAL	6.0	640.0	
-283.0	CARBONDALE	BRIAR HILL	COAL	-	670.0	
-357.0	CARBONDALE	SPRINGFIELD	COAL	6.0	744.0	SHALE ROOF
-437.0	CARBONDALE	HOUCHIN CREEK	COAL	-	824.0	

MAPID: 06500051000C VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: 25' N line, 1295' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.526476 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 37.965685 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3103.0 LOG TYPE: Survey Sample Study

SOURCE: TEXAS COMPANY, THE WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

MAPID: 06500051000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 34    QUARTERS/FOOTAGES: 25' N line, 1295' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.526476    GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N    LATITUDE: 37.965685    DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 387.0    LOGGED (FT.): 760.0    LOG TYPE: Survey Sample Study

SOURCE: TEXAS COMPANY, THE    5    WELL TYPE: Dry Hole

COMMENT: COAL DIVISION CONTROL WELL #107

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
387.0			NO RECORD	158.0	0.0	
229.0			SHALE	28.0	158.0	
201.0			SILTSTONE	34.0	186.0	
167.0			SHALE	21.0	220.0	
146.0			BLACK SHALE	1.0	241.0	WITH UNDERCLAY
145.0			SHALE	2.0	242.0	
143.0			LIMESTONE	2.0	244.0	
141.0			SHALE	14.0	246.0	
127.0			BLACK SHALE	6.0	260.0	
121.0			COAL	1.0	266.0	THICKNESS ESTIMATED
120.0			UNDERCLAY	1.0	267.0	
119.0			LIMESTONE	1.0	268.0	
118.0			SHALE	31.0	269.0	
87.0			SILTSTONE	60.0	300.0	
27.0			SHALE	10.0	360.0	
17.0			LIMESTONE	3.0	370.0	
14.0			SHALE	20.0	373.0	
-6.0			LIMESTONE	2.0	393.0	
-8.0			SHALE	8.0	395.0	
-16.0			LIMESTONE	2.0	403.0	
-18.0			SILTSTONE	5.0	405.0	
-23.0			BLACK SHALE	5.0	410.0	
-28.0			SILTSTONE	9.0	415.0	
-37.0			SHALE	30.0	424.0	
-67.0			BLACK SHALE	22.0	454.0	
-89.0			SHALE	17.0	476.0	
-106.0			LIMESTONE	2.0	493.0	
-108.0			BLACK SHALE	17.0	495.0	
-125.0			SHALE	5.0	512.0	
-130.0			LIMESTONE	4.0	517.0	
-134.0			SHALE	10.0	521.0	WITH UNDERCLAY
-144.0			LIMESTONE	3.0	531.0	
-147.0			SHALE	40.0	534.0	
-187.0			BLACK SHALE	1.0	574.0	
-188.0	CARBONDALE	DANVILLE	COAL	3.0	575.0	THICKNESS ESTIMATED
-191.0	CARBONDALE		UNDERCLAY	1.0	578.0	
-192.0	CARBONDALE		SHALE	5.0	579.0	
-197.0	CARBONDALE		SILTSTONE	6.0	584.0	
-203.0	CARBONDALE		SHALE	9.0	590.0	

-212.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	599.0	
-220.0	CARBONDALE		SILTSTONE	5.0	607.0	
-225.0	CARBONDALE		SHALE	8.0	612.0	
-233.0	CARBONDALE		SILTSTONE	19.0	620.0	
-252.0	CARBONDALE	BRERETON	LIMESTONE	5.0	639.0	
-257.0	CARBONDALE	ANNA	BLACK SHALE	2.0	644.0	
-259.0	CARBONDALE	HERRIN	COAL	6.0	646.0	APPROXIMATE THICKNESS
-265.0	CARBONDALE		UNDERCLAY	2.0	652.0	
-267.0	CARBONDALE		SANDSTONE	19.0	654.0	
-286.0	CARBONDALE		LIMESTONE	1.0	673.0	
-287.0	CARBONDALE		BLACK SHALE	3.0	674.0	
-290.0	CARBONDALE		SILTSTONE	73.0	677.0	
-363.0	CARBONDALE		BLACK SHALE	2.0	750.0	
-365.0	CARBONDALE	SPRINGFIELD	COAL	4.0	752.0	APPROXIMATE THICKNESS
-369.0	CARBONDALE		UNDERCLAY	2.0	756.0	
-371.0	CARBONDALE		SHALE	2.0	758.0	

**MAPID:** 06500393000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.527861    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.955537    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 391.0    **LOGGED (FT.):** 3910.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, BOND M 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-254.0	CARBONDALE	HERRIN	COAL	-	645.0	
-357.0	CARBONDALE	SPRINGFIELD	COAL	-	748.0	
-1921.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2312.0	

**MAPID:** 06500394000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.523191    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.959279    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 397.0    **LOGGED (FT.):** 3970.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, BROWN COM 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-248.0	CARBONDALE	HERRIN	COAL	-	645.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1929.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2326.0	

MAPID: 06500395000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: SW NE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.53475 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.962886 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 392.0 LOGGED (FT.): 3920.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, COTTER E 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-258.0	CARBONDALE	HERRIN	COAL	-	650.0	
-363.0	CARBONDALE	SPRINGFIELD	COAL	-	755.0	
-1947.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2339.0	

MAPID: 06500396000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.532496 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.955518 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 4070.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, COTTER G 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-250.0	CARBONDALE	HERRIN	COAL	-	657.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1941.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2348.0	

MAPID: 06500397000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.537098 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.959179 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 4020.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, RUSSELL F 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-258.0	CARBONDALE	HERRIN	COAL	-	660.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1950.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2352.0	

**MAPID:** 06500485000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.530195    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.953676    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 419.0    **LOGGED (FT.):** 4190.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNS S L 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-246.0	CARBONDALE	HERRIN	COAL	-	665.0	
-346.0	CARBONDALE	SPRINGFIELD	COAL	-	765.0	
-1940.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2359.0	

**MAPID:** 06500526000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SE SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.525564    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.95369    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 423.0    **LOGGED (FT.):** 4230.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, RANDOLPH G0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-234.0	CARBONDALE	HERRIN	COAL	-	657.0	
-350.0	CARBONDALE	SPRINGFIELD	COAL	-	773.0	
-1921.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2344.0	

**MAPID:** 06500534000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 34    **QUARTERS/FOOTAGES:** NW SW SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.539456    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.953649    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 416.0    **LOGGED (FT.):** 4160.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNSN T T0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-251.0	CARBONDALE	HERRIN	COAL	-	667.0	
-354.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1958.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2374.0	

MAPID: 06501670000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES: 25' N line, 32' W line of SW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.531168 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.961928 DATE COLLECTED:

SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3140.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-253.0	CARBONDALE	HERRIN	COAL	4.0	646.0	
-282.0	CARBONDALE	BRIAR HILL	COAL	-	675.0	
-354.0	CARBONDALE	SPRINGFIELD	COAL	5.0	747.0	SHALE ROOF
-435.0	CARBONDALE	HOUCHIN CREEK	COAL	-	828.0	

MAPID: 06590072000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 34 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.525547 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.964738 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.0		

MAPID: 06500398000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 35 QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.518544 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.962983 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 3880.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, SMITH M A 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-242.0	CARBONDALE	HERRIN	COAL	-	630.0	
-352.0	CARBONDALE	SPRINGFIELD	COAL	-	740.0	
-1926.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2314.0	

**MAPID:** 06500399000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.509375    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.955489    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 381.0    **LOGGED (FT.):** 3810.0    **LOG TYPE:** Electric Log  
**SOURCE:** OIL CARRS, IRWIN ORVL0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-249.0	CARBONDALE	HERRIN	COAL	-	630.0
-349.0	CARBONDALE	SPRINGFIELD	COAL	-	730.0
-1927.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2308.0

**MAPID:** 06500400000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** NW NE NE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.507054    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.964737    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 377.0    **LOGGED (FT.):** 3770.0    **LOG TYPE:** Electric Log  
**SOURCE:** OIL CR ETL, IRWIN ORVL0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-248.0	CARBONDALE	HERRIN	COAL	-	625.0
-353.0	CARBONDALE	SPRINGFIELD	COAL	-	730.0
-1927.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2304.0

**MAPID:** 06500401000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 35    **QUARTERS/FOOTAGES:** NW NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.511675    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.957359    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 406.0    **LOGGED (FT.):** 4060.0    **LOG TYPE:** Electric Log  
**SOURCE:** MAGNOLIA, IRWIN W 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-254.0	CARBONDALE	HERRIN	COAL	-	660.0
-354.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0
-1946.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2352.0

MAPID: 06500402000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 35 QUARTERS/FOOTAGES: SW NW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.520916 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.955555 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 4050.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, SMITH M E 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-245.0	CARBONDALE	HERRIN	COAL	-	650.0	
-355.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1923.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2328.0	

MAPID: 06503370000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 35 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW

QUADRANGLE: WALPOLE LONGITUDE: -88.513941 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.964818 DATE COLLECTED:

SURFACE ELEVATION (FT.): 386.0 LOGGED (FT.): 3163.0 LOG TYPE: Electric Log

SOURCE: FARRAR OIL CO., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-246.0	CARBONDALE	HERRIN	COAL	8.0	632.0	
-267.0	CARBONDALE	BRIAR HILL	COAL	-	653.0	
-342.0	CARBONDALE	SPRINGFIELD	COAL	3.0	728.0	SHALE & SILTSTONE ROOF
-418.0	CARBONDALE	HOUCHIN CREEK	COAL	-	804.0	



MAPID: 06503373000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 35 QUARTERS/FOOTAGES: 2280' N line, 2310' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.511661

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.959415

DATE COLLECTED:

SURFACE ELEVATION (FT.): 422.0

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	OVERBURDEN COMMENT
-143.0	MODESTO	PIASA	LIMESTONE	8.0	565.0
-151.0	MODESTO		SHALE	37.0	573.0
-188.0	CARBONDALE	DANVILLE	COAL	2.0	610.0
-190.0	CARBONDALE		SHALE	17.0	612.0
-207.0	CARBONDALE	ALLENBY	BONE COAL	1.0	629.0
-208.0	CARBONDALE		CLAYSTONE & SHALE	3.0	630.0
-211.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	633.0
-213.0	CARBONDALE	LAWSON	SILTY SHALE	30.0	635.0
-243.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	665.0
-244.0	CARBONDALE	BRERETON	LIMESTONE	4.0	666.0
-248.0	CARBONDALE	ANNA	BLACK SHALE	3.0	670.0
-251.0	CARBONDALE	HERRIN	COAL	7.0	673.0

MAPID: 06590082000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 35 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.511585

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.959111

DATE COLLECTED: 5 / 1 / 1979

SURFACE ELEVATION (FT.):

LOGGED (FT.):

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	7.5	

MAPID: 06500719000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 36 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.495617 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.959179 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 3152.0 LOG TYPE: Electric Log

SOURCE: HOWARD & HOWELL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-202.0	CARBONDALE	DANVILLE	COAL	-	578.0	
-227.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	603.0	
-238.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	614.0	
-270.0	CARBONDALE	HERRIN	COAL	-	646.0	
-308.0	CARBONDALE	BRIAR HILL	COAL	-	684.0	
-372.0	CARBONDALE	SPRINGFIELD	COAL	4.0	748.0	SHALE & SILTSTONE ROOF
-448.0	CARBONDALE	HOUCHIN CREEK	COAL	-	824.0	

MAPID: 06503743000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 6E SECTION: 36 QUARTERS/FOOTAGES: 0' S line, 1320' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.498997 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.950866 DATE COLLECTED: 10 / 1 / 1970

SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 831.6 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 46-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
420.0			COAL	1.5	20.0	
86.0			COAL	1.0	354.0	
-35.0			COAL	1.0	475.0	
-158.0			COAL	1.2	598.0	
-212.0			COAL	1.0	652.0	
-275.4	CARBONDALE	HERRIN	COAL	4.7	715.4	
-381.6	CARBONDALE	SPRINGFIELD	COAL	5.5	821.6	

MAPID: 06503743000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 36    QUARTERS/FOOTAGES: 0' S line, 1320' W line

QUADRANGLE: WALPOLE    LONGITUDE: -88.498997    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.950866    DATE COLLECTED:

SURFACE ELEVATION (FT.): 440.0    LOGGED (FT.): 719.7    LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO.    46-C    WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-211.6	CARBONDALE	DANVILLE	COAL	1.0	651.6
-212.6	CARBONDALE		GRAY SHALE	22.0	652.6
-234.6	CARBONDALE	BANKSTON FORK	LIMESTONE	4.9	674.6
-239.5	CARBONDALE	LAWSON	SILTY SHALE	28.1	679.5
-267.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.5	707.6
-272.1	CARBONDALE	ANNA	BLACK SHALE	2.9	712.1
-275.0	CARBONDALE	HERRIN	COAL	4.7	715.0

MAPID: 06525091000C    VERSION: 1

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 36    QUARTERS/FOOTAGES: 150' N line, 150' W line of SW SW SW

QUADRANGLE: WALPOLE    LONGITUDE: -88.503077    GEOLOGIST: J MCBETH

CONFIDENTIAL: N    LATITUDE: 37.95227    DATE COLLECTED: 9 / 26 / 1984

SURFACE ELEVATION (FT.): 450.0    LOGGED (FT.): 1099.0    LOG TYPE: Multiple log types

SOURCE: EXXON    EIBI-4    WELL TYPE: Coal Test

COMMENT: EXXON COAL QUALITY DATA-GEOPHYS LOGS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.0			UNCLASSIFIED	125.5	0.0	
324.5			COAL	0.8	125.5	
323.7			UNCLASSIFIED	1.5	126.3	
322.2			COAL	1.0	127.8	
321.2			UNCLASSIFIED	24.8	128.8	
296.5			COAL	1.0	153.5	
295.5			UNCLASSIFIED	208.5	154.5	
87.0			COAL	2.0	363.0	
85.0			UNCLASSIFIED	92.0	365.0	
-7.0			SHALE	1.5	457.0	LOG TRACE SUGGEST CARBONACEOUS
-8.5			UNCLASSIFIED	142.8	458.5	
-151.3			SHALE	1.3	601.3	LOG TRACE SUGGEST CARBONACEOUS
-152.5			UNCLASSIFIED	17.5	602.5	
-170.0			SHALE	1.3	620.0	LOG TRACE SUGGEST CARBONACEOUS
-171.3			UNCLASSIFIED	46.8	621.3	
-218.0	CARBONDALE	DANVILLE	COAL	1.5	668.0	
-219.5	CARBONDALE		ROCK	50.5	669.5	
-270.0	CARBONDALE	BRERETON	LIMESTONE	5.0	720.0	
-275.0	CARBONDALE	ANNA	SHALE	2.0	725.0	LOG TRACE SUGGEST CARBONACEOUS
-277.0	CARBONDALE	HERRIN	COAL	5.5	727.0	
-282.5	CARBONDALE		ROCK	29.5	732.5	
-312.0	CARBONDALE	BRIAR HILL	COAL	0.5	762.0	
-312.5	CARBONDALE		ROCK	69.0	762.5	
-381.5	CARBONDALE		ROCK	5.5	831.5	
-387.0	CARBONDALE		ROCK	72.0	837.0	
-459.0	CARBONDALE	EXCELLO	SHALE	5.0	909.0	LOG TRACE SUGGEST CARBONACEOUS
-464.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	914.0	
-465.5	CARBONDALE		ROCK	29.8	915.5	
-495.3	CARBONDALE	SURVANT	COAL	2.3	945.3	
-497.5	CARBONDALE		ROCK	3.5	947.5	
-501.0	CARBONDALE		COAL	1.5	951.0	
-502.5	CARBONDALE		ROCK	57.0	952.5	
-559.5	CARBONDALE		SHALE	2.3	1009.5	TRACE SUGGESTS CARBONACEOUS
-561.8	CARBONDALE		ROCK	35.0	1011.8	
-596.8	CARBONDALE	DEKOVEN	COAL	3.0	1046.8	
-599.8	CARBONDALE		ROCK	27.3	1049.8	
-627.0	CARBONDALE	DAVIS	COAL	2.3	1077.0	
-629.3	CARBONDALE	DAVIS	SHALE	1.8	1079.3	LOG TRACE SUGGEST CARBONACEOUS

-631.0	CARBONDALE	DAVIS	COAL	3.5	1081.0
-634.5	CARBONDALE		ROCK	14.5	1084.5

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MAPID: 06525091000C    VERSION: 2

PROJECT: NCRDS94

COUNTY: HAMILTON    TWP/RNG: 6S 6E    SECTION: 36    QUARTERS/FOOTAGES: 150' N line, 150' W line of SW SW SW

QUADRANGLE: WALPOLE

LONGITUDE: -88.503077

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 37.95227

DATE COLLECTED: 9 / 26 / 1984

SURFACE ELEVATION (FT.): 450.0

LOGGED (FT.): 1100.0

LOG TYPE: Drillers Log

SOURCE: EXXON    EIBI-4

WELL TYPE: Coal Test

COMMENT: E-LOGS AVAIL. SHOWING COALS BELOW #4

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.0			CLAY	27.0	0.0	
423.0			GRAY SHALE	11.5	27.0	
411.5			SANDSTONE	1.5	38.5	
410.0			COAL	2.0	40.0	
408.0			GRAY SHALE	17.0	42.0	
391.0			LIMESTONE	1.0	59.0	
390.0			GRAY SHALE	15.0	60.0	
375.0			DARK GRAY SHALE	16.0	75.0	
359.0			LIMESTONE	1.0	91.0	
358.0			RED SHALE	3.0	92.0	
355.0			CALCAREOUS SHALE	7.0	95.0	
348.0			LIMESTONE	1.0	102.0	
347.0			DARK GRAY SHALE	23.0	103.0	
324.0			COAL	1.0	126.0	
323.0			CALCAREOUS SHALE	23.0	127.0	
300.0			DARK GRAY SHALE	10.0	150.0	
290.0			SILTY SHALE	17.0	160.0	
273.0			SANDSTONE	2.0	177.0	
271.0			SILTY SHALE	6.0	179.0	GY. CALC SH
265.0			SILTY SHALE	10.0	185.0	
255.0			SANDSTONE	50.0	195.0	
205.0			GRAY SHALE	18.0	245.0	
187.0			LIMESTONE	2.0	263.0	
185.0			GRAY SHALE	45.0	265.0	
140.0			DARK GRAY SHALE	21.0	310.0	
119.0			COAL	2.0	331.0	
117.0			GRAY SHALE	7.0	333.0	
110.0			UNDERCLAY	5.0	340.0	
105.0			SILTY SHALE	15.0	345.0	
90.0			LIMESTONE	1.0	360.0	
89.0			GRAY SHALE	3.0	361.0	
86.0			COAL	2.0	364.0	
84.0			GRAY SHALE	4.0	366.0	
80.0			GRAY SHALE	20.0	370.0	
60.0			SANDSTONE	60.0	390.0	
0.0			DARK GRAY SHALE	13.0	450.0	
-13.0			BLACK SHALE	2.0	463.0	
-15.0			SANDSTONE	27.0	465.0	
-42.0			COAL	2.0	492.0	

-44.0			SILTY SHALE	61.0	494.0	
-105.0			GRAY SHALE	15.0	555.0	
-120.0			DARK GRAY SHALE	25.0	570.0	
-145.0			BLACK SHALE	21.0	595.0	
-166.0			SILTY SHALE	8.0	616.0	
-174.0			SILTY SHALE	11.0	624.0	
-185.0			LIMESTONE	2.0	635.0	
-187.0			SILTY SHALE	36.0	637.0	
-223.0			BLACK SHALE	2.0	673.0	
-225.0			SILTY SHALE	5.0	675.0	
-230.0			DARK GRAY SHALE	2.2	680.0	
-232.2			DARK GRAY SHALE	1.1	682.2	
-233.2			DARK GRAY SHALE	2.7	683.2	
-235.9			BONE COAL	0.5	685.9	
-236.4			UNDERCLAY	2.6	686.4	
-239.0			GRAY SHALE	0.7	689.0	
-239.7	CARBONDALE	DANVILLE	COAL	2.2	689.7	
-241.9	CARBONDALE		SANDSTONE	10.2	691.9	
-252.2	CARBONDALE		SANDSTONE	4.2	702.2	
-256.3	CARBONDALE		SANDSTONE	0.2	706.3	
-256.5	CARBONDALE		DARK GRAY SHALE	13.2	706.5	
-269.7	CARBONDALE		DARK GRAY SHALE	0.2	719.7	
-269.8	CARBONDALE		COAL	0.2	719.8	BONY CO
-270.0	CARBONDALE		GRAY SHALE	0.3	720.0	
-270.3	CARBONDALE		DARK GRAY SHALE	0.2	720.3	
-270.4	CARBONDALE		LIMESTONE	4.2	720.4	
-274.6	CARBONDALE		BLACK SHALE	3.2	724.6	
-277.8	CARBONDALE	HERRIN	COAL	4.9	727.8	
-282.7	CARBONDALE		UNDERCLAY	0.1	732.7	
-282.8	CARBONDALE		UNCLASSIFIED	2.4	732.8	CORE LOSS
-285.2	CARBONDALE		UNDERCLAY	1.8	735.2	
-287.0	CARBONDALE		SANDSTONE	3.4	737.0	
-290.3	CARBONDALE		GRAY SILTSTONE	1.8	740.3	
-292.1	CARBONDALE		LIMESTONE	2.9	742.1	
-295.0	CARBONDALE		CLAYSTONE & SILTSTONE	1.0	745.0	GY CLYST; GY
-296.0	CARBONDALE		GRAY SILTSTONE	1.7	746.0	
-297.7	CARBONDALE		UNCLASSIFIED	0.4	747.7	CORE LOSS
-298.0	CARBONDALE		GRAY SHALE	57.0	748.0	
-355.0	CARBONDALE		GRAY SHALE	8.6	805.0	
-363.6	CARBONDALE		SANDSTONE	10.9	813.6	
-374.5	CARBONDALE		SANDSTONE	0.3	824.5	
-374.8	CARBONDALE		SILTY SHALE	6.3	824.8	
-381.1	CARBONDALE		SILTY SHALE	1.6	831.1	
-382.7	CARBONDALE	SPRINGFIELD	COAL	5.5	832.7	
-388.1	CARBONDALE		UNDERCLAY	2.8	838.1	
-390.9	CARBONDALE		SANDSTONE	3.1	840.9	
-394.0	CARBONDALE		DARK GRAY SHALE	6.0	844.0	
-400.0	CARBONDALE		SANDSTONE	10.0	850.0	

-410.0	CARBONDALE		DARK GRAY SHALE	20.0	860.0
-430.0	CARBONDALE		DARK GRAY SHALE	28.0	880.0
-458.0	CARBONDALE		BLACK SHALE	0.6	908.0
-458.6	CARBONDALE	HANOVER	LIMESTONE	1.8	908.6
-460.4	CARBONDALE	EXCELLO	BLACK SHALE	5.1	910.4
-465.5	CARBONDALE	HOUCHIN CREEK	COAL	1.2	915.5
-466.7			UNDERCLAY	1.5	916.7
-468.2			UNDERCLAY	4.4	918.2
-472.6			GRAY SHALE	6.6	922.6
-479.2			GRAY SHALE	15.1	929.2
-494.3			DARK GRAY SHALE	2.6	944.3
-496.8			COAL	2.5	946.8
-499.4			GRAY SHALE	0.9	949.4
-500.3			SANDY SHALE	0.4	950.3
-500.7			DARK GRAY SHALE	2.0	950.7
-502.6			BONE COAL	0.2	952.6
-502.8			BONE COAL	0.2	952.8
-503.0			COAL	0.7	953.0
-503.7			BONE COAL	0.1	953.7
-503.8			SANDSTONE	0.4	953.8
-504.2			GRAY SHALE	6.9	954.2
-511.0			DARK GRAY SHALE	8.7	961.0
-519.7			LIMESTONE	0.7	969.7
-520.4			SANDSTONE	2.0	970.4
-522.4			DARK GRAY SHALE	0.6	972.4
-523.0			SANDSTONE	22.0	973.0
-545.0			GRAY SHALE	20.0	995.0
-565.0			SANDY SHALE	35.0	1015.0
-600.0			DARK GRAY SHALE	45.0	1050.0
-645.0			SANDY SHALE	5.0	1095.0

**MAPID:** 06590088000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 6E    **SECTION:** 36    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.495109    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.957143    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	SHALE & SANDSTONE	0.0	CHANNEL - COAL MISSING



MAPID: 06503633000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 1 QUARTERS/FOOTAGES: 1320' S line, 2640' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.383238 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.02772 DATE COLLECTED: 1 / 14 / 1969

SURFACE ELEVATION (FT.): LOGGED (FT.): 951.3 WELL TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 17-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY; C-7062

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	7.0	806.2	
-	CARBONDALE	SPRINGFIELD	COAL	7.3	874.5	

MAPID: 06503633000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 1 QUARTERS/FOOTAGES: 1320' S line, 2640' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.383238 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.02772 DATE COLLECTED:

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 813.1 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 17-C WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-309.7	CARBONDALE	DANVILLE	BONE COAL	4.2	721.7	
-313.9	CARBONDALE		SHALE & SANDSTONE	23.1	725.9	
-337.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.7	749.0	UPPER BENCH
-341.7	CARBONDALE	BANKSTON FORK	GRAY SHALE	0.6	753.7	SHALE PARTING
-342.3	CARBONDALE	BANKSTON FORK	LIMESTONE	0.7	754.3	LOWER BENCH
-343.0	CARBONDALE	LAWSON	SANDSTONE	3.3	755.0	
-346.3	CARBONDALE	LAWSON	GRAY SHALE	4.1	758.3	
-350.4	CARBONDALE	LAWSON	SANDSTONE	20.6	762.4	
-371.0	CARBONDALE	LAWSON	SILTY SHALE	9.8	783.0	
-380.8	CARBONDALE	LAWSON	BLACK SHALE	1.2	792.8	
-382.0	CARBONDALE	ANNA	BLACK SHALE	3.0	794.0	
-385.0	CARBONDALE	ENERGY	GRAY SHALE	9.0	797.0	
-394.0	CARBONDALE	HERRIN	COAL	7.1	806.0	

MAPID: 06523817000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 1 QUARTERS/FOOTAGES: 135' S line, 601' E line of SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.389747 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.031825 DATE COLLECTED: 5 / 22 / 1974

SURFACE ELEVATION (FT.): 432.6 LOGGED (FT.): 959.3 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-50 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-314.4	CARBONDALE	DANVILLE	COAL	3.0	747.0	
-340.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	773.0	
-377.4	CARBONDALE	BRERETON	LIMESTONE	2.0	810.0	
-383.4	CARBONDALE	HERRIN	COAL	6.0	816.0	
-415.4	CARBONDALE	BRIAR HILL	COAL	1.0	848.0	LOGBOOK SAYS "1.0?"
-487.4	CARBONDALE	SPRINGFIELD	COAL	4.5	920.0	

MAPID: 06500684000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW NW

QUADRANGLE: THACKERAY LONGITUDE: -88.407208 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.034276 DATE COLLECTED:

SURFACE ELEVATION (FT.): 438.0 LOGGED (FT.): 3394.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-282.0	CARBONDALE	DANVILLE	COAL	-	720.0	
-294.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	732.0	
-312.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	750.0	
-344.0	CARBONDALE	HERRIN	COAL	4.0	782.0	
-378.0	CARBONDALE	BRIAR HILL	COAL	-	816.0	
-458.0	CARBONDALE	SPRINGFIELD	COAL	7.0	896.0	SHALE ROOF
-522.0	CARBONDALE	HOUCHIN CREEK	COAL	-	960.0	

MAPID: 06503640000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 2 QUARTERS/FOOTAGES: 2340' S line, 2570' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.401191 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.03056 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 510.6 LOGGED (FT.): 998.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-5 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-287.4	CARBONDALE	DANVILLE	COAL	2.9	798.0
-371.6	CARBONDALE	HERRIN	COAL	5.1	882.2
-471.4	CARBONDALE	SPRINGFIELD	COAL	7.5	982.0

MAPID: 06503640000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 2 QUARTERS/FOOTAGES: 2340' S line, 2570' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.401191 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.03056 DATE COLLECTED:

SURFACE ELEVATION (FT.): 511.0 LOGGED (FT.): 889.1 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-5 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-304.9	CARBONDALE	DANVILLE	COAL	2.9	815.9
-307.8	CARBONDALE		SANDSTONE	22.0	818.8
-329.8	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	840.8
-333.3	CARBONDALE	LAWSON	GRAY SHALE	19.3	844.3
-352.7	CARBONDALE	LAWSON	SANDSTONE	3.0	863.7
-355.7	CARBONDALE	LAWSON	SILTSTONE	1.8	866.7
-357.5	CARBONDALE	LAWSON	SILTY SHALE	4.2	868.5
-361.7	CARBONDALE	LAWSON	GRAY SHALE	2.7	872.7
-364.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	875.3
-364.8	CARBONDALE		BLACK SHALE	1.4	875.8
-366.3	CARBONDALE	BRERETON	LIMESTONE	2.6	877.3
-368.8	CARBONDALE	ANNA	BLACK SHALE	4.2	879.8
-373.0	CARBONDALE	HERRIN	COAL	5.1	884.0

MAPID: 06523818000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 2 QUARTERS/FOOTAGES: 78' N line, 221' W line of NE NW

QUADRANGLE: THACKERAY LONGITUDE: -88.405246 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.038664 DATE COLLECTED: 7 / 28 / 1973

SURFACE ELEVATION (FT.): 432.2 LOGGED (FT.): 916.0 LOG TYPE: Nuclear Log

SOURCE: AMAX C.C. C3-73 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM GAMMA LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-276.8	CARBONDALE	DANVILLE	COAL	2.0	709.0	
-287.8	CARBONDALE	ALLENBY	COAL	1.0	720.0	
-290.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	723.0	
-315.8	CARBONDALE	BRERETON	LIMESTONE	4.0	748.0	
-323.8	CARBONDALE	HERRIN	COAL	4.5	756.0	
-355.8	CARBONDALE	BRIAR HILL	COAL	1.0	788.0	
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0		CHANNELLED - OUT

MAPID: 06523819000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 2 QUARTERS/FOOTAGES: 101' S line, 56' W line of SE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.405956 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.024372 DATE COLLECTED: 5 / 23 / 1974

SURFACE ELEVATION (FT.): 516.6 LOGGED (FT.): 1019.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-74 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.4	CARBONDALE	DANVILLE	COAL	2.5	817.0	
-371.4	CARBONDALE	HERRIN	COAL	6.0	888.0	
-420.4	CARBONDALE	BRIAR HILL	COAL	1.5	937.0	
-461.4	CARBONDALE	SPRINGFIELD	COAL	8.0	978.0	2' SPLIT ABOUT 1.5' FROM TOP

MAPID: 06500403000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 3 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.414137 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.032415 DATE COLLECTED:

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 3407.0 LOG TYPE: Electric Log

SOURCE: DELTA DEV ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-277.0	CARBONDALE	DANVILLE	COAL	-	704.0	
-289.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	14.0	716.0	
-303.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	730.0	
-341.0	CARBONDALE	HERRIN	COAL	-	768.0	
-375.0	CARBONDALE	BRIAR HILL	COAL	-	802.0	
-457.0	CARBONDALE	SPRINGFIELD	COAL	8.0	884.0	SHALE ROOF
-495.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	68.0	922.0	

MAPID: 06500403000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 3 QUARTERS/FOOTAGES: SW SE NE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.414137 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.032415 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 427.0 LOGGED (FT.): 4270.0 LOG TYPE: Electric Log

SOURCE: DELTA ETAL, JOHNSN CAR0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-343.0	CARBONDALE	HERRIN	COAL	-	770.0	
-463.0	CARBONDALE	SPRINGFIELD	COAL	-	890.0	
-2039.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2466.0	

MAPID: 06500541000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 3 QUARTERS/FOOTAGES: SW NW SW

QUADRANGLE: WALPOLE LONGITUDE: -88.4279 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.028676 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 448.0 LOGGED (FT.): 4480.0 LOG TYPE: Electric Log

SOURCE: NAT ASSOC, LITTLE G 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-344.0	CARBONDALE	HERRIN	COAL	-	792.0	
-447.0	CARBONDALE	SPRINGFIELD	COAL	-	895.0	
-2006.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2454.0	

MAPID: 06503717000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 3 QUARTERS/FOOTAGES: 1370' N line, 2310' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.418746 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.035122 DATE COLLECTED: 8 / 6 / 1970

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 935.0 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-29 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-NEUTRON LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-373.0	CARBONDALE	HERRIN	COAL	5.0	801.0	SEE LOGBOOK FOR NOTES ON DATA QUALITY
-481.3	CARBONDALE	SPRINGFIELD	COAL	6.7	909.3	SEE LOGBOOK FOR NOTES ON DATA QUALITY

MAPID: 06503717000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 3 QUARTERS/FOOTAGES: 1370' N line, 2310' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.418746 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.035122 DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 808.0 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-29 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-305.9	CARBONDALE	DANVILLE	COAL	3.0	733.9	
-308.9	CARBONDALE		SHALE & SANDSTONE	24.0	736.9	
-332.9	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.0	760.9	
-338.9	CARBONDALE	LAWSON	GRAY SHALE	6.0	766.9	
-344.9	CARBONDALE	LAWSON	SANDSTONE	4.0	772.9	
-348.9	CARBONDALE	LAWSON	SILTY SHALE	14.0	776.9	
-362.9	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	790.9	
-363.4	CARBONDALE	JAMESTOWN	BONE COAL	0.5	791.4	
-363.9	CARBONDALE		CLAYSTONE & SHALE	2.1	791.9	
-366.0	CARBONDALE	BRERETON	LIMESTONE	5.0	794.0	
-371.0	CARBONDALE	ANNA	BLACK SHALE	4.0	799.0	
-375.0	CARBONDALE	HERRIN	COAL	5.0	803.0	

MAPID: 06500683000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 4 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.441668 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.028586 DATE COLLECTED:

SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 3360.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-270.0	CARBONDALE	DANVILLE	COAL	-	652.0	
-275.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	657.0	
-286.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	668.0	
-306.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	16.0	688.0	
-345.0	CARBONDALE	HERRIN	COAL	5.0	727.0	
-378.0	CARBONDALE	BRIAR HILL	COAL	-	760.0	
-432.0	CARBONDALE	SPRINGFIELD	COAL	8.0	814.0	SHALE & SILTSTONE ROOF
-500.0	CARBONDALE	HOUCHIN CREEK	COAL	-	882.0	

MAPID: 06503655000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 4 QUARTERS/FOOTAGES: 97' S line, 66' E line of NE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.429282 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.02801 DATE COLLECTED: 0 / 0 / 1969

SURFACE ELEVATION (FT.): 439.8 LOGGED (FT.): 905.3 LOG TYPE: Other Core Study

SOURCE: AYRSHIRE COLLIERIES C3-4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-352.8	CARBONDALE	HERRIN	COAL	4.8	792.6	COAL REMOVED BY CO.
-452.2	CARBONDALE	SPRINGFIELD	COAL	6.7	892.0	COAL REMOVED BY CO.

MAPID: 06523776000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 4 QUARTERS/FOOTAGES: 1221' S line, 2590' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.438398 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.027327 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 382.1 LOGGED (FT.): 860.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-71 WELL TYPE: Coal Test

COMMENT: GAMMA LOG;BED. INCLINED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-394.9	CARBONDALE	HERRIN	COAL	7.0	777.0	
-479.9	CARBONDALE	SPRINGFIELD	COAL	6.3	862.0	UPPER
-486.9	CARBONDALE	SPRINGFIELD	COAL	2.2	869.0	LOWER

MAPID: 06523776000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 4 QUARTERS/FOOTAGES: 1221' S line, 2590' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.438398

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.027327

DATE COLLECTED:

SURFACE ELEVATION (FT.): 382.0

LOGGED (FT.): 783.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-71

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.7	CARBONDALE	DANVILLE	COAL	3.0	685.7	
-306.7	CARBONDALE		SHALE & SANDSTONE	27.0	688.7	
-333.7	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	2.5	715.7	UPPER BENCH
-336.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	718.2	SHALE PARTING
-337.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	3.0	719.2	LOWER BENCH
-340.2	CARBONDALE	LAWSON	SHALE	8.0	722.2	
-348.2	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	730.2	
-360.2	CARBONDALE	LAWSON	SILTY SHALE	16.0	742.2	
-376.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	758.2	
-376.6	CARBONDALE	JAMESTOWN	COAL	0.4	758.6	
-377.0	CARBONDALE		CLAYSTONE & SHALE	5.0	759.0	
-382.0	CARBONDALE	BRERETON	LIMESTONE	6.0	764.0	
-388.0	CARBONDALE	ANNA	BLACK SHALE	5.0	770.0	
-393.0	CARBONDALE	HERRIN	COAL	8.0	775.0	

MAPID: 06500049000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 5 QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: DAHLGREN LONGITUDE: -88.464769

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.030342

DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0

LOGGED (FT.): 3059.0

LOG TYPE: Electric Log

SOURCE: SHELL OIL COMPANY

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-264.0	CARBONDALE	HERRIN	COAL	5.0	654.0	
-292.0	CARBONDALE	BRIAR HILL	COAL	-	682.0	
-366.0	CARBONDALE	SPRINGFIELD	COAL	6.0	756.0	SHALE ROOF
-443.0	CARBONDALE	HOUCHIN CREEK	COAL	-	833.0	



**MAPID:** 06500049000C    **VERSION:** 2    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 5    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.464769    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.030342    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 3900.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, KERN J C 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-265.0	CARBONDALE	HERRIN	COAL	5.0	655.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	5.0	760.0	
-1894.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2284.0	

**MAPID:** 06500049000C    **VERSION:** 3    **PROJECT:** CONTROL  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 5    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** DAHLGREN    **LONGITUDE:** -88.464769    **GEOLOGIST:** HINES  
**CONFIDENTIAL:** N    **LATITUDE:** 38.030342    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):** 3059.0    **LOG TYPE:** Survey Sample Study  
**SOURCE:** SHELL OIL COMPANY    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

**MAPID:** 06500404000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 5    **QUARTERS/FOOTAGES:** SW NW NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.464751    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.035958    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 396.0    **LOGGED (FT.):** 3960.0    **LOG TYPE:** Electric Log  
**SOURCE:** CAMERON OC, HALL BGRST0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-289.0	CARBONDALE	HERRIN	COAL	-	685.0	
-384.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0	
-1929.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2325.0	

MAPID: 06500405000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 5 QUARTERS/FOOTAGES: NW SW SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.464785 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.026599 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3770.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, BEAGLE N J0007 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-257.0	CARBONDALE	HERRIN	COAL	-	634.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	-	745.0	
-1894.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2271.0	

MAPID: 06500406000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 5 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.46013 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.030372 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3800.0 LOG TYPE: Electric Log

SOURCE: MCBRIDEINC, WINTERS C 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.0	CARBONDALE	HERRIN	COAL	-	680.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1932.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2312.0	

MAPID: 06500612000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.448364 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.037968 DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 3332.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-253.0	CARBONDALE	DANVILLE	COAL	-	636.0	
-270.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	653.0	
-280.0	CARBONDALE	ANVIL ROCK	SILTSTONE	5.0	663.0	
-309.0	CARBONDALE	HERRIN	COAL	4.0	692.0	
-339.0	CARBONDALE	BRIAR HILL	COAL	-	722.0	
-401.0	CARBONDALE	SPRINGFIELD	COAL	7.0	784.0	SHALE ROOF
-489.0	CARBONDALE	HOUCHIN CREEK	COAL	-	872.0	

MAPID: 06523777000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 5 QUARTERS/FOOTAGES: 934' N line, 1252' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.461547 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.03621 DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 378.8 LOGGED (FT.): 761.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-70 WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-318.2	CARBONDALE	HERRIN	COAL	6.5	697.0	
-391.2	CARBONDALE	SPRINGFIELD	COAL	6.0	770.0	APPROX THICKNESS

MAPID: 06523777000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 5 QUARTERS/FOOTAGES: 934' N line, 1252' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.461547 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.03621 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 702.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-70 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-248.7	CARBONDALE	DANVILLE	COAL	2.5	627.7	
-251.2	CARBONDALE		SILTY SHALE	16.0	630.2	
-267.2	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	6.5	646.2	
-273.7	CARBONDALE	LAWSON	SHALE & SANDSTONE	16.0	652.7	
-289.7	CARBONDALE	LAWSON	SANDSTONE	6.0	668.7	
-295.7	CARBONDALE	LAWSON	GRAY SHALE	10.0	674.7	
-305.7	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	684.7	
-306.0	CARBONDALE	JAMESTOWN	BONE COAL	0.3	685.0	
-306.3	CARBONDALE		CALCAREOUS SHALE	7.1	685.3	
-313.4	CARBONDALE	BRERETON	LIMESTONE	3.1	692.4	
-316.5	CARBONDALE	ANNA	BLACK SHALE	1.5	695.5	
-318.0	CARBONDALE	HERRIN	COAL	5.0	697.0	

MAPID: 06500407000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: NW NW NW  
 QUADRANGLE: THACKERAY LONGITUDE: -88.483232 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.037335 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log  
 SOURCE: PURE OC, PHILLIPS H00A1 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	HERRIN	COAL	-	680.0	
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0	
-1878.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2259.0	

MAPID: 06500409000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: SW NE NE  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.469381 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.035867 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 4050.0 LOG TYPE: Electric Log  
 SOURCE: CAMERON OC, JOHNSN B F0002 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-270.0	CARBONDALE	HERRIN	COAL	-	675.0	
-355.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1898.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2303.0	

MAPID: 06500410000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: SW SW NW  
 QUADRANGLE: MCLEANSBORO LONGITUDE: -88.483278 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.031927 DATE COLLECTED: 0 / 0 / 1941  
 SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3810.0 LOG TYPE: Electric Log  
 SOURCE: KINGWOODOC, DODD G E 0008 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-289.0	CARBONDALE	HERRIN	COAL	-	670.0	
-369.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0	
-1865.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2246.0	

MAPID: 06500411000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: NW NW SE

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.474034 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.030238 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 3780.0 LOG TYPE: Electric Log

SOURCE: KINGWOODOC, WILSON 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-232.0	CARBONDALE	HERRIN	COAL	-	610.0	
-322.0	CARBONDALE	SPRINGFIELD	COAL	-	700.0	
-1859.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2237.0	

MAPID: 06500412000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: THACKERAY LONGITUDE: -88.483341 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.024716 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3790.0 LOG TYPE: Electric Log

SOURCE: PURE OC, CUPPY E 0023 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-226.0	CARBONDALE	HERRIN	COAL	-	605.0	
-341.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0	
-1823.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2202.0	

MAPID: 06500413000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.47637 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.026548 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3790.0 LOG TYPE: Electric Log

SOURCE: PURE OC, CUPPY E 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-211.0	CARBONDALE	HERRIN	COAL	-	590.0	
-316.0	CARBONDALE	SPRINGFIELD	COAL	-	695.0	
-1843.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2222.0	

MAPID: 06500414000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.467105

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.02472

DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 376.0

LOGGED (FT.): 3760.0

LOG TYPE: Electric Log

SOURCE: SHELL OC, BEAGLE N J0009

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-234.0	CARBONDALE	HERRIN	COAL	-	610.0	
-334.0	CARBONDALE	SPRINGFIELD	COAL	-	710.0	
-1872.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2248.0	

MAPID: 06500682000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: 1235' S line, 1534' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.479124

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.027216

DATE COLLECTED:

SURFACE ELEVATION (FT.): 378.0

LOGGED (FT.): 1620.0

LOG TYPE: Electric Log

SOURCE: PURE OIL CO., THE

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-156.0	CARBONDALE	DANVILLE	COAL	-	534.0	
-162.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	540.0	
-177.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	555.0	
-182.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	16.0	560.0	
-223.0	CARBONDALE	HERRIN	COAL	4.0	601.0	
-250.0	CARBONDALE	BRIAR HILL	COAL	-	628.0	
-342.0	CARBONDALE	SPRINGFIELD	COAL	6.0	720.0	SHALE ROOF
-390.0	CARBONDALE	HOUCHIN CREEK	COAL	-	768.0	

MAPID: 06503449000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 6 QUARTERS/FOOTAGES: 660' S line, 660' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.482187 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.025633 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 612.0 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
-160.5	CARBONDALE	DANVILLE	COAL	2.0	541.5
-162.5	CARBONDALE		SHALE & SANDSTONE	20.0	543.5
-182.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	33.0	563.5
-215.5	CARBONDALE	JAMESTOWN	BONE COAL	1.0	596.5
-216.5	CARBONDALE		CLAYSTONE & SHALE	2.0	597.5
-218.5	CARBONDALE	BRERETON	LIMESTONE	4.0	599.5
-222.5	CARBONDALE	ANNA	BLACK SHALE	2.5	603.5
-225.0	CARBONDALE	HERRIN	COAL	6.0	606.0

MAPID: 06500416000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: SW NW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.474077 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.0138 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3770.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, DAVIS M 0003 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-203.0	CARBONDALE	HERRIN	COAL	-	580.0
-323.0	CARBONDALE	SPRINGFIELD	COAL	-	700.0
-1837.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2214.0

MAPID: 06500417000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: NE SE NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.476393 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.019254 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 3790.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, DAVIS M 0004 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-211.0	CARBONDALE	HERRIN	COAL	-	590.0
-336.0	CARBONDALE	SPRINGFIELD	COAL	-	715.0

**MAPID:** 06500418000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 7    **QUARTERS/FOOTAGES:** NE SW SE  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.471761    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.011987    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 378.0    **LOGGED (FT.):** 3780.0    **LOG TYPE:** Electric Log  
**SOURCE:** PURE OC, MAYBERRY K0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-202.0	CARBONDALE	HERRIN	COAL	-	580.0
-342.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0
-1877.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2255.0

**MAPID:** 06500419000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 7    **QUARTERS/FOOTAGES:** NW NE NW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.478708    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.022897    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 381.0    **LOGGED (FT.):** 3810.0    **LOG TYPE:** Electric Log  
**SOURCE:** PURE OC, CUPPY E 0009    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-209.0	CARBONDALE	HERRIN	COAL	-	590.0
-329.0	CARBONDALE	SPRINGFIELD	COAL	-	710.0

**MAPID:** 06500420000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 7    **QUARTERS/FOOTAGES:** NE NE SW  
**QUADRANGLE:** MCLEANSBORO    **LONGITUDE:** -88.476396    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.015615    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 385.0    **LOGGED (FT.):** 3850.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, CLARK J E 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-215.0	CARBONDALE	HERRIN	COAL	-	600.0
-335.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0
-1847.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2232.0



**MAPID:** 06500421000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 7    **QUARTERS/FOOTAGES:** NW SE NE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.469434    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.019252    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 379.0    **LOGGED (FT.):** 3790.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, RITCHESN A0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-206.0	CARBONDALE	HERRIN	COAL	-	585.0
-331.0	CARBONDALE	SPRINGFIELD	COAL	-	710.0
-1849.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2228.0

**MAPID:** 06500422000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 7    **QUARTERS/FOOTAGES:** NW NW SW  
**QUADRANGLE:** MACEDONIA    **LONGITUDE:** -88.483351    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.015605    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 386.0    **LOGGED (FT.):** 3860.0    **LOG TYPE:** Electric Log  
**SOURCE:** PURE OC, FAIRWTHR S00A3    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-214.0	CARBONDALE	HERRIN	COAL	-	600.0
-328.0	CARBONDALE	SPRINGFIELD	COAL	-	714.0
-1858.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2244.0

**MAPID:** 06500423000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 7    **QUARTERS/FOOTAGES:** NE NW SE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.471758    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.015621    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 385.0    **LOGGED (FT.):** 3850.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNSN R R0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-205.0	CARBONDALE	HERRIN	COAL	-	590.0
-340.0	CARBONDALE	SPRINGFIELD	COAL	-	725.0

MAPID: 06500424000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: THACKERAY LONGITUDE: -88.467129 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.010187 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 374.0 LOGGED (FT.): 3740.0 LOG TYPE: Electric Log

SOURCE: PURE OC, MAYBERRY K0005 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-246.0	CARBONDALE	HERRIN	COAL	-	620.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	-	732.0	
-1897.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2271.0	

MAPID: 06500425000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: THACKERAY LONGITUDE: -88.483355 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.010133 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 3890.0 LOG TYPE: Electric Log

SOURCE: CAMERON OC, KERN 0008 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-233.0	CARBONDALE	HERRIN	COAL	-	622.0	
-338.0	CARBONDALE	SPRINGFIELD	COAL	-	727.0	
-1883.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2272.0	

MAPID: 06500426000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.476399 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.011976 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 3890.0 LOG TYPE: Electric Log

SOURCE: CAMERON OC, KERN J C 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-201.0	CARBONDALE	HERRIN	COAL	-	590.0	
-331.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0	
-1864.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2253.0	

MAPID: 06500427000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.48103 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.021076 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 382.0 LOGGED (FT.): 3820.0 LOG TYPE: Electric Log

SOURCE: PURE OC, CUPPY E 0010 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-213.0	CARBONDALE	HERRIN	COAL	-	595.0	
-338.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0	
-1817.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2199.0	

MAPID: 06500681000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: 663' N line, 668' W line of NE

QUADRANGLE: THACKERAY LONGITUDE: -88.472899 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.021967 DATE COLLECTED:

SURFACE ELEVATION (FT.): 379.0 LOGGED (FT.): 5354.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-139.0	CARBONDALE	DANVILLE	COAL	-	518.0	
-149.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	8.0	528.0	
-161.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	540.0	
-205.0	CARBONDALE	HERRIN	COAL	4.0	584.0	
-231.0	CARBONDALE	BRIAR HILL	COAL	-	610.0	
-329.0	CARBONDALE	SPRINGFIELD	COAL	6.0	708.0	SHALE ROOF
-371.0	CARBONDALE	HOUCHIN CREEK	COAL	-	750.0	

MAPID: 06502604000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 7 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.481054 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.021079 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 830.0 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
-221.0	MODESTO	PIASA	LIMESTONE & SHALE	8.0	699.0
-229.0	MODESTO		SHALE	31.5	707.0
-260.5	CARBONDALE	DANVILLE	COAL	1.5	738.5
-262.0	CARBONDALE		SHALE & SANDSTONE	30.0	740.0
-292.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	770.0
-296.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	16.0	774.0
-312.0	CARBONDALE	LAWSON	SHALE	16.0	790.0
-328.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	806.0
-329.0	CARBONDALE		CLAYSTONE & SHALE	5.0	807.0
-334.0	CARBONDALE	BRERETON	LIMESTONE	6.0	812.0
-340.0	CARBONDALE	ANNA	BLACK SHALE	3.0	818.0
-343.0	CARBONDALE	HERRIN	COAL	9.0	821.0

MAPID: 06500428000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: SW NW NW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.464798 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.021071 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3770.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, DAVIS M 0012 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-238.0	CARBONDALE	HERRIN	COAL	-	615.0
-338.0	CARBONDALE	SPRINGFIELD	COAL	-	715.0
-1870.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2247.0

MAPID: 06500429000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: NW SE SW

QUADRANGLE: MCLEANSBORO LONGITUDE: -88.460224 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.012024 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 374.0 LOGGED (FT.): 3740.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, MILLER V H0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-251.0	CARBONDALE	HERRIN	COAL	-	625.0
-338.0	CARBONDALE	SPRINGFIELD	COAL	-	712.0
-1928.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2302.0

MAPID: 06500430000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.462498 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.021084 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, DAVIS M 0013 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-243.0	CARBONDALE	HERRIN	COAL	-	618.0
-360.0	CARBONDALE	SPRINGFIELD	COAL	-	735.0

MAPID: 06500431000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: NW NE NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.460189 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.022913 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log

SOURCE: GULF REF, NEEL S 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-260.0	CARBONDALE	HERRIN	COAL	-	635.0
-370.0	CARBONDALE	SPRINGFIELD	COAL	-	745.0
-1911.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2286.0

MAPID: 06500432000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: NW SE NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.4602 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.019282 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log

SOURCE: PURE OC, CONSOL WEA0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-257.0	CARBONDALE	HERRIN	COAL	-	632.0
-380.0	CARBONDALE	SPRINGFIELD	COAL	-	755.0
-1899.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2274.0

MAPID: 06500433000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.460214 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.015655 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, MILLER V H0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-255.0	CARBONDALE	HERRIN	COAL	-	630.0
-377.0	CARBONDALE	SPRINGFIELD	COAL	-	752.0
-1913.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2288.0

MAPID: 06500434000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.46481 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.015633 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 3760.0 LOG TYPE: Electric Log

SOURCE: OHIO OIL, HALL C W 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-219.0	CARBONDALE	HERRIN	COAL	-	595.0
-362.0	CARBONDALE	SPRINGFIELD	COAL	-	738.0
-1889.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2265.0

MAPID: 06500435000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: NW SW NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.464803 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.019258 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3770.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, CLARK WM 0002 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-238.0	CARBONDALE	HERRIN	COAL	-	615.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	-	745.0	

MAPID: 06500680000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE NW

QUADRANGLE: THACKERAY LONGITUDE: -88.457891 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.021114 DATE COLLECTED:

SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 3041.0 LOG TYPE: Electric Log

SOURCE: GIBSON O H WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-194.0	CARBONDALE	DANVILLE	COAL	-	574.0	
-204.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	9.0	584.0	
-218.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	598.0	
-224.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	20.0	604.0	
-260.0	CARBONDALE	HERRIN	COAL	4.0	640.0	
-270.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	27.0	650.0	
-298.0	CARBONDALE	BRIAR HILL	COAL	-	678.0	
-370.0	CARBONDALE	SPRINGFIELD	COAL	4.0	750.0	SHALE ROOF
-440.0	CARBONDALE	HOUCHIN CREEK	COAL	-	820.0	

**MAPID:** 06503448000C    **VERSION:** 1    **PROJECT:** CUSMAP  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 8    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE NW  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.460194    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.021102    **DATE COLLECTED:** 5 / 0 / 1965  
**SURFACE ELEVATION (FT.):** 377.0    **LOGGED (FT.):** 1960.0    **LOG TYPE:** Electric Log  
**SOURCE:** DULL, JOE A.    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-523.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	900.0
-583.0	SPOON	DAVIS	UNCLASSIFIED	-	960.0
-1583.0	BASE OF PENN.		UNCLASSIFIED	-	1960.0

**MAPID:** 06503503000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 8    **QUARTERS/FOOTAGES:** 330' N line, 330' W line  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.464796    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.02288    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 371.0    **LOGGED (FT.):** 619.0    **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
-182.0	CARBONDALE	DANVILLE	COAL	3.0	553.0
-185.0	CARBONDALE		SHALE & SANDSTONE	20.0	556.0
-205.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	2.0	576.0
-207.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	578.0
-237.0	CARBONDALE	BRERETON	LIMESTONE	5.0	608.0
-242.0	CARBONDALE	ANNA	BLACK SHALE	2.0	613.0
-244.0	CARBONDALE	HERRIN	COAL	4.0	615.0

**MAPID:** 06523857000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 8    **QUARTERS/FOOTAGES:** NW NE  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.454433    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 38.022038    **DATE COLLECTED:** 7 / 21 / 1970  
**SURFACE ELEVATION (FT.):** 380.0    **LOGGED (FT.):** 1017.7    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    47-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-398.8	CARBONDALE	HERRIN	COAL	6.6	778.8
-613.6	CARBONDALE	SPRINGFIELD	COAL	11.2	993.6



MAPID: 06500679000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: THACKERAY LONGITUDE: -88.439498 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.017585 DATE COLLECTED:

SURFACE ELEVATION (FT.): 391.0 LOGGED (FT.): 3326.0 LOG TYPE: Electric Log

SOURCE: EGAN, T. M. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-292.0	CARBONDALE	DANVILLE	COAL	-	683.0	
-302.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	693.0	
-320.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	711.0	
-333.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	724.0	
-365.0	CARBONDALE	HERRIN	COAL	4.0	756.0	
-421.0	CARBONDALE	BRIAR HILL	COAL	-	812.0	
-476.0	CARBONDALE	SPRINGFIELD	COAL	8.0	867.0	SHALE & SILTSTONE ROOF
-493.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	12.0	884.0	
-549.0	CARBONDALE	HOUCHIN CREEK	COAL	-	940.0	

MAPID: 06523820000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 9 QUARTERS/FOOTAGES: 1428' N line, 136' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.447064 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.019958 DATE COLLECTED: 4 / 12 / 1974

SURFACE ELEVATION (FT.): 375.1 LOGGED (FT.): 833.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-77 WELL TYPE: Coal Test

COMMENT: GAMMA DEN. INCLUDED; DATE FROM CORE DES.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-251.9	CARBONDALE	DANVILLE	COAL	3.0	627.0	
-321.9	CARBONDALE	HERRIN	COAL	5.0	697.0	
-361.9	CARBONDALE	BRIAR HILL	COAL	2.0	737.0	
-415.9	CARBONDALE	SPRINGFIELD	COAL	6.5	791.0	

MAPID: 06523820000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 9 QUARTERS/FOOTAGES: 1428' N line, 136' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.447064 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.019958 DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 701.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-77 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-250.6	CARBONDALE	DANVILLE	COAL	3.0	625.6
-253.6	CARBONDALE		SHALE & SANDSTONE	17.0	628.6
-270.6	CARBONDALE	ALLENBY	BONE COAL	1.0	645.6
-271.6	CARBONDALE		CLAYSTONE & SHALE	4.0	646.6
-275.6	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	5.5	650.6
-281.1	CARBONDALE	LAWSON	SILTY SHALE	6.0	656.1
-287.1	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	8.0	662.1
-295.1	CARBONDALE	LAWSON	SILTY SHALE	18.0	670.1
-313.1	CARBONDALE	JAMESTOWN	BONE COAL	1.0	688.1
-314.1	CARBONDALE		CLAYSTONE & SHALE	3.0	689.1
-317.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.8	692.1
-319.9	CARBONDALE	ANNA	BLACK SHALE	1.1	694.9
-321.0	CARBONDALE	HERRIN	COAL	5.0	696.0

MAPID: 06500678000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE NW

QUADRANGLE: THACKERAY LONGITUDE: -88.423399 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.019495 DATE COLLECTED:

SURFACE ELEVATION (FT.): 409.0 LOGGED (FT.): 3364.0 LOG TYPE: Electric Log

SOURCE: BIGGS, A. S. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-295.0	CARBONDALE	DANVILLE	COAL	-	704.0
-301.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SHALE	10.0	710.0
-319.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	728.0
-331.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	740.0
-369.0	CARBONDALE	HERRIN	COAL	5.0	778.0
-389.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	14.0	798.0
-419.0	CARBONDALE	BRIAR HILL	COAL	-	828.0
-469.0	CARBONDALE	SPRINGFIELD	COAL	8.0	878.0
-488.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	78.0	897.0

BLACK SHALE & LIMESTONE  
ROOF

MAPID: 06503634000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 10 QUARTERS/FOOTAGES: 2310' S line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.425694 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.015867 DATE COLLECTED: 1 / 14 / 1969

SURFACE ELEVATION (FT.): LOGGED (FT.): 915.2 LOG TYPE: Other Core Study

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

COMMENT: SURVEY CORE STUDY; C-7063

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			COAL WITH SHALE	2.1	737.5	W/SLATE
-	CARBONDALE	HERRIN	COAL	5.6	806.6	
-	CARBONDALE	BRIAR HILL	COAL	0.4	863.1	
-	CARBONDALE	SPRINGFIELD	COAL	8.1	902.7	

MAPID: 06503634000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 10 QUARTERS/FOOTAGES: 2310' S line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.425694 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.015867 DATE COLLECTED:

SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 812.6 LOG TYPE: Electric Log

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

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-284.3	CARBONDALE	DANVILLE	BONE COAL	2.1	734.3	
-286.4	CARBONDALE		SHALE & SANDSTONE	20.5	736.4	
-306.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	756.9	
-312.4	CARBONDALE	LAWSON	SHALE & SANDSTONE	10.6	762.4	
-323.0	CARBONDALE	LAWSON	SANDSTONE	2.0	773.0	
-325.0	CARBONDALE	LAWSON	SILTY SHALE	19.1	775.0	
-344.1	CARBONDALE	LAWSON	BLACK SHALE	3.9	794.1	
-348.0	CARBONDALE	BRERETON	LIMESTONE	2.9	798.0	
-350.9	CARBONDALE	ANNA	BLACK SHALE	6.1	800.9	
-357.0	CARBONDALE	HERRIN	COAL	5.6	807.0	

MAPID: 06501737000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE

QUADRANGLE: THACKERAY

LONGITUDE: -88.400539

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 38.015927

DATE COLLECTED: 8 / 0 / 1960

SURFACE ELEVATION (FT.): 516.0

LOGGED (FT.): 2140.0

LOG TYPE: Electric Log

SOURCE: R. K. PETROLEUM CORP.

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-626.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1142.0
-696.0	SPOON	DAVIS	UNCLASSIFIED	-	1212.0
-1624.0	BASE OF PENN.		UNCLASSIFIED	-	2140.0

MAPID: 06523773000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 11 QUARTERS/FOOTAGES: 2583' N line, 1263' E line

QUADRANGLE: THACKERAY

LONGITUDE: -88.39688

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N

LATITUDE: 38.016955

DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 510.2

LOGGED (FT.): 1032.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-78

WELL TYPE: Coal Test

COMMENT: GAMMA RAY-DENSITY INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-378.5	CARBONDALE	HERRIN	COAL	5.3	888.7
-478.1	CARBONDALE	SPRINGFIELD	COAL	7.7	988.3

MAPID: 06523773000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 11 QUARTERS/FOOTAGES: 2583' N line, 1263' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.39688 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.016955 DATE COLLECTED:

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 893.0 LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. C3-78 WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-313.4	CARBONDALE	DANVILLE	COAL	3.0	823.4
-316.4	CARBONDALE		SHALE & SANDSTONE	18.0	826.4
-334.4	CARBONDALE	ALLENBY	BONE COAL	0.5	844.4
-334.9	CARBONDALE		CLAYSTONE & SHALE	1.5	844.9
-336.4	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	846.4
-340.4	CARBONDALE	LAWSON	SILTY SHALE	5.5	850.4
-345.9	CARBONDALE	LAWSON	BLACK SHALE	2.0	855.9
-347.9	CARBONDALE	LAWSON	GRAY SHALE	3.5	857.9
-351.4	CARBONDALE	LAWSON	SHALE & SANDSTONE	13.0	861.4
-364.4	CARBONDALE	LAWSON	GRAY SHALE	8.0	874.4
-372.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	882.4
-372.8	CARBONDALE	JAMESTOWN	BONE COAL	0.1	882.8
-372.9	CARBONDALE		CLAYSTONE	0.7	882.9
-373.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.4	883.6
-375.0	CARBONDALE	ANNA	BLACK SHALE	3.0	885.0
-378.0	CARBONDALE	HERRIN	COAL	5.0	888.0

MAPID: 06523859000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 11 QUARTERS/FOOTAGES: NE SW

QUADRANGLE: THACKERAY LONGITUDE: -88.404007 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.015021 DATE COLLECTED: 6 / 4 / 1970

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 977.3 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 40 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-368.6	CARBONDALE	HERRIN	COAL	4.9	868.6
-466.5	CARBONDALE	SPRINGFIELD	COAL	7.0	966.5

MAPID: 06524054000C VERSION: 1

PROJECT: NCRDS 2011

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 11 QUARTERS/FOOTAGES: NW NW SE

QUADRANGLE: THACKERAY LONGITUDE: -88.40054 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 38.015941 DATE COLLECTED: 5 / 17 / 1979

SURFACE ELEVATION (FT.): 510.0 LOGGED (FT.): 1025.0 LOG TYPE: Gamma Ray Density

SOURCE: ATLANTIC RICHFIELD NC-10 WELL TYPE: Coal Test

COMMENT: E-LOG, GAMMA, DENS; COAL QUAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-317.0	SHELburn	DANVILLE	COAL	2.0	827.0	
-378.0	CARBONDALE	ANNA	BLACK SHALE	4.0	888.0	INFERRED FROM GAMMA, THK UNCERTAIN
-382.0	CARBONDALE	HERRIN	COAL	4.8	892.0	
-440.0	CARBONDALE	BRIAR HILL	COAL	1.5	950.0	
-470.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	980.0	
-472.0	CARBONDALE	DYKERSBURG	SHALE	8.0	982.0	
-480.0	CARBONDALE	SPRINGFIELD	COAL	7.7	990.0	

MAPID: 06500677000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 12 QUARTERS/FOOTAGES: 2310' N line, 990' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.377622 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.017676 DATE COLLECTED:

SURFACE ELEVATION (FT.): 424.0 LOGGED (FT.): 3400.0 LOG TYPE: Electric Log

SOURCE: DEEP ROCK OIL CORP WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-259.0	CARBONDALE	DANVILLE	COAL	-	683.0	
-265.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	7.0	689.0	
-279.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	703.0	
-289.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	20.0	713.0	
-320.0	CARBONDALE	HERRIN	COAL	4.0	744.0	
-324.0	CARBONDALE	VERMILIONVILLE	SILTSTONE	8.0	748.0	
-352.0	CARBONDALE	BRIAR HILL	COAL	-	776.0	
-393.0	CARBONDALE	SPRINGFIELD	COAL	4.0	817.0	SHALE ROOF
-411.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	115.0	835.0	

MAPID: 06500677000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 12 QUARTERS/FOOTAGES: 2310' N line, 990' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.377622 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.017676 DATE COLLECTED:

SURFACE ELEVATION (FT.): 422.0 LOGGED (FT.): 747.0 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
-262.0	CARBONDALE	DANVILLE	COAL	2.0	684.0
-264.0	CARBONDALE		SHALE & SANDSTONE	17.0	686.0
-281.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	703.0
-285.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	30.0	707.0
-315.0	CARBONDALE	ANNA	BLACK SHALE	6.0	737.0
-321.0	CARBONDALE	HERRIN	COAL	4.0	743.0

MAPID: 06500529000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 13 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.389184 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.006861 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 512.0 LOGGED (FT.): 5120.0 LOG TYPE: Electric Log

SOURCE: REWARD OC, WALKER C C0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-310.0	CARBONDALE	HERRIN	COAL	-	822.0
-434.0	CARBONDALE	SPRINGFIELD	COAL	-	946.0
-2044.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2556.0

MAPID: 06500529000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 13 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.389184 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.006861 DATE COLLECTED:

SURFACE ELEVATION (FT.): 512.0 LOGGED (FT.): 822.0 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
-255.5	CARBONDALE	DANVILLE	COAL	2.5	767.5
-258.0	CARBONDALE		CLAYSTONE & SHALE	13.0	770.0
-271.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	783.0
-274.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	7.0	786.0
-281.0	CARBONDALE	LAWSON	SHALE	20.0	793.0
-301.0	CARBONDALE	ANNA	BLACK SHALE	5.0	813.0
-306.0	CARBONDALE	HERRIN	COAL	4.0	818.0

MAPID: 06500529000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 13 QUARTERS/FOOTAGES: 990' N line, 990' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.389184 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.006861 DATE COLLECTED:

SURFACE ELEVATION (FT.): 512.0 LOGGED (FT.): 3514.0 LOG TYPE: Electric Log

SOURCE: REWARD & ASHLAND OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-250.0	CARBONDALE	DANVILLE	COAL	-	762.0
-270.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	782.0
-274.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	7.0	786.0
-308.0	CARBONDALE	HERRIN	COAL	4.0	820.0
-340.0	CARBONDALE	BRIAR HILL	COAL	-	852.0
-446.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	68.0	958.0



MAPID: 06524055000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 13 QUARTERS/FOOTAGES: 1915' S line, 2090' E line of SE

QUADRANGLE: THACKERAY LONGITUDE: -88.381817 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.00037 DATE COLLECTED: 5 / 23 / 1979

SURFACE ELEVATION (FT.): 432.0 LOGGED (FT.): 929.0 LOG TYPE: Multiple log types

SOURCE: ATLANTIC RICHFIELD NC-15 WELL TYPE: Coal Test

COMMENT: DENSITY & RESISTIVITY LOGS INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-291.6	CARBONDALE	DANVILLE	COAL	2.6	723.6
-349.7	CARBONDALE	HERRIN	COAL	4.5	781.7
-455.4	CARBONDALE	SPRINGFIELD	COAL	7.0	887.4

MAPID: 06500608000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.416895 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.9995 DATE COLLECTED: 1 / 0 / 1947

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 2050.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-580.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1048.0
-634.0	SPOON	DAVIS	UNCLASSIFIED	-	1102.0
-1582.0	BASE OF PENN.		UNCLASSIFIED	-	2050.0

MAPID: 06500608000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.416895 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.9995 DATE COLLECTED:

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 3473.0 LOG TYPE: Electric Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-259.0	CARBONDALE	DANVILLE	COAL	-	727.0	
-274.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	4.0	742.0	
-282.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	750.0	
-288.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	756.0	
-328.0	CARBONDALE	HERRIN	COAL	4.0	796.0	
-382.0	CARBONDALE	BRIAR HILL	COAL	-	850.0	
-392.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	5.0	860.0	
-433.0	CARBONDALE	SPRINGFIELD	COAL	8.0	901.0	BLACK SHALE & LIMESTONE ROOF
-448.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	42.0	916.0	
-490.0	CARBONDALE	HOUCHIN CREEK	COAL	-	958.0	

MAPID: 06503639000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 15 QUARTERS/FOOTAGES: 104' N line, 2600' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.420126 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 38.009233 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 523.8 LOGGED (FT.): 979.5 LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-6 WELL TYPE: Coal Test

COMMENT: RESISTIVITY LOG INCLUDED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-348.5	CARBONDALE	HERRIN	COAL	4.8	872.3	
-448.2	CARBONDALE	SPRINGFIELD	COAL	7.4	972.0	

MAPID: 06503639000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 15 QUARTERS/FOOTAGES: 104' N line, 2600' W line

QUADRANGLE: THACKERAY LONGITUDE: -88.420126

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.009233

DATE COLLECTED:

SURFACE ELEVATION (FT.): 524.0 LOGGED (FT.): 879.8

LOG TYPE: Survey Core Study

SOURCE: AYRSHIRE COLLIERIES C3-6

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-287.7	CARBONDALE	DANVILLE	COAL	2.5	811.7	
-290.2	CARBONDALE		CLAYSTONE & SHALE	13.0	814.2	
-303.2	CARBONDALE	ALLENBY	COAL	1.0	827.2	
-304.2	CARBONDALE		CLAYSTONE & SHALE	5.0	828.2	
-309.2	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	833.2	
-312.2	CARBONDALE	LAWSON	GRAY SHALE	8.0	836.2	
-320.2	CARBONDALE	LAWSON	SANDSTONE	6.0	844.2	
-326.2	CARBONDALE	LAWSON	SILTY SHALE	10.0	850.2	
-336.2	CARBONDALE	LAWSON	GRAY SHALE	8.0	860.2	
-344.2	CARBONDALE	BRERETON	LIMESTONE	3.0	868.2	
-347.2	CARBONDALE	ANNA	BLACK SHALE	3.8	871.2	
-351.0	CARBONDALE	HERRIN	COAL	4.8	875.0	

MAPID: 06501044000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 16 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW

QUADRANGLE: THACKERAY LONGITUDE: -88.439806

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.001191

DATE COLLECTED:

SURFACE ELEVATION (FT.): 369.0 LOGGED (FT.): 3097.0

LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-311.0	CARBONDALE	HERRIN	COAL	4.0	680.0	
-376.0	CARBONDALE	BRIAR HILL	COAL	-	745.0	
-429.0	CARBONDALE	SPRINGFIELD	COAL	6.0	798.0	BLACK SHALE & LIMESTONE ROOF

MAPID: 06501050000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 16 QUARTERS/FOOTAGES: 1650' S line, 1650' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.442126

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.999352

DATE COLLECTED:

SURFACE ELEVATION (FT.): 366.0

LOGGED (FT.): 666.0

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
-230.5	CARBONDALE	DANVILLE	COAL	2.0	596.5
-232.5	CARBONDALE		SHALE & SANDSTONE	20.0	598.5
-252.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.5	618.5
-255.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	22.0	621.0
-277.0	CARBONDALE	LAWSON	SHALE	10.0	643.0
-287.0	CARBONDALE	LAWSON	CLAYSTONE & SHALE	3.0	653.0
-290.0	CARBONDALE	BRERETON	LIMESTONE	3.0	656.0
-293.0	CARBONDALE	ANNA	BLACK SHALE	2.0	659.0
-295.0	CARBONDALE	HERRIN	COAL	5.0	661.0

MAPID: 06590099000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 16 QUARTERS/FOOTAGES:

QUADRANGLE: BROUGHTON LONGITUDE: -88.442979

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.999208

DATE COLLECTED: 5 / 1 / 1979

SURFACE ELEVATION (FT.):

LOGGED (FT.):

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	8.0	

MAPID: 06500438000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 17 QUARTERS/FOOTAGES: NW NE SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.460473

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.001104

DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 373.0

LOGGED (FT.): 3730.0

LOG TYPE: Electric Log

SOURCE: PURE OC, LAYMAN J C00A3

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-232.0	CARBONDALE	HERRIN	COAL	-	605.0
-357.0	CARBONDALE	SPRINGFIELD	COAL	-	730.0
-1919.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2292.0

MAPID: 06500443000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 17 QUARTERS/FOOTAGES: NW SW SW  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.46518 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.997447 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log  
 SOURCE: GULF REF, JOHNSN B W0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-223.0	CARBONDALE	HERRIN	COAL	-	598.0
-345.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0
-1910.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2285.0

MAPID: 06500450000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 17 QUARTERS/FOOTAGES: NW NW NW  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.464848 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.008377 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, HALL J C 00B1 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-247.0	CARBONDALE	HERRIN	COAL	-	622.0
-380.0	CARBONDALE	SPRINGFIELD	COAL	-	755.0
-1917.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2292.0

MAPID: 06500451000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 17 QUARTERS/FOOTAGES: SE NW NW  
 QUADRANGLE: WALPOLE LONGITUDE: -88.46261 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 38.006563 DATE COLLECTED: 0 / 0 / 1942  
 SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, HALL J C 00B8 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-260.0	CARBONDALE	HERRIN	COAL	-	635.0
-385.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0
-1929.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2304.0

**MAPID:** 06500452000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 17    **QUARTERS/FOOTAGES:** NW SW NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.46496    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.004734    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 372.0    **LOGGED (FT.):** 3720.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HALL J C 00B3    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-248.0	CARBONDALE	HERRIN	COAL	-	620.0	
-373.0	CARBONDALE	SPRINGFIELD	COAL	-	745.0	

**MAPID:** 06500453000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 17    **QUARTERS/FOOTAGES:** SE SW NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.462718    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.002919    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 374.0    **LOGGED (FT.):** 3740.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HALL J C 0B10    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-236.0	CARBONDALE	HERRIN	COAL	-	610.0	
-364.0	CARBONDALE	SPRINGFIELD	COAL	-	738.0	

**MAPID:** 06500454000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 17    **QUARTERS/FOOTAGES:** NW SE NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.460368    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.004748    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 374.0    **LOGGED (FT.):** 3740.0    **LOG TYPE:** Electric Log  
**SOURCE:** PURE OC, LAYMAN J C00A2    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-256.0	CARBONDALE	HERRIN	COAL	-	630.0	
-386.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1933.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2307.0	

MAPID: 06500455000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 17 QUARTERS/FOOTAGES: NE NE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.448983 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 38.001143 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log

SOURCE: WASHBURN J, ARNOLD 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-263.0	CARBONDALE	HERRIN	COAL	-	638.0	
-385.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	
-1941.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2316.0	

MAPID: 06500676000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 17 QUARTERS/FOOTAGES: 1641' S line, 330' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.465123 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.999244 DATE COLLECTED:

SURFACE ELEVATION (FT.): 373.0 LOGGED (FT.): 3071.0 LOG TYPE: Electric Log

SOURCE: PURE OIL CO., THE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-167.0	CARBONDALE	DANVILLE	COAL	-	540.0	
-188.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	561.0	
-191.0	CARBONDALE	ANVIL ROCK	SILTSTONE	10.0	564.0	
-228.0	CARBONDALE	HERRIN	COAL	3.0	601.0	
-263.0	CARBONDALE	BRIAR HILL	COAL	-	636.0	
-265.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	8.0	638.0	
-355.0	CARBONDALE	SPRINGFIELD	COAL	5.0	728.0	SHALE ROOF
-405.0	CARBONDALE	HOUCHIN CREEK	COAL	-	778.0	

MAPID: 06501078000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: THACKERAY LONGITUDE: -88.455702 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 38.008408 DATE COLLECTED:

SURFACE ELEVATION (FT.): 372.0 LOGGED (FT.): 654.5 LOG TYPE: Electric Log

SOURCE: COMMENT: FAIR DESCRIPTION WELL TYPE: Oil and Gas Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-128.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	500.0
-133.0	MODESTO		SHALE	80.0	505.0
-213.0	CARBONDALE	DANVILLE	COAL	2.0	585.0
-215.0	CARBONDALE		SHALE & SANDSTONE	20.0	587.0
-235.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	607.0
-238.0	CARBONDALE	LAWSON	SHALE	2.5	610.0
-240.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	612.5
-255.5	CARBONDALE	LAWSON	SHALE	15.0	627.5
-270.5	CARBONDALE	BRERETON	LIMESTONE	5.0	642.5
-275.5	CARBONDALE	ANNA	BLACK SHALE	2.5	647.5
-278.0	CARBONDALE	HERRIN	COAL	4.5	650.0

MAPID: 06500439000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 18 QUARTERS/FOOTAGES: SW NW SE

QUADRANGLE: WALPOLE LONGITUDE: -88.474393 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.999261 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 3880.0 LOG TYPE: Electric Log

SOURCE: SHELL OC, MORRIS G W0006 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-234.0	CARBONDALE	HERRIN	COAL	-	622.0
-346.0	CARBONDALE	SPRINGFIELD	COAL	-	734.0



**MAPID:** 06500440000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NE NW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.472018    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.001081    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 381.0    **LOGGED (FT.):** 3810.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, MORRIS G W0005    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-229.0	CARBONDALE	HERRIN	COAL	-	610.0
-351.0	CARBONDALE	SPRINGFIELD	COAL	-	732.0
-1859.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2240.0

**MAPID:** 06500441000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NE NE SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.476655    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.001076    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 394.0    **LOGGED (FT.):** 3940.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, WEBB E 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-231.0	CARBONDALE	HERRIN	COAL	-	625.0
-348.0	CARBONDALE	SPRINGFIELD	COAL	-	742.0

**MAPID:** 06500442000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SW SE NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.478919    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.002888    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 415.0    **LOGGED (FT.):** 4150.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, MORRIS SHT0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-233.0	CARBONDALE	HERRIN	COAL	-	648.0
-343.0	CARBONDALE	SPRINGFIELD	COAL	-	758.0

**MAPID:** 06500456000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SW NE SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.479033    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999258    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 3900.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, MORRIS SHT0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-230.0	CARBONDALE	HERRIN	COAL	-	620.0
-344.0	CARBONDALE	SPRINGFIELD	COAL	-	734.0

**MAPID:** 06500457000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SW NE SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.479033    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999258    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 407.0    **LOGGED (FT.):** 4070.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, WEBB E 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-253.0	CARBONDALE	HERRIN	COAL	-	660.0
-353.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0

**MAPID:** 06500458000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NW SE SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.47909    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.997445    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 406.0    **LOGGED (FT.):** 4060.0    **LOG TYPE:** Electric Log  
**SOURCE:** PURE OC, JOHNSN CON0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-262.0	CARBONDALE	HERRIN	COAL	-	668.0
-384.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0
-1918.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2324.0

**MAPID:** 06500459000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NW NW NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.483385    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008317    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 396.0    **LOGGED (FT.):** 3960.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNSN R R0011    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-239.0	CARBONDALE	HERRIN	COAL	-	635.0
-354.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0

**MAPID:** 06500460000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NW NE NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.47875    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008331    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 3900.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, MORRIS G W0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-215.0	CARBONDALE	HERRIN	COAL	-	605.0
-330.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0
-1875.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2265.0

**MAPID:** 06500461000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SW NW NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.483445    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.006503    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 399.0    **LOGGED (FT.):** 3990.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, JOHNSN R R0013    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-246.0	CARBONDALE	HERRIN	COAL	-	645.0
-361.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0
-1902.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2301.0

**MAPID:** 06500462000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE SW NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.481239    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.002884    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 409.0    **LOGGED (FT.):** 4090.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, SHELTON J 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-236.0	CARBONDALE	HERRIN	COAL	-	645.0
-341.0	CARBONDALE	SPRINGFIELD	COAL	-	750.0
-1901.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2310.0

**MAPID:** 06500463000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NW NW NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.474113    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008347    **DATE COLLECTED:** 0 / 0 / 1941  
**SURFACE ELEVATION (FT.):** 383.0    **LOGGED (FT.):** 3830.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, SUMMERS M 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-202.0	CARBONDALE	HERRIN	COAL	-	585.0
-322.0	CARBONDALE	SPRINGFIELD	COAL	-	705.0

**MAPID:** 06500464000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NW NE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.469475    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.008361    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 382.0    **LOGGED (FT.):** 3820.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, SUMMERS M 0002    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-223.0	CARBONDALE	HERRIN	COAL	-	605.0
-333.0	CARBONDALE	SPRINGFIELD	COAL	-	715.0
-1894.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2276.0

**MAPID:** 06500465000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.472072    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999262    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 379.0    **LOGGED (FT.):** 3790.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, SUMMERS M 0003    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-221.0	CARBONDALE	HERRIN	COAL	-	600.0	
-341.0	CARBONDALE	SPRINGFIELD	COAL	-	720.0	

**MAPID:** 06500466000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE NE NE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.467212    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.006549    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 374.0    **LOGGED (FT.):** 3740.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, SUMMERS M 0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-238.0	CARBONDALE	HERRIN	COAL	-	612.0	
-351.0	CARBONDALE	SPRINGFIELD	COAL	-	725.0	

**MAPID:** 06500467000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** NW SW NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.474224    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.004712    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 379.0    **LOGGED (FT.):** 3790.0    **LOG TYPE:** Electric Log  
**SOURCE:** KINGWOODOC, SHELTON J 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-225.0	CARBONDALE	HERRIN	COAL	-	604.0	
-329.0	CARBONDALE	SPRINGFIELD	COAL	-	708.0	
-1875.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2254.0	

**MAPID:** 06500468000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE SE NE  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.467321    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 38.002906    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 374.0    **LOGGED (FT.):** 3740.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HALL J C 00B6    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-231.0	CARBONDALE	HERRIN	COAL	-	605.0	
-356.0	CARBONDALE	SPRINGFIELD	COAL	-	730.0	

**MAPID:** 06500469000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SW NW SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.483673    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999258    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 411.0    **LOGGED (FT.):** 4110.0    **LOG TYPE:** Electric Log  
**SOURCE:** PURE OC, ST CLAIR G00A3    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-269.0	CARBONDALE	HERRIN	COAL	-	680.0	
-389.0	CARBONDALE	SPRINGFIELD	COAL	-	800.0	
-1977.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2388.0	

**MAPID:** 06500470000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE SE SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.476827    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.99563    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 392.0    **LOGGED (FT.):** 3920.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, SIERKS M 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-268.0	CARBONDALE	HERRIN	COAL	-	660.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	-	760.0	

**MAPID:** 06500471000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.472072    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999262    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 381.0    **LOGGED (FT.):** 3810.0    **LOG TYPE:** Electric Log  
**SOURCE:** SHELL OC, MORRIS G W0004    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-234.0	CARBONDALE	HERRIN	COAL	-	615.0
-344.0	CARBONDALE	SPRINGFIELD	COAL	-	725.0

**MAPID:** 06500472000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE NE SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.467432    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.999265    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 376.0    **LOGGED (FT.):** 3760.0    **LOG TYPE:** Electric Log  
**SOURCE:** TEXAS CO, HALL J C 00B7    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-214.0	CARBONDALE	HERRIN	COAL	-	590.0
-349.0	CARBONDALE	SPRINGFIELD	COAL	-	725.0
-1890.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2266.0

**MAPID:** 06500473000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** SE SW SE  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.472184    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.995625    **DATE COLLECTED:** 0 / 0 / 1942  
**SURFACE ELEVATION (FT.):** 392.0    **LOGGED (FT.):** 3920.0    **LOG TYPE:** Electric Log  
**SOURCE:** MENHALL J, HARRAWOOD 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-252.0	CARBONDALE	HERRIN	COAL	-	644.0
-378.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0
-1891.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2283.0

MAPID: 06500474000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 18 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.467544 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.995622 DATE COLLECTED: 0 / 0 / 1942

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3770.0 LOG TYPE: Electric Log

SOURCE: TEXAS CO, HALL J C 00B9 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-228.0	CARBONDALE	HERRIN	COAL	-	605.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	-	735.0	

MAPID: 06500675000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 18 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW

QUADRANGLE: THACKERAY LONGITUDE: -88.483566 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 38.002885 DATE COLLECTED:

SURFACE ELEVATION (FT.): 416.0 LOGGED (FT.): 3127.0 LOG TYPE: Electric Log

SOURCE: MINTON OMAR W WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-176.0	CARBONDALE	DANVILLE	COAL	-	592.0	
-206.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	622.0	
-212.0	CARBONDALE	ANVIL ROCK	SILTSTONE	10.0	628.0	
-251.0	CARBONDALE	HERRIN	COAL	4.0	667.0	
-288.0	CARBONDALE	BRIAR HILL	COAL	-	704.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	5.0	774.0	SHALE ROOF
-432.0	CARBONDALE	HOUCHIN CREEK	COAL	-	848.0	

MAPID: 06503045000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 18 QUARTERS/FOOTAGES: 330' S line, 355' E line of SW SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.481547 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.995636 DATE COLLECTED: 9 / 0 / 1943

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 1906.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-543.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	940.0	
-613.0	SPOON	DAVIS	UNCLASSIFIED	-	1010.0	
-1509.0	BASE OF PENN.		UNCLASSIFIED	-	1906.0	



**MAPID:** 06503438000C    **VERSION:** 1    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:** 990' N line, 990' W line  
**QUADRANGLE:** THACKERAY    **LONGITUDE:** -88.481149    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 38.006497    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 407.0    **LOGGED (FT.):** 636.0    **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
-167.0	CARBONDALE	DANVILLE	COAL	2.0	574.0
-169.0	CARBONDALE		SILTY SHALE	20.0	576.0
-189.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	3.0	596.0
-192.0	CARBONDALE	LAWSON	SHALE	27.0	599.0
-219.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	626.0
-220.0	CARBONDALE	BRERETON	LIMESTONE	5.0	627.0
-225.0	CARBONDALE	HERRIN	COAL	4.0	632.0

**MAPID:** 06500437000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** SE NW SE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.47226    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.984673    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 390.0    **LOGGED (FT.):** 3900.0    **LOG TYPE:** Electric Log  
**SOURCE:** GULF REF, HARRAWD D 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-266.0	CARBONDALE	HERRIN	COAL	-	656.0
-390.0	CARBONDALE	SPRINGFIELD	COAL	-	780.0
-1920.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2310.0

**MAPID:** 06500475000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** SE NE NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.476865    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.991984    **DATE COLLECTED:** 0 / 0 / 1943  
**SURFACE ELEVATION (FT.):** 383.0    **LOGGED (FT.):** 3830.0    **LOG TYPE:** Electric Log  
**SOURCE:** MENHALL J, HARRAWD R 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-267.0	CARBONDALE	HERRIN	COAL	-	650.0
-387.0	CARBONDALE	SPRINGFIELD	COAL	-	770.0
-1925.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2308.0

MAPID: 06500476000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 19 QUARTERS/FOOTAGES: NW NW NE  
 QUADRANGLE: WALPOLE LONGITUDE: -88.474537 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.993807 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 389.0 LOGGED (FT.): 3890.0 LOG TYPE: Electric Log  
 SOURCE: NAT PET, HARRAWD CM0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-261.0	CARBONDALE	HERRIN	COAL	-	650.0	
-396.0	CARBONDALE	SPRINGFIELD	COAL	-	785.0	
-1907.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2296.0	

MAPID: 06500487000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 19 QUARTERS/FOOTAGES: NW NW NW  
 QUADRANGLE: WALPOLE LONGITUDE: -88.483816 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.993818 DATE COLLECTED: 0 / 0 / 1944  
 SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3930.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, WHEELER A 0006 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-277.0	CARBONDALE	HERRIN	COAL	-	670.0	
-397.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0	
-1939.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2332.0	

MAPID: 06500674000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 19 QUARTERS/FOOTAGES: 1030' N line, 2310' W line  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.476922 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 37.991879 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 2800.0 LOG TYPE: Electric Log  
 SOURCE: MENHALL, J. W. & CO. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-210.0	CARBONDALE	DANVILLE	COAL	-	593.0	
-231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	614.0	
-241.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	624.0	
-273.0	CARBONDALE	HERRIN	COAL	4.0	656.0	
-280.0	CARBONDALE	VERMILIONVILLE	SILTSTONE	7.0	663.0	
-313.0	CARBONDALE	BRIAR HILL	COAL	-	696.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	8.0	762.0	SHALE ROOF
-447.0	CARBONDALE	HOUCHIN CREEK	COAL	-	830.0	

MAPID: 06500674000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 19 QUARTERS/FOOTAGES: 1030' N line, 2310' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.476922 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.991879 DATE COLLECTED:

SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 671.0 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
-222.5	CARBONDALE	DANVILLE	COAL	2.5	605.5
-225.0	CARBONDALE		SHALE	17.0	608.0
-242.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	625.0
-246.0	CARBONDALE	LAWSON	SILTY SHALE	5.0	629.0
-251.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	634.0
-261.0	CARBONDALE	LAWSON	SHALE	15.0	644.0
-276.0	CARBONDALE	BRERETON	LIMESTONE	5.0	659.0
-281.0	CARBONDALE	ANNA	BLACK SHALE	2.0	664.0
-283.0	CARBONDALE	HERRIN	COAL	5.0	666.0

MAPID: 06501209000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 19 QUARTERS/FOOTAGES: 360' N line, 330' E line of SE NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.476861 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.990078 DATE COLLECTED: 12 / 0 / 1957

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 1890.0 LOG TYPE: Electric Log

SOURCE: SENECA DRLG CORP WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-559.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	940.0
-631.0	SPOON	DAVIS	UNCLASSIFIED	-	1012.0
-1509.0	BASE OF PENN.		UNCLASSIFIED	-	1890.0

**MAPID:** 06523830000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** NE SE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.468787    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.985578    **DATE COLLECTED:** 2 / 9 / 1972  
**SURFACE ELEVATION (FT.):** 385.0    **LOGGED (FT.):** 743.4    **LOG TYPE:** Other Core Study  
**SOURCE:** KERR-MCGEE COAL CO.    KM-44    **WELL TYPE:** Coal Test  
**COMMENT:** CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-188.6	CARBONDALE	DANVILLE	COAL	2.6	573.6	
-253.3	CARBONDALE	HERRIN	COAL	4.5	638.3	
-299.1	CARBONDALE	BRIAR HILL	COAL	0.8	684.1	
-347.9	CARBONDALE	SPRINGFIELD	COAL	5.1	732.9	

**MAPID:** 06523860000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:** SE SE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.468808    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.981923    **DATE COLLECTED:** 6 / 24 / 1970  
**SURFACE ELEVATION (FT.):** 375.0    **LOGGED (FT.):** 785.0    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    44    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-235.5	CARBONDALE	HERRIN	COAL	5.0	610.5	

**MAPID:** 06590096000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 19    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.47042    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.98623    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.2		1.81% SULFUR

MAPID: 06500477000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 20 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: WALPOLE LONGITUDE: -88.465267 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.993801 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 3750.0 LOG TYPE: Electric Log

SOURCE: MENHALL J, HAMMOND T 0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-215.0	CARBONDALE	HERRIN	COAL	-	590.0	
-335.0	CARBONDALE	SPRINGFIELD	COAL	-	710.0	
-1934.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2309.0	

MAPID: 06500673000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 20 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.456082 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.990189 DATE COLLECTED:

SURFACE ELEVATION (FT.): 372.0 LOGGED (FT.): 3258.0 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-176.0	CARBONDALE	DANVILLE	COAL	-	548.0	
-196.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	568.0	
-204.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	576.0	
-239.0	CARBONDALE	HERRIN	COAL	4.0	611.0	
-248.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	16.0	620.0	
-293.0	CARBONDALE	BRIAR HILL	COAL	-	665.0	
-306.0	CARBONDALE	CANTON	SILTSTONE & SHALE	14.0	678.0	
-358.0	CARBONDALE	SPRINGFIELD	COAL	7.0	730.0	SHALE & SILTSTONE ROOF
-374.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	100.0	746.0	
-428.0	CARBONDALE	HOUCHIN CREEK	COAL	-	800.0	

MAPID: 06501705000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 20 QUARTERS/FOOTAGES: 2310' N line, 1650' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.453785

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.988377

DATE COLLECTED:

SURFACE ELEVATION (FT.): 372.0

LOGGED (FT.): 625.0

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
-186.0	CARBONDALE	DANVILLE	COAL	2.5	558.0
-188.5	CARBONDALE		SHALE	17.0	560.5
-205.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	577.5
-211.5	CARBONDALE	LAWSON	SILTY SHALE	3.0	583.5
-214.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	586.5
-226.5	CARBONDALE	LAWSON	SHALE	15.0	598.5
-241.5	CARBONDALE	BRERETON	LIMESTONE	4.0	613.5
-245.5	CARBONDALE	ANNA	BLACK SHALE	2.5	617.5
-248.0	CARBONDALE	HERRIN	COAL	5.0	620.0

MAPID: 06590098000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 20 QUARTERS/FOOTAGES:

QUADRANGLE: BROUGHTON LONGITUDE: -88.454268

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.98824

DATE COLLECTED: 5 / 1 / 1979

SURFACE ELEVATION (FT.):

LOGGED (FT.):

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	9.5	

MAPID: 06500672000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 21 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.446887 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.986591 DATE COLLECTED:

SURFACE ELEVATION (FT.): 371.0 LOGGED (FT.): 3256.0 LOG TYPE: Electric Log

SOURCE: MILLER J M WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-197.0	CARBONDALE	DANVILLE	COAL	-	568.0	
-209.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	4.0	580.0	
-217.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	588.0	
-225.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	596.0	
-259.0	CARBONDALE	HERRIN	COAL	4.0	630.0	
-303.0	CARBONDALE	BRIAR HILL	COAL	-	674.0	
-309.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	4.0	680.0	
-375.0	CARBONDALE	SPRINGFIELD	COAL	7.0	746.0	SHALE & SILTSTONE ROOF
-445.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	52.0	816.0	

MAPID: 06501661000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 21 QUARTERS/FOOTAGES: 990' N line, 330' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.446866 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.992043 DATE COLLECTED:

SURFACE ELEVATION (FT.): 368.0 LOGGED (FT.): 665.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-232.0	CARBONDALE	DANVILLE	COAL	2.0	600.0	
-234.0	CARBONDALE		SHALE	19.0	602.0	
-253.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	621.0	
-257.0	CARBONDALE	LAWSON	SILTY SHALE	30.0	625.0	
-287.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	655.0	
-291.0	CARBONDALE	ANNA	BLACK SHALE	2.0	659.0	
-293.0	CARBONDALE	HERRIN	COAL	4.0	661.0	

MAPID: 06500671000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 22 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.42158 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.984876 DATE COLLECTED:

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 3386.0 LOG TYPE: Electric Log

SOURCE: DEEP ROCK OIL CORP WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-240.0	CARBONDALE	DANVILLE	COAL	-	647.0
-257.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	26.0	664.0
-304.0	CARBONDALE	HERRIN	COAL	-	711.0
-320.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	9.0	727.0
-341.0	CARBONDALE	BRIAR HILL	COAL	-	748.0
-443.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	66.0	850.0
-510.0	CARBONDALE	HOUCHIN CREEK	COAL	-	917.0

MAPID: 06503628000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 22 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.427345 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.982128 DATE COLLECTED: 1 / 14 / 1969

SURFACE ELEVATION (FT.): LOGGED (FT.): 856.4 LOG TYPE: Other Core Study

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

COMMENT: SURVEY CORE STUDY; C-7057

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			COAL	1.9	595.0
-	CARBONDALE	HERRIN	COAL	4.0	656.3
-	CARBONDALE	BRIAR HILL	COAL	1.6	694.3

MAPID: 06503728000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 22 QUARTERS/FOOTAGES: 0' N line, 660' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.427393 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.994867 DATE COLLECTED: 12 / 4 / 1968

SURFACE ELEVATION (FT.): 380.0 LOGGED (FT.): 815.4 LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 21-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY; C-8981

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-237.0			COAL	1.7	617.0
-303.6	CARBONDALE	HERRIN	COAL	4.2	683.6
-358.4	CARBONDALE	BRIAR HILL	COAL	0.8	738.4
-425.7	CARBONDALE	SPRINGFIELD	COAL	7.7	805.7



MAPID: 06503728000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 22 QUARTERS/FOOTAGES: 0' N line, 660' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.427393

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.994867

DATE COLLECTED:

SURFACE ELEVATION (FT.): 380.0

LOGGED (FT.): 687.2

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 21-C

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-236.8	CARBONDALE	DANVILLE	COAL	1.7	616.8
-238.5	CARBONDALE		SILTY SHALE	20.3	618.5
-258.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.2	638.8
-263.0	CARBONDALE	LAWSON	SANDSTONE	20.2	643.0
-283.2	CARBONDALE	LAWSON	SILTY SHALE	14.2	663.2
-297.4	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.3	677.4
-300.6	CARBONDALE	ANNA	BLACK SHALE	2.4	680.6
-303.0	CARBONDALE	HERRIN	COAL	4.2	683.0

MAPID: 06523861000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 22 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.413505

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.985816

DATE COLLECTED: 3 / 30 / 1972

SURFACE ELEVATION (FT.): 404.0

LOGGED (FT.): 910.6

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
94.7	MODESTO	WOMAC	COAL	1.0	309.3
-234.0	CARBONDALE	DANVILLE	COAL	1.8	638.0
-293.5	CARBONDALE	HERRIN	COAL	4.8	697.5
-332.5	CARBONDALE	BRIAR HILL	COAL	1.5	736.5
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	CUT OUT BY CHANNEL

MAPID: 06523863000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 22 QUARTERS/FOOTAGES: NE NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.41352

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.993132

DATE COLLECTED: 3 / 30 / 1970

SURFACE ELEVATION (FT.): 427.0

LOGGED (FT.): 877.7

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 30-C

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-311.4	CARBONDALE	HERRIN	COAL	4.3	738.4
-443.4	CARBONDALE	SPRINGFIELD	COAL	4.0	870.4

MAPID: 06501775000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 23 QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.393884 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.986862 DATE COLLECTED:

SURFACE ELEVATION (FT.): 422.0 LOGGED (FT.): 3325.0 LOG TYPE: Electric Log

SOURCE: LOHMANN-JOHNSON DRLG. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-314.0	CARBONDALE	HERRIN	COAL	4.0	736.0	
-401.0	CARBONDALE	SPRINGFIELD	COAL	5.0	823.0	BLACK SHALE & LIMESTONE ROOF
-475.0	CARBONDALE	HOUCHIN CREEK	COAL	-	897.0	

MAPID: 06501775000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 23 QUARTERS/FOOTAGES: 2310' S line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.393884 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.986862 DATE COLLECTED:

SURFACE ELEVATION (FT.): 422.0 LOGGED (FT.): 740.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-256.5	CARBONDALE	DANVILLE	COAL	2.5	678.5	
-259.0	CARBONDALE		SILTY SHALE	18.0	681.0	
-277.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	699.0	
-282.0	CARBONDALE	LAWSON	SILTY SHALE	25.0	704.0	
-307.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	1.0	729.0	
-308.0	CARBONDALE	ANNA	BLACK SHALE	5.0	730.0	
-313.0	CARBONDALE	HERRIN	COAL	5.0	735.0	

MAPID: 06523862000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 23 QUARTERS/FOOTAGES: 330' N line, 0' line of SW SW  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.408878 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 37.98218 DATE COLLECTED: 3 / 16 / 1972  
 SURFACE ELEVATION (FT.): 383.0 LOGGED (FT.): 840.6 LOG TYPE: Other Core Study  
 SOURCE: PEABODY COAL CO. 59-C WELL TYPE: Coal Test  
 COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-172.0	MODESTO	WEST FRANKLIN	LIMESTONE	17.0	555.0	2 BENCHES
-280.3	CARBONDALE	DANVILLE	COAL	1.7	663.3	
-305.7	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	688.7	
-349.0	CARBONDALE	HERRIN	COAL	4.8	732.0	
-404.0	CARBONDALE	BRIAR HILL	COAL	1.5	787.0	
-450.5	CARBONDALE	SPRINGFIELD	COAL	5.1	833.5	

MAPID: 06500488000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 24 QUARTERS/FOOTAGES: SW NE SW  
 QUADRANGLE: WALPOLE LONGITUDE: -88.387088 GEOLOGIST: M. ROLLEY  
 CONFIDENTIAL: N LATITUDE: 37.985143 DATE COLLECTED: 0 / 0 / 1943  
 SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 4370.0 LOG TYPE: Electric Log  
 SOURCE: TEXAS CO, MCMAHON J 0001 WELL TYPE: Oil and Gas Test  
 COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-303.0	CARBONDALE	HERRIN	COAL	-	740.0	
-398.0	CARBONDALE	SPRINGFIELD	COAL	-	835.0	
-2005.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2442.0	

MAPID: 06500670000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 24 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.380323 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.990604 DATE COLLECTED:

SURFACE ELEVATION (FT.): 434.0 LOGGED (FT.): 3400.0 LOG TYPE: Electric Log

SOURCE: CARTMILL WILLIAM WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-251.0	CARBONDALE	DANVILLE	COAL	-	685.0	
-272.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	706.0	
-283.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	13.0	717.0	
-316.0	CARBONDALE	HERRIN	COAL	4.0	750.0	
-372.0	CARBONDALE	BRIAR HILL	COAL	-	806.0	
-412.0	CARBONDALE	SPRINGFIELD	COAL	4.0	846.0	BLACK SHALE & LIMESTONE ROOF
-488.0	CARBONDALE	HOUCHIN CREEK	COAL	-	922.0	

MAPID: 06503632000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 24 QUARTERS/FOOTAGES: 0' N line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.37579 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.995102 DATE COLLECTED: 1 / 14 / 1969

SURFACE ELEVATION (FT.): 430.0 LOGGED (FT.): 852.7 LOG TYPE: Other Core Study

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

COMMENT: SURVEY CORE STUDY; C-7061

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
407.0			COAL	1.1	23.0	
-260.9			COAL	2.1	690.9	
-319.0	CARBONDALE	HERRIN	COAL	4.9	749.0	
-378.7	CARBONDALE	BRIAR HILL	COAL	1.3	808.7	
-414.9	CARBONDALE	SPRINGFIELD	COAL	5.2	844.9	

MAPID: 06503632000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 24 QUARTERS/FOOTAGES: 0' N line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.37579 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.995102 DATE COLLECTED:

SURFACE ELEVATION (FT.): 430.0 LOGGED (FT.): 753.9 LOG TYPE: Electric Log

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

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-260.9	CARBONDALE	DANVILLE	BONE COAL	2.1	690.9
-263.0	CARBONDALE		GRAY SHALE	15.3	693.0
-278.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.5	708.3
-282.8	CARBONDALE	LAWSON	SILTY SHALE	4.0	712.8
-286.8	CARBONDALE	LAWSON	SANDSTONE	0.4	716.8
-287.2	CARBONDALE	LAWSON	SILTY SHALE	5.7	717.2
-292.9	CARBONDALE	LAWSON	SANDSTONE	2.4	722.9
-295.3	CARBONDALE	LAWSON	SILTY SHALE	18.8	725.3
-314.1	CARBONDALE	BRERETON	LIMESTONE	1.6	744.1
-315.7	CARBONDALE	ANNA	BLACK SHALE	3.3	745.7
-319.0	CARBONDALE	HERRIN	COAL	4.9	749.0

MAPID: 06523865000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 24 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.381432 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.989715 DATE COLLECTED: 5 / 24 / 1970

SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 882.2 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 42-C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-311.4	CARBONDALE	HERRIN	COAL	4.7	776.4
-408.7	CARBONDALE	SPRINGFIELD	COAL	5.3	873.7

MAPID: 06500606000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.41011 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.966761 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 3337.0 LOG TYPE: Electric Log

SOURCE: LACY WILLIAM F WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-233.0	CARBONDALE	DANVILLE	COAL	-	609.0	
-234.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	3.0	610.0	
-268.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	644.0	
-278.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	7.0	654.0	
-308.0	CARBONDALE	HERRIN	COAL	4.0	684.0	
-321.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	9.0	697.0	
-359.0	CARBONDALE	BRIAR HILL	COAL	-	735.0	
-380.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	7.0	756.0	
-424.0	CARBONDALE	SPRINGFIELD	COAL	7.0	800.0	BLACK SHALE & LIMESTONE ROOF
-470.0	CARBONDALE	HOUCHIN CREEK	COAL	-	846.0	

MAPID: 06500606000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 26 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.41011 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.966761 DATE COLLECTED:

SURFACE ELEVATION (FT.): 376.0 LOGGED (FT.): 690.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-158.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	534.0	
-165.0	MODESTO		SHALE	71.0	541.0	
-236.0	CARBONDALE	DANVILLE	COAL	2.0	612.0	
-238.0	CARBONDALE		CLAYSTONE & SHALE	32.0	614.0	
-270.0	CARBONDALE	LAWSON	SILTY SHALE	6.0	646.0	
-276.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	10.0	652.0	
-286.0	CARBONDALE	LAWSON	SHALE	14.0	662.0	
-300.0	CARBONDALE	BRERETON	LIMESTONE	6.0	676.0	
-306.0	CARBONDALE	ANNA	BLACK SHALE	2.0	682.0	
-308.0	CARBONDALE	HERRIN	COAL	6.0	684.0	

MAPID: 06523866000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 26 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.395095 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.971386 DATE COLLECTED: 4 / 14 / 1970

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 818.1 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 33-C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-289.0	CARBONDALE	HERRIN	COAL	5.0	706.0	
-394.0	CARBONDALE	SPRINGFIELD	COAL	6.0	811.0	

MAPID: 06500669000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 27 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.421624 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.972146 DATE COLLECTED: 8 / 0 / 1951

SURFACE ELEVATION (FT.): 368.0 LOGGED (FT.): 2065.0 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-597.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	965.0	
-672.0	SPOON	DAVIS	UNCLASSIFIED	-	1040.0	
-1697.0	BASE OF PENN.		UNCLASSIFIED	-	2065.0	

MAPID: 06500669000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 27 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.421624 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.972146 DATE COLLECTED:

SURFACE ELEVATION (FT.): 368.0 LOGGED (FT.): 3330.0 LOG TYPE: Electric Log

SOURCE: CARTER OIL COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-262.0	CARBONDALE	DANVILLE	COAL	-	630.0	
-271.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	11.0	639.0	
-290.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	658.0	
-296.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	12.0	664.0	
-334.0	CARBONDALE	HERRIN	COAL	4.0	702.0	
-344.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	13.0	712.0	
-388.0	CARBONDALE	BRIAR HILL	COAL	-	756.0	
-401.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	6.0	769.0	
-446.0	CARBONDALE	SPRINGFIELD	COAL	8.0	814.0	BLACK SHALE & LIMESTONE ROOF
-500.0	CARBONDALE	HOUCHIN CREEK	COAL	-	868.0	

MAPID: 06503606000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 27 QUARTERS/FOOTAGES: 0' S line, 0' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.411264 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.965845 DATE COLLECTED: 1 / 5 / 1968

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 802.0 LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 7 WELL TYPE: Coal Test

COMMENT: C-6835

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-236.0			COAL	1.6	611.0	
-310.6	CARBONDALE	HERRIN	COAL	4.7	685.6	
-362.6	CARBONDALE	BRIAR HILL	COAL	1.5	737.6	
-419.6	CARBONDALE	SPRINGFIELD	COAL	5.6	794.6	



MAPID: 06503606000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 27 QUARTERS/FOOTAGES: 0' S line, 0' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.411264

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.965845

DATE COLLECTED:

SURFACE ELEVATION (FT.): 375.0

LOGGED (FT.): 690.7

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 7

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-236.4	CARBONDALE	DANVILLE	COAL	1.6	611.4
-238.1	CARBONDALE		SILTY SHALE	30.3	613.1
-268.4	CARBONDALE	BANKSTON FORK	LIMESTONE	5.4	643.4
-273.8	CARBONDALE	LAWSON	GRAY SHALE	28.7	648.8
-302.5	CARBONDALE	BRERETON	LIMESTONE	6.0	677.5
-308.4	CARBONDALE	ANNA	BLACK SHALE	2.6	683.4
-311.0	CARBONDALE	HERRIN	COAL	4.7	686.0

MAPID: 06503735000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 27 QUARTERS/FOOTAGES: NW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.418118

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.978507

DATE COLLECTED: 2 / 21 / 1972

SURFACE ELEVATION (FT.): LOGGED (FT.): 934.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 55-C

WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			COAL	2.2	633.0
-	CARBONDALE	HERRIN	COAL	4.2	688.6
-			COAL	1.9	744.0

MAPID: 06500489000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 28 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.430854

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.973925

DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 369.0 LOGGED (FT.): 3690.0

LOG TYPE: Electric Log

SOURCE: RYAN OC, HUNT W A 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-281.0	CARBONDALE	HERRIN	COAL	-	650.0
-2019.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2388.0

MAPID: 06500489000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 28 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.430854 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.973925 DATE COLLECTED:

SURFACE ELEVATION (FT.): 369.0 LOGGED (FT.): 660.0 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
-228.0	CARBONDALE	DANVILLE	COAL	2.0	597.0
-230.0	CARBONDALE		SILTY SHALE	17.0	599.0
-247.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	616.0
-251.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	620.0
-266.0	CARBONDALE	LAWSON	SHALE	12.0	635.0
-278.0	CARBONDALE	BRERETON	LIMESTONE	7.0	647.0
-285.0	CARBONDALE	ANNA	BLACK SHALE	2.0	654.0
-287.0	CARBONDALE	HERRIN	COAL	4.0	656.0

MAPID: 06500489000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 28 QUARTERS/FOOTAGES: 2310' N line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.430854 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.973925 DATE COLLECTED:

SURFACE ELEVATION (FT.): 369.0 LOGGED (FT.): 3332.0 LOG TYPE: Electric Log

SOURCE: RYAN OIL CO., ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-226.0	CARBONDALE	DANVILLE	COAL	-	595.0
-233.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	7.0	602.0
-246.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	615.0
-251.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	13.0	620.0
-286.0	CARBONDALE	HERRIN	COAL	5.0	655.0
-328.0	CARBONDALE	BRIAR HILL	COAL	-	697.0
-399.0	CARBONDALE	SS BELOW NO. 5		85.0	768.0

MAPID: 06501708000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.449215

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.979304

DATE COLLECTED:

SURFACE ELEVATION (FT.): 370.0

LOGGED (FT.): 620.0

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
-115.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	485.0
-120.0	MODESTO		SHALE	64.0	490.0
-184.0	CARBONDALE	DANVILLE	COAL	2.0	554.0
-186.0	CARBONDALE		SILTY SHALE	17.0	556.0
-203.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	573.0
-207.0	CARBONDALE	LAWSON	SILTY SHALE	11.0	577.0
-218.0	CARBONDALE	LAWSON	SANDSTONE	22.0	588.0
-240.0	CARBONDALE	BRERETON	LIMESTONE	4.0	610.0
-244.0	CARBONDALE	ANNA	BLACK SHALE	2.0	614.0
-246.0	CARBONDALE	HERRIN	COAL	4.0	616.0

MAPID: 06501710000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 29 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.453827

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.979272

DATE COLLECTED: 12 / 0 / 1959

SURFACE ELEVATION (FT.): 371.0

LOGGED (FT.): 1915.0

LOG TYPE: Electric Log

SOURCE: CALVIN OIL CO.

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-554.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	925.0
-623.0	SPOON	DAVIS	UNCLASSIFIED	-	994.0
-1544.0	BASE OF PENN.		UNCLASSIFIED	-	1915.0

**MAPID:** 06501712000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 29    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW NE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.453851    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.975653    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 369.0    **LOGGED (FT.):** 3305.0    **LOG TYPE:** Electric Log  
**SOURCE:** CALVIN OIL CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-254.0	CARBONDALE	HERRIN	COAL	4.0	623.0	
-288.0	CARBONDALE	BRIAR HILL	COAL	-	657.0	
-473.0	CARBONDALE	HOUCHIN CREEK	COAL	-	842.0	

**MAPID:** 06590104000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 29    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.45139    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.979134    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	SHALE & SANDSTONE	0.0		

**MAPID:** 06500490000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 30    **QUARTERS/FOOTAGES:** NE NE SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.467772    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.971969    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 373.0    **LOGGED (FT.):** 3346.0    **LOG TYPE:** Electric Log  
**SOURCE:** HERNDON DRLG. CO.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-211.0	CARBONDALE	DANVILLE	COAL	-	584.0	
-231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	604.0	
-252.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	625.0	
-274.0	CARBONDALE	HERRIN	COAL	3.0	647.0	
-317.0	CARBONDALE	BRIAR HILL	COAL	-	690.0	
-416.0	CARBONDALE	SPRINGFIELD	COAL	5.0	789.0	SHALE ROOF
-473.0	CARBONDALE	HOUCHIN CREEK	COAL	-	846.0	

MAPID: 06500490000C VERSION: 2

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 30 QUARTERS/FOOTAGES: NE NE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.467772 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.971969 DATE COLLECTED: 0 / 0 / 1940

SURFACE ELEVATION (FT.): 373.0 LOGGED (FT.): 3730.0 LOG TYPE: Electric Log

SOURCE: HERNDN DRC, PORTER J H0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-275.0	CARBONDALE	HERRIN	COAL	-	648.0	
-2003.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2376.0	

MAPID: 06503729000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 30 QUARTERS/FOOTAGES: NW NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.48271 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.978331 DATE COLLECTED: 12 / 16 / 1971

SURFACE ELEVATION (FT.): LOGGED (FT.): 801.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 53-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			COAL	1.2	415.7	
-			COAL	1.6	537.5	
-			COAL	1.2	630.0	
-	CARBONDALE	HERRIN	COAL	4.8	685.6	
-			COAL	1.2	735.5	
-	CARBONDALE	SPRINGFIELD	COAL	4.6	790.2	

MAPID: 06503732000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 30 QUARTERS/FOOTAGES: 2310' N line, 1320' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.480504 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.973756 DATE COLLECTED: 2 / 14 / 1972

SURFACE ELEVATION (FT.): LOGGED (FT.): 860.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 56-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			COAL	1.5	389.0	
-			COAL	2.5	507.5	
-			COAL	2.2	583.2	
-			COAL	2.2	583.2	
-	CARBONDALE	HERRIN	COAL	4.9	645.3	
-	CARBONDALE	HOUCHIN CREEK	COAL	1.5	853.0	LOGBOOK SAYS "#4?"

MAPID: 06503732000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 30 QUARTERS/FOOTAGES: 2310' N line, 1320' W line  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.480504 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 37.973756 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 370.0 LOGGED (FT.): 649.9 LOG TYPE: Survey Core Study  
 SOURCE: PEABODY COAL CO. 56-C WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-213.0	CARBONDALE	DANVILLE	COAL	2.2	583.0	
-215.2	CARBONDALE		SILTY SHALE	17.6	585.2	
-232.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.6	602.8	
-238.4	CARBONDALE	LAWSON	SILTY SHALE	31.4	608.4	
-269.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.0	639.8	
-273.8	CARBONDALE	ANNA	BLACK SHALE	1.3	643.8	
-275.0	CARBONDALE	HERRIN	COAL	4.9	645.0	

MAPID: 06523868000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 30 QUARTERS/FOOTAGES: NE NE  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.468842 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 37.978292 DATE COLLECTED: 6 / 11 / 1970  
 SURFACE ELEVATION (FT.): 370.0 LOGGED (FT.): 910.0 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 43 WELL TYPE: Coal Test  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-256.0	CARBONDALE	HERRIN	COAL	1.5	626.0	APPROX. THICKNESS

MAPID: 06501033000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 31 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SW  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.481843 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 37.955554 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 370.0 LOGGED (FT.): 3386.0 LOG TYPE: Electric Log  
 SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-280.0	CARBONDALE	HERRIN	COAL	5.0	650.0	
-330.0	CARBONDALE	BRIAR HILL	COAL	-	700.0	
-376.0	CARBONDALE	SPRINGFIELD	COAL	4.0	746.0	SHALE & SILTSTONE ROOF
-464.0	CARBONDALE	HOUCHIN CREEK	COAL	-	834.0	

**MAPID:** 06501829000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 0' S line, 660' E line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.468955    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.950989    **DATE COLLECTED:** 1 / 18 / 1972  
**SURFACE ELEVATION (FT.):** 364.0    **LOGGED (FT.):** 788.5    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    54-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-136.0			COAL	1.3	500.0
-163.0			COAL	1.0	527.0
-233.2			COAL	1.7	597.2
-308.6	CARBONDALE	HERRIN	COAL	4.8	672.6
-416.6	CARBONDALE	SPRINGFIELD	COAL	6.3	780.6

**MAPID:** 06501829000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** 0' S line, 660' E line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.468955    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.950989    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 364.0    **LOGGED (FT.):** 677.8    **LOG TYPE:** Electric Log  
**SOURCE:** PEABODY COAL CO.    54-C    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-233.6	CARBONDALE	DANVILLE	COAL	1.7	597.6
-235.3	CARBONDALE		SILTY SHALE	26.7	599.3
-262.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	626.0
-266.8	CARBONDALE	LAWSON	SHALE & SANDSTONE	36.6	630.8
-303.4	CARBONDALE	BRERETON	LIMESTONE	2.1	667.4
-305.5	CARBONDALE	ANNA	BLACK SHALE	3.5	669.5
-309.0	CARBONDALE	HERRIN	COAL	4.8	673.0

**MAPID:** 06523869000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 31    **QUARTERS/FOOTAGES:** SW NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.482991    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.960156    **DATE COLLECTED:** 3 / 6 / 1970  
**SURFACE ELEVATION (FT.):** 367.0    **LOGGED (FT.):** 803.0    **LOG TYPE:** Other Core Study  
**SOURCE:** PEABODY COAL CO.    27-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-311.8	CARBONDALE	HERRIN	COAL	4.9	678.8
-428.0	CARBONDALE	SPRINGFIELD	COAL	5.3	795.0

MAPID: 06590095000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 31 QUARTERS/FOOTAGES:

QUADRANGLE: BROUGHTON LONGITUDE: -88.484243

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.953453

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	SHALE & SANDSTONE	0.0		SPLIT?

MAPID: 06500491000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.463205

GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.951936

DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 366.0 LOGGED (FT.): 3660.0

LOG TYPE: Electric Log

SOURCE: MCBRIDEINC, MARSCH L 0001

WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-314.0	CARBONDALE	HERRIN	COAL	-	680.0	
-429.0	CARBONDALE	SPRINGFIELD	COAL	-	795.0	
-2017.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2383.0	

MAPID: 06500491000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.463205

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.951936

DATE COLLECTED:

SURFACE ELEVATION (FT.): 366.0 LOGGED (FT.): 688.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-177.0	MODESTO	PIASA	CALCAREOUS SHALE	10.0	543.0	
-187.0	MODESTO		SHALE	52.0	553.0	
-239.0	CARBONDALE	DANVILLE	COAL	2.0	605.0	
-241.0	CARBONDALE		SHALE & SANDSTONE	31.0	607.0	
-272.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	638.0	
-276.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	20.0	642.0	
-296.0	CARBONDALE	LAWSON	SHALE	14.0	662.0	
-310.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	4.0	676.0	
-314.0	CARBONDALE	ANNA	BLACK SHALE	3.0	680.0	
-317.0	CARBONDALE	HERRIN	COAL	5.0	683.0	



MAPID: 06500491000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.463205 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.951936 DATE COLLECTED:

SURFACE ELEVATION (FT.): 366.0 LOGGED (FT.): 3472.0 LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-234.0	CARBONDALE	DANVILLE	COAL	-	600.0	
-241.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	607.0	
-270.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	636.0	
-278.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	644.0	
-317.0	CARBONDALE	HERRIN	COAL	4.0	683.0	
-366.0	CARBONDALE	BRIAR HILL	COAL	-	732.0	
-384.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	8.0	750.0	
-426.0	CARBONDALE	SPRINGFIELD	COAL	8.0	792.0	BLACK SHALE & LIMESTONE ROOF
-436.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	50.0	802.0	
-486.0	CARBONDALE	HOUCHIN CREEK	COAL	-	852.0	

MAPID: 06500491000C VERSION: 4

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 32 QUARTERS/FOOTAGES: 330' S line, 990' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.463205 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.951936 DATE COLLECTED: 4 / 0 / 1943

SURFACE ELEVATION (FT.): 366.0 LOGGED (FT.): 2130.0 LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC. WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-588.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	954.0	
-660.0	SPOON	DAVIS	UNCLASSIFIED	-	1026.0	
-1764.0	BASE OF PENN.		UNCLASSIFIED	-	2130.0	

**MAPID:** 06590097000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 32    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.46326    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.951324    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	8.0	

**MAPID:** 06500499000C    **VERSION:** 1    **PROJECT:** RI 148  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 33    **QUARTERS/FOOTAGES:** 330' N line, 2310' E line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.437835    **GEOLOGIST:** M. ROLLEY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.964843    **DATE COLLECTED:** 0 / 0 / 1944  
**SURFACE ELEVATION (FT.):** 366.0    **LOGGED (FT.):** 3660.0    **LOG TYPE:** Electric Log  
**SOURCE:** IND FRM BR, SEYMOUR 0001    **WELL TYPE:** Oil and Gas Test  
**COMMENT:** NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-285.0	CARBONDALE	HERRIN	COAL	4.0	651.0
-398.0	CARBONDALE	SPRINGFIELD	COAL	5.0	764.0
-2035.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2401.0

**MAPID:** 06500499000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 6S 7E    **SECTION:** 33    **QUARTERS/FOOTAGES:** 330' N line, 2310' E line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.437835    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.964843    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 369.0    **LOGGED (FT.):** 656.0    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-200.0	CARBONDALE	DANVILLE	COAL	1.0	569.0
-201.0	CARBONDALE		SHALE & SANDSTONE	29.0	570.0
-230.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	599.0
-233.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	33.0	602.0
-266.0	CARBONDALE	JAMESTOWN	BONE COAL	11.0	635.0
-277.0	CARBONDALE	BRERETON	LIMESTONE	3.0	646.0
-280.0	CARBONDALE	ANNA	BLACK SHALE	3.0	649.0
-283.0	CARBONDALE	HERRIN	COAL	4.0	652.0

MAPID: 06500499000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.437835 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.964843 DATE COLLECTED:

SURFACE ELEVATION (FT.): 369.0 LOGGED (FT.): 3356.0 LOG TYPE: Electric Log

SOURCE: INPLS FARM BUR WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-209.0	CARBONDALE	DANVILLE	COAL	-	578.0	
-243.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	20.0	612.0	
-283.0	CARBONDALE	HERRIN	COAL	4.0	652.0	
-293.0	CARBONDALE	VERMILIONVILLE	SILTSTONE	14.0	662.0	
-333.0	CARBONDALE	BRIAR HILL	COAL	-	702.0	
-346.0	CARBONDALE	CANTON	SILTSTONE	10.0	715.0	
-395.0	CARBONDALE	SPRINGFIELD	COAL	7.0	764.0	SHALE & SILTSTONE ROOF
-417.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	138.0	786.0	

MAPID: 06500499000C VERSION: 4

PROJECT: CONTROL

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 33 QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.437835 GEOLOGIST: HINES

CONFIDENTIAL: N LATITUDE: 37.964843 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 3356.0 LOG TYPE: Survey Sample Study

SOURCE: INPLS FARM BUR WELL TYPE: Oil and Gas Test

COMMENT: OILWELLS LOGGED BY COAL SECT-LOGS IN GRU

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

MAPID: 06500499000C    VERSION: 5

PROJECT: NCRDS99

COUNTY: HAMILTON    TWP/RNG: 6S 7E    SECTION: 33    QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.437835    GEOLOGIST: MCCracken

CONFIDENTIAL: N    LATITUDE: 37.964843    DATE COLLECTED: 9 / 0 / 1944

SURFACE ELEVATION (FT.): 369.0    LOGGED (FT.): 1884.0    LOG TYPE: Survey Sample Study

SOURCE: INDIANAPOLIS FARM BUREAU CORP 1    WELL TYPE: Dry Hole

COMMENT: SAMPLE STUDY CONTROL WELL #196

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
369.0			NO RECORD	162.0	0.0	
207.0			SANDSTONE	13.0	162.0	
194.0			SILTSTONE	70.0	175.0	
124.0			SHALE	25.0	245.0	
99.0			BLACK SHALE	1.0	270.0	
98.0			COAL	1.0	271.0	THICKNESS ESTIMATED
97.0			UNDERCLAY	2.0	272.0	
95.0			SILTSTONE	26.0	274.0	
69.0			SANDSTONE	6.0	300.0	
63.0			SILTSTONE	74.0	306.0	
-11.0			SHALE	8.0	380.0	
-19.0			DARK SHALE	1.0	388.0	
-20.0			SHALE	3.0	389.0	
-23.0			SILTSTONE	4.0	392.0	
-27.0			SANDSTONE	29.0	396.0	
-56.0			SILTSTONE	25.0	425.0	
-81.0			SHALE	5.0	450.0	
-86.0			SILTSTONE	5.0	455.0	
-91.0			SHALE	20.0	460.0	
-111.0			SILTSTONE	5.0	480.0	
-116.0			SHALE	20.0	485.0	
-136.0			SILTSTONE	5.0	505.0	
-141.0			SHALE	15.0	510.0	
-156.0			LIMESTONE	4.0	525.0	
-160.0	CARBONDALE		SHALE	52.0	529.0	
-212.0	CARBONDALE	DANVILLE	COAL	1.0	581.0	THICKNESS ESTIMATED
-213.0	CARBONDALE		SILTSTONE	32.0	582.0	
-245.0	CARBONDALE		SANDSTONE	34.0	614.0	COAL STREAK
-279.0	CARBONDALE		LIMESTONE	3.0	648.0	
-282.0	CARBONDALE		BLACK SHALE	3.0	651.0	
-285.0	CARBONDALE	HERRIN	COAL	4.0	654.0	WITH UNDERCLAY
-289.0	CARBONDALE		UNDERCLAY	5.0	658.0	
-294.0	CARBONDALE		SANDSTONE	19.0	663.0	
-313.0	CARBONDALE		SILTSTONE	40.0	682.0	
-353.0	CARBONDALE		SHALE	24.0	722.0	
-377.0	CARBONDALE		LIMESTONE	2.0	746.0	
-379.0	CARBONDALE		BLACK SHALE	9.0	748.0	
-388.0	CARBONDALE		SHALE	7.0	757.0	
-395.0	CARBONDALE		BLACK SHALE	3.0	764.0	

-398.0	CARBONDALE	SPRINGFIELD	COAL	5.0	767.0	APPROXIMATE THICKNESS
-403.0	CARBONDALE		SHALE	5.0	772.0	
-408.0	CARBONDALE		SILTSTONE	15.0	777.0	
-423.0	CARBONDALE		SANDSTONE	125.0	792.0	
-548.0			BLACK SHALE	1.0	917.0	COAL STREAK
-549.0			SANDSTONE	9.0	918.0	
-558.0			SHALE	2.0	927.0	
-560.0			BLACK SHALE	3.0	929.0	
-563.0			SANDSTONE	25.0	932.0	
-588.0			SHALE	2.0	957.0	WITH BLACK SHALE
-590.0			COAL	1.0	959.0	THICKNESS ESTIMATED
-591.0			SHALE	2.0	960.0	
-593.0			SANDSTONE	20.0	962.0	
-613.0			SILTSTONE	14.0	982.0	
-627.0			BLACK SHALE	1.0	996.0	
-628.0			COAL	1.0	997.0	THICKNESS ESTIMATED
-629.0			SHALE	2.0	998.0	
-631.0			SILTSTONE	68.0	1000.0	WITH SANDSTONE AND SHALE SEAMS
-699.0			SHALE	44.0	1068.0	
-743.0			SILTSTONE	26.0	1112.0	
-769.0			SHALE	40.0	1138.0	
-809.0			SANDSTONE	4.0	1178.0	
-813.0			SILTSTONE	25.0	1182.0	
-838.0			SHALE	5.0	1207.0	
-843.0			SANDSTONE	24.0	1212.0	
-867.0			SHALE	40.0	1236.0	
-907.0			SILTSTONE	56.0	1276.0	WITH SANDSTONE
-963.0			SANDSTONE	24.0	1332.0	WITH BLACK SHALE
-987.0			SANDSTONE	184.0	1356.0	WITH SHALE
-1171.0			SHALE	10.0	1540.0	
-1181.0			SANDSTONE	136.0	1550.0	WITH SHALE
-1317.0			SHALE	9.0	1686.0	
-1326.0			SANDSTONE	29.0	1695.0	WITH SHALE
-1355.0			SILTSTONE	11.0	1724.0	
-1366.0			BLACK SHALE	59.0	1735.0	
-1425.0			SILTSTONE	6.0	1794.0	
-1431.0			SHALE	15.0	1800.0	
-1446.0			BLACK SHALE	5.0	1815.0	
-1451.0			SANDSTONE	16.0	1820.0	
-1467.0			SHALE	48.0	1836.0	

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MAPID: 0659010000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 33 QUARTERS/FOOTAGES:

QUADRANGLE: BROUGHTON LONGITUDE: -88.438107

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.964371

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.5		

MAPID: 06500668000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 34 QUARTERS/FOOTAGES: 990' N line, 1650' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.424045

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.963058

DATE COLLECTED:

SURFACE ELEVATION (FT.): 366.0 LOGGED (FT.): 3318.0

LOG TYPE: Electric Log

SOURCE: COY OIL, INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-224.0	CARBONDALE	DANVILLE	COAL	-	590.0	
-230.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	596.0	
-254.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	620.0	
-264.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	43.0	630.0	
-318.0	CARBONDALE	HERRIN	COAL	6.0	684.0	
-338.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	9.0	704.0	
-364.0	CARBONDALE	BRIAR HILL	COAL	-	730.0	
-414.0	CARBONDALE	SPRINGFIELD	COAL	5.0	780.0	BLACK SHALE ROOF
-488.0	CARBONDALE	HOUCHIN CREEK	COAL	-	854.0	

MAPID: 06500668000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 34 QUARTERS/FOOTAGES: 990' N line, 1650' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.424045

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.963058

DATE COLLECTED:

SURFACE ELEVATION (FT.): 366.0

LOGGED (FT.): 690.0

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
-164.0	MODESTO	PIASA	LIMESTONE & SHALE	6.0	530.0
-170.0	MODESTO		SHALE	57.5	536.0
-227.5	CARBONDALE	DANVILLE	COAL	1.5	593.5
-229.0	CARBONDALE		SILTY SHALE	25.0	595.0
-254.0	CARBONDALE	BANKSTON FORK	SHALE & SANDSTONE	4.0	620.0
-258.0	CARBONDALE	LAWSON	SILTY SHALE	13.0	624.0
-271.0	CARBONDALE	LAWSON	SANDSTONE	41.0	637.0
-312.0	CARBONDALE	BRERETON	LIMESTONE	3.5	678.0
-315.5	CARBONDALE	ANNA	BLACK SHALE	3.5	681.5
-319.0	CARBONDALE	HERRIN	COAL	5.0	685.0

MAPID: 06503727000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 35 QUARTERS/FOOTAGES: 0' S line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.394054

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.951285

DATE COLLECTED: 11 / 20 / 1968

SURFACE ELEVATION (FT.): 398.0

LOGGED (FT.): 776.6

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 20-C

WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY; C-8980

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
340.5			COAL	1.1	57.5
-169.4			COAL	1.5	567.4
-248.7	CARBONDALE	HERRIN	COAL	4.9	646.7
-306.2	CARBONDALE	BRIAR HILL	COAL	0.7	704.2
-371.8	CARBONDALE	SPRINGFIELD	COAL	6.8	769.8

MAPID: 06503727000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 35 QUARTERS/FOOTAGES: 0' S line, 330' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.394054 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.951285 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 651.9 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 20-C WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-169.6	CARBONDALE	DANVILLE	COAL	1.5	567.6
-171.1	CARBONDALE		SHALE & SANDSTONE	40.0	569.1
-211.1	CARBONDALE	BANKSTON FORK	LIMESTONE	4.1	609.1
-215.2	CARBONDALE	LAWSON	SILTY SHALE	25.7	613.2
-240.9	CARBONDALE	BRERETON	LIMESTONE	4.5	638.9
-245.4	CARBONDALE	ANNA	BLACK SHALE	3.6	643.4
-249.0	CARBONDALE	HERRIN	COAL	4.9	647.0

MAPID: 06500492000C VERSION: 1

PROJECT: RI 148

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.387074 GEOLOGIST: M. ROLLEY

CONFIDENTIAL: N LATITUDE: 37.965085 DATE COLLECTED: 0 / 0 / 1941

SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 4420.0 LOG TYPE: Electric Log

SOURCE: MARTIN R B, MCKENZIE C0001 WELL TYPE: Oil and Gas Test

COMMENT: NO THICKNESSES ESTIMATED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-238.0	CARBONDALE	HERRIN	COAL	-	680.0
-348.0	CARBONDALE	SPRINGFIELD	COAL	-	790.0
-1967.0	MISSISSIPPIAN	MENARD	LIMESTONE	-	2409.0



MAPID: 06500492000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.387074 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.965085 DATE COLLECTED:

SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 685.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-176.0	CARBONDALE	DANVILLE	COAL	2.0	618.0	
-178.0	CARBONDALE		SHALE	14.0	620.0	
-192.0	CARBONDALE	ALLENBY	BONE COAL	1.0	634.0	
-193.0	CARBONDALE		CLAYSTONE & SHALE	9.0	635.0	
-202.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	644.0	
-206.0	CARBONDALE	LAWSON	SILTY SHALE	24.0	648.0	
-230.0	CARBONDALE	BRERETON	LIMESTONE	5.0	672.0	
-235.0	CARBONDALE	ANNA	BLACK SHALE	3.0	677.0	
-238.0	CARBONDALE	HERRIN	COAL	5.0	680.0	

MAPID: 06500492000C VERSION: 3

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 6S 7E SECTION: 36 QUARTERS/FOOTAGES: 330' N line, 1650' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.387074 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.965085 DATE COLLECTED:

SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 3295.0 LOG TYPE: Electric Log

SOURCE: MARTIN R B-ILL OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-173.0	CARBONDALE	DANVILLE	COAL	-	615.0	
-200.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	642.0	
-205.0	CARBONDALE	ANVIL ROCK	SILTSTONE	6.0	647.0	
-238.0	CARBONDALE	HERRIN	COAL	4.0	680.0	
-296.0	CARBONDALE	BRIAR HILL	COAL	-	738.0	
-350.0	CARBONDALE	SPRINGFIELD	COAL	7.0	792.0	BLACK SHALE ROOF
-400.0	CARBONDALE	HOUCHIN CREEK	COAL	-	842.0	

MAPID: 06500743000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 1 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.601688 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.94453 DATE COLLECTED:

SURFACE ELEVATION (FT.): 438.0 LOGGED (FT.): 3428.0 LOG TYPE: Electric Log

SOURCE: OIL MANAGEMENT, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-202.0	CARBONDALE	DANVILLE	COAL	-	640.0	
-211.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	4.0	649.0	
-240.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	678.0	
-249.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	687.0	
-282.0	CARBONDALE	HERRIN	COAL	-	720.0	
-330.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	24.0	768.0	
-375.0	CARBONDALE	SPRINGFIELD	COAL	4.0	813.0	SHALE & SILTSTONE ROOF
-397.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SILTSTONE	14.0	835.0	
-456.0	CARBONDALE	HOUCHIN CREEK	COAL	-	894.0	

MAPID: 06501178000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 1 QUARTERS/FOOTAGES: 990' N line, 330' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.597068 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.948226 DATE COLLECTED:

SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 730.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-181.0	MODESTO	PIASA	LIMESTONE	5.0	623.0	
-186.0	MODESTO		SHALE	18.5	628.0	
-204.5	CARBONDALE	DANVILLE	COAL	1.5	646.5	
-206.0	CARBONDALE		SHALE	22.0	648.0	
-228.0	CARBONDALE	ALLENBY	BONE COAL	1.0	670.0	
-229.0	CARBONDALE		CLAYSTONE & SHALE	10.0	671.0	
-239.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	681.0	
-246.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	12.0	688.0	
-258.0	CARBONDALE	LAWSON	SHALE	16.0	700.0	
-274.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	716.0	
-275.0	CARBONDALE		SHALE	1.0	717.0	
-276.0	CARBONDALE	BRERETON	LIMESTONE	6.0	718.0	
-282.0	CARBONDALE	ANNA	BLACK SHALE	1.0	724.0	
-283.0	CARBONDALE	HERRIN	COAL	5.0	725.0	

**MAPID:** 06503689000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 1    **QUARTERS/FOOTAGES:** SE SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.607506    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.938109    **DATE COLLECTED:** 4 / 17 / 1970  
**SURFACE ELEVATION (FT.):** 450.0    **LOGGED (FT.):** 816.1    **LOG TYPE:** Other Core Study  
**SOURCE:** PEABODY COAL CO.    32-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-			UNCLASSIFIED	0.0	NO DRILLERS LOG; BAD CORE DESCRIP

**MAPID:** 06590032000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 1    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.59668    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.948587    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.5	

**MAPID:** 06590033000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 1    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.605784    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.950442    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.5	

MAPID: 06500744000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 2 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SE

QUADRANGLE: WALPOLE LONGITUDE: -88.622307 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.938997 DATE COLLECTED:

SURFACE ELEVATION (FT.): 444.0 LOGGED (FT.): 3226.0 LOG TYPE: Electric Log

SOURCE: TURNER, J. D. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-220.0	CARBONDALE	DANVILLE	COAL	-	664.0	
-229.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	5.0	673.0	
-246.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	690.0	
-258.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	702.0	
-292.0	CARBONDALE	HERRIN	COAL	-	736.0	
-312.0	CARBONDALE	BRIAR HILL	COAL	-	756.0	
-315.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	4.0	759.0	
-371.0	CARBONDALE	SPRINGFIELD	COAL	5.0	815.0	GRAY SHALE ROOF
-386.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SILTSTONE	23.0	830.0	
-453.0	CARBONDALE	HOUCHIN CREEK	COAL	-	897.0	

MAPID: 06501126000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 2 QUARTERS/FOOTAGES: 990' N line, 1650' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.620091 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.948275 DATE COLLECTED:

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 803.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-208.0	MODESTO	PIASA	LIMESTONE	6.0	688.0	
-214.0	MODESTO		SHALE	20.0	694.0	
-234.0	CARBONDALE	DANVILLE	COAL	1.5	714.0	
-235.5	CARBONDALE		SILTY SHALE	14.5	715.5	
-250.0	CARBONDALE	ALLENBY	BONE COAL	1.0	730.0	
-251.0	CARBONDALE		CLAYSTONE & SHALE	6.0	731.0	
-257.0	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	737.0	
-270.0	CARBONDALE	LAWSON	SANDSTONE	10.0	750.0	
-280.0	CARBONDALE	LAWSON	GRAY SHALE	18.0	760.0	
-298.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	778.0	
-298.5	CARBONDALE		SHALE	1.5	778.5	
-300.0	CARBONDALE	BRERETON	LIMESTONE	10.0	780.0	
-310.0	CARBONDALE	ANNA	BLACK SHALE	4.0	790.0	
-314.0	CARBONDALE	HERRIN	COAL	9.0	794.0	

**MAPID:** 06501421000C    **VERSION:** 1    **PROJECT:** CUSMAP  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 2    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SE SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.624608    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.938984    **DATE COLLECTED:** 7 / 0 / 1958  
**SURFACE ELEVATION (FT.):** 460.0    **LOGGED (FT.):** 1958.0    **LOG TYPE:** Electric Log  
**SOURCE:** TURNER, J. D.    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-544.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1004.0	
-620.0	SPOON	DAVIS	UNCLASSIFIED	-	1080.0	
-1498.0	BASE OF PENN.		UNCLASSIFIED	-	1958.0	

**MAPID:** 06590022000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 2    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.628551    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.94297    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	3.0		SPLIT?

**MAPID:** 06590023000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 2    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.614932    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.950499    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.8		

MAPID: 06500018000C    VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 3    QUARTERS/FOOTAGES: 1650' N line, 2310' W line

QUADRANGLE: AKIN    LONGITUDE: -88.64268    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 37.946478    DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 453.9    LOGGED (FT.): 844.5    LOG TYPE: Drillers Log

SOURCE: TRI-COUNTY COAL    1012    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
453.9	PLEISTOCENE		CLAY	26.0	0.0	
427.9			SHALE	7.0	26.0	
420.9			COAL	2.0	33.0	
418.9			SHALE	5.0	35.0	
413.9			SANDSTONE	10.0	40.0	
403.9			SHALE	15.0	50.0	
388.9			SHALE	0.5	65.0	BLACK
388.4			SHALE WITH LIMESTONE	0.5	65.5	
387.9			COAL	0.2	66.0	
387.7			SHALE	30.8	66.2	
356.9			SHALE	23.0	97.0	BLUE
333.9			COAL	0.7	120.0	
333.2			SHALE	53.3	120.7	
279.9			SANDSTONE	79.0	174.0	
200.9			COAL	0.2	253.0	
200.7			LIMESTONE	1.8	253.2	
198.9			SANDSTONE	15.0	255.0	
183.9			SHALE	55.0	270.0	BLUE
128.9			SHALE	3.0	325.0	BLACK
125.9			SHALE	51.0	328.0	BLUE
74.9			COAL	1.5	379.0	BONEY
73.4			SHALE	43.5	380.5	
29.9			SHALE	46.0	424.0	BLUE
-16.1			SHALE	7.0	470.0	
-23.1			COAL	1.0	477.0	
-24.1			SHALE	3.0	478.0	
-27.1			COAL	1.5	481.0	
-28.6			SHALE	0.5	482.5	
-29.1			SHALE	4.0	483.0	
-33.1			UNDERCLAY	8.0	487.0	
-41.1			SHALE	18.0	495.0	
-59.1			SHALE	17.0	513.0	
-76.1			SHALE	69.0	530.0	BLUE
-145.1			SHALE	3.0	599.0	
-148.1			SHALE	10.0	602.0	
-158.1			SHALE	10.0	612.0	BLUE
-168.1			SHALE	7.0	622.0	BLACK
-175.1			COAL	1.0	629.0	
-176.1			UNDERCLAY	2.0	630.0	

-178.1			SHALE	3.0	632.0	
-181.1			SHALE	5.0	635.0	
-186.1			SHALE	21.0	640.0	BLUE
-207.1	MODESTO	PIASA	LIMESTONE	4.0	661.0	
-211.1	MODESTO		SHALE	15.0	665.0	BLUE
-226.1	CARBONDALE	DANVILLE	COAL	2.2	680.0	
-228.3	CARBONDALE		SHALE	8.8	682.2	
-237.1	CARBONDALE		SHALE	4.0	691.0	
-241.1	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	9.0	695.0	
-250.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	704.0	
-258.1	CARBONDALE		SHALE	10.0	712.0	
-268.1	CARBONDALE		COAL	0.2	722.0	
-268.3	CARBONDALE		SHALE	26.8	722.2	
-295.1	CARBONDALE		SHALE	1.0	749.0	DARK
-296.1	CARBONDALE		SHALE	1.0	750.0	BLACK
-297.1	CARBONDALE	BRERETON	LIMESTONE	4.0	751.0	BLUE
-301.1	CARBONDALE	ANNA	SHALE	2.6	755.0	BLACK
-303.7	CARBONDALE	HERRIN	COAL	7.0	757.6	
-310.7	CARBONDALE		LIMESTONE	0.4	764.6	
-311.1	CARBONDALE		SHALE	10.0	765.0	
-321.1	CARBONDALE		SHALE WITH LIMESTONE	2.0	775.0	
-323.1	CARBONDALE		SHALE	10.0	777.0	BLUE
-333.1	CARBONDALE	BRIAR HILL	COAL	2.0	787.0	
-335.1	CARBONDALE		SHALE	8.0	789.0	BLUE
-343.1	CARBONDALE	ST. DAVID	LIMESTONE	2.0	797.0	
-345.1	CARBONDALE		SHALE	4.0	799.0	BLACK
-349.1	CARBONDALE		SHALE	33.5	803.0	BLUE
-382.6	CARBONDALE	SPRINGFIELD	COAL	5.3	836.5	
-387.9	CARBONDALE		LIMESTONE	2.7	841.8	

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MAPID: 06500018000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 3 QUARTERS/FOOTAGES: 1650' N line, 2310' W line

QUADRANGLE: AKIN LONGITUDE: -88.64268 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.946478 DATE COLLECTED:

SURFACE ELEVATION (FT.): 454.0 LOGGED (FT.): 765.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-207.4	MODESTO	PIASA	LIMESTONE	4.0	661.4
-211.4	MODESTO		GRAY SHALE	15.0	665.4
-226.4	CARBONDALE	DANVILLE	COAL	2.2	680.4
-228.6	CARBONDALE		ROCK	21.8	682.6
-250.4	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	704.4
-258.4	CARBONDALE	LAWSON	SILTY SHALE	10.0	712.4
-268.4	CARBONDALE	LAWSON	COAL	0.2	722.4
-268.6	CARBONDALE	LAWSON	SILTY SHALE	26.8	722.6
-295.4	CARBONDALE	LAWSON	GRAY SHALE	1.0	749.4
-296.4	CARBONDALE		BLACK SHALE	1.0	750.4
-297.4	CARBONDALE	BRERETON	LIMESTONE	4.0	751.4
-301.4	CARBONDALE	ANNA	BLACK SHALE	2.6	755.4
-304.0	CARBONDALE	HERRIN	COAL	7.0	758.0

MAPID: 06500605000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: AKIN LONGITUDE: -88.640386 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.948228 DATE COLLECTED:

SURFACE ELEVATION (FT.): 493.0 LOGGED (FT.): 3475.0 LOG TYPE: Electric Log

SOURCE: GULF REFINING CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-223.0	CARBONDALE	DANVILLE	COAL	-	716.0
-233.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	7.0	726.0
-254.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	747.0
-265.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SILTSTONE	16.0	758.0
-321.0	CARBONDALE	HERRIN	COAL	-	814.0
-343.0	CARBONDALE	BRIAR HILL	COAL	-	836.0
-377.0	CARBONDALE	SPRINGFIELD	COAL	6.0	870.0
-433.0	CARBONDALE	HOUCHIN CREEK	COAL	-	926.0

SHALE & SILTSTONE  
ROOF



**MAPID:** 06590013000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 3    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.642716    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.938511    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

**MAPID:** 06590014000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 3    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.641966    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.947323    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.3		

MAPID: 06500019000C    VERSION: 1

PROJECT: NCRDS97

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 4    QUARTERS/FOOTAGES: 2640' N line, 2640' E line

QUADRANGLE: AKIN    LONGITUDE: -88.65999    GEOLOGIST: C.KOROSE

CONFIDENTIAL: N    LATITUDE: 37.943762    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 451.0    LOGGED (FT.): 792.3    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & COAL CO. 6    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
451.0	PLEISTOCENE		CLAY	16.0	0.0	
435.0	PLEISTOCENE		SAND	6.0	16.0	
429.0			ROCK	2.0	22.0	"BROKEN LEDGE" NOTED IN LOG
427.0			SHALE	2.0	24.0	
425.0			SHALE	8.0	26.0	
417.0			SHALE	10.0	34.0	
407.0			SHALY SANDSTONE	18.0	44.0	
389.0			SHALE	6.0	62.0	
383.0			SHALE	4.0	68.0	DARK
379.0			SHALE	13.0	72.0	
366.0			SHALE	4.0	85.0	
362.0			SHALE	44.0	89.0	BLACK-BROWN
318.0			COAL	0.7	133.0	BONEY
317.3			SHALE	3.3	133.7	
314.0			SHALE	8.0	137.0	BLUE
306.0			SHALE	16.0	145.0	
290.0			SHALE	15.0	161.0	
275.0			SANDSTONE	2.0	176.0	
273.0			SANDSTONE	39.0	178.0	
234.0			SANDSTONE	7.0	217.0	
227.0			SANDSTONE	5.0	224.0	CONGLOMERATE
222.0			SHALE	28.0	229.0	BLUE
194.0			SHALE WITH LIMESTONE	15.0	257.0	
179.0			SHALE	38.0	272.0	
141.0			SHALE	5.0	310.0	BLACK
136.0			CLAYSTONE	3.0	315.0	
133.0			SHALE	21.5	318.0	
111.5			SHALE	1.3	339.5	
110.2			COAL	1.3	340.8	BONEY
109.0			SHALE	3.6	342.0	
105.4			COAL	0.3	345.6	
105.2			SHALE	17.2	345.8	
88.0			SHALY SANDSTONE	12.0	363.0	
76.0			SHALE	25.0	375.0	
51.0			SHALE	13.0	400.0	BLUE
38.0			SHALE	20.0	413.0	BLUE
18.0			SHALE	2.0	433.0	BROWN
16.0			SHALE	5.0	435.0	BLACK
11.0	MODESTO	CHAPEL	COAL	1.0	440.0	BONEY

10.0	MODESTO		SHALY SANDSTONE	9.0	441.0	
1.0	MODESTO		SANDSTONE	67.0	450.0	
-66.0	MODESTO		SHALE	1.0	517.0	BLUE
-67.0	MODESTO		SHALE	36.0	518.0	BLUE
-103.0	MODESTO		SHALE	11.0	554.0	BLUE
-114.0	MODESTO		SHALY LIMESTONE	6.0	565.0	
-120.0	MODESTO		SHALE	17.0	571.0	BLUE
-137.0	MODESTO		SHALE	2.5	588.0	BLACK
-139.5	MODESTO		COAL	1.3	590.5	BONEY
-140.8	MODESTO		SHALE WITH LIMESTONE	8.3	591.8	
-149.0	MODESTO		SHALE	22.0	600.0	BLACK
-171.0	MODESTO	PIASA	LIMESTONE	4.5	622.0	WHITE
-175.5	MODESTO		SHALE	1.5	626.5	BLUE
-177.0	MODESTO		SHALE	10.0	628.0	
-187.0	CARBONDALE	DANVILLE	COAL	1.7	638.0	
-188.7	CARBONDALE		SHALE	1.3	639.7	
-190.0	CARBONDALE		SHALE	7.0	641.0	
-197.0	CARBONDALE		SHALE	1.0	648.0	BLUE
-198.0	CARBONDALE		SANDSTONE	3.0	649.0	
-201.0	CARBONDALE		SHALE	1.5	652.0	
-202.5	CARBONDALE		SANDSTONE	3.5	653.5	
-206.0	CARBONDALE		SHALE	3.5	657.0	BLUE
-209.5	CARBONDALE	ALLENBY	COAL	0.3	660.5	
-209.8	CARBONDALE		SHALE	5.3	660.8	
-215.0	CARBONDALE		SHALE WITH LIMESTONE	5.0	666.0	
-220.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	671.0	WHITE
-226.5	CARBONDALE		SHALE	6.5	677.5	
-233.0	CARBONDALE		SHALE	2.0	684.0	BLUE
-235.0	CARBONDALE		SHALE	4.0	686.0	
-239.0	CARBONDALE		SANDSTONE	3.0	690.0	
-242.0	CARBONDALE		SHALE	7.0	693.0	
-249.0	CARBONDALE		SHALE	11.0	700.0	BLUE
-260.0	CARBONDALE	CONANT	LIMESTONE	0.6	711.0	
-260.6	CARBONDALE	JAMESTOWN	COAL	0.3	711.6	
-260.9	CARBONDALE		SHALE	0.8	711.9	
-261.7	CARBONDALE	BRERETON	LIMESTONE	12.3	712.7	BLUE
-274.0	CARBONDALE	ANNA	SHALE	4.2	725.0	BLACK
-278.2	CARBONDALE	HERRIN	COAL	9.0	729.2	
-287.2	CARBONDALE		UNDERCLAY	3.8	738.2	
-291.0	CARBONDALE		SHALE	4.0	742.0	
-295.0	CARBONDALE		COAL	0.3	746.0	BONEY
-295.3	CARBONDALE		SHALE	5.7	746.3	BLUE
-301.0	CARBONDALE	ST. DAVID	LIMESTONE	2.0	752.0	
-303.0	CARBONDALE	TURNER MINE	SHALE	3.0	754.0	BLACK
-306.0	CARBONDALE	TURNER MINE	LIMESTONE	0.5	757.0	BLUE
-306.5	CARBONDALE	TURNER MINE	SHALE	1.5	757.5	BLACK
-308.0	CARBONDALE	DYKERSBURG	SHALE	27.7	759.0	BLUE
-335.7	CARBONDALE	SPRINGFIELD	COAL	5.4	786.7	

-341.1 CARBONDALE

UNDERCLAY

0.3 792.1

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MAPID: 06500019000C    VERSION: 2    PROJECT: ROOF STUDY  
COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 4    QUARTERS/FOOTAGES: 2640' N line, 2640' E line  
QUADRANGLE: AKIN    LONGITUDE: -88.65999    GEOLOGIST:  
CONFIDENTIAL: N    LATITUDE: 37.943762    DATE COLLECTED:  
SURFACE ELEVATION (FT.): 451.0    LOGGED (FT.): 738.0    LOG TYPE: Drillers Log  
SOURCE:    WELL TYPE: Coal Test  
COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-170.8	MODESTO	PIASA	LIMESTONE	4.5	621.8
-175.3	MODESTO		GRAY SHALE	11.5	626.3
-186.8	CARBONDALE	DANVILLE	COAL	1.7	637.8
-188.5	CARBONDALE		SHALE & SANDSTONE	21.3	639.5
-209.8	CARBONDALE	ALLENBY	COAL	0.3	660.8
-210.1	CARBONDALE		CALCAREOUS SHALE	10.3	661.1
-220.3	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	671.3
-226.8	CARBONDALE	LAWSON	SILTY SHALE	12.0	677.8
-238.8	CARBONDALE	LAWSON	SANDSTONE	3.0	689.8
-241.8	CARBONDALE	LAWSON	SILTY SHALE	7.0	692.8
-248.8	CARBONDALE	LAWSON	GRAY SHALE	11.0	699.8
-259.8	CARBONDALE	CONANT	LIMESTONE	0.6	710.8
-260.4	CARBONDALE	JAMESTOWN	COAL	0.3	711.4
-260.8	CARBONDALE		GRAY SHALE	0.8	711.8
-261.5	CARBONDALE	BRERETON	LIMESTONE	12.3	712.5
-273.8	CARBONDALE	ANNA	BLACK SHALE	4.2	724.8
-278.0	CARBONDALE	HERRIN	COAL	9.0	729.0

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**MAPID:** 06500745000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 4    **QUARTERS/FOOTAGES:** 330' N line, 330' W line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.668297    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.950162    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 498.0    **LOGGED (FT.):** 3226.0    **LOG TYPE:** Electric Log  
**SOURCE:** BREHM, C. E. DRLG.&PROD.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-210.0	CARBONDALE	DANVILLE	COAL	-	708.0	
-220.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE & SHALE	7.0	718.0	
-240.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	738.0	
-257.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	21.0	755.0	
-295.0	CARBONDALE	HERRIN	COAL	-	793.0	
-324.0	CARBONDALE	BRIAR HILL	COAL	-	822.0	
-328.0	CARBONDALE	CANTON	SILTSTONE	4.0	826.0	
-378.0	CARBONDALE	SPRINGFIELD	COAL	7.0	876.0	SHALE & SILTSTONE ROOF
-408.0	CARBONDALE	HOUCHIN CREEK	COAL	-	906.0	

**MAPID:** 06501336000C    **VERSION:** 1    **PROJECT:** CUSMAP  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 4    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.66347    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.942802    **DATE COLLECTED:** 9 / 0 / 1958  
**SURFACE ELEVATION (FT.):** 478.0    **LOGGED (FT.):** 1929.0    **LOG TYPE:** Electric Log  
**SOURCE:** BREHM, C. E. DRLG.&PROD.    **WELL TYPE:** Water Well  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-494.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	972.0	
-553.0	SPOON	DAVIS	UNCLASSIFIED	-	1031.0	
-1451.0	BASE OF PENN.		UNCLASSIFIED	-	1929.0	

**MAPID:** 06590003000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 4    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.669086    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.947603    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		5.5	

MAPID: 06590009000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 4 QUARTERS/FOOTAGES:

QUADRANGLE: AKIN LONGITUDE: -88.658583 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.944558 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.4		

MAPID: 06500746000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NW

QUADRANGLE: AKIN LONGITUDE: -88.679799 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.946432 DATE COLLECTED:

SURFACE ELEVATION (FT.): 533.0 LOGGED (FT.): 3323.0 LOG TYPE: Electric Log

SOURCE: SPIRES H V WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-172.0	CARBONDALE	DANVILLE	COAL	-	705.0	
-185.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	6.0	718.0	
-197.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	730.0	
-207.0	CARBONDALE	ANVIL ROCK	SILTSTONE	6.0	740.0	
-253.0	CARBONDALE	HERRIN	COAL	-	786.0	
-285.0	CARBONDALE	BRIAR HILL	COAL	-	818.0	
-333.0	CARBONDALE	SPRINGFIELD	COAL	4.0	866.0	GRAY SHALE ROOF
-363.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	36.0	896.0	
-399.0	CARBONDALE	HOUCHIN CREEK	COAL	-	932.0	

MAPID: 06501074000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 5 QUARTERS/FOOTAGES: 330' S line, 2310' E line

QUADRANGLE: AKIN LONGITUDE: -88.677102 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.937181 DATE COLLECTED:

SURFACE ELEVATION (FT.): 551.0 LOGGED (FT.): 805.0 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
-159.0	MODESTO	PIASA	LIMESTONE	6.0	710.0
-165.0	MODESTO		GRAY SHALE	12.0	716.0
-177.0	CARBONDALE	DANVILLE	COAL	2.0	728.0
-179.0	CARBONDALE		SILTY SHALE	20.0	730.0
-199.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	5.0	750.0
-204.0	CARBONDALE	LAWSON	SILTY SHALE	35.0	755.0
-239.0	CARBONDALE	JAMESTOWN	COAL	1.0	790.0
-240.0	CARBONDALE		GRAY SHALE	1.0	791.0
-241.0	CARBONDALE	BRERETON	LIMESTONE	6.5	792.0
-247.5	CARBONDALE	ANNA	BLACK SHALE	1.5	798.5
-249.0	CARBONDALE	HERRIN	COAL	5.0	800.0

MAPID: 06501751000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 5 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW NW

QUADRANGLE: AKIN LONGITUDE: -88.684458 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.948221 DATE COLLECTED: 7 / 0 / 1960

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 2160.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-505.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1095.0
-558.0	SPOON	DAVIS	UNCLASSIFIED	-	1148.0
-1570.0	BASE OF PENN.		UNCLASSIFIED	-	2160.0

MAPID: 06500747000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 6 QUARTERS/FOOTAGES: 355' S line, 330' E line

QUADRANGLE: AKIN LONGITUDE: -88.689179 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.937049 DATE COLLECTED:

SURFACE ELEVATION (FT.): 499.0 LOGGED (FT.): 3216.0 LOG TYPE: Electric Log

SOURCE: PHILLIPS PETROLEUM CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-159.0	CARBONDALE	DANVILLE	COAL	-	658.0	
-170.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	6.0	669.0	
-181.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	680.0	
-195.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	694.0	
-233.0	CARBONDALE	HERRIN	COAL	-	732.0	
-263.0	CARBONDALE	BRIAR HILL	COAL	-	762.0	
-349.0	CARBONDALE	SPRINGFIELD	COAL	7.0	848.0	GRAY SHALE ROOF
-369.0	CARBONDALE	SS BELOW NO. 5	SILTSTONE	16.0	868.0	
-391.0	CARBONDALE	HOUCHIN CREEK	COAL	-	890.0	

MAPID: 06500802000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 6 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: AKIN LONGITUDE: -88.705367 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.946477 DATE COLLECTED:

SURFACE ELEVATION (FT.): 571.0 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.)		COMMENT
				UNIT	OVERBURDEN	
-176.0	MODESTO	PIASA	LIMESTONE	6.0	747.0	
-182.0	MODESTO		SHALE	10.0	753.0	
-192.0	CARBONDALE	DANVILLE	COAL	2.0	763.0	
-194.0	CARBONDALE		SHALE & SANDSTONE	20.0	765.0	
-214.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	8.0	785.0	
-222.0	CARBONDALE	LAWSON	SILTY SHALE	15.0	793.0	
-237.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	27.0	808.0	
-264.0	CARBONDALE	LAWSON	SHALE	3.0	835.0	
-267.0	CARBONDALE	JAMESTOWN	COAL	1.0	838.0	
-268.0	CARBONDALE		SHALE	5.0	839.0	
-273.0	CARBONDALE	BRERETON	LIMESTONE	6.0	844.0	
-279.0	CARBONDALE	ANNA	BLACK SHALE	3.0	850.0	
-282.0	CARBONDALE	HERRIN	COAL	10.0	853.0	



MAPID: 06590031000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 6 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.595693

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.944159

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

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

MAPID: 06500748000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE SE

QUADRANGLE: AKIN LONGITUDE: -88.691587

GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.924322

DATE COLLECTED: 10 / 0 / 1950

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 3330.0

LOG TYPE: Electric Log

SOURCE: WASSON JAMES A, CARLISLE 1

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-400.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	900.0	
-440.0	CARBONDALE	SURVANT	COAL	3.0	940.0	
-504.0	CARBONDALE	COLCHESTER	COAL	0.5	1004.0	
-538.0	CARBONDALE	DEKOVEN	COAL	3.5	1038.0	
-538.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1038.0	
-550.0	CARBONDALE	DAVIS	COAL	2.5	1050.0	
-592.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1092.0	

MAPID: 06500748000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE SE

QUADRANGLE: AKIN LONGITUDE: -88.691587 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.924322 DATE COLLECTED:

SURFACE ELEVATION (FT.): 500.0 LOGGED (FT.): 3330.0 LOG TYPE: Electric Log

SOURCE: WASSON JAMES A WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-162.0	CARBONDALE	DANVILLE	COAL	-	662.0	
-174.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	3.0	674.0	
-178.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	678.0	
-186.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	686.0	
-242.0	CARBONDALE	HERRIN	COAL	-	742.0	
-266.0	CARBONDALE	BRIAR HILL	COAL	-	766.0	
-294.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	8.0	794.0	
-360.0	CARBONDALE	SPRINGFIELD	COAL	6.0	860.0	GRAY SHALE ROOF
-377.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	14.0	877.0	
-397.0	CARBONDALE	HOUCHIN CREEK	COAL	-	897.0	

MAPID: 06501429000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SW

QUADRANGLE: AKIN LONGITUDE: -88.703109 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.926241 DATE COLLECTED: 10 / 0 / 1950

SURFACE ELEVATION (FT.): 455.0 LOGGED (FT.): 3335.0 LOG TYPE: Electric Log

SOURCE: PHILLIPS PETROLEUM CO., IRVIN WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-408.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	863.0	
-449.0	CARBONDALE	SURVANT	COAL	1.3	904.0	
-508.0	CARBONDALE	COLCHESTER	COAL	0.5	963.0	
-553.0	CARBONDALE	DEKOVEN	COAL	4.0	1008.0	
-553.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1008.0	
-569.0	CARBONDALE	DAVIS	COAL	1.2	1024.0	
-605.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1060.0	30% SANDSTONE IN DAVIS- DEKOVEN INTERVAL

MAPID: 06503110000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE NW

QUADRANGLE: AKIN LONGITUDE: -88.700801 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.931667 DATE COLLECTED: 11 / 0 / 1951

SURFACE ELEVATION (FT.): 468.0 LOGGED (FT.): 3350.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL, CARTER D L WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	880.0	
-464.0	CARBONDALE	SURVANT	COAL	4.0	932.0	
-512.0	CARBONDALE	COLCHESTER	COAL	0.5	980.0	
-555.0	CARBONDALE	DEKOVEN	COAL	3.0	1023.0	
-560.0	CARBONDALE	LOWER DEKOVEN	COAL	2.8	1028.0	
-570.0	CARBONDALE	DAVIS	COAL	3.0	1038.0	
-607.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1075.0	

MAPID: 06503114000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' W line of NE NE

QUADRANGLE: AKIN LONGITUDE: -88.691528 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.935185 DATE COLLECTED: 12 / 0 / 1949

SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 3200.0 LOG TYPE: Electric Log

SOURCE: TAYLOR ETAL, LOWE & MALONE 2 WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-397.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	888.0	
-435.0	CARBONDALE	SURVANT	COAL	3.0	926.0	
-493.0	CARBONDALE	COLCHESTER	COAL	0.5	984.0	
-535.0	CARBONDALE	DEKOVEN	COAL	4.5	1026.0	
-535.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1026.0	
-551.0	CARBONDALE	DAVIS	COAL	4.0	1042.0	
-589.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1080.0	

MAPID: 06503238000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: AKIN LONGITUDE: -88.698519 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.924395 DATE COLLECTED: 10 / 0 / 1960

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 3187.0 LOG TYPE: Electric Log

SOURCE: GEORGE, T. W. TRUST, CANTRELL SOUTH WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-438.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	895.0	
-463.0	CARBONDALE	SURVANT	COAL	3.0	920.0	
-493.0	CARBONDALE	COLCHESTER	COAL	0.5	950.0	
-543.0	CARBONDALE	DEKOVEN	COAL	3.0	1000.0	
-543.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1000.0	
-556.0	CARBONDALE	DAVIS	COAL	3.0	1013.0	
-595.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1052.0	50% SANDSTONE IN DAVIS-DEKOVEN INTERVAL

MAPID: 06503238000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 990' S line, 2310' W line

QUADRANGLE: AKIN LONGITUDE: -88.698519 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.924395 DATE COLLECTED:

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 692.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-135.0	MODESTO	PIASA	LIMESTONE	6.0	592.0	
-141.0	MODESTO		SHALE	10.0	598.0	
-151.0	CARBONDALE	DANVILLE	COAL	2.0	608.0	
-153.0	CARBONDALE		SHALE & SANDSTONE	20.0	610.0	
-173.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	630.0	
-179.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	636.0	
-189.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	31.0	646.0	
-220.0	CARBONDALE	BRERETON	LIMESTONE	8.0	677.0	
-228.0	CARBONDALE	ANNA	BLACK SHALE	2.0	685.0	
-230.0	CARBONDALE	HERRIN	COAL	5.0	687.0	

MAPID: 06525028000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NE

QUADRANGLE: AKIN LONGITUDE: -88.691558 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.929763 DATE COLLECTED:

SURFACE ELEVATION (FT.): 516.0 LOGGED (FT.): 1105.5 LOG TYPE: Nuclear Log

SOURCE: WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-399.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	915.0	
-439.0	CARBONDALE	SURVANT	COAL	2.5	955.0	
-494.0	CARBONDALE	COLCHESTER	COAL	0.5	1010.0	
-539.0	CARBONDALE	DEKOVEN	COAL	4.0	1055.0	
-539.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1055.0	
-556.0	CARBONDALE	DAVIS	COAL	3.0	1072.0	
-589.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1105.0	100% SANDSTONE IN DAVIS- DEKOVEN INTERVAL

MAPID: 06500749000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: AKIN LONGITUDE: -88.675194 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.929732 DATE COLLECTED: 9 / 0 / 1954

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 3283.0 LOG TYPE: Electric Log

SOURCE: MCGLOSSON, WALTER J., BARNETT HERMAN WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-402.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	962.0	
-440.0	CARBONDALE	SURVANT	COAL	4.0	1000.0	
-504.0	CARBONDALE	COLCHESTER	COAL	0.5	1064.0	
-552.0	CARBONDALE	DEKOVEN	COAL	4.0	1112.0	
-560.0	CARBONDALE	LOWER DEKOVEN	COAL	3.5	1120.0	
-565.0	CARBONDALE	DAVIS	COAL	3.5	1125.0	
-598.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1158.0	

MAPID: 06500749000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 8    QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: AKIN    LONGITUDE: -88.675194    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.929732    DATE COLLECTED:

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 3283.0    LOG TYPE: Electric Log

SOURCE: MCGLOSSON, WALTER J.    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-170.0	CARBONDALE	DANVILLE	COAL	-	730.0	
-197.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	757.0	
-205.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	765.0	
-238.0	CARBONDALE	HERRIN	COAL	-	798.0	
-263.0	CARBONDALE	BRIAR HILL	COAL	-	823.0	
-318.0	CARBONDALE	SPRINGFIELD	COAL	6.0	878.0	GRAY SHALE ROOF
-333.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	18.0	893.0	
-400.0	CARBONDALE	HOUCHIN CREEK	COAL	-	960.0	

MAPID: 06500846000C    VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 8    QUARTERS/FOOTAGES: 330' S line, 330' E line of NW NE

QUADRANGLE: AKIN    LONGITUDE: -88.675046    GEOLOGIST: JACOBSON

CONFIDENTIAL: N    LATITUDE: 37.933477    DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): 590.0    LOGGED (FT.): 3302.0    LOG TYPE: Electric Log

SOURCE: MCGLOSSON, WALTER J., BARNETT HERMAN    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-395.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	985.0	
-435.0	CARBONDALE	SURVANT	COAL	2.8	1025.0	
-505.0	CARBONDALE	COLCHESTER	COAL	0.5	1095.0	
-540.0	CARBONDALE	DEKOVEN	COAL	3.0	1130.0	
-552.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	1142.0	50 PERCENT SANDSTONE IN DEKOVEN SPLIT
-556.0	CARBONDALE	DAVIS	COAL	3.0	1146.0	
-590.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1180.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500859000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: AKIN LONGITUDE: -88.674968 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.935401 DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): 598.0 LOGGED (FT.): 3315.0 LOG TYPE: Electric Log

SOURCE: MCGLASSON, WALTER J., BARNETT HERMAN WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-402.0	CARBONDALE	HOUCHIN CREEK	COAL	1.6	1000.0
-447.0	CARBONDALE	SURVANT	COAL	2.0	1045.0
-512.0	CARBONDALE	COLCHESTER	COAL	0.5	1110.0
-547.0	CARBONDALE	DEKOVEN	COAL	4.0	1145.0
-547.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1145.0
-560.0	CARBONDALE	DAVIS	COAL	3.0	1158.0
-597.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1195.0

MAPID: 06501026000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' W line

QUADRANGLE: AKIN LONGITUDE: -88.68699 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.922473 DATE COLLECTED: 7 / 0 / 1956

SURFACE ELEVATION (FT.): 550.0 LOGGED (FT.): 3380.0 LOG TYPE: Electric Log

SOURCE: BURTON & BURTON, BURTON-HALL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-402.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	952.0
-545.0	CARBONDALE	SURVANT	COAL	2.0	1095.0
-516.0	CARBONDALE	COLCHESTER	COAL	0.5	1066.0
-540.0	CARBONDALE	DEKOVEN	COAL	4.0	1090.0
-540.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1090.0
-553.0	CARBONDALE	DAVIS	COAL	3.5	1103.0
-593.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1143.0

MAPID: 06503123000C    VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 8    QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: AKIN    LONGITUDE: -88.677409    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.929889    DATE COLLECTED: 2 / 0 / 1955

SURFACE ELEVATION (FT.): 538.0    LOGGED (FT.): 2120.0    LOG TYPE: Electric Log

SOURCE: MCGLOSSON, WALTER J.    WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-522.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1060.0
-564.0	SPOON	DAVIS	UNCLASSIFIED	-	1102.0
-1582.0	BASE OF PENN.		UNCLASSIFIED	-	2120.0

MAPID: 06503123000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 8    QUARTERS/FOOTAGES: 2310' N line, 2310' E line

QUADRANGLE: AKIN    LONGITUDE: -88.677409    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.929889    DATE COLLECTED:

SURFACE ELEVATION (FT.): 538.0    LOGGED (FT.): 784.0    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
-153.0	MODESTO	PIASA	LIMESTONE	6.0	691.0
-159.0	MODESTO		SHALE	13.0	697.0
-172.0	CARBONDALE	DANVILLE	COAL	1.0	710.0
-173.0	CARBONDALE		SILTY SHALE	15.0	711.0
-188.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	726.0
-192.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	730.0
-202.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	740.0
-216.0	CARBONDALE	LAWSON	SHALE	15.0	754.0
-231.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	769.0
-232.0	CARBONDALE	BRERETON	LIMESTONE	9.0	770.0
-241.0	CARBONDALE	HERRIN	COAL	5.0	779.0



**MAPID:** 06503136000C    **VERSION:** 1    **PROJECT:** RJJ-DAVIS  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 8    **QUARTERS/FOOTAGES:** 330' S line, 330' E line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.670893    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 37.92215    **DATE COLLECTED:** 8 / 0 / 1954  
**SURFACE ELEVATION (FT.):** 515.0    **LOGGED (FT.):** 3263.0    **LOG TYPE:** Electric Log  
**SOURCE:** BREHM, C. E. DRLG.&PROD., HART MARY WARD    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-383.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	898.0	
-418.0	CARBONDALE	SURVANT	COAL	1.8	933.0	
-480.0	CARBONDALE	COLCHESTER	COAL	0.5	995.0	
-527.0	CARBONDALE	DEKOVEN	COAL	4.0	1042.0	
-527.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1042.0	
-545.0	CARBONDALE	DAVIS	COAL	3.5	1060.0	
-580.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1095.0	

**MAPID:** 06590002000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 8    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.679323    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.923362    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	6.0		

**MAPID:** 06500750000C    **VERSION:** 1    **PROJECT:** CUSMAP  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 9    **QUARTERS/FOOTAGES:** 330' N line, 330' E line of SW SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.66614    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.924153    **DATE COLLECTED:** 9 / 0 / 1953  
**SURFACE ELEVATION (FT.):** 597.0    **LOGGED (FT.):** 2165.0    **LOG TYPE:** Electric Log  
**SOURCE:** BREHM, C. E. DRLG.&PROD.    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-487.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1084.0	
-553.0	SPOON	DAVIS	UNCLASSIFIED	-	1150.0	
-1568.0	BASE OF PENN.		UNCLASSIFIED	-	2165.0	

MAPID: 06500750000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 9 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SW

QUADRANGLE: AKIN LONGITUDE: -88.66614 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.924153 DATE COLLECTED:

SURFACE ELEVATION (FT.): 597.0 LOGGED (FT.): 3339.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-156.0	CARBONDALE	DANVILLE	COAL	-	753.0	
-183.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	780.0	
-191.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	12.0	788.0	
-229.0	CARBONDALE	HERRIN	COAL	-	826.0	
-253.0	CARBONDALE	BRIAR HILL	COAL	-	850.0	
-350.0	CARBONDALE	SPRINGFIELD	COAL	6.0	947.0	GRAY SHALE ROOF
-360.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	16.0	957.0	
-385.0	CARBONDALE	HOUCHIN CREEK	COAL	-	982.0	

MAPID: 06500750000C VERSION: 3

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 9 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SW

QUADRANGLE: AKIN LONGITUDE: -88.66614 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.924153 DATE COLLECTED: 9 / 0 / 1953

SURFACE ELEVATION (FT.): 597.0 LOGGED (FT.): 3339.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., BUNDY LILLIAN WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-388.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	985.0	
-423.0	CARBONDALE	SURVANT	COAL	2.0	1020.0	
-487.0	CARBONDALE	COLCHESTER	COAL	0.5	1084.0	
-538.0	CARBONDALE	DEKOVEN	COAL	3.5	1135.0	
-538.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1135.0	
-553.0	CARBONDALE	DAVIS	COAL	3.0	1150.0	
-589.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1186.0	33% SANDSTONE IN DAVIS- DEKOVEN INTERVAL

MAPID: 06500899000C    VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 9    QUARTERS/FOOTAGES: 330' N line, 330' W line of SE

QUADRANGLE: AKIN    LONGITUDE: -88.659073    GEOLOGIST: JACOBSON

CONFIDENTIAL: N    LATITUDE: 37.927967    DATE COLLECTED: 10 / 0 / 1955

SURFACE ELEVATION (FT.): 578.0    LOGGED (FT.): 3384.0    LOG TYPE: Electric Log

SOURCE: DITTMEIER FRANK L JR, HINCHCLIFT    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-407.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	985.0	
-447.0	CARBONDALE	SURVANT	COAL	3.5	1025.0	
-507.0	CARBONDALE	COLCHESTER	COAL	0.5	1085.0	
-555.0	CARBONDALE	DEKOVEN	COAL	3.5	1133.0	
-567.0	CARBONDALE	LOWER DEKOVEN	COAL	0.8	1145.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-572.0	CARBONDALE	DAVIS	COAL	3.0	1150.0	
-602.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1180.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500931000C    VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 9    QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NW

QUADRANGLE: AKIN    LONGITUDE: -88.668113    GEOLOGIST: JACOBSON

CONFIDENTIAL: N    LATITUDE: 37.93171    DATE COLLECTED: 1 / 0 / 1956

SURFACE ELEVATION (FT.): 553.0    LOGGED (FT.): 3400.0    LOG TYPE: Electric Log

SOURCE: MCGLASSON, WALTER J., FLANNIGAM ESTHER    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-401.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	954.0	
-462.0	CARBONDALE	SURVANT	COAL	5.0	1015.0	
-506.0	CARBONDALE	COLCHESTER	COAL	0.5	1059.0	
-542.0	CARBONDALE	DEKOVEN	COAL	4.0	1095.0	
-556.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	1109.0	66 PERCENT SANDSTONE IN DEKOVEN SPLIT
-560.0	CARBONDALE	DAVIS	COAL	3.0	1113.0	
-592.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1145.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501137000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 9 QUARTERS/FOOTAGES: 1650' S line, 330' E line

QUADRANGLE: AKIN LONGITUDE: -88.652155 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.926138 DATE COLLECTED: 4 / 0 / 1957

SURFACE ELEVATION (FT.): 566.0 LOGGED (FT.): 3548.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO., AARON SAMANTHA WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	978.0
-452.0	CARBONDALE	SURVANT	COAL	1.2	1018.0
-514.0	CARBONDALE	COLCHESTER	COAL	0.5	1080.0
-554.0	CARBONDALE	DEKOVEN	COAL	3.8	1120.0
-554.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1120.0
-574.0	CARBONDALE	DAVIS	COAL	3.0	1140.0
-609.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1175.0

MAPID: 06501137000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 9 QUARTERS/FOOTAGES: 1650' S line, 330' E line

QUADRANGLE: AKIN LONGITUDE: -88.652155 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.926138 DATE COLLECTED:

SURFACE ELEVATION (FT.): 566.0 LOGGED (FT.): 841.0 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
-165.0	MODESTO	PIASA	LIMESTONE	6.0	731.0
-171.0	MODESTO		SHALE	13.0	737.0
-184.0	CARBONDALE	DANVILLE	COAL	1.0	750.0
-185.0	CARBONDALE		SHALE	19.0	751.0
-204.0	CARBONDALE	ALLENBY	BONE COAL	1.0	770.0
-205.0	CARBONDALE		CLAYSTONE & SHALE	6.0	771.0
-211.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	777.0
-217.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	783.0
-229.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	9.0	795.0
-238.0	CARBONDALE	LAWSON	SHALE	17.0	804.0
-255.0	CARBONDALE	JAMESTOWN	COAL	3.0	821.0
-258.0	CARBONDALE		SHALE	5.0	824.0
-263.0	CARBONDALE	BRERETON	LIMESTONE	3.0	829.0
-266.0	CARBONDALE	ANNA	BLACK SHALE	2.0	832.0
-268.0	CARBONDALE	HERRIN	COAL	7.0	834.0

**MAPID:** 06524056000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 9    **QUARTERS/FOOTAGES:** 875' S line, 2609' W line of SE SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.655903    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.923921    **DATE COLLECTED:** 5 / 17 / 1979  
**SURFACE ELEVATION (FT.):** 615.0    **LOGGED (FT.):** 1010.0    **LOG TYPE:** Other Core Study  
**SOURCE:** KERR-MCGEE COAL CO.    75-9-1    **WELL TYPE:** Coal Test  
**COMMENT:** CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-252.5	CARBONDALE	HERRIN	COAL	7.0	867.5	REMOVED BY CO.
-354.0	CARBONDALE	SPRINGFIELD	COAL	8.5	969.0	REMOVED BY CO.

**MAPID:** 06590008000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 9    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.658222    **GEOLOGIST:** C TREWORGY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.934297    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.5		

**MAPID:** 06500751000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 10    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE NE  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.635968    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.935227    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 437.0    **LOGGED (FT.):** 3403.0    **LOG TYPE:** Electric Log  
**SOURCE:** GEORGE & WRATHER OIL    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-193.0	CARBONDALE	DANVILLE	COAL	-	630.0	
-221.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	658.0	
-233.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	15.0	670.0	
-267.0	CARBONDALE	HERRIN	COAL	-	704.0	
-291.0	CARBONDALE	BRIAR HILL	COAL	-	728.0	
-343.0	CARBONDALE	SPRINGFIELD	COAL	4.0	780.0	GRAY SHALE ROOF
-357.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	16.0	794.0	
-425.0	CARBONDALE	HOUCHIN CREEK	COAL	-	862.0	

MAPID: 06501302000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE

QUADRANGLE: AKIN LONGITUDE: -88.633759 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.927936 DATE COLLECTED: 6 / 0 / 1958

SURFACE ELEVATION (FT.): 463.0 LOGGED (FT.): 3275.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., ADKISSON WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-439.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	902.0	
-487.0	CARBONDALE	SURVANT	COAL	3.0	950.0	
-547.0	CARBONDALE	COLCHESTER	COAL	0.5	1010.0	
-587.0	CARBONDALE	DEKOVEN	COAL	3.0	1050.0	
-609.0	CARBONDALE	LOWER DEKOVEN	COAL	2.0	1072.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-617.0	CARBONDALE	DAVIS	COAL	3.3	1080.0	
-647.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1110.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503321000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 10 QUARTERS/FOOTAGES: 990' N line, 1650' E line

QUADRANGLE: AKIN LONGITUDE: -88.638287 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.93342 DATE COLLECTED: 10 / 0 / 1962

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 3245.0 LOG TYPE: Electric Log

SOURCE: FARRAR OIL CO., INC., ADKISSON COMM WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-423.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	860.0	
-463.0	CARBONDALE	SURVANT	COAL	3.0	900.0	
-523.0	CARBONDALE	COLCHESTER	COAL	0.5	960.0	
-563.0	CARBONDALE	DEKOVEN	COAL	2.8	1000.0	
-586.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1023.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-593.0	CARBONDALE	DAVIS	COAL	3.0	1030.0	
-623.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1060.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503321000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 10 QUARTERS/FOOTAGES: 990' N line, 1650' E line

QUADRANGLE: AKIN LONGITUDE: -88.638287 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.93342 DATE COLLECTED:

SURFACE ELEVATION (FT.): 437.0 LOGGED (FT.): 701.0 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
-163.0	MODESTO	PIASA	LIMESTONE	4.0	600.0
-167.0	MODESTO		SHALE	14.5	604.0
-181.5	CARBONDALE	DANVILLE	COAL	1.5	618.5
-183.0	CARBONDALE		SILTY SHALE	17.0	620.0
-200.0	CARBONDALE	ALLENBY	COAL	2.0	637.0
-202.0	CARBONDALE		CLAYSTONE & SHALE	9.0	639.0
-211.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	6.0	648.0
-217.0	CARBONDALE	LAWSON	SILTY SHALE	7.0	654.0
-224.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	15.0	661.0
-239.0	CARBONDALE	LAWSON	SHALE	7.0	676.0
-246.0	CARBONDALE	JAMESTOWN	COAL	2.0	683.0
-248.0	CARBONDALE		CLAYSTONE & SHALE	1.0	685.0
-249.0	CARBONDALE	BRERETON	LIMESTONE	8.0	686.0
-257.0	CARBONDALE	ANNA	BLACK SHALE	2.0	694.0
-259.0	CARBONDALE	HERRIN	COAL	5.0	696.0

MAPID: 06525043000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW NW

QUADRANGLE: AKIN LONGITUDE: -88.647514 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.931647 DATE COLLECTED:

SURFACE ELEVATION (FT.): 491.0 LOGGED (FT.): 0.0 LOG TYPE: Nuclear Log

SOURCE: WELL TYPE:

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-413.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	904.0
-455.0	CARBONDALE	SURVANT	COAL	1.6	946.0
-519.0	CARBONDALE	COLCHESTER	COAL	0.5	1010.0
-557.0	CARBONDALE	DEKOVEN	COAL	3.0	1048.0
-575.0	CARBONDALE	LOWER DEKOVEN	COAL	3.0	1066.0
-582.0	CARBONDALE	DAVIS	COAL	4.0	1073.0
-611.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1102.0
-	TRADEWATER	CREAL SPRING	LIMESTONE	-	-

66 PERCENT SANDSTONE IN  
DEKOVEN SPLIT

**MAPID:** 06590012000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 10    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.642518    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.933727    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.8		2.08% SULFUR

**MAPID:** 06501048000C    **VERSION:** 1    **PROJECT:** RJJ-DAVIS  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.617841    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 37.935335    **DATE COLLECTED:** 9 / 0 / 1956  
**SURFACE ELEVATION (FT.):** 441.0    **LOGGED (FT.):** 3235.0    **LOG TYPE:** Electric Log  
**SOURCE:** ROSSI, PAUL, WILLIAMS PAUL    1    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-467.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	908.0	
-513.0	CARBONDALE	SURVANT	COAL	2.8	954.0	
-579.0	CARBONDALE	COLCHESTER	COAL	0.5	1020.0	
-607.0	CARBONDALE	DEKOVEN	COAL	3.0	1048.0	
-632.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	1073.0	75 PERCENT SANDSTONE IN DEKOVEN SPLIT
-639.0	CARBONDALE	DAVIS	COAL	3.0	1080.0	
-669.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1110.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		



MAPID: 06501237000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 11 QUARTERS/FOOTAGES: 990' N line, 2310' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.624483 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.933456 DATE COLLECTED:

SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 723.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-190.0	MODESTO	PIASA	LIMESTONE	5.0	625.0	
-195.0	MODESTO		SHALE	16.0	630.0	
-211.0	CARBONDALE	DANVILLE	COAL	1.0	646.0	
-212.0	CARBONDALE		SHALE	14.0	647.0	
-226.0	CARBONDALE	ALLENBY	COAL	2.0	661.0	
-228.0	CARBONDALE		SHALE	12.0	663.0	
-240.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	675.0	
-245.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	17.0	680.0	
-262.0	CARBONDALE	LAWSON	SHALE	10.0	697.0	
-272.0	CARBONDALE	JAMESTOWN	COAL	2.0	707.0	
-274.0	CARBONDALE		CLAYSTONE & SHALE	1.0	709.0	
-275.0	CARBONDALE	BRERETON	LIMESTONE	5.0	710.0	
-280.0	CARBONDALE	ANNA	BLACK SHALE	2.0	715.0	
-282.0	CARBONDALE	HERRIN	COAL	6.0	717.0	

MAPID: 06501282000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NW

QUADRANGLE: AKIN LONGITUDE: -88.631411 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.931579 DATE COLLECTED: 5 / 0 / 1958

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 3214.0 LOG TYPE: Electric Log

SOURCE: GRANT N L, ADKISSON 1 WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-441.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	877.0	
-484.0	CARBONDALE	SURVANT	COAL	3.0	920.0	
-554.0	CARBONDALE	COLCHESTER	COAL	0.5	990.0	
-589.0	CARBONDALE	DEKOVEN	COAL	2.8	1025.0	
-609.0	CARBONDALE	LOWER DEKOVEN	COAL	1.8	1045.0	100 PERCENT SANDSTONE IN DEKOVEN SPLIT
-618.0	CARBONDALE	DAVIS	COAL	3.3	1054.0	
-644.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1080.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

**MAPID:** 06501282000C    **VERSION:** 2    **PROJECT:** CUSMAP  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW NW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.631411    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.931579    **DATE COLLECTED:** 5 / 0 / 1958  
**SURFACE ELEVATION (FT.):** 436.0    **LOGGED (FT.):** 2004.0    **LOG TYPE:** Electric Log  
**SOURCE:** GRANT N L    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-554.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	990.0
-616.0	SPOON	DAVIS	UNCLASSIFIED	-	1052.0
-1568.0	BASE OF PENN.		UNCLASSIFIED	-	2004.0

**MAPID:** 06501665000C    **VERSION:** 1    **PROJECT:** CUSMAP  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.62926    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.926157    **DATE COLLECTED:** 10 / 0 / 1959  
**SURFACE ELEVATION (FT.):** 465.0    **LOGGED (FT.):** 2140.0    **LOG TYPE:** Electric Log  
**SOURCE:** CHOISSER R W ASSOC    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-560.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1025.0
-633.0	SPOON	DAVIS	UNCLASSIFIED	-	1098.0
-1675.0	BASE OF PENN.		UNCLASSIFIED	-	2140.0

**MAPID:** 06501665000C    **VERSION:** 2    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of NW SW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.62926    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.926157    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 465.0    **LOGGED (FT.):** 3300.0    **LOG TYPE:** Electric Log  
**SOURCE:** CHOISSER R W ASSOC    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-285.0	CARBONDALE	HERRIN	COAL	3.0	750.0
-309.0	CARBONDALE	BRIAR HILL	COAL	-	774.0
-375.0	CARBONDALE	SPRINGFIELD	COAL	5.0	840.0
-449.0	CARBONDALE	HOUCHIN CREEK	COAL	-	914.0

GRAY SHALE  
ROOF

MAPID: 06501665000C VERSION: 3

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SW  
 QUADRANGLE: AKIN LONGITUDE: -88.62926 GEOLOGIST: JACOBSON  
 CONFIDENTIAL: N LATITUDE: 37.926157 DATE COLLECTED: 10 / 0 / 1959  
 SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 3300.0 LOG TYPE: Electric Log  
 SOURCE: CHOISSER R W ASSOC, ADKISSON WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-455.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	920.0	
-500.0	CARBONDALE	SURVANT	COAL	3.0	965.0	
-563.0	CARBONDALE	COLCHESTER	COAL	0.5	1028.0	
-605.0	CARBONDALE	DEKOVEN	COAL	3.5	1070.0	
-625.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1090.0	70 PERCENT SANDSTONE IN DEKOVEN SPLIT
-633.0	CARBONDALE	DAVIS	COAL	3.5	1098.0	
-658.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1123.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06524057000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 11 QUARTERS/FOOTAGES: 1730' S line, 2549' W line of NE SW  
 QUADRANGLE: WALPOLE LONGITUDE: -88.61918 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 37.930141 DATE COLLECTED: 5 / 15 / 1979  
 SURFACE ELEVATION (FT.): 451.0 LOGGED (FT.): 867.0 LOG TYPE: Other Core Study  
 SOURCE: KERR-MCGEE COAL CO. 75-11-1 WELL TYPE: Coal Test  
 COMMENT: CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-289.3	CARBONDALE	HERRIN	COAL	9.0	740.3	REMOVED BY CO.
-380.4	CARBONDALE	SPRINGFIELD	COAL	5.3	831.4	REMOVED BY CO.

MAPID: 06501432000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 990' E line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.599384 GEOLOGIST: HOPKINS  
 CONFIDENTIAL: N LATITUDE: 37.935354 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 3358.0 LOG TYPE: Electric Log  
 SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-296.0	CARBONDALE	HERRIN	COAL	-	738.0	
-373.0	CARBONDALE	SPRINGFIELD	COAL	5.0	815.0	GRAY SHALE ROOF
-458.0	CARBONDALE	HOUCHIN CREEK	COAL	-	900.0	

MAPID: 06501432000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.599384

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.935354

DATE COLLECTED:

SURFACE ELEVATION (FT.): 442.0

LOGGED (FT.): 743.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-192.0	MODESTO	PIASA	LIMESTONE	6.0	634.0	
-198.0	MODESTO		SHALE	16.5	640.0	
-214.5	CARBONDALE	DANVILLE	COAL	1.5	656.5	
-216.0	CARBONDALE		SHALE & SANDSTONE	21.0	658.0	
-237.0	CARBONDALE	ALLENBY	COAL	2.0	679.0	
-239.0	CARBONDALE		CLAYSTONE & SHALE	9.0	681.0	
-248.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	690.0	UPPER BENCH
-257.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	1.0	699.0	SHALE PARTING
-258.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	2.0	700.0	LOWER BENCH
-260.0	CARBONDALE	LAWSON	BONE COAL	1.0	702.0	
-261.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	14.0	703.0	
-275.0	CARBONDALE	LAWSON	SHALE	10.0	717.0	
-285.0	CARBONDALE	JAMESTOWN	COAL	1.0	727.0	
-286.0	CARBONDALE		CLAYSTONE & SHALE	4.0	728.0	
-290.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	732.0	
-293.0	CARBONDALE	ANNA	BLACK SHALE	2.0	735.0	
-295.0	CARBONDALE	HERRIN	COAL	6.0	737.0	

MAPID: 06501432000C VERSION: 3

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 12 QUARTERS/FOOTAGES: 330' N line, 990' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.599384

GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.935354

DATE COLLECTED: 4 / 0 / 1954

SURFACE ELEVATION (FT.): 442.0

LOGGED (FT.): 3358.0

LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., HOGAN ETAL

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-461.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	903.0	
-503.0	CARBONDALE	SURVANT	COAL	3.0	945.0	
-564.0	CARBONDALE	COLCHESTER	COAL	0.5	1006.0	
-598.0	CARBONDALE	DEKOVEN	COAL	3.5	1040.0	
-618.0	CARBONDALE	LOWER DEKOVEN	COAL	1.3	1060.0	70 PERCENT SANDSTONE IN DEKOVEN SPLIT
-624.0	CARBONDALE	DAVIS	COAL	3.0	1066.0	
-661.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1103.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

**MAPID:** 06590029000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.606911    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.922327    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.8	

**MAPID:** 06590030000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 12    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.599168    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.936147    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.0	

**MAPID:** 06500752000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** 1650' N line, 330' W line  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.613466    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.917248    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 463.0    **LOGGED (FT.):** 3461.0    **LOG TYPE:** Electric Log  
**SOURCE:** MCBRIDE, W. C., INC.    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-197.0	CARBONDALE	DANVILLE	COAL	-	660.0
-227.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	690.0
-237.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SILTSTONE	8.0	700.0
-267.0	CARBONDALE	HERRIN	COAL	-	730.0
-297.0	CARBONDALE	BRIAR HILL	COAL	-	760.0
-299.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	20.0	762.0
-369.0	CARBONDALE	SPRINGFIELD	COAL	6.0	832.0
-444.0	CARBONDALE	HOUCHIN CREEK	COAL	-	907.0

GRAY SHALE  
ROOF

MAPID: 06500752000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 13 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.613466 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.917248 DATE COLLECTED:

SURFACE ELEVATION (FT.): 463.0 LOGGED (FT.): 737.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-177.0	MODESTO	PIASA	LIMESTONE	4.0	640.0	
-181.0	MODESTO		SHALE	17.0	644.0	
-198.0	CARBONDALE	DANVILLE	COAL	1.5	661.0	
-199.5	CARBONDALE		SHALE	17.5	662.5	
-217.0	CARBONDALE	ALLENBY	COAL	1.0	680.0	
-218.0	CARBONDALE		SHALE	13.0	681.0	
-231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	694.0	
-235.0	CARBONDALE	LAWSON	SILTY SHALE	12.0	698.0	
-247.0	CARBONDALE	LAWSON	SHALE	11.0	710.0	
-258.0	CARBONDALE	JAMESTOWN	COAL	1.0	721.0	
-259.0	CARBONDALE	BRERETON	LIMESTONE	7.0	722.0	
-266.0	CARBONDALE	ANNA	LIMESTONE	2.0	729.0	
-268.0	CARBONDALE	HERRIN	COAL	6.0	731.0	

MAPID: 06500752000C VERSION: 3

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 13 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.613466 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.917248 DATE COLLECTED: 4 / 0 / 1954

SURFACE ELEVATION (FT.): 463.0 LOGGED (FT.): 3461.0 LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC., COTTER W E WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-449.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	912.0	
-490.0	CARBONDALE	SURVANT	COAL	4.0	953.0	
-552.0	CARBONDALE	COLCHESTER	COAL	0.5	1015.0	
-591.0	CARBONDALE	DEKOVEN	COAL	3.5	1054.0	
-615.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1078.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-622.0	CARBONDALE	DAVIS	COAL	3.0	1085.0	
-657.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1120.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

**MAPID:** 06524059000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:** 60' N line, 104' E line of NE NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.596391    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.921634    **DATE COLLECTED:** 5 / 11 / 1979  
**SURFACE ELEVATION (FT.):** 440.0    **LOGGED (FT.):** 856.0    **LOG TYPE:** Other Core Study  
**SOURCE:** KERR-MCGEE COAL CO.    75-13-1    **WELL TYPE:** Coal Test  
**COMMENT:** CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-300.3	CARBONDALE	HERRIN	COAL	5.7	740.3	REMOVED BY CO., MAY BE THICKER

**MAPID:** 06590028000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 13    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.613208    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.917508    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

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

**MAPID:** 06500039000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:** 1320' S line, 1320' E line  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.619295    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.910797    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 465.0    **LOGGED (FT.):** 833.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMERICAN COKE & CHEMICAL    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-184.0	CARBONDALE	DANVILLE	COAL	1.8	649.0	
-192.0	CARBONDALE	SS BELOW NO. 7		1.0	657.0	
-217.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	682.0	
-223.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	17.0	688.0	
-266.0	CARBONDALE	HERRIN	COAL	6.7	731.0	
-292.0	CARBONDALE	CANTON	SANDSTONE/SHALE	10.0	757.0	
-363.0	CARBONDALE	SPRINGFIELD	COAL	5.0	828.0	SANDSTONE & BLACK SHALE ROOF

MAPID: 06500039000C    VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 14    QUARTERS/FOOTAGES: 1320' S line, 1320' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.619295

GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.910797

DATE COLLECTED:

SURFACE ELEVATION (FT.): 465.0

LOGGED (FT.): 737.7

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-164.8	MODESTO	PIASA	LIMESTONE	7.0	629.8
-171.8	MODESTO		GRAY SHALE	12.0	636.8
-183.8	CARBONDALE	DANVILLE	COAL	1.8	648.8
-185.7	CARBONDALE		SHALE & SANDSTONE	21.2	650.7
-206.8	CARBONDALE	ALLENBY	COAL	0.3	671.8
-207.2	CARBONDALE		CALCAREOUS SHALE	9.7	672.2
-216.8	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	681.8
-222.8	CARBONDALE	LAWSON	SANDSTONE	8.0	687.8
-230.8	CARBONDALE	LAWSON	SHALE & SANDSTONE	9.0	695.8
-239.8	CARBONDALE	LAWSON	GRAY SHALE	14.8	704.8
-254.6	CARBONDALE	JAMESTOWN	COAL	0.3	719.6
-254.8	CARBONDALE		BLACK SHALE	4.0	719.8
-258.8	CARBONDALE	BRERETON	LIMESTONE	6.0	723.8
-264.8	CARBONDALE	ANNA	BLACK SHALE	1.2	729.8
-266.0	CARBONDALE	HERRIN	COAL	6.7	731.0



MAPID: 06500039000C    VERSION: 3

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 14    QUARTERS/FOOTAGES: 1320' S line, 1320' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.619295    GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.910797    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 465.0    LOGGED (FT.): 833.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 22    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
465.0			CLAY	22.0	0.0	
443.0			GRAVEL	7.0	22.0	GRAVEL AND BOULDERS
436.0			CLAY	4.0	29.0	
432.0			SAND	7.0	33.0	
425.0			GRAVEL	4.0	40.0	
421.0			UNCLASSIFIED	4.0	44.0	LOG SAYS 'BROKEN LEDGE'
417.0			SANDSTONE	11.0	48.0	
406.0			SANDY SHALE	19.0	59.0	
387.0			GRAY SHALE	23.0	78.0	
364.0			COAL	0.5	101.0	
363.5			GRAY SHALE	13.5	101.5	
350.0			GRAY SHALE	22.0	115.0	
328.0			BLUE SHALE	8.0	137.0	BLUE SH W/ BROWN BANDS
320.0			SANDY SHALE	18.0	145.0	
302.0			SANDSTONE	5.0	163.0	SS & SH MIXED
297.0			SANDY SHALE	7.0	168.0	
290.0			SANDSTONE	72.0	175.0	
218.0			BLUE SHALE	12.0	247.0	
206.0			GRAY SHALE	17.0	259.0	
189.0	MODESTO		BLUE SHALE	19.0	276.0	BLUE SH W/ BROWN BANDS
170.0	MODESTO		BLUE SHALE	22.0	295.0	
148.0	MODESTO		BLACK SHALE	5.0	317.0	
143.0	MODESTO		GRAY SHALE	5.0	322.0	
138.0	MODESTO		CALCAREOUS SHALE	23.0	327.0	
115.0	MODESTO		GRAY SHALE	1.8	350.0	
113.2	MODESTO	WOMAC	COAL	1.5	351.8	
111.7	MODESTO		GRAY SHALE	5.7	353.3	
106.0	MODESTO		SANDSTONE	11.0	359.0	SS
95.0	MODESTO		SANDY SHALE	9.0	370.0	
86.0	MODESTO		GRAY SHALE	31.0	379.0	
55.0	MODESTO		BLUE SHALE	22.0	410.0	
33.0	MODESTO		SANDY SHALE	9.0	432.0	
24.0	MODESTO		BLUE SHALE	11.0	441.0	
13.0	MODESTO	CHAPEL	COAL	1.3	452.0	
11.7	MODESTO		UNDERCLAY	1.7	453.3	
10.0	MODESTO		CALCAREOUS SHALE	9.0	455.0	
1.0	MODESTO		SANDSTONE	47.0	464.0	
-46.0	MODESTO		SANDY SHALE	28.0	511.0	
-74.0	MODESTO		BLUE SHALE	41.0	539.0	

-115.0	MODESTO		SANDY SHALE	10.0	580.0	
-125.0	MODESTO		BLACK SHALE	10.0	590.0	
-135.0	MODESTO		CALCAREOUS SHALE	8.0	600.0	
-143.0	MODESTO		COAL	1.5	608.0	
-144.5	MODESTO		SANDSTONE	5.5	609.5	SS & SH
-150.0	MODESTO		SANDY SHALE	9.0	615.0	
-159.0	MODESTO		BLUE SHALE	6.0	624.0	
-165.0	MODESTO	PIASA	LIMESTONE	7.0	630.0	
-172.0	MODESTO		BLUE SHALE	10.0	637.0	
-182.0	MODESTO		BLACK SHALE	2.0	647.0	
-184.0	CARBONDALE	DANVILLE	COAL	1.8	649.0	
-185.8	CARBONDALE		SANDY SHALE	2.2	650.8	
-188.0	CARBONDALE		GRAY SHALE	4.0	653.0	
-192.0	CARBONDALE		SANDSTONE	1.0	657.0	
-193.0	CARBONDALE		BLUE SHALE	9.0	658.0	
-202.0	CARBONDALE		LIMESTONE	5.0	667.0	
-207.0	CARBONDALE	ALLENBY	COAL	0.3	672.0	
-207.3	CARBONDALE		CALCAREOUS SHALE	9.7	672.3	
-217.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	682.0	
-223.0	CARBONDALE	ANVIL ROCK	SANDSTONE	8.0	688.0	
-231.0	CARBONDALE	ANVIL ROCK	SANDSTONE	9.0	696.0	SS & SH MIXED
-240.0	CARBONDALE		BLUE SHALE	15.0	705.0	
-255.0	CARBONDALE		BLACK SHALE	4.0	720.0	
-259.0	CARBONDALE		BLUE SHALE	6.0	724.0	
-265.0	CARBONDALE	ANNA	BLACK SHALE	1.2	730.0	
-266.2	CARBONDALE	HERRIN	COAL	6.7	731.2	
-272.8	CARBONDALE		UNDERCLAY	3.2	737.8	
-276.0	CARBONDALE		GRAY SHALE	6.0	741.0	
-282.0	CARBONDALE		LIMESTONE	5.0	747.0	
-287.0	CARBONDALE		BLUE SHALE	5.0	752.0	
-292.0	CARBONDALE		SANDSTONE	10.0	757.0	SS & SH
-302.0	CARBONDALE		SANDY SHALE	57.0	767.0	
-359.0	CARBONDALE		BLUE SHALE	3.0	824.0	
-362.0	CARBONDALE		BLACK SHALE	0.8	827.0	
-362.8	CARBONDALE	SPRINGFIELD	COAL	5.0	827.8	
-367.8	CARBONDALE		UNDERCLAY	0.3	832.8	

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MAPID: 06500753000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW

QUADRANGLE: WALPOLE LONGITUDE: -88.624831

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.913476

DATE COLLECTED: 9 / 0 / 1954

SURFACE ELEVATION (FT.): 469.0

LOGGED (FT.): 1968.0

LOG TYPE: Electric Log

SOURCE: DORAN THOMAS S

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-545.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1014.0	
-619.0	SPOON	DAVIS	UNCLASSIFIED	-	1088.0	
-1499.0	BASE OF PENN.		UNCLASSIFIED	-	1968.0	

MAPID: 06500753000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW

QUADRANGLE: WALPOLE LONGITUDE: -88.624831

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.913476

DATE COLLECTED:

SURFACE ELEVATION (FT.): 469.0

LOGGED (FT.): 3458.0

LOG TYPE: Electric Log

SOURCE: DORAN THOMAS S

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-191.0	CARBONDALE	DANVILLE	COAL	-	660.0	
-199.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	3.0	668.0	
-231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	700.0	
-238.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SILTSTONE	10.0	707.0	
-271.0	CARBONDALE	HERRIN	COAL	-	740.0	
-295.0	CARBONDALE	BRIAR HILL	COAL	-	764.0	
-296.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	26.0	765.0	
-378.0	CARBONDALE	SPRINGFIELD	COAL	6.0	847.0	SHALE AND SANDSTONE ROOF
-435.0	CARBONDALE	HOUCHIN CREEK	COAL	-	904.0	

MAPID: 06500753000C VERSION: 3

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 14 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW  
 QUADRANGLE: WALPOLE LONGITUDE: -88.624831 GEOLOGIST: JACOBSON  
 CONFIDENTIAL: N LATITUDE: 37.913476 DATE COLLECTED: 9 / 0 / 1954  
 SURFACE ELEVATION (FT.): 469.0 LOGGED (FT.): 3458.0 LOG TYPE: Electric Log  
 SOURCE: DORAN THOMAS S, WETTAW 1 WELL TYPE: Producer-Oil  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-441.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	910.0	
-481.0	CARBONDALE	SURVANT	COAL	2.0	950.0	
-546.0	CARBONDALE	COLCHESTER	COAL	0.5	1015.0	
-586.0	CARBONDALE	DEKOVEN	COAL	2.5	1055.0	
-611.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1080.0	72 PERCENT SANDSTONE IN DEKOVEN SPLIT
-620.0	CARBONDALE	DAVIS	COAL	3.0	1089.0	
-651.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1120.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06524061000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 14 QUARTERS/FOOTAGES: 2335' N line, 2367' W line of SE NW  
 QUADRANGLE: WALPOLE LONGITUDE: -88.619947 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 37.911641 DATE COLLECTED: 5 / 22 / 1979  
 SURFACE ELEVATION (FT.): 465.0 LOGGED (FT.): 895.0 LOG TYPE: Other Core Study  
 SOURCE: KERR-MCGEE COAL CO. 75-14-1 WELL TYPE: Coal Test  
 COMMENT: CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-266.2	CARBONDALE	HERRIN	COAL	6.6	731.2	REMOVED BY CO.
-379.3	CARBONDALE	SPRINGFIELD	COAL	0.2	844.3	CORE STUDY, SEVERAL SPLITS
-381.3	CARBONDALE	SPRINGFIELD	COAL	0.2	846.3	CORE STUDY, SEVERAL SPLITS

MAPID: 06590020000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 14 QUARTERS/FOOTAGES:  
 QUADRANGLE: WALPOLE LONGITUDE: -88.618521 GEOLOGIST: C TREWORGY  
 CONFIDENTIAL: N LATITUDE: 37.911418 DATE COLLECTED: 5 / 1 / 1979  
 SURFACE ELEVATION (FT.): LOGGED (FT.): LOG TYPE: Company map  
 SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test  
 COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL		5.0	

**MAPID:** 06590021000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 14    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.627917    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.917066    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

**MAPID:** 06501156000C    **VERSION:** 1    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 15    **QUARTERS/FOOTAGES:** 330' S line, 315' E line of SW NW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.647594    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.915177    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 572.0    **LOGGED (FT.):** 3504.0    **LOG TYPE:** Electric Log  
**SOURCE:** IL TRIANGLE OIL    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-270.0	CARBONDALE	HERRIN	COAL	6.0	842.0	
-354.0	CARBONDALE	SPRINGFIELD	COAL	7.0	926.0	GRAY SHALE ROOF
-420.0	CARBONDALE	HOUCHIN CREEK	COAL	-	992.0	

**MAPID:** 06501382000C    **VERSION:** 1    **PROJECT:** RJJ-DAVIS  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 15    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW NE  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.638446    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 37.915197    **DATE COLLECTED:** 11 / 0 / 1958  
**SURFACE ELEVATION (FT.):** 483.0    **LOGGED (FT.):** 3471.0    **LOG TYPE:** Electric Log  
**SOURCE:** BREHM, C. E. DRLG.&PROD., PARK    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-452.0	CARBONDALE	HOUCHIN CREEK	COAL	1.2	935.0	
-492.0	CARBONDALE	SURVANT	COAL	2.8	975.0	
-557.0	CARBONDALE	COLCHESTER	COAL	0.5	1040.0	
-602.0	CARBONDALE	DEKOVEN	COAL	3.0	1085.0	
-623.0	CARBONDALE	LOWER DEKOVEN	COAL	2.5	1106.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-632.0	CARBONDALE	DAVIS	COAL	3.0	1115.0	
-659.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1142.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501382000C    VERSION: 2

PROJECT: CUSMAP

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 15    QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: AKIN    LONGITUDE: -88.638446    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.915197    DATE COLLECTED: 11 / 0 / 1958

SURFACE ELEVATION (FT.): 483.0    LOGGED (FT.): 1995.0    LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD.    WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-557.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	1040.0
-632.0	SPOON	DAVIS	UNCLASSIFIED	-	1115.0
-1512.0	BASE OF PENN.		UNCLASSIFIED	-	1995.0

MAPID: 06503758000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 15    QUARTERS/FOOTAGES: 1980' S line, 1320' W line

QUADRANGLE: AKIN    LONGITUDE: -88.646518    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 37.912403    DATE COLLECTED: 2 / 3 / 1972

SURFACE ELEVATION (FT.): 560.0    LOGGED (FT.): 927.0    LOG TYPE: Drillers Log

SOURCE: KERR-MCGEE COAL CO.    KM-43    WELL TYPE: Coal Test

COMMENT: CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-237.4	CARBONDALE	HERRIN	COAL	6.4	797.4
-358.5	CARBONDALE	SPRINGFIELD	COAL	5.7	918.5

MAPID: 06503758000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 15 QUARTERS/FOOTAGES: 1980' S line, 1320' W line

QUADRANGLE: AKIN LONGITUDE: -88.646518 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.912403 DATE COLLECTED:

SURFACE ELEVATION (FT.): 560.0 LOGGED (FT.): 803.4 LOG TYPE: Survey Core Study

SOURCE: KERR-MCGEE COAL CO. KM-43 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-136.7	MODESTO	PIASA	LIMESTONE	3.5	696.7	
-140.2	MODESTO		GRAY SHALE	14.5	700.2	
-154.7	CARBONDALE	DANVILLE	COAL	0.4	714.7	
-155.2	CARBONDALE		SHALE & SANDSTONE	22.4	715.2	
-177.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	737.6	
-180.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	6.7	740.5	
-187.2	CARBONDALE	LAWSON	SILTY SHALE	9.1	747.2	
-196.3	CARBONDALE	LAWSON	SANDSTONE	30.7	756.3	
-226.9	CARBONDALE	JAMESTOWN	COAL	0.3	786.9	
-227.2	CARBONDALE		BLACK SHALE	4.0	787.2	
-231.2	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.0	791.2	
-236.2	CARBONDALE	ANNA	BLACK SHALE	0.8	796.2	
-237.0	CARBONDALE	HERRIN	COAL	6.4	797.0	

MAPID: 06524060000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 15 QUARTERS/FOOTAGES: 160' N line, 2450' E line of NW NE

QUADRANGLE: AKIN LONGITUDE: -88.645819 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.921155 DATE COLLECTED: 5 / 7 / 1979

SURFACE ELEVATION (FT.): 475.0 LOGGED (FT.): 890.0 LOG TYPE: Other Core Study

SOURCE: KERR-MCGEE COAL CO. 75-15-1 WELL TYPE: Coal Test

COMMENT: CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-277.3	CARBONDALE	HERRIN	COAL	7.3	752.3	REMOVED BY CO.
-374.4	CARBONDALE	SPRINGFIELD	COAL	5.5	849.4	REMOVED BY CO.
-382.4	CARBONDALE	SPRINGFIELD	COAL	0.8	857.4	CORE STUDY

MAPID: 06590011000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 15 QUARTERS/FOOTAGES:

QUADRANGLE: AKIN LONGITUDE: -88.644259 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.911058 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.6		0.67% SULFUR

MAPID: 06500754000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' W line of SW NW

QUADRANGLE: AKIN LONGITUDE: -88.668655 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.914945 DATE COLLECTED:

SURFACE ELEVATION (FT.): 580.0 LOGGED (FT.): 3430.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-148.0	CARBONDALE	DANVILLE	COAL	-	728.0	
-170.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	47.0	750.0	
-225.0	CARBONDALE	HERRIN	COAL	-	805.0	
-367.0	CARBONDALE	SPRINGFIELD	COAL	3.0	947.0	SHALE ROOF
-373.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	12.0	953.0	
-398.0	CARBONDALE	HOUCHIN CREEK	COAL	-	978.0	



MAPID: 06500832000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW SW

QUADRANGLE: AKIN LONGITUDE: -88.666292 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.911364 DATE COLLECTED: 5 / 0 / 1955

SURFACE ELEVATION (FT.): 507.0 LOGGED (FT.): 3261.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., HALL-JOHNSON WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-391.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	898.0	
-425.0	CARBONDALE	SURVANT	COAL	1.6	932.0	
-493.0	CARBONDALE	COLCHESTER	COAL	0.5	1000.0	
-535.0	CARBONDALE	DEKOVEN	COAL	3.5	1042.0	
-548.0	CARBONDALE	LOWER DEKOVEN	COAL	2.5	1055.0	33 PERCENT SANDSTONE IN DEKOVEN SPLIT
-553.0	CARBONDALE	DAVIS	COAL	3.0	1060.0	
-587.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1094.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501269000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 16 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SE

QUADRANGLE: AKIN LONGITUDE: -88.656963 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.90962 DATE COLLECTED: 2 / 0 / 1958

SURFACE ELEVATION (FT.): 571.0 LOGGED (FT.): 3463.0 LOG TYPE: Electric Log

SOURCE: LOUDON PIPELINE CO, STEPHENSON NONA WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-387.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	958.0	
-428.0	CARBONDALE	SURVANT	COAL	1.2	999.0	
-496.0	CARBONDALE	COLCHESTER	COAL	0.5	1067.0	
-529.0	CARBONDALE	DEKOVEN	COAL	3.0	1100.0	
-542.0	CARBONDALE	LOWER DEKOVEN	COAL	1.3	1113.0	20 PERCENT SANDSTONE IN DEKOVEN SPLIT
-549.0	CARBONDALE	DAVIS	COAL	3.0	1120.0	
-583.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1154.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503169000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 16 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NW

QUADRANGLE: AKIN LONGITUDE: -88.668652 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.916726 DATE COLLECTED: 1 / 0 / 1955

SURFACE ELEVATION (FT.): 584.0 LOGGED (FT.): 3332.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., THOMPSON-LOGAN WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-378.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	962.0	
-410.0	CARBONDALE	SURVANT	COAL	1.2	994.0	
-475.0	CARBONDALE	COLCHESTER	COAL	0.5	1059.0	
-526.0	CARBONDALE	DEKOVEN	COAL	3.0	1110.0	
-538.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1122.0	33 PERCENT SANDSTONE IN DEKOVEN SPLIT
-544.0	CARBONDALE	DAVIS	COAL	3.0	1128.0	
-575.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1159.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503344000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 16 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NE

QUADRANGLE: AKIN LONGITUDE: -88.65929 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.916884 DATE COLLECTED: 5 / 0 / 1963

SURFACE ELEVATION (FT.): 590.0 LOGGED (FT.): 3450.0 LOG TYPE: Electric Log

SOURCE: FARRAR OIL CO., INC., GREGORY OLEN WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-385.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	975.0	
-418.0	CARBONDALE	SURVANT	COAL	1.8	1008.0	
-485.0	CARBONDALE	COLCHESTER	COAL	0.5	1075.0	
-530.0	CARBONDALE	DEKOVEN	COAL	3.5	1120.0	
-542.0	CARBONDALE	LOWER DEKOVEN	COAL	1.3	1132.0	
-548.0	CARBONDALE	DAVIS	COAL	3.0	1138.0	
-580.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1170.0	

MAPID: 06503369000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 16 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: AKIN LONGITUDE: -88.654528 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.916979 DATE COLLECTED: 1 / 0 / 1964

SURFACE ELEVATION (FT.): 564.0 LOGGED (FT.): 3336.0 LOG TYPE: Electric Log

SOURCE: FARRAR OIL CO., INC., TATE COM WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-388.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	952.0
-424.0	CARBONDALE	SURVANT	COAL	1.2	988.0
-496.0	CARBONDALE	COLCHESTER	COAL	0.5	1060.0
-530.0	CARBONDALE	DEKOVEN	COAL	3.5	1094.0
-541.0	CARBONDALE	LOWER DEKOVEN	COAL	2.8	1105.0
-549.0	CARBONDALE	DAVIS	COAL	2.8	1113.0
-581.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1145.0

MAPID: 06503369000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 16 QUARTERS/FOOTAGES: 1650' N line, 990' E line

QUADRANGLE: AKIN LONGITUDE: -88.654528 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.916979 DATE COLLECTED:

SURFACE ELEVATION (FT.): 564.0 LOGGED (FT.): 800.5 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
-138.0	MODESTO	PIASA	LIMESTONE	5.0	702.0
-143.0	MODESTO		SHALE	11.5	707.0
-154.5	CARBONDALE	DANVILLE	COAL	1.5	718.5
-156.0	CARBONDALE		SHALE	20.0	720.0
-176.0	CARBONDALE	ALLENBY	BONE COAL	1.0	740.0
-177.0	CARBONDALE		CLAYSTONE & SHALE	6.0	741.0
-183.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	747.0
-186.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	28.0	750.0
-214.0	CARBONDALE	LAWSON	SHALE	8.0	778.0
-222.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	786.0
-223.0	CARBONDALE		BLACK SHALE	1.0	787.0
-224.0	CARBONDALE	BRERETON	LIMESTONE	9.0	788.0
-233.0	CARBONDALE	ANNA	BLACK SHALE	1.0	797.0
-234.0	CARBONDALE	HERRIN	COAL	2.5	798.0

**MAPID:** 06590007000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 16    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.657749    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.917806    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

**MAPID:** 06500755000C    **VERSION:** 1    **PROJECT:** RJJ-DAVIS  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 17    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of NE NW  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.682426    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 37.92056    **DATE COLLECTED:** 7 / 0 / 1953  
**SURFACE ELEVATION (FT.):** 475.0    **LOGGED (FT.):** 3334.0    **LOG TYPE:** Electric Log  
**SOURCE:** GEORGE & WRATHER OIL, HARRIS ETAL    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	887.0	
-453.0	CARBONDALE	SURVANT	COAL	3.0	928.0	
-515.0	CARBONDALE	COLCHESTER	COAL	0.5	990.0	
-565.0	CARBONDALE	DEKOVEN	COAL	4.0	1040.0	
-565.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	1040.0	
-578.0	CARBONDALE	DAVIS	COAL	3.0	1053.0	
-615.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1090.0	

MAPID: 06500755000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 17    QUARTERS/FOOTAGES: 330' N line, 330' W line of NE NW

QUADRANGLE: AKIN    LONGITUDE: -88.682426    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.92056    DATE COLLECTED:

SURFACE ELEVATION (FT.): 475.0    LOGGED (FT.): 3334.0    LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-173.0	CARBONDALE	DANVILLE	COAL	-	648.0	
-195.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	670.0	
-211.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	5.0	686.0	
-245.0	CARBONDALE	HERRIN	COAL	-	720.0	
-373.0	CARBONDALE	SPRINGFIELD	COAL	5.0	848.0	SHALE ROOF
-385.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	20.0	860.0	
-410.0	CARBONDALE	HOUCHIN CREEK	COAL	-	885.0	

MAPID: 06500833000C    VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 17    QUARTERS/FOOTAGES: 330' N line, 330' W line of NE SE

QUADRANGLE: AKIN    LONGITUDE: -88.673293    GEOLOGIST: JACOBSON

CONFIDENTIAL: N    LATITUDE: 37.913137    DATE COLLECTED: 2 / 0 / 1955

SURFACE ELEVATION (FT.): 495.0    LOGGED (FT.): 3237.0    LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., BROWN IVA    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-380.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	875.0	
-415.0	CARBONDALE	SURVANT	COAL	1.6	910.0	
-480.0	CARBONDALE	COLCHESTER	COAL	0.5	975.0	
-530.0	CARBONDALE	DEKOVEN	COAL	3.0	1025.0	
-539.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	1034.0	40 PERCENT SANDSTONE IN DEKOVEN SPLIT
-545.0	CARBONDALE	DAVIS	COAL	3.0	1040.0	
-575.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1070.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501256000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW

QUADRANGLE: AKIN LONGITUDE: -88.682527 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.915034 DATE COLLECTED: 11 / 0 / 1956

SURFACE ELEVATION (FT.): 453.0 LOGGED (FT.): 3334.0 LOG TYPE: Electric Log

SOURCE: COLLINS BROTHERS OIL CO., MOORE WALTER WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	865.0
-450.0	CARBONDALE	SURVANT	COAL	1.2	903.0
-517.0	CARBONDALE	COLCHESTER	COAL	0.5	970.0
-567.0	CARBONDALE	DEKOVEN	COAL	4.0	1020.0
-577.0	CARBONDALE	LOWER DEKOVEN	COAL	3.0	1030.0
-582.0	CARBONDALE	DAVIS	COAL	3.0	1035.0
-617.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1070.0

MAPID: 06501617000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 17 QUARTERS/FOOTAGES: 1650' N line, 330' W line

QUADRANGLE: AKIN LONGITUDE: -88.687108 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.917007 DATE COLLECTED:

SURFACE ELEVATION (FT.): 478.0 LOGGED (FT.): 722.5 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
-142.0	MODESTO	PIASA	LIMESTONE	6.0	620.0
-148.0	MODESTO		SHALE	11.0	626.0
-159.0	CARBONDALE	DANVILLE	COAL	2.0	637.0
-161.0	CARBONDALE		SHALE & SANDSTONE	20.0	639.0
-181.0	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	4.0	659.0
-185.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	45.5	663.0
-230.5	CARBONDALE	BRERETON	LIMESTONE	5.0	708.5
-235.5	CARBONDALE	ANNA	BLACK SHALE	2.5	713.5
-238.0	CARBONDALE	HERRIN	COAL	6.5	716.0

MAPID: 06590001000C    VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 17    QUARTERS/FOOTAGES:

QUADRANGLE: AKIN    LONGITUDE: -88.671964

GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.91413

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	3.0	

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MAPID: 06500027000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 18    QUARTERS/FOOTAGES: 660' S line, 1980' W line

QUADRANGLE: AKIN    LONGITUDE: -88.699751    GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.908557    DATE COLLECTED:

SURFACE ELEVATION (FT.): 450.5    LOGGED (FT.): 785.5    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE AND CHEMICAL 16    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.5			CLAY	24.0	0.0	
426.5			GRAVEL	3.0	24.0	
423.5			UNCLASSIFIED	2.0	27.0	LOG SAYS 'BROKEN LEDGE'
421.5	BOND		GRAY SHALE	25.0	29.0	
396.5	BOND		LIMESTONE	3.0	54.0	
393.5	BOND		SANDY SHALE	36.0	57.0	
357.5	BOND		COAL	0.5	93.0	
357.0	BOND		GRAY SHALE	22.5	93.5	
334.5	BOND		COAL	1.5	116.0	
333.0	BOND		GRAY SHALE	4.5	117.5	
328.5	BOND	CARTHAGE	LIMESTONE	10.0	122.0	
318.5	MODESTO		SANDSTONE	30.0	132.0	
288.5	MODESTO		SANDSTONE	16.0	162.0	SS & SH
272.5	MODESTO		SANDSTONE	36.0	178.0	
236.5	MODESTO		SANDSTONE	8.0	214.0	SS & SH
228.5	MODESTO		BLUE SHALE	23.0	222.0	
205.5	MODESTO		LIMESTONE	11.0	245.0	
194.5	MODESTO		BLUE SHALE	38.0	256.0	
156.5	MODESTO		BLACK SHALE	4.0	294.0	
152.5	MODESTO		GRAY SHALE	2.0	298.0	
150.5	MODESTO		BLUE SHALE	24.0	300.0	
126.5	MODESTO	WOMAC	COAL	0.3	324.0	
126.2	MODESTO		BLUE SHALE	6.7	324.3	
119.5	MODESTO		SANDY SHALE	23.0	331.0	
96.5	MODESTO		BLUE SHALE	41.0	354.0	BLUE SH W/ LS BANDS
55.5	MODESTO		SANDY SHALE	12.0	395.0	
43.5	MODESTO		BLUE SHALE	50.0	407.0	BLUE SH W/ LS BANDS
-6.5	MODESTO		BLUE SHALE	15.0	457.0	
-21.5	MODESTO		SANDY SHALE	8.0	472.0	
-29.5	MODESTO		SANDSTONE	28.0	480.0	
-57.5	MODESTO		BLUE SHALE	14.0	508.0	
-71.5	MODESTO		BLUE SHALE	22.0	522.0	BLUE SH W/ LS BANDS
-93.5	MODESTO		SANDY SHALE	20.0	544.0	
-113.5	MODESTO		DARK SHALE	21.0	564.0	
-134.5	MODESTO		COAL	1.0	585.0	
-135.5	MODESTO		CALCAREOUS SHALE	4.0	586.0	
-139.5	MODESTO		SANDSTONE	23.0	590.0	
-162.5	CARBONDALE	DANVILLE	COAL	2.0	613.0	
-164.5	CARBONDALE		CALCAREOUS SHALE	5.0	615.0	



-169.5	CARBONDALE		SANDSTONE	25.0	620.0	SS & SH
-194.5	CARBONDALE		GRAY SHALE	5.0	645.0	
-199.5	CARBONDALE		SANDSTONE	15.0	650.0	SS & SH
-214.5	CARBONDALE		DARK SHALE	8.0	665.0	
-222.5	CARBONDALE		SANDSTONE	7.0	673.0	
-229.5	CARBONDALE		BLACK SHALE	2.0	680.0	
-231.5	CARBONDALE	BRERETON	LIMESTONE	4.0	682.0	BLUE
-235.5	CARBONDALE	ANNA	BLACK SHALE	2.0	686.0	
-237.5	CARBONDALE	HERRIN	COAL	6.6	688.0	
-244.1	CARBONDALE		DARK SHALE	0.4	694.6	
-244.5	CARBONDALE		UNDERCLAY	2.6	695.0	
-247.1	CARBONDALE		CALCAREOUS SHALE	9.4	697.6	
-256.5	CARBONDALE		BLUE SHALE	8.0	707.0	
-264.5	CARBONDALE		SANDSTONE	63.0	715.0	SS & SH
-327.5	CARBONDALE	SPRINGFIELD	COAL	4.0	778.0	
-331.5	CARBONDALE		SANDY SHALE	3.5	782.0	

**MAPID:** 06500027000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 5E    **SECTION:** 18    **QUARTERS/FOOTAGES:** 660' S line, 1980' W line  
**QUADRANGLE:** AKIN    **LONGITUDE:** -88.699751    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.908557    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 451.0    **LOGGED (FT.):** 694.6    **LOG TYPE:** Drillers Log  
**SOURCE:**    **WELL TYPE:** Coal Test  
**COMMENT:** POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-135.0	MODESTO	PIASA	CALCAREOUS SHALE	4.0	586.0	
-139.0	MODESTO		SANDSTONE	23.0	590.0	
-162.0	CARBONDALE	DANVILLE	COAL	2.0	613.0	
-164.0	CARBONDALE		ROCK	30.0	615.0	
-194.0	CARBONDALE	BANKSTON FORK	GRAY SHALE	5.0	645.0	
-199.0	CARBONDALE	LAWSON	SHALE & SANDSTONE	15.0	650.0	
-214.0	CARBONDALE	LAWSON	GRAY SHALE	8.0	665.0	
-222.0	CARBONDALE	LAWSON	SANDSTONE	7.0	673.0	
-229.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	680.0	
-229.5	CARBONDALE		BLACK SHALE	1.5	680.5	
-231.0	CARBONDALE	BRERETON	LIMESTONE	4.0	682.0	
-235.0	CARBONDALE	ANNA	BLACK SHALE	2.0	686.0	
-237.0	CARBONDALE	HERRIN	COAL	6.6	688.0	

MAPID: 06500756000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 18 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NW

QUADRANGLE: AKIN LONGITUDE: -88.703121 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.920783 DATE COLLECTED: 7 / 0 / 1950

SURFACE ELEVATION (FT.): 474.0 LOGGED (FT.): 3289.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL, DROIT RENO WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-376.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	850.0	
-411.0	CARBONDALE	SURVANT	COAL	2.0	885.0	
-476.0	CARBONDALE	COLCHESTER	COAL	0.5	950.0	
-514.0	CARBONDALE	DEKOVEN	COAL	3.5	988.0	
-524.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	998.0	33 PERCENT SANDSTONE IN DEKOVEN SPLIT
-530.0	CARBONDALE	DAVIS	COAL	2.0	1004.0	
-568.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1042.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500756000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 18 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NW

QUADRANGLE: AKIN LONGITUDE: -88.703121 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.920783 DATE COLLECTED:

SURFACE ELEVATION (FT.): 474.0 LOGGED (FT.): 3289.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-136.0	CARBONDALE	DANVILLE	COAL	-	610.0	
-148.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	18.0	622.0	
-171.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	9.0	645.0	
-208.0	CARBONDALE	HERRIN	COAL	-	682.0	
-238.0	CARBONDALE	BRIAR HILL	COAL	-	712.0	
-309.0	CARBONDALE	SPRINGFIELD	COAL	5.0	783.0	SHALE ROOF
-330.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	26.0	804.0	
-373.0	CARBONDALE	HOUCHIN CREEK	COAL	-	847.0	

MAPID: 06503175000C    VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 18    QUARTERS/FOOTAGES: 330' N line, 330' W line of NE NE

QUADRANGLE: AKIN    LONGITUDE: -88.691621    GEOLOGIST: JACOBSON

CONFIDENTIAL: N    LATITUDE: 37.9207    DATE COLLECTED: 11 / 0 / 1954

SURFACE ELEVATION (FT.): 489.0    LOGGED (FT.): 3249.0    LOG TYPE: Electric Log

SOURCE: HILL, T. G., CARLYLE & GUNTER    1    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-391.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	880.0	
-441.0	CARBONDALE	SURVANT	COAL	1.2	930.0	
-511.0	CARBONDALE	COLCHESTER	COAL	0.5	1000.0	
-536.0	CARBONDALE	DEKOVEN	COAL	4.0	1025.0	
-550.0	CARBONDALE	LOWER DEKOVEN	COAL	3.0	1039.0	30 PERCENT SANDSTONE IN DEKOVEN SPLIT
-554.0	CARBONDALE	DAVIS	COAL	3.0	1043.0	
-586.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1075.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503186000C    VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON    TWP/RNG: 7S 5E    SECTION: 18    QUARTERS/FOOTAGES: 330' N line, 330' W line of SE

QUADRANGLE: AKIN    LONGITUDE: -88.696332    GEOLOGIST: JACOBSON

CONFIDENTIAL: N    LATITUDE: 37.913282    DATE COLLECTED: 8 / 0 / 1951

SURFACE ELEVATION (FT.): 438.0    LOGGED (FT.): 3321.0    LOG TYPE: Electric Log

SOURCE: MCGLOSSON, WALTER J., LASWELL ALICE    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-397.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	835.0	
-440.0	CARBONDALE	SURVANT	COAL	1.6	878.0	
-504.0	CARBONDALE	COLCHESTER	COAL	0.5	942.0	
-552.0	CARBONDALE	DEKOVEN	COAL	3.0	990.0	
-558.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	996.0	
-566.0	CARBONDALE	DAVIS	COAL	2.0	1004.0	
-597.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1035.0	

MAPID: 06503362000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 5E SECTION: 18 QUARTERS/FOOTAGES: 987' N line, 357' E line of NW SW

QUADRANGLE: AKIN LONGITUDE: -88.703314 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.911489 DATE COLLECTED: 9 / 0 / 1963

SURFACE ELEVATION (FT.): 457.0 LOGGED (FT.): 3194.0 LOG TYPE: Electric Log

SOURCE: GEORGE, T. W. TRUST, DROIT R WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-393.0	CARBONDALE	HOUCHIN CREEK	COAL	1.8	850.0	
-438.0	CARBONDALE	SURVANT	COAL	1.2	895.0	
-508.0	CARBONDALE	COLCHESTER	COAL	0.5	965.0	
-538.0	CARBONDALE	DEKOVEN	COAL	3.0	995.0	
-546.0	CARBONDALE	LOWER DEKOVEN	COAL	1.8	1003.0	
-553.0	CARBONDALE	DAVIS	COAL	2.5	1010.0	

MAPID: 06500602000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 1 QUARTERS/FOOTAGES: 2310' S line, 330' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.502355 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.94298 DATE COLLECTED:

SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 3439.0 LOG TYPE: Electric Log

SOURCE: DERICKSON T BLAKE WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-220.0	CARBONDALE	DANVILLE	COAL	-	660.0	
-226.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	8.0	666.0	
-252.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	692.0	
-296.0	CARBONDALE	HERRIN	COAL	6.0	736.0	
-338.0	CARBONDALE	BRIAR HILL	COAL	-	778.0	
-342.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	6.0	782.0	
-388.0	CARBONDALE	SPRINGFIELD	COAL	5.0	828.0	GRAY SHALE ROOF
-464.0	CARBONDALE	HOUCHIN CREEK	COAL	-	904.0	

MAPID: 06500602000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 1 QUARTERS/FOOTAGES: 2310' S line, 330' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.502355 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.94298 DATE COLLECTED:

SURFACE ELEVATION (FT.): 444.0 LOGGED (FT.): 742.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-178.0	MODESTO	PIASA	CALCAREOUS SHALE	6.0	622.0
-184.0	MODESTO		SHALE	34.0	628.0
-218.0	CARBONDALE	DANVILLE	COAL	2.0	662.0
-220.0	CARBONDALE		SHALE & SANDSTONE	30.0	664.0
-250.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	694.0
-256.0	CARBONDALE	LAWSON	SHALE	28.0	700.0
-284.0	CARBONDALE	BRERETON	LIMESTONE	6.0	728.0
-290.0	CARBONDALE	ANNA	BLACK SHALE	2.0	734.0
-292.0	CARBONDALE	HERRIN	COAL	6.0	736.0

MAPID: 06590087000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 1 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.502033 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.942311 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.0	

MAPID: 06500718000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 2 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW

QUADRANGLE: WALPOLE LONGITUDE: -88.52153 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.944475 DATE COLLECTED:

SURFACE ELEVATION (FT.): 452.0 LOGGED (FT.): 3407.0 LOG TYPE: Electric Log

SOURCE: OIL MANAGEMENT, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-198.0	CARBONDALE	DANVILLE	COAL	-	650.0	
-208.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	5.0	660.0	
-228.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	680.0	
-278.0	CARBONDALE	HERRIN	COAL	5.0	730.0	
-306.0	CARBONDALE	BRIAR HILL	COAL	-	758.0	
-368.0	CARBONDALE	SPRINGFIELD	COAL	4.0	820.0	GRAY SHALE ROOF
-385.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	10.0	837.0	
-448.0	CARBONDALE	HOUCHIN CREEK	COAL	-	900.0	

MAPID: 06503696000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 2 QUARTERS/FOOTAGES: 1380' N line, 78' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.522408 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.947092 DATE COLLECTED: 1 / 17 / 1969

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 807.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 15-HA WELL TYPE: Coal Test

COMMENT: CORE C-8486

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
111.0			COAL	2.1	325.0	
14.9			COAL	1.4	421.1	
-187.5	CARBONDALE	DANVILLE	COAL	2.8	623.5	
-259.6	CARBONDALE	HERRIN	COAL	5.7	695.6	
-292.0	CARBONDALE	BRIAR HILL	COAL	1.0	728.0	
-361.2	CARBONDALE	SPRINGFIELD	COAL	5.0	797.2	

MAPID: 06503696000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 2 QUARTERS/FOOTAGES: 1380' N line, 78' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.522408 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.947092 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 701.7 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 15-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-153.4	MODESTO	PIASA	LIMESTONE	4.2	589.4
-157.6	MODESTO		GRAY SHALE	30.2	593.6
-187.7	CARBONDALE	DANVILLE	COAL	2.8	623.7
-190.6	CARBONDALE		SHALE & SANDSTONE	28.3	626.6
-218.9	CARBONDALE	BANKSTON FORK	LIMESTONE	8.7	654.9
-227.6	CARBONDALE	LAWSON	SILTY SHALE	8.6	663.6
-236.1	CARBONDALE	LAWSON	SILTSTONE	3.4	672.1
-239.6	CARBONDALE	LAWSON	GRAY SHALE	12.3	675.6
-251.8	CARBONDALE	JAMESTOWN	BONE COAL	0.3	687.8
-252.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	4.5	688.1
-256.6	CARBONDALE	ANNA	BLACK SHALE	3.4	692.6
-260.0	CARBONDALE	HERRIN	COAL	5.7	696.0

MAPID: 06523829000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 2 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.510699 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.945462 DATE COLLECTED: 1 / 17 / 1972

SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 797.0 LOG TYPE: Other Core Study

SOURCE: KERR-MCGEE COAL CO. KM-41 WELL TYPE: Coal Test

COMMENT: CORE SURVEY STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-200.3	CARBONDALE	DANVILLE	COAL	0.3	640.3
-264.1			COAL	1.7	704.1
-272.7	CARBONDALE	HERRIN	COAL	5.8	712.7
-313.1	CARBONDALE	BRIAR HILL	COAL	1.4	753.1
-346.6	CARBONDALE	SPRINGFIELD	COAL	4.0	786.6

MAPID: 06590080000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.522097

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.946871

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.0		

MAPID: 06590081000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.511863

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.945453

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	3.9		2.67% SULFUR

MAPID: 06500717000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NW

QUADRANGLE: WALPOLE LONGITUDE: -88.539521

GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.947999

DATE COLLECTED:

SURFACE ELEVATION (FT.): 442.0 LOGGED (FT.): 3188.0

LOG TYPE: Electric Log

SOURCE: OIL MANAGEMENT, INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-182.0	CARBONDALE	DANVILLE	COAL	-	624.0	
-191.0	CARBONDALE	SS BELOW NO. 7	SANDSTONE/SILTSTONE	4.0	633.0	
-208.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	650.0	
-220.0	CARBONDALE	ANVIL ROCK	SILTSTONE/SANDSTONE	6.0	662.0	
-252.0	CARBONDALE	HERRIN	COAL	5.0	694.0	
-284.0	CARBONDALE	BRIAR HILL	COAL	-	726.0	
-348.0	CARBONDALE	SPRINGFIELD	COAL	3.0	790.0	GRAY SHALE ROOF
-364.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	18.0	806.0	
-434.0	CARBONDALE	HOUCHIN CREEK	COAL	-	876.0	



MAPID: 06501479000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW SW

QUADRANGLE: WALPOLE LONGITUDE: -88.537427 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.936656 DATE COLLECTED:

SURFACE ELEVATION (FT.): 408.0 LOGGED (FT.): 3376.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-260.0	CARBONDALE	HERRIN	COAL	4.0	668.0	
-290.0	CARBONDALE	BRIAR HILL	COAL	-	698.0	
-352.0	CARBONDALE	SPRINGFIELD	COAL	4.0	760.0	GRAY SHALE ROOF
-432.0	CARBONDALE	HOUCHIN CREEK	COAL	-	840.0	

MAPID: 06503701000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.540819 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.935641 DATE COLLECTED: 12 / 20 / 1968

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 760.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 11-HA WELL TYPE: Coal Test

COMMENT: CORE C-8481

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
356.6			COAL	1.0	43.4	
354.6			COAL	0.8	45.4	
333.4			COAL	1.5	66.6	
-189.8	CARBONDALE	DANVILLE	COAL	2.0	589.8	
-263.8	CARBONDALE	HERRIN	COAL	5.8	663.8	
-294.1	CARBONDALE	BRIAR HILL	COAL	0.7	694.1	
-353.1	CARBONDALE	SPRINGFIELD	COAL	4.8	753.1	

MAPID: 06503701000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.540819 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.935641 DATE COLLECTED:

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 669.8 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 11-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-147.8	MODESTO	PIASA	LIMESTONE	4.3	547.8
-152.1	MODESTO		GRAY SHALE	25.8	552.1
-177.8	CARBONDALE	DANVILLE	COAL	2.0	577.8
-179.8	CARBONDALE		SHALE & SANDSTONE	29.8	579.8
-209.6	CARBONDALE	BANKSTON FORK	LIMESTONE	7.2	609.6
-216.8	CARBONDALE	LAWSON	SANDSTONE	6.4	616.8
-223.2	CARBONDALE	LAWSON	SILTY SHALE	6.4	623.2
-229.6	CARBONDALE	LAWSON	GRAY SHALE	27.1	629.6
-256.8	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	656.8
-257.2	CARBONDALE	JAMESTOWN	BONE COAL	0.6	657.2
-257.8	CARBONDALE		BLACK SHALE	0.8	657.8
-258.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.3	658.6
-263.8	CARBONDALE	ANNA	BLACK SHALE	0.2	663.8
-264.0	CARBONDALE	HERRIN	COAL	5.8	664.0

MAPID: 06503744000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.524939 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.941672 DATE COLLECTED: 10 / 19 / 1970

SURFACE ELEVATION (FT.): LOGGED (FT.): 822.1 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 52-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			COAL	1.0	433.5
-			COAL	1.5	575.0
-			COAL	1.0	640.0
-	CARBONDALE	HERRIN	COAL	4.8	709.0
-			COAL	1.0	749.0
-	CARBONDALE	SPRINGFIELD	COAL	4.8	812.5

MAPID: 06503744000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.524939 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.941672 DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 676.7 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 52-C WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-173.1	MODESTO	PIASA	LIMESTONE	2.5	563.1
-175.6	MODESTO		SILTY SHALE	29.0	565.6
-204.6	CARBONDALE	DANVILLE	COAL	1.7	594.6
-206.3	CARBONDALE		SANDSTONE	24.8	596.3
-231.1	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	621.1
-234.6	CARBONDALE	LAWSON	SANDSTONE	26.5	624.6
-261.1	CARBONDALE	LAWSON	GRAY SHALE	11.0	651.1
-272.1	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	7.3	662.1
-279.4	CARBONDALE	ANNA	BLACK SHALE	0.7	669.4
-280.0	CARBONDALE	HERRIN	COAL	6.7	670.0

MAPID: 06590070000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.540247 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.936144 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.8	

MAPID: 06590071000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 3 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.536252 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.939266 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.1	1.47% SULFUR

MAPID: 06500029000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 4    QUARTERS/FOOTAGES: 2000' S line, 4825' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.557569    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.941406    DATE COLLECTED:

SURFACE ELEVATION (FT.): 426.0    LOGGED (FT.): 829.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-299.0	CARBONDALE	HERRIN	COAL	7.2	725.0	
-330.0	CARBONDALE	BRIAR HILL	COAL	0.3	756.0	
-396.0	CARBONDALE	SPRINGFIELD	COAL	6.3	822.0	GRAY SHALE ROOF

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MAPID: 06500029000C    VERSION: 2

PROJECT: NCRDS87

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 4    QUARTERS/FOOTAGES: 2000' S line, 4825' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.557569    GEOLOGIST: WEIBEL

CONFIDENTIAL: N    LATITUDE: 37.941406    DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 425.7    LOGGED (FT.): 829.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO.    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
425.7			UNCONSOLIDATED	24.0	0.0
401.7			SHALE	3.5	24.0
398.2			LIMESTONE	1.0	27.5
397.2			SHALE	59.5	28.5
337.7			COAL	0.7	88.0
337.0			SHALE	2.7	88.7
334.4			COAL	0.7	91.3
333.7			SHALE	22.0	92.0
311.7			COAL	1.0	114.0
310.7			SHALE	8.0	115.0
302.7			SANDSTONE	90.0	123.0
212.7			LIMESTONE	6.0	213.0
206.7			SHALE	137.0	219.0
69.7			COAL	1.2	356.0
68.5			SHALE	83.8	357.2
-15.3			DARK SHALE	10.0	441.0
-25.3			COAL	1.0	451.0
-26.3			SHALE	35.0	452.0
-61.3			SANDSTONE	33.0	487.0
-94.3			SHALE	44.0	520.0
-138.3			COAL	0.8	564.0
-139.1			SHALE	10.3	564.8
-149.3			BLACK SHALE	4.0	575.0
-153.3			SHALE	2.0	579.0
-155.3			BLACK SHALE	5.0	581.0
-160.3			COAL	0.5	586.0
-160.8			SHALE	3.5	586.5
-164.3			SANDSTONE	26.0	590.0
-190.3			SHALE	32.0	616.0
-222.3			COAL	2.1	648.0
-224.4			SHALE	27.9	650.1
-252.3	MODESTO	PIASA	LIMESTONE	8.0	678.0
-260.3	CARBONDALE		SHALE	7.0	686.0
-267.3	CARBONDALE		SANDSTONE	5.0	693.0
-272.3	CARBONDALE		SHALE	18.7	698.0
-291.0	CARBONDALE		COAL	0.3	716.7
-291.3	CARBONDALE		BLACK SHALE	0.5	717.0
-291.8	CARBONDALE	BRERETON	LIMESTONE	5.0	717.5
-296.8	CARBONDALE	ANNA	BLACK SHALE	2.5	722.5

-299.3	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	7.2	725.0	0.17 SHALE PARTING
-306.5	CARBONDALE		UNDERCLAY	3.8	732.2	
-310.3	CARBONDALE		SHALE	5.0	736.0	
-315.3	CARBONDALE		LIMESTONE	2.0	741.0	
-317.3	CARBONDALE		GRAY SHALE	13.0	743.0	
-330.3	CARBONDALE	BRIAR HILL	COAL	0.3	756.0	
-330.6	CARBONDALE		SHALE	20.7	756.3	
-351.3	CARBONDALE		BLACK SHALE	3.0	777.0	
-354.3	CARBONDALE		GRAY SHALE	20.0	780.0	
-374.3	CARBONDALE		SHALE	22.0	800.0	
-396.3	CARBONDALE	SPRINGFIELD	COAL	6.3	822.0	
-402.6	CARBONDALE		SHALE	1.0	828.3	

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MAPID: 06500029000C    VERSION: 3

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 4    QUARTERS/FOOTAGES: 2000' S line, 4825' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.557569    GEOLOGIST: C TREWORGY

CONFIDENTIAL: N    LATITUDE: 37.941406    DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.7    LOGGED (FT.): 829.3    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 20    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
425.7			CLAY	18.0	0.0	
407.7			SAND	6.0	18.0	SD & GRAVEL
401.7			SHALE	3.5	24.0	
398.2	BOND		LIMESTONE	1.0	27.5	
397.2	BOND		BLUE SHALE	43.5	28.5	
353.7	BOND		GRAY SHALE	16.0	72.0	
337.7	BOND		COAL	0.7	88.0	
337.0	BOND		GRAY SHALE	2.7	88.7	
334.4	BOND		COAL	0.7	91.3	
333.7	BOND		SANDY SHALE	18.0	92.0	
315.7	BOND		SANDY SHALE	4.0	110.0	
311.7	BOND		COAL	1.0	114.0	
310.7	BOND		GRAY SHALE	5.0	115.0	
305.7	BOND		SANDY SHALE	3.0	120.0	
302.7	BOND		SANDSTONE	90.0	123.0	
212.7	BOND	CARTHAGE	LIMESTONE	6.0	213.0	
206.7	MODESTO		GRAY SHALE	58.0	219.0	
148.7	MODESTO		BLUE SHALE	28.0	277.0	
120.7	MODESTO		GRAY SHALE	10.0	305.0	
110.7	MODESTO		SANDY SHALE	41.0	315.0	
69.7	MODESTO	WOMAC	COAL	1.2	356.0	
68.5	MODESTO		SANDY SHALE	47.8	357.2	
20.7	MODESTO		BLUE SHALE	36.0	405.0	
-15.3	MODESTO		DARK SHALE	10.0	441.0	
-25.3	MODESTO	CHAPEL	COAL	1.0	451.0	
-26.3	MODESTO		GRAY SHALE	2.0	452.0	
-28.3	MODESTO		SANDY SHALE	33.0	454.0	
-61.3	MODESTO		SANDSTONE	33.0	487.0	
-94.3	MODESTO		SANDY SHALE	11.0	520.0	
-105.3	MODESTO		BLUE SHALE	33.0	531.0	
-138.3	MODESTO		COAL	0.8	564.0	
-139.1	MODESTO		SANDY SHALE	8.3	564.8	
-147.3	MODESTO		BLACK SHALE	2.0	573.0	
-149.3	MODESTO		BLUE SHALE	4.0	575.0	
-153.3	MODESTO		GRAY SHALE	2.0	579.0	
-155.3	MODESTO		BLACK SHALE	5.0	581.0	
-160.3	MODESTO		COAL	0.5	586.0	
-160.8	MODESTO		SHALE	3.5	586.5	
-164.3	MODESTO		SANDSTONE	26.0	590.0	

-190.3	MODESTO		GRAY SHALE	9.0	616.0	
-199.3	MODESTO		BLUE SHALE	23.0	625.0	
-222.3	CARBONDALE	DANVILLE	COAL	2.1	648.0	
-224.4	CARBONDALE		BLUE SHALE	3.9	650.1	
-228.3	CARBONDALE		GRAY SHALE	24.0	654.0	
-252.3	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	678.0	
-260.3	CARBONDALE		SANDY SHALE	7.0	686.0	
-267.3	CARBONDALE		SANDSTONE	5.0	693.0	
-272.3	CARBONDALE		BLUE SHALE	18.7	698.0	
-291.0	CARBONDALE	JAMESTOWN	COAL	0.3	716.7	
-291.3	CARBONDALE		BLACK SHALE	0.5	717.0	
-291.8	CARBONDALE	BRERETON	LIMESTONE	5.0	717.5	
-296.8	CARBONDALE	ANNA	BLACK SHALE	2.5	722.5	
-299.3	CARBONDALE	HERRIN	COAL	7.2	725.0	
-306.5	CARBONDALE		UNDERCLAY	3.8	732.2	
-310.3	CARBONDALE		CALCAREOUS SHALE	5.0	736.0	
-315.3	CARBONDALE		LIMESTONE	2.0	741.0	
-317.3	CARBONDALE		GRAY SHALE	10.0	743.0	GY SH W/LS PARTINGS
-327.3	CARBONDALE		GRAY SHALE	3.0	753.0	
-330.3	CARBONDALE	BRIAR HILL	COAL	0.3	756.0	
-330.6	CARBONDALE		SANDY SHALE	20.7	756.3	
-351.3	CARBONDALE		BLACK SHALE	3.0	777.0	
-354.3	CARBONDALE		GRAY SHALE	20.0	780.0	
-374.3	CARBONDALE		SANDY SHALE	22.0	800.0	
-396.3	CARBONDALE	SPRINGFIELD	COAL	6.3	822.0	
-402.6	CARBONDALE		SANDY SHALE	1.0	828.3	

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MAPID: 06500716000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 4 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.546311 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.949971 DATE COLLECTED:

SURFACE ELEVATION (FT.): 450.0 LOGGED (FT.): 3199.0 LOG TYPE: Electric Log

SOURCE: ATHA, H. D. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-192.0	CARBONDALE	DANVILLE	COAL	-	642.0	
-218.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	668.0	
-225.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	7.0	675.0	
-264.0	CARBONDALE	HERRIN	COAL	5.0	714.0	
-294.0	CARBONDALE	BRIAR HILL	COAL	-	744.0	
-362.0	CARBONDALE	SPRINGFIELD	COAL	4.0	812.0	GRAY SHALE ROOF
-384.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	8.0	834.0	
-443.0	CARBONDALE	HOUCHIN CREEK	COAL	-	893.0	

MAPID: 06503697000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 4 QUARTERS/FOOTAGES: 1387' N line, 2583' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.549686 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.947051 DATE COLLECTED: 12 / 2 / 1968

SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 813.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 6-HA WELL TYPE: Coal Test

COMMENT: CORE C-8476

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
357.0			COAL	1.0	83.0	
100.9			COAL	2.0	339.1	
-194.6	CARBONDALE	DANVILLE	COAL	2.3	634.6	
-265.6	CARBONDALE	HERRIN	COAL	5.8	705.6	
-295.2			COAL	0.7	735.2	
-363.4	CARBONDALE	SPRINGFIELD	COAL	4.8	803.4	

MAPID: 06503697000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 4 QUARTERS/FOOTAGES: 1387' N line, 2583' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.549686 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.947051 DATE COLLECTED:

SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 711.8 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 6-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-159.2	MODESTO	PIASA	LIMESTONE	4.3	599.2
-163.4	MODESTO		GRAY SHALE	26.1	603.4
-189.5	CARBONDALE	DANVILLE	COAL	2.3	629.5
-191.8	CARBONDALE		SILTY SHALE	31.2	631.8
-222.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	662.9
-228.4	CARBONDALE	LAWSON	SANDSTONE	12.0	668.4
-240.4	CARBONDALE	LAWSON	SILTY SHALE	18.1	680.4
-258.5	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	698.5
-258.8	CARBONDALE	JAMESTOWN	BONE COAL	0.7	698.8
-259.5	CARBONDALE		CALCAREOUS SHALE	0.3	699.5
-259.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.3	699.8
-265.2	CARBONDALE	ANNA	BLACK SHALE	0.8	705.2
-266.0	CARBONDALE	HERRIN	COAL	5.8	706.0

MAPID: 06590058000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 4 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.557021 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.942288 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	6.3	

MAPID: 06590059000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 4 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.558394 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.946802 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

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

MAPID: 06500601000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' E line of NE

QUADRANGLE: WALPOLE LONGITUDE: -88.559859 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.949962 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 3461.0 LOG TYPE: Electric Log

SOURCE: FLEMING, F. J. DRLG. CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-234.0	CARBONDALE	DANVILLE	COAL	-	670.0	
-264.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	700.0	
-273.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	7.0	709.0	
-314.0	CARBONDALE	HERRIN	COAL	6.0	750.0	
-339.0	CARBONDALE	BRIAR HILL	COAL	-	775.0	
-343.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	5.0	779.0	
-400.0	CARBONDALE	SPRINGFIELD	COAL	5.0	836.0	GRAY SHALE ROOF
-477.0	CARBONDALE	HOUCHIN CREEK	COAL	-	913.0	

MAPID: 06501190000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 5 QUARTERS/FOOTAGES: 330' N line, 330' E line of NE SW

QUADRANGLE: WALPOLE LONGITUDE: -88.569205 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.94252 DATE COLLECTED:

SURFACE ELEVATION (FT.): 436.0 LOGGED (FT.): 3405.0 LOG TYPE: Electric Log

SOURCE: SLAGTER PRODUCING CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-301.0	CARBONDALE	HERRIN	COAL	6.0	737.0	
-337.0	CARBONDALE	BRIAR HILL	COAL	-	773.0	
-384.0	CARBONDALE	SPRINGFIELD	COAL	4.0	820.0	GRAY SHALE ROOF
-464.0	CARBONDALE	HOUCHIN CREEK	COAL	-	900.0	

MAPID: 06503698000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 5 QUARTERS/FOOTAGES: 0' N line, 0' E line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.55869 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 37.950866 DATE COLLECTED: 12 / 9 / 1968  
 SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 850.0 LOG TYPE: Other Core Study  
 SOURCE: TRUAX-TRAER COAL CO 7-HA WELL TYPE: Coal Test  
 COMMENT: CORE C-8477

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
328.0			COAL	1.0	107.0
322.7			COAL	1.3	112.3
61.7			COAL	1.7	373.3
-233.0	CARBONDALE	DANVILLE	COAL	2.4	668.0
-306.4	CARBONDALE	HERRIN	COAL	6.3	741.4
-341.1	CARBONDALE	BRIAR HILL	COAL	0.9	776.1
-403.8	CARBONDALE	SPRINGFIELD	COAL	4.8	838.8

MAPID: 06503698000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 5 QUARTERS/FOOTAGES: 0' N line, 0' E line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.55869 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 37.950866 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 435.0 LOGGED (FT.): 747.3 LOG TYPE: Survey Core Study  
 SOURCE: TRUAX-TRAER COAL CO 7-HA WELL TYPE: Coal Test  
 COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-210.8	MODESTO	PIASA	LIMESTONE	4.8	645.8
-215.6	MODESTO		GRAY SHALE	26.3	650.6
-241.8	CARBONDALE	DANVILLE	COAL	2.4	676.8
-244.2	CARBONDALE		SHALE & SANDSTONE	23.6	679.2
-267.8	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	702.8
-275.1	CARBONDALE	LAWSON	SANDSTONE	7.5	710.1
-282.6	CARBONDALE	LAWSON	SHALE & SANDSTONE	3.1	717.6
-285.6	CARBONDALE	LAWSON	SHALE & SILTSTONE	11.5	720.6
-297.1	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	732.1
-297.6	CARBONDALE	JAMESTOWN	BONE COAL	0.6	732.6
-298.2	CARBONDALE		CARBONACEOUS SHALE	1.4	733.2
-299.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	6.2	734.6
-305.8	CARBONDALE	ANNA	CARBONACEOUS SHALE	0.3	740.8
-306.0	CARBONDALE	HERRIN	COAL	6.3	741.0

MAPID: 06500979000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 6 QUARTERS/FOOTAGES: 330' S line, 330' E line of NW

QUADRANGLE: WALPOLE

LONGITUDE: -88.587728

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 37.944334

DATE COLLECTED:

SURFACE ELEVATION (FT.): 449.0

LOGGED (FT.): 3445.0

LOG TYPE: Electric Log

SOURCE: ENGLE, GEORGE S.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-287.0	CARBONDALE	HERRIN	COAL	6.0	736.0	
-390.0	CARBONDALE	SPRINGFIELD	COAL	4.0	839.0	GRAY SHALE ROOF
-465.0	CARBONDALE	HOUCHIN CREEK	COAL	-	914.0	

MAPID: 06503630000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 6 QUARTERS/FOOTAGES: 2640' N line, 0' E line

QUADRANGLE: WALPOLE

LONGITUDE: -88.577247

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N

LATITUDE: 37.943684

DATE COLLECTED: 1 / 15 / 1969

SURFACE ELEVATION (FT.): 440.0

LOGGED (FT.): 913.1

LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 14

WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY; C-7059

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-311.0	CARBONDALE	HERRIN	COAL	8.1	751.0	

MAPID: 06503630000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 6 QUARTERS/FOOTAGES: 2640' N line, 0' E line  
 QUADRANGLE: WALPOLE LONGITUDE: -88.577247 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 37.943684 DATE COLLECTED:  
 SURFACE ELEVATION (FT.): 440.0 LOGGED (FT.): 759.1 LOG TYPE: Drillers Log  
 SOURCE: PEABODY COAL CO. 14 WELL TYPE: Coal Test  
 COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-228.7	CARBONDALE	DANVILLE	COAL	2.0	668.7
-230.6	CARBONDALE		GRAY SHALE	25.9	670.6
-256.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.2	696.5
-265.8	CARBONDALE	LAWSON	BLACK SHALE	0.2	705.8
-266.0	CARBONDALE	LAWSON	COAL	1.2	706.0
-267.2	CARBONDALE	LAWSON	SILTY SHALE	0.8	707.2
-268.0	CARBONDALE	LAWSON	SANDSTONE	9.3	708.0
-277.3	CARBONDALE	LAWSON	SILTY SHALE	21.2	717.3
-298.4	CARBONDALE	JAMESTOWN	COAL	0.3	738.4
-298.7	CARBONDALE		BLACK SHALE	3.4	738.7
-302.1	CARBONDALE	BRERETON	LIMESTONE	4.0	742.1
-306.1	CARBONDALE	ANNA	BLACK SHALE	4.9	746.1
-311.0	CARBONDALE	HERRIN	COAL	8.1	751.0

MAPID: 06590042000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 6 QUARTERS/FOOTAGES:  
 QUADRANGLE: WALPOLE LONGITUDE: -88.588928 GEOLOGIST: C TREWORYG  
 CONFIDENTIAL: N LATITUDE: 37.936028 DATE COLLECTED: 5 / 1 / 1979  
 SURFACE ELEVATION (FT.): LOGGED (FT.): LOG TYPE: Company map  
 SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test  
 COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.5	

MAPID: 06590043000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 6 QUARTERS/FOOTAGES:  
 QUADRANGLE: WALPOLE LONGITUDE: -88.581535 GEOLOGIST: C TREWORYG  
 CONFIDENTIAL: N LATITUDE: 37.942531 DATE COLLECTED: 5 / 1 / 1979  
 SURFACE ELEVATION (FT.): LOGGED (FT.): LOG TYPE: Company map  
 SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test  
 COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.8	1.63% SULFUR

MAPID: 06500030000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 7    QUARTERS/FOOTAGES: 3100' S line, 925' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.580622    GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.929946    DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 403.0    LOGGED (FT.): 790.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 21    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
403.0			CLAY	10.0	0.0
393.0			SANDY CLAY	13.0	10.0
380.0			SAND	37.0	23.0
343.0	BOND		GRAY SHALE	8.0	60.0
335.0	BOND		SANDY SHALE	15.0	68.0
320.0	BOND		BLUE SHALE	5.0	83.0
315.0	BOND		COAL	0.5	88.0
314.5	BOND		BLUE SHALE	6.5	88.5
308.0	BOND		SANDY SHALE	19.0	95.0
289.0	BOND		SANDSTONE	78.0	114.0
211.0	BOND		GRAY SHALE	6.5	192.0
204.5	BOND	CARTHAGE	LIMESTONE	1.5	198.5
203.0	MODESTO		CALCAREOUS SHALE	8.0	200.0
195.0	MODESTO		BLUE SHALE	28.0	208.0
167.0	MODESTO		SANDY SHALE	20.0	236.0
147.0	MODESTO		BLUE SHALE	29.0	256.0
118.0	MODESTO		BLACK SHALE	5.0	285.0
113.0	MODESTO		BLUE SHALE	6.0	290.0
107.0	MODESTO		SANDY SHALE	30.0	296.0
77.0	MODESTO	WOMAC	COAL	1.5	326.0
75.5	MODESTO		UNDERCLAY	0.5	327.5
75.0	MODESTO		DARK SHALE	3.0	328.0
72.0	MODESTO		SANDY SHALE	57.0	331.0
15.0	MODESTO		BLUE SHALE	42.0	388.0
-27.0	MODESTO	CHAPEL	COAL	1.0	430.0
-28.0	MODESTO		UNDERCLAY	1.0	431.0
-29.0	MODESTO		BLUE SHALE	6.0	432.0
-35.0	MODESTO		SANDY SHALE	49.0	438.0
-84.0	MODESTO		SANDSTONE	2.0	487.0
-86.0	MODESTO		BLUE SHALE	56.0	489.0
-142.0	MODESTO		COAL	0.5	545.0
-142.5	MODESTO		UNDERCLAY	4.5	545.5
-147.0	MODESTO		SANDY SHALE	7.0	550.0
-154.0	MODESTO		BLUE SHALE	3.0	557.0
-157.0	MODESTO		DARK SHALE	12.0	560.0
-169.0	MODESTO		COAL	0.8	572.0
-169.8	MODESTO		UNDERCLAY	2.2	572.8
-172.0	MODESTO		SANDY SHALE	10.0	575.0
-182.0	MODESTO		BLUE SHALE	16.0	585.0

-198.0	MODESTO	PIASA	LIMESTONE	4.0	601.0
-202.0	MODESTO		BLUE SHALE	23.2	605.0
-225.2	CARBONDALE	DANVILLE	COAL	2.5	628.2
-227.7	CARBONDALE		BLUE SHALE	4.3	630.7
-232.0	CARBONDALE		SANDY SHALE	8.0	635.0
-240.0	CARBONDALE		BLUE SHALE	12.5	643.0
-252.5	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	655.5
-261.0	CARBONDALE		BLACK SHALE	1.0	664.0
-262.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	18.0	665.0
-280.0	CARBONDALE		BLUE SHALE	13.3	683.0
-293.3	CARBONDALE	BRERETON	LIMESTONE	5.3	696.3
-298.5	CARBONDALE	ANNA	BLACK SHALE	0.5	701.5
-299.0	CARBONDALE	HERRIN	COAL	6.7	702.0
-305.7	CARBONDALE		PYRITE	0.1	708.7
-305.8	CARBONDALE		UNDERCLAY	2.3	708.8
-308.0	CARBONDALE		LIMESTONE	1.5	711.0
-309.5	CARBONDALE		BLUE SHALE	10.5	712.5
-320.0	CARBONDALE		SANDY SHALE	18.0	723.0
-338.0	CARBONDALE	BRIAR HILL	COAL	1.5	741.0
-339.5	CARBONDALE		SANDSTONE	6.5	742.5
-346.0	CARBONDALE		BLUE SHALE	10.0	749.0
-356.0	CARBONDALE	ST. DAVID	LIMESTONE	1.0	759.0
-357.0	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	760.0
-362.0	CARBONDALE	DYKERSBURG	BLUE SHALE	17.3	765.0
-379.3	CARBONDALE	SPRINGFIELD	COAL	4.8	782.3
-384.2	CARBONDALE		UNDERCLAY	2.8	787.2

MAPID: 06500030000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 7    QUARTERS/FOOTAGES: 3100' S line, 925' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.580622    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.929946    DATE COLLECTED:

SURFACE ELEVATION (FT.): 403.0    LOGGED (FT.): 790.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-225.0	CARBONDALE	DANVILLE	COAL	2.5	628.0	
-253.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	656.0	
-299.0	CARBONDALE	HERRIN	COAL	6.7	702.0	
-338.0	CARBONDALE	BRIAR HILL	COAL	1.5	741.0	
-340.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	6.0	743.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	4.8	782.0	GRAY SHALE ROOF



MAPID: 06500600000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: WALPOLE LONGITUDE: -88.585539 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.929552 DATE COLLECTED: 3 / 0 / 1948

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 3379.0 LOG TYPE: Electric Log

SOURCE: MACDONELL CO. OF LIMA, HOWARD MINERALS WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-453.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	860.0	
-493.0	CARBONDALE	SURVANT	COAL	3.5	900.0	
-562.0	CARBONDALE	COLCHESTER	COAL	0.5	969.0	
-590.0	CARBONDALE	DEKOVEN	COAL	3.0	997.0	
-610.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	1017.0	100 PERCENT SANDSTONE IN DEKOVEN SPLIT
-618.0	CARBONDALE	DAVIS	COAL	3.0	1025.0	
-653.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1060.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500600000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE

QUADRANGLE: WALPOLE LONGITUDE: -88.585539 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.929552 DATE COLLECTED:

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 3379.0 LOG TYPE: Electric Log

SOURCE: MACDONELL CO. OF LIMA WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-221.0	CARBONDALE	DANVILLE	COAL	-	628.0	
-249.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	656.0	
-261.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	668.0	
-301.0	CARBONDALE	HERRIN	COAL	6.0	708.0	
-329.0	CARBONDALE	BRIAR HILL	COAL	-	736.0	
-335.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	6.0	742.0	
-371.0	CARBONDALE	SPRINGFIELD	COAL	5.0	778.0	GRAY SHALE ROOF
-449.0	CARBONDALE	HOUCHIN CREEK	COAL	-	856.0	

MAPID: 06501257000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.578554 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.931401 DATE COLLECTED: 1 / 0 / 1958

SURFACE ELEVATION (FT.): 403.0 LOGGED (FT.): 3303.0 LOG TYPE: Electric Log

SOURCE: ATHENE DEV. CO., INC., ASHLAND & HOWARD WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-467.0	CARBONDALE	HOUCHIN CREEK	COAL	0.5	870.0	
-502.0	CARBONDALE	SURVANT	COAL	1.6	905.0	
-577.0	CARBONDALE	COLCHESTER	COAL	0.5	980.0	
-602.0	CARBONDALE	DEKOVEN	COAL	2.5	1005.0	
-630.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1033.0	75 PERCENT SANDSTONE IN DEKOVEN SPLIT
-637.0	CARBONDALE	DAVIS	COAL	3.0	1040.0	
-677.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1080.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503699000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7 QUARTERS/FOOTAGES: SW SW NW SW

QUADRANGLE: WALPOLE LONGITUDE: -88.595423 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.925434 DATE COLLECTED: 12 / 11 / 1968

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 826.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 8-HA WELL TYPE: Coal Test

COMMENT: CORE C-8478

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
341.7			COAL	1.5	78.3	
-23.3			COAL	1.3	443.3	
-170.7			COAL	1.1	590.7	
-218.0	CARBONDALE	DANVILLE	COAL	1.3	638.0	
-303.2	CARBONDALE	HERRIN	COAL	6.5	723.2	
-398.0	CARBONDALE	SPRINGFIELD	COAL	5.1	818.0	

MAPID: 0650370000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7  
QUADRANGLE: WALPOLE LONGITUDE: -88.577993  
CONFIDENTIAL: N LATITUDE: 37.935499  
SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 831.0  
SOURCE: TRUAX-TRAER COAL CO 9-HA  
COMMENT: CORE C-8479

QUARTERS/FOOTAGES: NE NE NE NE  
GEOLOGIST: PRUSSEN  
DATE COLLECTED: 12 / 13 / 1968  
LOG TYPE: Other Core Study  
WELL TYPE: Coal Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
331.2			COAL	2.0	93.8
312.5			COAL	1.3	112.5
72.8			COAL	1.8	352.2
-82.0			COAL	1.3	507.0
-234.0	CARBONDALE	DANVILLE	COAL	2.3	659.0
-271.2			COAL	1.7	696.2
-304.3	CARBONDALE	HERRIN	COAL	6.4	729.3
-395.7	CARBONDALE	SPRINGFIELD	COAL	5.7	820.7

MAPID: 06503702000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7  
QUADRANGLE: WALPOLE LONGITUDE: -88.580772  
CONFIDENTIAL: N LATITUDE: 37.925908  
SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 871.0  
SOURCE: TRUAX-TRAER COAL CO 13-HA  
COMMENT: CORE C-8483

QUARTERS/FOOTAGES: 1637' S line, 970' E line  
GEOLOGIST: PRUSSEN  
DATE COLLECTED: 1 / 10 / 1969  
LOG TYPE: Other Core Study  
WELL TYPE: Coal Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
357.4			COAL	1.0	67.6
89.7			COAL	1.3	335.3
-210.8			COAL	2.3	635.8
-281.8			COAL	1.0	706.8 BONY
-294.4	CARBONDALE	HERRIN	COAL	8.1	719.4

MAPID: 06503702000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7 QUARTERS/FOOTAGES: 1637' S line, 970' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.580772 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.925908 DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 727.1 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 13-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-179.6	MODESTO	PIASA	LIMESTONE	4.8	604.6
-184.3	MODESTO		GRAY SHALE	23.0	609.3
-207.3	CARBONDALE	DANVILLE	COAL	2.3	632.3
-209.6	CARBONDALE		SILTY SHALE	27.5	634.6
-237.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	662.1
-245.1	CARBONDALE	LAWSON	SHALE & SANDSTONE	19.5	670.1
-264.6	CARBONDALE	LAWSON	SILTSTONE	3.0	689.6
-267.6	CARBONDALE	LAWSON	SILTY SHALE	13.8	692.6
-281.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	706.4
-281.9	CARBONDALE	JAMESTOWN	BONE COAL	0.6	706.9
-282.5	CARBONDALE		CARBONACEOUS SHALE	4.1	707.5
-286.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.5	711.6
-290.1	CARBONDALE	ANNA	BLACK SHALE	3.9	715.1
-294.0	CARBONDALE	HERRIN	COAL	8.1	719.0

MAPID: 06503703000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 7 QUARTERS/FOOTAGES: 69' N line, 593' W line of NE NW

QUADRANGLE: WALPOLE LONGITUDE: -88.589232 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.935682 DATE COLLECTED: 1 / 28 / 1969

SURFACE ELEVATION (FT.): 430.0 LOGGED (FT.): 880.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 17-HA WELL TYPE: Coal Test

COMMENT: CORE C-8488

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-184.7			COAL	1.5	614.7
-247.0	CARBONDALE	DANVILLE	COAL	1.3	677.0
-324.5	CARBONDALE	HERRIN	COAL	7.8	754.5
-389.8			COAL	2.5	819.8

**MAPID:** 06590039000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 7    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.595073    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.925563    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.1		

**MAPID:** 06590040000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 7    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.58011    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.925872    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.6		

**MAPID:** 06590041000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 7    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.580651    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.930178    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.8		

MAPID: 06500031000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 8    QUARTERS/FOOTAGES: 1975' S line, 3425' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.570848    GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.926794    DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 399.8    LOGGED (FT.): 778.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 22    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
399.8			CLAY	3.0	0.0	
396.8			SAND	48.0	3.0	
348.8			GRAVEL	10.0	51.0	
338.8	BOND		SANDY SHALE	10.0	61.0	
328.8	BOND		SHALE	6.5	71.0	
322.3	BOND		COAL	1.0	77.5	
321.3	BOND		GRAY SHALE	13.5	78.5	
307.8	BOND		SANDY SHALE	10.0	92.0	
297.8	BOND		SANDSTONE	88.0	102.0	
209.8	BOND		COAL	1.0	190.0	
208.8	BOND	CARTHAGE	LIMESTONE	6.0	191.0	
202.8	MODESTO		CALCAREOUS SHALE	10.0	197.0	
192.8	MODESTO		SHALE	4.0	207.0	
188.8	MODESTO		BLUE SHALE	73.0	211.0	
115.8	MODESTO		GRAY SHALE	15.0	284.0	
100.8	MODESTO		SANDSTONE	11.0	299.0	
89.8	MODESTO		SANDY SHALE	7.6	310.0	
82.2	MODESTO	WOMAC	COAL	1.4	317.6	
80.8	MODESTO		BLUE SHALE	22.0	319.0	
58.8	MODESTO		SANDY SHALE	19.0	341.0	
39.8	MODESTO		BLUE SHALE	40.0	360.0	
-0.2	MODESTO		BLACK SHALE	3.0	400.0	
-3.2	MODESTO		BLUE SHALE	25.0	403.0	
-28.2	MODESTO		SANDY SHALE	38.0	428.0	
-66.2	MODESTO		BLUE SHALE	52.0	466.0	
-118.2	MODESTO		DARK SHALE	12.0	518.0	DK SH W/ LS BANDS
-130.2	MODESTO		DARK SHALE	6.0	530.0	
-136.2	MODESTO		GRAY SHALE	7.0	536.0	
-143.2	MODESTO		GRAY SHALE	7.0	543.0	
-150.2	MODESTO		BLACK SHALE	4.0	550.0	
-154.2	MODESTO		BLUE SHALE	6.0	554.0	
-160.2	MODESTO		BLACK SHALE	3.0	560.0	
-163.2	MODESTO		CALCAREOUS SHALE	14.0	563.0	
-177.2	MODESTO		GRAY SHALE	15.0	577.0	
-192.2	MODESTO		BLUE SHALE	8.0	592.0	
-200.2	MODESTO	PIASA	LIMESTONE	6.0	600.0	
-206.2	MODESTO		BLUE SHALE	15.5	606.0	
-221.7	CARBONDALE	DANVILLE	COAL	0.5	621.5	
-222.2	CARBONDALE		BLUE SHALE	13.0	622.0	

-235.2	CARBONDALE		CALCAREOUS SHALE	15.0	635.0
-250.2	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	650.0
-257.2	CARBONDALE		BLUE SHALE	2.0	657.0
-259.2	CARBONDALE	ANVIL ROCK	SANDSTONE	8.0	659.0
-267.2	CARBONDALE		BLUE SHALE	15.0	667.0
-282.2	CARBONDALE		SANDY SHALE	7.0	682.0
-289.2	CARBONDALE	BRERETON	LIMESTONE	5.0	689.0
-294.2	CARBONDALE	ANNA	BLACK SHALE	0.3	694.0
-294.5	CARBONDALE	HERRIN	COAL	7.0	694.3
-301.5	CARBONDALE		UNDERCLAY	3.7	701.3
-305.2	CARBONDALE		CALCAREOUS SHALE	2.0	705.0
-307.2	CARBONDALE		BLUE SHALE	5.0	707.0
-312.2	CARBONDALE		CALCAREOUS SHALE	11.0	712.0
-323.2	CARBONDALE		BLUE SHALE	2.0	723.0
-325.2	CARBONDALE	BRIAR HILL	COAL	2.5	725.0
-327.7	CARBONDALE		SANDSTONE	13.5	727.5
-341.2	CARBONDALE		BLUE SHALE	2.0	741.0
-343.2	CARBONDALE		GRAY SHALE	9.0	743.0
-352.2	CARBONDALE	ST. DAVID	LIMESTONE	2.0	752.0
-354.2	CARBONDALE	TURNER MINE	BLACK SHALE	3.0	754.0
-357.2	CARBONDALE	DYKERSBURG	GRAY SHALE	15.0	757.0
-372.2	CARBONDALE	SPRINGFIELD	COAL	5.3	772.0
-377.5	CARBONDALE		SANDY SHALE	0.8	777.3

MAPID: 06500031000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 8    QUARTERS/FOOTAGES: 1975' S line, 3425' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.570848    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.926794    DATE COLLECTED:

SURFACE ELEVATION (FT.): 399.0    LOGGED (FT.): 778.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-295.0	CARBONDALE	HERRIN	COAL	7.0	694.0	
-326.0	CARBONDALE	BRIAR HILL	COAL	2.5	725.0	
-373.0	CARBONDALE	SPRINGFIELD	COAL	5.3	772.0	GRAY SHALE ROOF

MAPID: 06500715000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NE

QUADRANGLE: WALPOLE

LONGITUDE: -88.562392

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 37.929503

DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0

LOGGED (FT.): 3336.0

LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC.

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-234.0	CARBONDALE	DANVILLE	COAL	-	636.0	
-264.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	666.0	
-275.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	13.0	677.0	
-312.0	CARBONDALE	HERRIN	COAL	5.0	714.0	
-338.0	CARBONDALE	BRIAR HILL	COAL	-	740.0	
-404.0	CARBONDALE	SPRINGFIELD	COAL	5.0	806.0	GRAY SHALE ROOF
-468.0	CARBONDALE	HOUCHIN CREEK	COAL	-	870.0	

MAPID: 06503203000C VERSION: 1

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: WALPOLE

LONGITUDE: -88.564692

GEOLOGIST:

CONFIDENTIAL: N

LATITUDE: 37.929516

DATE COLLECTED: 6 / 0 / 1951

SURFACE ELEVATION (FT.): 397.0

LOGGED (FT.): 1920.0

LOG TYPE: Electric Log

SOURCE: MILLER DEE DRLG CO

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-583.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	980.0	
-661.0	SPOON	DAVIS	UNCLASSIFIED	-	1058.0	
-1523.0	BASE OF PENN.		UNCLASSIFIED	-	1920.0	



MAPID: 06503206000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 8 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW SE

QUADRANGLE: WALPOLE LONGITUDE: -88.566998 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.925874 DATE COLLECTED: 11 / 0 / 1951

SURFACE ELEVATION (FT.): 396.0 LOGGED (FT.): 3312.0 LOG TYPE: Electric Log

SOURCE: MILLER DEE DRLG CO, HOWARD HUBERT WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-459.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	855.0	
-494.0	CARBONDALE	SURVANT	COAL	1.2	890.0	
-572.0	CARBONDALE	COLCHESTER	COAL	0.5	968.0	
-592.0	CARBONDALE	DEKOVEN	COAL	2.5	988.0	
-617.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1013.0	95 PERCENT SANDSTONE IN DEKOVEN SPLIT
-624.0	CARBONDALE	DAVIS	COAL	3.0	1020.0	
-664.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1060.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503208000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 8 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW

QUADRANGLE: WALPOLE LONGITUDE: -88.569306 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.92772 DATE COLLECTED: 5 / 0 / 1952

SURFACE ELEVATION (FT.): 397.0 LOGGED (FT.): 3160.0 LOG TYPE: Electric Log

SOURCE: OIL MANAGEMENT, INC., HOWARD HUBERT WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-458.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	855.0	
-496.0	CARBONDALE	SURVANT	COAL	1.2	893.0	
-569.0	CARBONDALE	COLCHESTER	COAL	0.5	966.0	
-595.0	CARBONDALE	DEKOVEN	COAL	3.0	992.0	
-616.0	CARBONDALE	LOWER DEKOVEN	COAL	2.0	1013.0	75 PERCENT SANDSTONE IN DEKOVEN SPLIT
-623.0	CARBONDALE	DAVIS	COAL	3.0	1020.0	
-663.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1060.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503704000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 8 QUARTERS/FOOTAGES: 0' N line, 0' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.558948 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.935904 DATE COLLECTED: 11 / 22 / 1968

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 839.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 5-HA WELL TYPE: Coal Test

COMMENT: CORE C-8475

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
322.5			COAL WITH SHALE	1.8	97.5	SLATEY
300.0			COAL	1.0	120.0	
58.5			COAL	1.0	361.5	
-45.0			COAL	1.0	465.0	
-183.0			COAL	1.0	603.0	
-213.5			SHALY COAL	1.0	633.5	SLATEY
-244.8	CARBONDALE	DANVILLE	COAL	2.4	664.8	
-323.3	CARBONDALE	HERRIN	COAL	6.5	743.3	
-410.0	CARBONDALE	SPRINGFIELD	COAL	4.9	830.0	

MAPID: 06503704000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 8 QUARTERS/FOOTAGES: 0' N line, 0' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.558948 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.935904 DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 749.5 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 5-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-215.2	MODESTO	PIASA	LIMESTONE	4.6	635.2	
-219.7	MODESTO		GRAY SHALE	24.8	639.7	
-244.5	CARBONDALE	DANVILLE	COAL	2.4	664.5	
-246.9	CARBONDALE		SILTY SHALE	29.8	666.9	
-276.7	CARBONDALE	BANKSTON FORK	LIMESTONE	6.6	696.7	
-283.3	CARBONDALE	LAWSON	SANDSTONE	11.9	703.3	
-295.2	CARBONDALE	LAWSON	SILTSTONE	5.5	715.2	
-300.7	CARBONDALE	LAWSON	GRAY SHALE	14.7	720.7	
-315.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.3	735.3	
-315.7	CARBONDALE	JAMESTOWN	BONE COAL	1.0	735.7	
-316.7	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.5	736.7	
-320.2	CARBONDALE	ANNA	BLACK SHALE	2.8	740.2	
-323.0	CARBONDALE	HERRIN	COAL	6.5	743.0	

**MAPID:** 06590050000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 8    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.57018    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.927247    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.1		

**MAPID:** 06590051000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 8    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.571556    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.932694    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.4		

**MAPID:** 06590057000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 8    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.559988    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.935554    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

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

MAPID: 06500032000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 9    QUARTERS/FOOTAGES: 3950' S line, 500' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.542557    GEOLOGIST: C TREWORYG

CONFIDENTIAL: N    LATITUDE: 37.932006    DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 405.2    LOGGED (FT.): 764.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 24    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
405.2			CLAY	20.0	0.0
385.2			SANDY CLAY	15.0	20.0
370.2			SAND	4.0	35.0
366.2			GRAY SHALE	10.0	39.0
356.2			SANDY SHALE	4.0	49.0
352.2			GRAY SHALE	11.0	53.0
341.2			SANDY SHALE	6.5	64.0
334.7			COAL	1.5	70.5
333.2			UNDERCLAY	2.0	72.0
331.2			SANDY SHALE	16.0	74.0
315.2			SANDSTONE	74.0	90.0
241.2			DARK SHALE	4.0	164.0
237.2			GRAY SHALE	3.0	168.0
234.2			SANDY SHALE	19.0	171.0
215.2			BLUE SHALE	66.0	190.0
149.2			BLACK SHALE	6.0	256.0
143.2	MODESTO		GRAY SHALE	2.0	262.0
141.2	MODESTO		SANDY SHALE	100.0	264.0
41.2	MODESTO		BLUE SHALE	20.0	364.0
21.2	MODESTO		DARK SHALE	6.0	384.0
15.2	MODESTO		SANDY SHALE	44.0	390.0
-28.8	MODESTO		SANDSTONE	38.0	434.0
-66.8	MODESTO		SANDY SHALE	10.0	472.0
-76.8	MODESTO		BLUE SHALE	29.5	482.0
-106.3	MODESTO		COAL	0.5	511.5
-106.8	MODESTO		SANDY SHALE	4.0	512.0
-110.8	MODESTO		DARK SHALE	14.5	516.0
-125.3	MODESTO		COAL	0.5	530.5
-125.8	MODESTO		UNDERCLAY	2.0	531.0
-127.8	MODESTO		BLUE SHALE	33.0	533.0
-160.8	MODESTO	PIASA	LIMESTONE	4.0	566.0
-164.8	MODESTO		BLUE SHALE	26.0	570.0
-190.8	CARBONDALE	DANVILLE	COAL	2.0	596.0
-192.8	CARBONDALE		SANDY SHALE	4.0	598.0
-196.8	CARBONDALE		BLUE SHALE	23.0	602.0
-219.8	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	625.0
-227.8	CARBONDALE	ANVIL ROCK	SANDY SHALE	19.0	633.0
-246.8	CARBONDALE		BLUE SHALE	10.0	652.0
-256.8	CARBONDALE		DARK SHALE	4.0	662.0

-260.8	CARBONDALE		BLUE SHALE	6.6	666.0
-267.4	CARBONDALE		BLACK SHALE	0.3	672.6
-267.6	CARBONDALE	HERRIN	COAL	6.7	672.8
-274.3	CARBONDALE		UNDERCLAY	1.0	679.5
-275.3	CARBONDALE		CALCAREOUS SHALE	3.5	680.5
-278.8	CARBONDALE		SANDY SHALE	10.0	684.0
-288.8	CARBONDALE		BLUE SHALE	22.0	694.0
-310.8	CARBONDALE		SANDY SHALE	6.0	716.0
-316.8	CARBONDALE		BLUE SHALE	10.0	722.0
-326.8	CARBONDALE	ST. DAVID	LIMESTONE	2.0	732.0
-328.8	CARBONDALE		DARK SHALE	23.8	734.0
-352.6	CARBONDALE	SPRINGFIELD	COAL	4.7	757.8
-357.3	CARBONDALE		UNDERCLAY	1.5	762.5

**MAPID:** 06500032000C    **VERSION:** 2    **PROJECT:** CIRC 431  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 9    **QUARTERS/FOOTAGES:** 3950' S line, 500' E line  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.542557    **GEOLOGIST:** HOPKINS  
**CONFIDENTIAL:** N    **LATITUDE:** 37.932006    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 405.0    **LOGGED (FT.):** 764.0    **LOG TYPE:** Drillers Log  
**SOURCE:** AMERICAN COKE & CHEMICAL    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-191.0	CARBONDALE	DANVILLE	COAL	2.0	596.0	
-220.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	625.0	
-268.0	CARBONDALE	HERRIN	COAL	6.7	673.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	4.7	758.0	DARK SHALE ROOF

MAPID: 06500714000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW

QUADRANGLE: WALPOLE LONGITUDE: -88.557774 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.92947 DATE COLLECTED: 7 / 0 / 1951

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 3342.0 LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC., HOWARD WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-481.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	893.0	
-518.0	CARBONDALE	SURVANT	COAL	3.0	930.0	
-591.0	CARBONDALE	COLCHESTER	COAL	0.5	1003.0	
-620.0	CARBONDALE	DEKOVEN	COAL	3.0	1032.0	
-648.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1060.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-654.0	CARBONDALE	DAVIS	COAL	3.0	1066.0	
-690.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1102.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500714000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 9 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW

QUADRANGLE: WALPOLE LONGITUDE: -88.557774 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.92947 DATE COLLECTED:

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 3342.0 LOG TYPE: Electric Log

SOURCE: MCBRIDE, W. C., INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-238.0	CARBONDALE	DANVILLE	COAL	-	650.0	
-272.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	684.0	
-280.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SILTSTONE	15.0	692.0	
-318.0	CARBONDALE	HERRIN	COAL	4.0	730.0	
-344.0	CARBONDALE	BRIAR HILL	COAL	-	756.0	
-354.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	8.0	766.0	
-416.0	CARBONDALE	SPRINGFIELD	COAL	5.0	828.0	GRAY SHALE ROOF
-476.0	CARBONDALE	HOUCHIN CREEK	COAL	-	888.0	

MAPID: 06501002000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 9 QUARTERS/FOOTAGES: 330' N line, 330' W line of SE

QUADRANGLE: WALPOLE LONGITUDE: -88.548713 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.927543 DATE COLLECTED: 4 / 0 / 1956

SURFACE ELEVATION (FT.): 413.0 LOGGED (FT.): 3345.0 LOG TYPE: Electric Log

SOURCE: INLAND PRODUCERS CO, DOUGLAS EDWIN WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-447.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	860.0	
-482.0	CARBONDALE	SURVANT	COAL	3.0	895.0	
-547.0	CARBONDALE	COLCHESTER	COAL	0.5	960.0	
-587.0	CARBONDALE	DEKOVEN	COAL	3.0	1000.0	
-617.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1030.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-622.0	CARBONDALE	DAVIS	COAL	3.0	1035.0	
-657.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1070.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503705000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 9 QUARTERS/FOOTAGES: 2563' S line, 2595' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.549875 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.92824 DATE COLLECTED: 10 / 15 / 1968

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 789.5 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAEER COAL CO 2-HA WELL TYPE: Coal Test

COMMENT: CORE C-8472

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
360.2			COAL	1.5	56.8	(SMS)
-133.0			COAL	1.0	550.0	
-194.8	CARBONDALE	DANVILLE	COAL	2.3	611.8	
-274.3	CARBONDALE	HERRIN	COAL	6.3	691.3	
-363.2	CARBONDALE	SPRINGFIELD	COAL	4.8	780.2	

MAPID: 06503705000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 9 QUARTERS/FOOTAGES: 2563' S line, 2595' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.549875

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.92824

DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 697.5

LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 2-HA

WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-166.7	MODESTO	PIASA	LIMESTONE W/ SHALE	8.9	583.7
-175.6	MODESTO		GRAY SHALE	18.9	592.6
-194.6	CARBONDALE	DANVILLE	COAL	2.3	611.6
-196.9	CARBONDALE		SILTY SHALE	29.2	613.9
-226.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	643.1
-231.8	CARBONDALE	LAWSON	SILTY SHALE	3.9	648.8
-235.7	CARBONDALE	LAWSON	SANDSTONE	13.0	652.7
-248.7	CARBONDALE	LAWSON	SILTY SHALE	2.5	665.7
-251.2	CARBONDALE	LAWSON	GRAY SHALE	13.0	668.2
-264.2	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	681.2
-264.7	CARBONDALE	JAMESTOWN	BONE COAL	0.6	681.7
-265.3	CARBONDALE		CALCAREOUS SHALE	2.2	682.3
-267.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.5	684.5
-273.0	CARBONDALE	ANNA	BLACK SHALE	1.0	690.0
-274.0	CARBONDALE	HERRIN	COAL	6.5	691.0

MAPID: 06590055000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 9 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.548056

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.925042

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.5	



**MAPID:** 06590056000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 9    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.549764    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.928974    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.8	

**MAPID:** 06590069000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 9    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.543789    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.931641    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.7	

**MAPID:** 06501010000C    **VERSION:** 1    **PROJECT:** RJJ-DAVIS  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 10    **QUARTERS/FOOTAGES:** 330' S line, 330' E line of SW NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.528389    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 37.929614    **DATE COLLECTED:** 5 / 0 / 1956  
**SURFACE ELEVATION (FT.):** 428.0    **LOGGED (FT.):** 3322.0    **LOG TYPE:** Electric Log  
**SOURCE:** GEORGE, T. W. TRUST, RHINE    **WELL TYPE:** Producer-Oil  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN COMMENT	
-437.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	865.0	
-468.0	CARBONDALE	SURVANT	COAL	1.8	896.0	
-532.0	CARBONDALE	COLCHESTER	COAL	0.5	960.0	
-570.0	CARBONDALE	DEKOVEN	COAL	3.0	998.0	
-597.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1025.0	100 PERCENT SANDSTONE IN DEKOVEN SPLIT
-602.0	CARBONDALE	DAVIS	COAL	3.0	1030.0	
-642.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1070.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501010000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 10 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.528389 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.929614 DATE COLLECTED:

SURFACE ELEVATION (FT.): 428.0 LOGGED (FT.): 3322.0 LOG TYPE: Electric Log

SOURCE: GEORGE, T. W. TRUST WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-266.0	CARBONDALE	HERRIN	COAL	6.0	694.0	
-296.0	CARBONDALE	BRIAR HILL	COAL	-	724.0	
-348.0	CARBONDALE	SPRINGFIELD	COAL	5.0	776.0	BLACK SHALE & LIMESTONE ROOF
-431.0	CARBONDALE	HOUCHIN CREEK	COAL	-	859.0	

MAPID: 06503757000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 10 QUARTERS/FOOTAGES: 75' S line, 1320' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.527358 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.921613 DATE COLLECTED: 1 / 11 / 1972

SURFACE ELEVATION (FT.): 399.0 LOGGED (FT.): 745.0 LOG TYPE: Other Core Study

SOURCE: KERR-MCGEE COAL CO. KM-40 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-250.2	CARBONDALE	HERRIN	COAL	5.7	649.2	
-337.9	CARBONDALE	SPRINGFIELD	COAL	4.7	736.9	

MAPID: 06503757000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 10 QUARTERS/FOOTAGES: 75' S line, 1320' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.527358

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.921613

DATE COLLECTED:

SURFACE ELEVATION (FT.): 399.0 LOGGED (FT.): 654.8

LOG TYPE: Survey Core Study

SOURCE: KERR-MCGEE COAL CO. KM-40

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-142.0	MODESTO	PIASA	LIMESTONE	4.2	541.0
-146.2	MODESTO		GRAY SHALE	27.5	545.2
-173.7	CARBONDALE	DANVILLE	COAL	2.7	572.7
-176.4	CARBONDALE		SILTY SHALE	29.3	575.4
-205.6	CARBONDALE	BANKSTON FORK	LIMESTONE	6.9	604.6
-212.5	CARBONDALE	LAWSON	SHALE & SANDSTONE	9.3	611.5
-221.9	CARBONDALE	LAWSON	SILTY SHALE	3.8	620.9
-225.6	CARBONDALE	LAWSON	SANDSTONE	2.3	624.6
-227.9	CARBONDALE	LAWSON	SILTY SHALE	12.8	626.9
-240.6	CARBONDALE	JAMESTOWN	COAL	0.3	639.6
-240.9	CARBONDALE		BLACK SHALE	2.0	639.9
-242.9	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	1.8	641.9
-244.6	CARBONDALE	ANNA	BLACK SHALE	5.4	643.6
-250.0	CARBONDALE	HERRIN	COAL	5.8	649.0

MAPID: 06590068000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 10 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.527237

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 37.921996

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	4.7	4.50% SULFUR

MAPID: 06500713000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW SW

QUADRANGLE: WALPOLE LONGITUDE: -88.521581 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.926125 DATE COLLECTED:

SURFACE ELEVATION (FT.): 417.0 LOGGED (FT.): 3308.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-193.0	CARBONDALE	DANVILLE	COAL	-	610.0	
-196.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	7.0	613.0	
-219.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	636.0	
-227.0	CARBONDALE	ANVIL ROCK	SILTSTONE	6.0	644.0	
-262.0	CARBONDALE	HERRIN	COAL	4.0	679.0	
-303.0	CARBONDALE	BRIAR HILL	COAL	-	720.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	4.0	770.0	SILTSTONE ROOF
-366.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	26.0	783.0	
-436.0	CARBONDALE	HOUCHIN CREEK	COAL	-	853.0	

MAPID: 06501093000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 11 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.519253 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.931729 DATE COLLECTED: 12 / 0 / 1956

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 3350.0 LOG TYPE: Electric Log

SOURCE: SKILES OIL CORP, ALLEN FRANK WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-465.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	910.0	
-500.0	CARBONDALE	SURVANT	COAL	2.0	945.0	
-565.0	CARBONDALE	COLCHESTER	COAL	0.5	1010.0	
-607.0	CARBONDALE	DEKOVEN	COAL	3.0	1052.0	
-635.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1080.0	95 PERCENT SANDSTONE IN DEKOVEN SPLIT
-644.0	CARBONDALE	DAVIS	COAL	4.0	1089.0	
-673.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1118.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501093000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 11 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.519253 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.931729 DATE COLLECTED:

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 739.0 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
-180.0	MODESTO	PIASA	LIMESTONE & SHALE	5.0	625.0
-185.0	MODESTO		SHALE	31.0	630.0
-216.0	CARBONDALE	DANVILLE	COAL	2.0	661.0
-218.0	CARBONDALE		SILTY SHALE	11.0	663.0
-229.0	CARBONDALE	ALLENBY	COAL	1.5	674.0
-230.5	CARBONDALE		CLAYSTONE & SHALE	14.5	675.5
-245.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	690.0
-252.0	CARBONDALE	LAWSON	SILTY SHALE	29.0	697.0
-281.0	CARBONDALE	JAMESTOWN	BONE COAL	1.0	726.0
-282.0	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	727.0
-285.0	CARBONDALE	ANNA	BLACK SHALE	3.0	730.0
-288.0	CARBONDALE	HERRIN	COAL	6.0	733.0

MAPID: 06501482000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW SE

QUADRANGLE: WALPOLE LONGITUDE: -88.511983 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.924513 DATE COLLECTED: 10 / 0 / 1950

SURFACE ELEVATION (FT.): 412.0 LOGGED (FT.): 3371.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL, ROGERS WM F WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-453.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	865.0
-484.0	CARBONDALE	SURVANT	COAL	1.6	896.0
-548.0	CARBONDALE	COLCHESTER	COAL	0.5	960.0
-590.0	CARBONDALE	DEKOVEN	COAL	3.0	1002.0
-620.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1032.0
-627.0	CARBONDALE	DAVIS	COAL	3.5	1039.0
-658.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1070.0
-	TRADEWATER	CREAL SPRING	LIMESTONE	-	

100 PERCENT SANDSTONE IN DEKOVEN SPLIT

**MAPID:** 06501482000C    **VERSION:** 2    **PROJECT:** CUSMAP  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 330' N line, 330' W line of SW SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.511983    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.924513    **DATE COLLECTED:** 10 / 0 / 1950  
**SURFACE ELEVATION (FT.):** 412.0    **LOGGED (FT.):** 2064.0    **LOG TYPE:** Electric Log  
**SOURCE:** GEORGE & WRATHER OIL    **WELL TYPE:** Producer-Oil and Gas  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-548.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	960.0
-628.0	SPOON	DAVIS	UNCLASSIFIED	-	1040.0
-1652.0	BASE OF PENN.		UNCLASSIFIED	-	2064.0

**MAPID:** 06523845000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:** 0' N line, 990' W line of NW NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.519229    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.936281    **DATE COLLECTED:** 9 / 15 / 1972  
**SURFACE ELEVATION (FT.):** 481.0    **LOGGED (FT.):** 861.0    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    70-C    **WELL TYPE:** Coal Test  
**COMMENT:** SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-291.7	CARBONDALE	HERRIN	COAL	6.6	772.7
-371.5	CARBONDALE	SPRINGFIELD	COAL	4.7	852.5

**MAPID:** 06590079000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 11    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.519097    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.93239    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

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

MAPID: 06500599000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.495668 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.922787 DATE COLLECTED: 5 / 0 / 1946

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 3400.0 LOG TYPE: Electric Log

SOURCE: LYNNS J J, ALLEN PRESSLEY 1 WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-463.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	870.0	
-493.0	CARBONDALE	SURVANT	COAL	0.8	900.0	
-567.0	CARBONDALE	COLCHESTER	COAL	0.5	974.0	
-603.0	CARBONDALE	DEKOVEN	COAL	3.0	1010.0	
-633.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	1040.0	100 PERCENT SANDSTONE IN DEKOVEN SPLIT
-642.0	CARBONDALE	DAVIS	COAL	4.0	1049.0	
-678.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1085.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500599000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 12 QUARTERS/FOOTAGES: 330' S line, 330' E line of SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.495668 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.922787 DATE COLLECTED:

SURFACE ELEVATION (FT.): 407.0 LOGGED (FT.): 3400.0 LOG TYPE: Electric Log

SOURCE: LYNNS J J WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-217.0	CARBONDALE	DANVILLE	COAL	-	624.0	
-220.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	7.0	627.0	
-237.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	644.0	
-248.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	13.0	655.0	
-289.0	CARBONDALE	HERRIN	COAL	6.0	696.0	
-328.0	CARBONDALE	BRIAR HILL	COAL	-	735.0	
-379.0	CARBONDALE	SPRINGFIELD	COAL	6.0	786.0	BLACK SHALE ROOF
-397.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	8.0	804.0	
-455.0	CARBONDALE	HOUCHIN CREEK	COAL	-	862.0	

MAPID: 06503608000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 12 QUARTERS/FOOTAGES: NE NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.48771 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.934533 DATE COLLECTED: 1 / 25 / 1968

SURFACE ELEVATION (FT.): 410.0 LOGGED (FT.): 783.4 LOG TYPE: Drillers Log

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

COMMENT: C-6837

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
351.3			COAL	1.4	58.7
-187.4			COAL	1.6	597.4
-266.2	CARBONDALE	HERRIN	COAL	4.6	676.2
-364.6	CARBONDALE	SPRINGFIELD	COAL	7.3	774.6

MAPID: 06503706000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 12 QUARTERS/FOOTAGES: 2120' S line, 39' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.503381 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.927793 DATE COLLECTED: 1 / 13 / 1969

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 805.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 16-HA WELL TYPE: Coal Test

COMMENT: CORE C-8487

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
86.3			COAL	1.9	333.7
-209.8	CARBONDALE	DANVILLE	COAL	1.5	629.8
-239.8			COAL	1.0	659.8
-290.1	CARBONDALE	HERRIN	COAL	5.1	710.1
-378.4	CARBONDALE	SPRINGFIELD	COAL	5.1	798.4



MAPID: 06503706000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 12 QUARTERS/FOOTAGES: 2120' S line, 39' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.503381 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.927793 DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 715.1 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 16-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-171.4	MODESTO	PIASA	LIMESTONE	1.9	591.4
-173.3	MODESTO		SILTY SHALE	29.5	593.3
-202.8	CARBONDALE	DANVILLE	COAL	1.5	622.8
-204.3	CARBONDALE		SHALE & SANDSTONE	28.5	624.3
-232.8	CARBONDALE	ALLENBY	COAL	1.0	652.8
-233.8	CARBONDALE		CLAYSTONE & SHALE	11.5	653.8
-245.3	CARBONDALE	BANKSTON FORK	LIMESTONE	6.9	665.3
-252.2	CARBONDALE	LAWSON	SILTY SHALE	8.7	672.2
-260.9	CARBONDALE	LAWSON	SILTSTONE	5.0	680.9
-265.9	CARBONDALE	LAWSON	SILTY SHALE	14.5	685.9
-280.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	700.4
-280.8	CARBONDALE	JAMESTOWN	BLACK SHALE	0.2	700.8
-281.1	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	5.1	701.1
-286.1	CARBONDALE	ANNA	BLACK SHALE	3.9	706.1
-290.0	CARBONDALE	HERRIN	COAL	5.1	710.0

MAPID: 06590085000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 12 QUARTERS/FOOTAGES:

QUADRANGLE: BROUGHTON LONGITUDE: -88.495167 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 37.922771 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	7.0	

MAPID: 06590086000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 12 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.503071

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.928323

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.2	

MAPID: 06523907000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 13 QUARTERS/FOOTAGES: 0' N line, 2310' W line of NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.495482

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.921874

DATE COLLECTED: 11 / 9 / 1972

SURFACE ELEVATION (FT.): LOGGED (FT.): 787.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 74-C

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	5.2	683.9
-	CARBONDALE	SPRINGFIELD	COAL	5.6	778.8

MAPID: 06523907000C    VERSION: 2

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 13    QUARTERS/FOOTAGES: 0' N line, 2310' W line of NW

QUADRANGLE: BROUGHTON    LONGITUDE: -88.495482    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.921874    DATE COLLECTED: 11 / 9 / 1972

SURFACE ELEVATION (FT.):    LOGGED (FT.): 787.0    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    74-C    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCONSOLIDATED	28.0	0.0
-			GRAY SHALE	27.0	28.0
-			BLACK SHALE	1.0	55.0
-			COAL	2.0	56.0
-			UNDERCLAY	2.0	58.0
-			GRAY SHALE	40.0	60.0
-			SANDSTONE	11.0	100.0
-			LIMESTONE	9.5	111.0
-			SANDY SHALE	59.5	120.5
-			LIMESTONE	3.0	180.0
-			GRAY SHALE	92.0	183.0
-			BLACK SHALE	3.0	275.0
-			GRAY SHALE	23.0	278.0
-			SANDSTONE	13.0	301.0
-			BLACK SHALE	1.7	314.0
-			SANDY SHALE	46.3	315.7
-			GRAY SHALE	46.0	362.0
-	MODESTO	MOUND CITY	BLACK SHALE	4.7	408.0
-	MODESTO		UNDERCLAY	2.3	412.7
-	MODESTO		GRAY SHALE	93.0	415.0
-	MODESTO		DARK SHALE	6.0	508.0
-	MODESTO		SANDY SHALE	48.0	514.0
-	MODESTO		LIMESTONE	4.0	562.0
-	MODESTO		SANDY SHALE	24.0	566.0
-	MODESTO	PIASA	LIMESTONE	5.0	590.0
-	MODESTO		GRAY SHALE	6.0	595.0
-	MODESTO		SANDSTONE	13.0	601.0
-	MODESTO		SANDY SHALE	2.0	614.0
-	CARBONDALE	DANVILLE	COAL	1.3	616.0
-	CARBONDALE		GRAY SHALE	19.7	617.3
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.6	637.0
-	CARBONDALE		GRAY SHALE	6.8	639.6
-	CARBONDALE		COAL	1.0	646.4
-	CARBONDALE	ANVIL ROCK	SANDY SHALE	8.0	647.4
-	CARBONDALE	ANVIL ROCK	SANDSTONE	11.0	655.4
-	CARBONDALE	ANVIL ROCK	GRAY SHALE	8.1	666.4
-	CARBONDALE	BRERETON	LIMESTONE	4.9	674.5
-	CARBONDALE		SHALE	4.5	679.4
-	CARBONDALE	HERRIN	COAL	5.2	683.9

-	CARBONDALE		UNDERCLAY	2.9	689.1
-	CARBONDALE		SANDSTONE	48.0	692.0
-	CARBONDALE		SANDY SHALE	32.0	740.0
-	CARBONDALE	ST. DAVID	LIMESTONE	1.0	772.0
-	CARBONDALE	TURNER MINE	BLACK SHALE	5.6	773.0
-	CARBONDALE	SPRINGFIELD	BONE COAL	0.2	778.6
-	CARBONDALE	SPRINGFIELD	COAL	5.6	778.8
-	CARBONDALE		UNDERCLAY	2.7	784.3

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MAPID: 06500016000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 14    QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: WALPOLE    LONGITUDE: -88.504742    GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.919128    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 394.5    LOGGED (FT.): 775.8    LOG TYPE: Drillers Log

SOURCE: TRI-COUNTY COAL CO.    1008    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
394.5	BOND		SHALE	34.0	0.0
360.5	BOND		SHALE	14.0	34.0
346.5	BOND		COAL	1.0	48.0
345.5	BOND		SHALE	6.0	49.0
339.5	BOND		SHALE	15.0	55.0
324.5	BOND		BLUE SHALE	24.0	70.0
300.5	BOND		SANDSTONE	1.0	94.0
299.5	BOND		SANDY SHALE	40.0	95.0
259.5	BOND		BLUE SHALE	10.0	135.0
249.5	BOND		SANDY SHALE	5.0	145.0
244.5	BOND		BLUE SHALE	14.0	150.0
230.5	BOND	CARTHAGE	LIMESTONE	18.0	164.0
212.5	MODESTO		SANDY SHALE	32.0	182.0
180.5	MODESTO		BLUE SHALE	50.0	214.0
130.5	MODESTO		GRAY SHALE	11.0	264.0
119.5	MODESTO		SANDSTONE	23.0	275.0
96.5	MODESTO	WOMAC	COAL	2.0	298.0
94.5	MODESTO		SANDY SHALE	23.0	300.0
71.5	MODESTO		BLUE SHALE	10.0	323.0
61.5	MODESTO		SANDY SHALE	39.0	333.0
22.5	MODESTO		BLUE SHALE	23.0	372.0
-0.5	MODESTO	MOUND CITY	BLACK SHALE	3.0	395.0
-3.5	MODESTO	CHAPEL	COAL	0.5	398.0
-4.0	MODESTO		LIMESTONE	4.5	398.5
-8.5	MODESTO		SANDY SHALE	29.0	403.0
-37.5	MODESTO		BLUE SHALE	4.5	432.0
-42.0	MODESTO		COAL	0.5	436.5
-42.5	MODESTO		SANDSTONE	29.0	437.0
-71.5	MODESTO		BLUE SHALE	50.0	466.0
-121.5	MODESTO		COAL	0.5	516.0
-122.0	MODESTO		GRAY SHALE	5.5	516.5
-127.5	MODESTO		BLACK SHALE	2.0	522.0
-129.5	MODESTO		BLUE SHALE	13.0	524.0
-142.5	MODESTO		BLACK SHALE	2.3	537.0
-144.8	MODESTO		COAL	0.7	539.3
-145.5	MODESTO		GRAY SHALE	4.0	540.0
-149.5	MODESTO		SHALE	6.0	544.0
-155.5	MODESTO	WEST FRANKLIN	LIMESTONE	10.0	550.0
-165.5	MODESTO	WEST FRANKLIN	BLACK SHALE	2.0	560.0

-167.5	MODESTO	WEST FRANKLIN	LIMESTONE	19.0	562.0
-186.5	MODESTO		BLACK SHALE	3.0	581.0
-189.5	MODESTO		GRAY SHALE	15.0	584.0
-204.5	MODESTO		SHALE	8.0	599.0
-212.5	MODESTO		BLACK SHALE	1.7	607.0
-214.2	CARBONDALE	DANVILLE	COAL	1.8	608.7
-216.0	CARBONDALE		SANDSTONE	4.5	610.5
-220.5	CARBONDALE		BLUE SHALE	10.0	615.0
-230.5	CARBONDALE		SHALE	15.0	625.0
-245.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	640.0
-251.5	CARBONDALE		COAL	0.3	646.0
-251.8	CARBONDALE		BLUE SHALE	22.7	646.3
-274.5	CARBONDALE	BRERETON	LIMESTONE	1.0	669.0
-275.5	CARBONDALE	ANNA	BLACK SHALE	8.5	670.0
-284.0	CARBONDALE	HERRIN	COAL	5.3	678.5
-289.3	CARBONDALE		GRAY SHALE	4.3	683.8
-293.5	CARBONDALE		CALCAREOUS SHALE	16.0	688.0
-309.5	CARBONDALE		BLUE SHALE	2.0	704.0
-311.5	CARBONDALE		LIMESTONE	4.0	706.0
-315.5	CARBONDALE		BLUE SHALE	54.0	710.0
-369.5	CARBONDALE	ST. DAVID	LIMESTONE	2.0	764.0
-371.5	CARBONDALE	TURNER MINE	BLACK SHALE	4.0	766.0
-375.5	CARBONDALE	SPRINGFIELD	COAL	4.8	770.0
-380.3	CARBONDALE		SHALE	1.0	774.8

MAPID: 06500016000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 14    QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: WALPOLE    LONGITUDE: -88.504742    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.919128    DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0    LOGGED (FT.): 776.0    LOG TYPE: Drillers Log

SOURCE: TRI-COUNTIES COAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-214.0	CARBONDALE	DANVILLE	COAL	1.8	609.0
-216.0	CARBONDALE	SS BELOW NO. 7		4.0	611.0
-245.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	640.0
-283.0	CARBONDALE	HERRIN	COAL	5.3	678.0
-375.0	CARBONDALE	SPRINGFIELD	COAL	4.8	770.0    BLACK SHALE ROOF

MAPID: 06500994000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 14    QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NW

QUADRANGLE: WALPOLE

LONGITUDE: -88.521629

GEOLOGIST: HOPKINS

CONFIDENTIAL: N

LATITUDE: 37.916915

DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.0

LOGGED (FT.): 3364.0

LOG TYPE: Electric Log

SOURCE: FELMONT CORPORATION

WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-298.0	CARBONDALE	HERRIN	COAL	5.0	690.0	
-324.0	CARBONDALE	BRIAR HILL	COAL	-	716.0	
-375.0	CARBONDALE	SPRINGFIELD	COAL	4.0	767.0	GRAY SHALE ROOF
-455.0	CARBONDALE	HOUCHIN CREEK	COAL	-	847.0	

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MAPID: 06503745000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 14    QUARTERS/FOOTAGES: NW NW

QUADRANGLE: WALPOLE    LONGITUDE: -88.520361    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.919712    DATE COLLECTED: 10 / 15 / 1972

SURFACE ELEVATION (FT.): 390.0    LOGGED (FT.): 760.4    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    72-C    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
390.0			UNCONSOLIDATED	29.0	0.0	SOIL AND CLAY
361.0			GRAY SHALE	18.0	29.0	
343.0			COAL	1.2	47.0	
341.8			UNDERCLAY	2.8	48.2	
339.0			GRAY SHALE	14.0	51.0	
325.0			LIMESTONE	1.0	65.0	
324.0			SHALE	55.0	66.0	
269.0			LIMESTONE	1.0	121.0	
268.0			SANDSTONE	40.0	122.0	
228.0			LIMESTONE	2.0	162.0	
226.0			SANDY SHALE	51.0	164.0	
175.0			SANDSTONE	40.0	215.0	
135.0			BLACK SHALE	2.0	255.0	
133.0			SANDY SHALE	25.0	257.0	
108.0	MODESTO	WOMAC	COAL	0.6	282.0	
107.4	MODESTO		UNDERCLAY	2.4	282.6	
105.0	MODESTO		SANDSTONE	27.0	285.0	
78.0	MODESTO		SANDY SHALE	68.0	312.0	
10.0	MODESTO		DARK SHALE	3.0	380.0	
7.0	MODESTO		BLACK SHALE	1.0	383.0	
6.0	MODESTO		GRAY SHALE	14.0	384.0	
-8.0	MODESTO		BLACK SHALE	1.0	398.0	
-9.0	MODESTO		SANDSTONE	31.0	399.0	
-40.0	MODESTO		GRAY SHALE	57.0	430.0	
-97.0	MODESTO		SANDY SHALE	54.0	487.0	
-151.0	MODESTO		GRAY SHALE	19.0	541.0	
-170.0	MODESTO	POND CREEK	COAL	1.0	560.0	
-171.0	MODESTO		UNDERCLAY	2.0	561.0	
-173.0	MODESTO	PIASA	LIMESTONE	2.5	563.0	
-175.5	MODESTO		SANDY SHALE	28.5	565.5	
-204.0	MODESTO		BLACK SHALE	0.5	594.0	
-204.5	CARBONDALE	DANVILLE	COAL	1.7	594.5	
-206.2	CARBONDALE		SANDSTONE	24.8	596.2	
-231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.5	621.0	
-234.5	CARBONDALE	ANVIL ROCK	SANDSTONE	26.5	624.5	
-261.0	CARBONDALE	ANVIL ROCK	SHALE	11.0	651.0	
-272.0	CARBONDALE	CONANT	LIMESTONE	1.0	662.0	
-273.0	CARBONDALE		BLACK SHALE	3.6	663.0	
-276.6	CARBONDALE	BRERETON	LIMESTONE	2.7	666.6	



-279.3	CARBONDALE	ANNA	BLACK SHALE	0.7	669.3
-279.9	CARBONDALE	HERRIN	COAL	3.8	669.9
-283.7	CARBONDALE		UNDERCLAY	2.3	673.7
-286.0	CARBONDALE		GRAY SHALE	30.1	676.0
-316.1	CARBONDALE	BRIAR HILL	COAL	1.3	706.1
-317.4	CARBONDALE		UNDERCLAY	2.0	707.4
-319.4	CARBONDALE		SANDY SHALE	30.0	709.4
-349.4	CARBONDALE		LIMESTONE	1.5	739.4
-350.9	CARBONDALE		SHALE	2.0	740.9
-352.9	CARBONDALE	ST. DAVID	LIMESTONE	1.5	742.9
-354.4	CARBONDALE	TURNER MINE	BLACK SHALE	3.4	744.4
-357.8	CARBONDALE	DYKERSBURG	SHALE	4.5	747.8
-362.3	CARBONDALE	SPRINGFIELD	COAL	4.8	752.3
-367.1	CARBONDALE		UNDERCLAY	3.3	757.1

**MAPID:** 06503745000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 14    **QUARTERS/FOOTAGES:** NW NW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.520361    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.919712    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 400.0    **LOGGED (FT.):** 699.8    **LOG TYPE:** Survey Core Study  
**SOURCE:** PEABODY COAL CO.    72-C    **WELL TYPE:** Coal Test  
**COMMENT:** GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN COMMENT
-182.8	MODESTO	PIASA	LIMESTONE	5.7	582.8
-188.5	MODESTO		GRAY SHALE	22.8	588.5
-211.3	CARBONDALE	DANVILLE	COAL	2.3	611.3
-213.5	CARBONDALE		SHALE & SILTSTONE	15.7	613.5
-229.2	CARBONDALE	GALUM	CARBONACEOUS LIMESTONE	0.3	629.2
-229.5	CARBONDALE		CLAYSTONE	11.0	629.5
-240.5	CARBONDALE	BANKSTON FORK	LIMESTONE/UNDERCLAY	9.3	640.5
-249.7	CARBONDALE	LAWSON	CARBONACEOUS SHALE	0.2	649.7
-249.9	CARBONDALE	LAWSON	COAL	1.0	649.9
-250.9	CARBONDALE	LAWSON	SILTY SHALE	15.0	650.9
-265.9	CARBONDALE	LAWSON	SILTSTONE	3.6	665.9
-269.5	CARBONDALE	LAWSON	GRAY SHALE	10.7	669.5
-280.1	CARBONDALE	CONANT	CARBONACEOUS LIMESTONE	0.6	680.1
-280.7	CARBONDALE	JAMESTOWN	BONE COAL	0.5	680.7
-281.3	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	6.3	681.3
-287.5	CARBONDALE	ANNA	BLACK SHALE	4.5	687.5
-292.0	CARBONDALE	HERRIN	COAL	7.8	692.0

MAPID: 06503745000C VERSION: 3

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 14 QUARTERS/FOOTAGES: NW NW

QUADRANGLE: WALPOLE LONGITUDE: -88.520361 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.919712 DATE COLLECTED: 10 / 15 / 1972

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 765.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 72-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
343.0			COAL	1.2	47.0	
-170.0	CARBONDALE	DANVILLE	COAL	1.0	560.0	
-204.5			COAL	1.7	594.5	
-279.9	CARBONDALE	HERRIN	COAL	7.7	669.9	
-320.0	CARBONDALE	BRIAR HILL	COAL	1.3	710.0	
-366.9	CARBONDALE	SPRINGFIELD	COAL	4.8	756.9	

MAPID: 06590078000C VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 14 QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE LONGITUDE: -88.504105 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 37.919083 DATE COLLECTED: 5 / 1 / 1979

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

SOURCE: KERR-MCGEE COAL CO. WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.8		3.95% SULFUR

MAPID: 06500017000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 15    QUARTERS/FOOTAGES: NW NW

QUADRANGLE: WALPOLE    LONGITUDE: -88.538544    GEOLOGIST: C TREWORYG

CONFIDENTIAL: N    LATITUDE: 37.919306    DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 389.7    LOGGED (FT.): 731.0    LOG TYPE: Drillers Log

SOURCE: TRI-COUNTY COAL CO.    1010    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
389.7			CLAY	20.0	0.0	
369.7			SAND	12.0	20.0	SD & CLY
357.7			CLAY	10.0	32.0	
347.7	BOND		SANDSTONE	99.0	42.0	
248.7	BOND		SHALE	9.0	141.0	
239.7	BOND	CARTHAGE	LIMESTONE	16.0	150.0	
223.7	MODESTO		CALCAREOUS SHALE	14.0	166.0	
209.7	MODESTO		SHALE	18.0	180.0	
191.7	MODESTO		BLUE SHALE	37.0	198.0	
154.7	MODESTO		BLACK SHALE	5.0	235.0	
149.7	MODESTO		CALCAREOUS SHALE	8.0	240.0	
141.7	MODESTO		SANDSTONE	10.0	248.0	
131.7	MODESTO		CALCAREOUS SHALE	7.0	258.0	
124.7	MODESTO		BLUE SHALE	2.5	265.0	
122.2	MODESTO	WOMAC	COAL	0.5	267.5	
121.7	MODESTO		SANDY SHALE	42.0	268.0	
79.7	MODESTO		BLUE SHALE	39.0	310.0	
40.7	MODESTO		GRAY SHALE	11.0	349.0	
29.7	MODESTO		BLACK SHALE	7.5	360.0	
22.2	MODESTO	CHAPEL	COAL	0.5	367.5	
21.7	MODESTO		SANDY SHALE	75.0	368.0	
-53.3	MODESTO		BLUE SHALE	20.0	443.0	
-73.3	MODESTO		SHALE	28.0	463.0	
-101.3	MODESTO		SANDY SHALE	2.0	491.0	
-103.3	MODESTO		DARK SHALE	12.5	493.0	
-115.8	MODESTO		COAL	0.5	505.5	
-116.3	MODESTO		SHALE	6.0	506.0	
-122.3	MODESTO		SANDY SHALE	14.0	512.0	
-136.3	MODESTO		CALCAREOUS SHALE	4.0	526.0	
-140.3	MODESTO		SHALE	10.0	530.0	
-150.3	MODESTO	PIASA	LIMESTONE	4.0	540.0	
-154.3	MODESTO		SHALE	10.0	544.0	
-164.3	MODESTO		BLUE SHALE	5.0	554.0	
-169.3	MODESTO		SHALE	8.5	559.0	
-177.8	CARBONDALE	DANVILLE	COAL	1.5	567.5	
-179.3	CARBONDALE		SHALE	8.0	569.0	
-187.3	CARBONDALE		SANDY SHALE	5.0	577.0	
-192.3	CARBONDALE		CALCAREOUS SHALE	16.0	582.0	
-208.3	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	598.0	

-215.3	CARBONDALE	ANVIL ROCK	SANDSTONE	10.0	605.0
-225.3	CARBONDALE		BLUE SHALE	18.0	615.0
-243.3	CARBONDALE		CALCAREOUS SHALE	3.0	633.0
-246.3	CARBONDALE		DARK SHALE	2.0	636.0
-248.3	CARBONDALE	BRERETON	LIMESTONE	2.0	638.0
-250.3	CARBONDALE	ANNA	BLACK SHALE	2.7	640.0
-253.0	CARBONDALE	HERRIN	COAL	6.7	642.7
-259.6	CARBONDALE		UNDERCLAY	3.7	649.3
-263.3	CARBONDALE		CALCAREOUS SHALE	12.0	653.0
-275.3	CARBONDALE		DARK SHALE	12.0	665.0
-287.3	CARBONDALE		BLUE SHALE	3.0	677.0
-290.3	CARBONDALE	BRIAR HILL	COAL	1.0	680.0
-291.3	CARBONDALE		SHALE	5.0	681.0
-296.3	CARBONDALE		SANDY SHALE	9.0	686.0
-305.3	CARBONDALE		BLUE SHALE	13.0	695.0
-318.3	CARBONDALE		DARK SHALE	2.0	708.0
-320.3	CARBONDALE	ST. DAVID	LIMESTONE	2.0	710.0
-322.3	CARBONDALE	TURNER MINE	BLACK SHALE	4.0	712.0
-326.3	CARBONDALE	DYKERSBURG	BLUE SHALE	8.8	716.0
-335.1	CARBONDALE	SPRINGFIELD	COAL	4.9	724.8
-340.0	CARBONDALE		UNDERCLAY	1.3	729.7

MAPID: 06500017000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 15    QUARTERS/FOOTAGES: NW NW

QUADRANGLE: WALPOLE    LONGITUDE: -88.538544    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.919306    DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0    LOGGED (FT.): 731.0    LOG TYPE: Drillers Log

SOURCE: TRI-COUNTIES COAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-178.0	CARBONDALE	DANVILLE	COAL	1.5	568.0	
-208.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	598.0	
-215.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	605.0	
-253.0	CARBONDALE	HERRIN	COAL	6.7	643.0	
-290.0	CARBONDALE	BRIAR HILL	COAL	1.0	680.0	
-335.0	CARBONDALE	SPRINGFIELD	COAL	4.9	725.0	GRAY SHALE ROOF

MAPID: 06501483000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.530633 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.918549 DATE COLLECTED: 9 / 0 / 1951

SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3323.0 LOG TYPE: Electric Log

SOURCE: HOWELL J V ETAL, JOHNSON W B WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-427.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	820.0	
-462.0	CARBONDALE	SURVANT	COAL	1.2	855.0	
-527.0	CARBONDALE	COLCHESTER	COAL	0.5	920.0	
-560.0	CARBONDALE	DEKOVEN	COAL	1.6	953.0	
-597.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	990.0	75 PERCENT SANDSTONE IN DEKOVEN SPLIT
-602.0	CARBONDALE	DAVIS	COAL	3.0	995.0	
-642.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1035.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501483000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 15 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW NE

QUADRANGLE: WALPOLE LONGITUDE: -88.530633 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.918549 DATE COLLECTED:

SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3323.0 LOG TYPE: Electric Log

SOURCE: HOWELL J V ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-263.0	CARBONDALE	HERRIN	COAL	5.0	656.0	
-293.0	CARBONDALE	BRIAR HILL	COAL	-	686.0	
-342.0	CARBONDALE	SPRINGFIELD	COAL	5.0	735.0	BLACK SHALE & LIMESTONE ROOF
-424.0	CARBONDALE	HOUCHIN CREEK	COAL	-	817.0	

MAPID: 06503707000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 15 QUARTERS/FOOTAGES: 119' N line, 70' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.54056 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.920761 DATE COLLECTED: 10 / 21 / 1968

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 751.0 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 3-HA WELL TYPE: Coal Test

COMMENT: CORE C-8473

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-117.0			COAL	1.0	517.0
-178.1	CARBONDALE	DANVILLE	COAL	2.4	578.1
-260.0	CARBONDALE	HERRIN	COAL	6.2	660.0
-296.8	CARBONDALE	BRIAR HILL	COAL	1.2	696.8
-341.3	CARBONDALE	SPRINGFIELD	COAL	4.8	741.3

MAPID: 06503707000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 15 QUARTERS/FOOTAGES: 119' N line, 70' W line

QUADRANGLE: WALPOLE LONGITUDE: -88.54056 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.920761 DATE COLLECTED:

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 664.2 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 3-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-149.8	MODESTO	PIASA	LIMESTONE	5.0	549.8
-154.8	MODESTO		GRAY SHALE	24.3	554.8
-179.1	CARBONDALE	DANVILLE	COAL	2.4	579.1
-181.5	CARBONDALE		SILTY SHALE	30.5	581.5
-212.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	612.0
-219.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	17.5	619.0
-236.5	CARBONDALE	LAWSON	SILTSTONE	2.0	636.5
-238.5	CARBONDALE	LAWSON	SILTY SHALE	3.5	638.5
-242.0	CARBONDALE	LAWSON	GRAY SHALE	9.3	642.0
-251.3	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.5	651.3
-251.8	CARBONDALE	JAMESTOWN	CARBONACEOUS SHALE	0.3	651.8
-252.2	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	7.3	652.2
-259.5	CARBONDALE	ANNA	CALCAREOUS SHALE	0.5	659.5
-260.0	CARBONDALE	HERRIN	COAL	4.2	660.0

**MAPID:** 06503708000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 15    **QUARTERS/FOOTAGES:** 1' S line, 1' W line of NE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.531783    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.913931    **DATE COLLECTED:** 11 / 15 / 1968  
**SURFACE ELEVATION (FT.):** 385.0    **LOGGED (FT.):** 753.0    **LOG TYPE:** Other Core Study  
**SOURCE:** TRUAX-TRAER COAL CO    4-HA    **WELL TYPE:** Coal Test  
**COMMENT:** CORE C-8474 ; ELEV ADDED, FROM DEM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
119.7			COAL	1.8	265.3	
-193.5	CARBONDALE	DANVILLE	COAL	2.2	578.5	
-273.7	CARBONDALE	HERRIN	COAL	6.3	658.7	
-358.3	CARBONDALE	SPRINGFIELD	COAL	5.4	743.3	

**MAPID:** 06590066000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 15    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.531975    **GEOLOGIST:** C TREWORGY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.913853    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.4		

**MAPID:** 06590067000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 15    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.540102    **GEOLOGIST:** C TREWORGY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.9206    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	4.9		2.68% SULFUR

MAPID: 06500026000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 16    QUARTERS/FOOTAGES: 4250' S line, 3150' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.551773    GEOLOGIST: C TREWORGY

CONFIDENTIAL: N    LATITUDE: 37.918284    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 389.6    LOGGED (FT.): 764.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 13    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
389.6			UNCONSOLIDATED	25.0	0.0	
364.6			GRAVEL	20.0	25.0	
344.6			CLAY	10.0	45.0	BLUE
334.6			SAND	8.0	55.0	
326.6			GRAVEL	2.0	63.0	
324.6	BOND		UNCLASSIFIED	2.0	65.0	LOG SAYS 'BROKEN LEDGE'
322.6	BOND		GRAY SHALE	4.0	67.0	
318.6	BOND		SANDSTONE	92.0	71.0	
226.6	BOND		DARK SHALE	3.0	163.0	
223.6	BOND		CALCAREOUS SHALE	4.0	166.0	
219.6	BOND	CARTHAGE	LIMESTONE	14.0	170.0	
205.6	MODESTO		GRAY SHALE	36.0	184.0	
169.6	MODESTO		BLUE SHALE	12.0	220.0	
157.6	MODESTO		BLACK SHALE	26.0	232.0	
131.6	MODESTO		UNDERCLAY	6.0	258.0	
125.6	MODESTO		GRAY SHALE	6.0	264.0	
119.6	MODESTO		SANDY SHALE	19.0	270.0	
100.6	MODESTO		BLACK SHALE	1.5	289.0	
99.1	MODESTO	WOMAC	COAL	1.5	290.5	
97.6	MODESTO		GRAY SHALE	5.0	292.0	
92.6	MODESTO		SANDY SHALE	15.0	297.0	
77.6	MODESTO		GRAY SHALE	17.0	312.0	
60.6	MODESTO		COAL	0.6	329.0	
60.0	MODESTO		SANDY SHALE	20.4	329.6	
39.6	MODESTO		BLUE SHALE	28.0	350.0	
11.6	MODESTO		LIMESTONE	6.0	378.0	
5.6	MODESTO		LIMESTONE	2.0	384.0	
3.6	MODESTO		SANDSTONE	50.0	386.0	SS & SH
-46.4	MODESTO		BLUE SHALE	32.0	436.0	
-78.4	MODESTO		BLUE SHALE	27.0	468.0	BLU SH W/ BROWN BANDS
-105.4	MODESTO		BLUE SHALE	0.6	495.0	
-106.0	MODESTO		COAL	0.4	495.6	
-106.4	MODESTO		BLUE SHALE	14.0	496.0	
-120.4	MODESTO		BLACK SHALE	4.0	510.0	
-124.4	MODESTO		BLUE SHALE	5.0	514.0	
-129.4	MODESTO		COAL	0.8	519.0	
-130.2	MODESTO		GRAY SHALE	6.2	519.8	
-136.4	MODESTO		CALCAREOUS SHALE	5.0	526.0	
-141.4	MODESTO		SANDSTONE	11.0	531.0	



-152.4	MODESTO		SANDY SHALE	8.0	542.0	
-160.4	MODESTO		BLUE SHALE	3.0	550.0	
-163.4	MODESTO		COAL	0.5	553.0	
-163.9	MODESTO		BLUE SHALE	25.5	553.5	
-189.4	MODESTO		BLACK SHALE	1.0	579.0	
-190.4	CARBONDALE	DANVILLE	COAL	2.8	580.0	
-193.2	CARBONDALE		SANDSTONE	7.2	582.8	
-200.4	CARBONDALE		BLUE SHALE	3.0	590.0	
-203.4	CARBONDALE		SANDY SHALE	7.0	593.0	
-210.4	CARBONDALE		BLUE SHALE	5.0	600.0	
-215.4	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	605.0	
-226.4	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	616.0	
-234.4	CARBONDALE	ANVIL ROCK	SANDSTONE	7.0	624.0	
-241.4	CARBONDALE	ANVIL ROCK	SANDY SHALE	12.0	631.0	
-253.4	CARBONDALE		BLUE SHALE	10.0	643.0	
-263.4	CARBONDALE	CONANT	LIMESTONE	0.5	653.0	
-263.9	CARBONDALE	JAMESTOWN	BONE COAL	0.3	653.5	
-264.2	CARBONDALE		BLACK SHALE	3.2	653.8	
-267.4	CARBONDALE	BRERETON	LIMESTONE	5.0	657.0	
-272.4	CARBONDALE	ANNA	BLACK SHALE	1.0	662.0	
-273.4	CARBONDALE	HERRIN	COAL	7.0	663.0	
-280.4	CARBONDALE		UNDERCLAY	3.0	670.0	
-283.4	CARBONDALE		LIMESTONE	5.0	673.0	
-288.4	CARBONDALE		GRAY SHALE	11.0	678.0	
-299.4	CARBONDALE		BLUE SHALE	13.0	689.0	
-312.4	CARBONDALE	BRIAR HILL	COAL	1.0	702.0	
-313.4	CARBONDALE		SANDY SHALE	2.0	703.0	
-315.4	CARBONDALE		COAL	0.8	705.0	
-316.2	CARBONDALE		SANDSTONE	9.2	705.8	SS & SH
-325.4	CARBONDALE		BLUE SHALE	19.0	715.0	
-344.4	CARBONDALE	ST. DAVID	LIMESTONE	2.0	734.0	
-346.4	CARBONDALE		BLACK SHALE	1.0	736.0	
-347.4	CARBONDALE		COAL	1.0	737.0	
-348.4	CARBONDALE		BLACK SHALE	7.0	738.0	
-355.4	CARBONDALE		BLUE SHALE	11.0	745.0	
-366.4	CARBONDALE	SPRINGFIELD	COAL	7.7	756.0	
-374.1	CARBONDALE		UNDERCLAY	0.3	763.7	

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MAPID: 06500026000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 16    QUARTERS/FOOTAGES: 4250' S line, 3150' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.551773    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.918284    DATE COLLECTED:

SURFACE ELEVATION (FT.): 390.0    LOGGED (FT.): 764.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-190.0	CARBONDALE	DANVILLE	COAL	2.8	580.0	
-193.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	7.0	583.0	
-215.0	CARBONDALE	BANKSTON FORK	LIMESTONE	19.0	605.0	
-234.0	CARBONDALE	ANVIL ROCK		7.0	624.0	
-273.0	CARBONDALE	HERRIN	COAL	7.0	663.0	
-312.0	CARBONDALE	BRIAR HILL	COAL	1.0	702.0	
-316.0	CARBONDALE	CANTON	SANDSTONE/SHALE	9.0	706.0	
-366.0	CARBONDALE	SPRINGFIELD	COAL	7.7	756.0	BLACK SHALE & LIMESTONE ROOF

MAPID: 06500711000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 16    QUARTERS/FOOTAGES: 990' N line, 330' W line of NE NW

QUADRANGLE: WALPOLE    LONGITUDE: -88.553234    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.918462    DATE COLLECTED:

SURFACE ELEVATION (FT.): 392.0    LOGGED (FT.): 3106.0    LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC.    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-204.0	CARBONDALE	DANVILLE	COAL	-	596.0	
-206.0	CARBONDALE	SS BELOW NO. 7	SILTSTONE	6.0	598.0	
-238.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	630.0	
-248.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	6.0	640.0	
-288.0	CARBONDALE	HERRIN	COAL	6.0	680.0	
-321.0	CARBONDALE	BRIAR HILL	COAL	-	713.0	
-328.0	CARBONDALE	CANTON	SANDSTONE/SILTSTONE	6.0	720.0	
-375.0	CARBONDALE	SPRINGFIELD	COAL	7.0	767.0	GRAY SHALE ROOF
-426.0	CARBONDALE	HOUCHIN CREEK	COAL	-	818.0	

MAPID: 06503212000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 16 QUARTERS/FOOTAGES: 990' N line, 330' W line of NE

QUADRANGLE: WALPOLE LONGITUDE: -88.548704 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.918421 DATE COLLECTED: 5 / 0 / 1954

SURFACE ELEVATION (FT.): 390.0 LOGGED (FT.): 3294.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC., HOWARD HUBERT WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-420.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	810.0	
-452.0	CARBONDALE	SURVANT	COAL	1.6	842.0	
-520.0	CARBONDALE	COLCHESTER	COAL	0.5	910.0	
-550.0	CARBONDALE	DEKOVEN	COAL	3.0	940.0	
-587.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	977.0	76 PERCENT SANDSTONE IN DEKOVEN SPLIT
-595.0	CARBONDALE	DAVIS	COAL	3.5	985.0	
-629.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1019.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503216000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 16 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE SW

QUADRANGLE: WALPOLE LONGITUDE: -88.553285 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.911132 DATE COLLECTED: 10 / 0 / 1950

SURFACE ELEVATION (FT.): 388.0 LOGGED (FT.): 3246.0 LOG TYPE: Electric Log

SOURCE: SOHIO PETROLEUM CO., TUCKER DELLA M WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-440.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	828.0	
-477.0	CARBONDALE	SURVANT	COAL	3.0	865.0	
-545.0	CARBONDALE	COLCHESTER	COAL	0.5	933.0	
-586.0	CARBONDALE	DEKOVEN	COAL	3.0	974.0	
-610.0	CARBONDALE	LOWER DEKOVEN	COAL	2.5	998.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-616.0	CARBONDALE	DAVIS	COAL	2.5	1004.0	
-655.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1043.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503746000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 16    QUARTERS/FOOTAGES: 0' S line, 1320' E line of SE

QUADRANGLE: WALPOLE    LONGITUDE: -88.54536    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.906492    DATE COLLECTED: 9 / 29 / 1972

SURFACE ELEVATION (FT.): 387.0    LOGGED (FT.): 766.0    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    71-C    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
387.0			UNCONSOLIDATED	38.0	0.0	SOIL, CLAY, AND SAND
349.0	BOND		GRAY SHALE	8.0	38.0	
341.0	BOND		SANDSTONE	21.0	46.0	
320.0	BOND		SANDY SHALE	32.0	67.0	
288.0	BOND		LIMESTONE	4.0	99.0	
284.0	BOND		SANDSTONE	61.0	103.0	
223.0	BOND	CARTHAGE	LIMESTONE	9.0	164.0	
214.0	MODESTO		SANDY SHALE	66.0	173.0	
148.0	MODESTO		BLACK SHALE	2.0	239.0	
146.0	MODESTO		GRAY SHALE	29.0	241.0	
117.0	MODESTO	WOMAC	COAL	0.8	270.0	
116.2	MODESTO		UNDERCLAY	4.2	270.8	
112.0	MODESTO		SANDY SHALE	76.0	275.0	
36.0	MODESTO		GRAY SHALE	19.0	351.0	GY SH W/ SS BANDS
17.0	MODESTO		BLACK SHALE	3.0	370.0	
14.0	MODESTO		SANDSTONE	35.0	373.0	
-21.0	MODESTO		LIMESTONE	2.5	408.0	
-23.5	MODESTO		SANDSTONE	67.0	410.5	
-90.5	MODESTO		GRAY SHALE	37.5	477.5	
-128.0	MODESTO		SANDY SHALE	19.0	515.0	
-147.0	MODESTO		LIMESTONE	3.0	534.0	
-150.0	MODESTO		SANDSTONE	23.0	537.0	
-173.0	MODESTO	PIASA	LIMESTONE	6.0	560.0	
-179.0	MODESTO		SANDY SHALE	21.0	566.0	
-200.0	MODESTO		BLACK SHALE	0.8	587.0	
-200.8	CARBONDALE	DANVILLE	COAL	1.6	587.8	
-202.4	CARBONDALE		UNDERCLAY	3.6	589.4	
-206.0	CARBONDALE		SANDSTONE	18.0	593.0	
-224.0	CARBONDALE		BLACK SHALE	1.5	611.0	
-225.5	CARBONDALE		SANDSTONE	7.8	612.5	
-233.3	CARBONDALE	BANKSTON FORK	LIMESTONE	9.8	620.3	
-243.1	CARBONDALE		COAL	0.5	630.1	
-243.6	CARBONDALE	ANVIL ROCK	SANDSTONE	29.5	630.6	
-273.1	CARBONDALE		LIMESTONE	4.9	660.1	
-278.0	CARBONDALE		BLACK SHALE	3.7	665.0	
-281.7	CARBONDALE	BRERETON	LIMESTONE	3.2	668.7	
-284.9	CARBONDALE	ANNA	BLACK SHALE	3.4	671.9	
-288.3	CARBONDALE	HERRIN	COAL	8.0	675.3	
-296.3	CARBONDALE		UNDERCLAY	3.7	683.3	

-300.0	CARBONDALE		GRAY SHALE	18.0	687.0
-318.0	CARBONDALE	BRIAR HILL	COAL	2.0	705.0
-320.0	CARBONDALE		SANDY SHALE	38.0	707.0
-358.0	CARBONDALE	ST. DAVID	LIMESTONE	2.0	745.0
-360.0	CARBONDALE		SHALE	1.0	747.0
-361.0	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	748.0
-366.0	CARBONDALE	DYKERSBURG	SHALE	3.6	753.0
-369.6	CARBONDALE	SPRINGFIELD	COAL	6.9	756.6
-376.5	CARBONDALE		UNDERCLAY	2.5	763.5

**MAPID:** 06503746000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 16    **QUARTERS/FOOTAGES:** 0' S line, 1320' E line of SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.54536    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.906492    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 387.0    **LOGGED (FT.):** 683.0    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    71-C    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN COMMENT
-172.7	MODESTO	PIASA	LIMESTONE	6.0	559.7
-178.7	MODESTO		SILTY SHALE	21.8	565.7
-200.5	CARBONDALE	DANVILLE	COAL	1.6	587.5
-202.1	CARBONDALE		SHALE & SANDSTONE	21.6	589.1
-223.7	CARBONDALE	ALLENBY	BLACK SHALE	1.5	610.7
-225.2	CARBONDALE		SANDSTONE	7.8	612.2
-233.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.8	620.0
-242.8	CARBONDALE	LAWSON	COAL	0.5	629.8
-243.3	CARBONDALE	LAWSON	SANDSTONE	29.5	630.3
-272.8	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	11.8	659.8
-284.6	CARBONDALE	ANNA	BLACK SHALE	3.4	671.6
-288.0	CARBONDALE	HERRIN	COAL	8.0	675.0

**MAPID:** 06503746000C    **VERSION:** 3    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 16    **QUARTERS/FOOTAGES:** 0' S line, 1320' E line of SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.54536    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.906492    **DATE COLLECTED:** 9 / 29 / 1972  
**SURFACE ELEVATION (FT.):** 387.0    **LOGGED (FT.):** 766.0    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    71-C    **WELL TYPE:** Coal Test  
**COMMENT:** SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-200.8			COAL	1.6	587.8
-288.3	CARBONDALE	HERRIN	COAL	8.0	675.3
-318.0			COAL	2.0	705.0
-369.6	CARBONDALE	SPRINGFIELD	COAL	6.9	756.6

**MAPID:** 06590054000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 16    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.551855    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.918696    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

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

**MAPID:** 06590102000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 16    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.558724    **GEOLOGIST:** C TREWORYG  
**CONFIDENTIAL:** N    **LATITUDE:** 37.921038    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	6.7	

MAPID: 06500034000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 17    QUARTERS/FOOTAGES: 2250' S line, 2650' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.568207    GEOLOGIST: C TREWORGY

CONFIDENTIAL: N    LATITUDE: 37.912955    DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 411.9    LOGGED (FT.): 772.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 23    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
411.9			CLAY	10.0	0.0
401.9			SANDY CLAY	22.0	10.0
379.9			SAND	15.0	32.0
364.9	BOND		GRAY SHALE	7.0	47.0
357.9	BOND		SANDY SHALE	10.0	54.0
347.9	BOND		BLUE SHALE	26.0	64.0
321.9	BOND		SANDY SHALE	17.0	90.0
304.9	BOND		SANDSTONE	65.0	107.0
239.9	BOND		CONGLOMERATE	4.0	172.0
235.9	BOND		BLUE SHALE	17.7	176.0
218.2	BOND		COAL	0.3	193.7
217.9	BOND		SANDY SHALE	8.0	194.0
209.9	BOND	CARTHAGE	LIMESTONE	3.0	202.0
206.9	MODESTO		BLUE SHALE	75.0	205.0
131.9	MODESTO		SANDSTONE	10.0	280.0
121.9	MODESTO		SANDY SHALE	15.7	290.0
106.2	MODESTO	WOMAC	COAL	0.7	305.7
105.6	MODESTO		SANDY SHALE	74.7	306.3
30.9	MODESTO		BLUE SHALE	29.0	381.0
1.9	MODESTO	CHAPEL	COAL	1.3	410.0
0.6	MODESTO		GRAY SHALE	6.7	411.3
-6.1	MODESTO		BLUE SHALE	16.0	418.0
-22.1	MODESTO		SANDY SHALE	43.0	434.0
-65.1	MODESTO		BLUE SHALE	50.0	477.0
-115.1	MODESTO		COAL	0.5	527.0
-115.6	MODESTO		SANDY SHALE	12.5	527.5
-128.1	MODESTO		BLUE SHALE	2.0	540.0
-130.1	MODESTO		DARK SHALE	13.0	542.0
-143.1	MODESTO		COAL	0.5	555.0
-143.6	MODESTO		SANDY SHALE	25.5	555.5
-169.1	MODESTO		BLUE SHALE	6.0	581.0
-175.1	MODESTO	PIASA	LIMESTONE	5.0	587.0
-180.1	MODESTO		BLUE SHALE	22.0	592.0
-202.1	CARBONDALE	DANVILLE	COAL	2.0	614.0
-204.1	CARBONDALE		SANDY SHALE	13.0	616.0
-217.1	CARBONDALE		DARK SHALE	3.0	629.0
-220.1	CARBONDALE	ALLENBY	COAL	0.5	632.0
-220.6	CARBONDALE		GRAY SHALE	10.5	632.5
-231.1	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	643.0

-240.6	CARBONDALE	JAMESTOWN	COAL	0.5	652.5
-241.1	CARBONDALE		SANDY SHALE	37.0	653.0
-278.1	CARBONDALE	BRERETON	LIMESTONE	3.5	690.0
-281.6	CARBONDALE	ANNA	BLACK SHALE	4.8	693.5
-286.4	CARBONDALE	HERRIN	COAL	7.9	698.3
-294.4	CARBONDALE		UNDERCLAY	0.8	706.3
-295.1	CARBONDALE		SANDY SHALE	8.0	707.0
-303.1	CARBONDALE		CONGLOMERATE	1.5	715.0
-304.6	CARBONDALE		BLUE SHALE	1.0	716.5
-305.6	CARBONDALE	BRIAR HILL	COAL	0.5	717.5
-306.1	CARBONDALE		SANDY SHALE	13.0	718.0
-319.1	CARBONDALE		DARK SHALE	9.5	731.0
-328.6	CARBONDALE		LIMESTONE	11.5	740.5
-340.1	CARBONDALE		BLUE SHALE	13.4	752.0
-353.5	CARBONDALE	SPRINGFIELD	COAL	5.3	765.4
-358.9	CARBONDALE		UNDERCLAY	1.3	770.8

MAPID: 06500034000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 17    QUARTERS/FOOTAGES: 2250' S line, 2650' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.568207    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.912955    DATE COLLECTED:

SURFACE ELEVATION (FT.): 412.0    LOGGED (FT.): 772.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	OVERBURDEN	COMMENT
-202.0	CARBONDALE	DANVILLE	COAL	2.0	614.0	
-231.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	643.0	
-286.0	CARBONDALE	HERRIN	COAL	7.9	698.0	
-306.0	CARBONDALE	BRIAR HILL	COAL	0.5	718.0	
-353.0	CARBONDALE	SPRINGFIELD	COAL	5.3	765.0	BLACK SHALE & LIMESTONE ROOF



MAPID: 06500710000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 17 QUARTERS/FOOTAGES: 690' N line, 990' W line of SE SE

QUADRANGLE: WALPOLE LONGITUDE: -88.560186 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.908384 DATE COLLECTED:

SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3187.0 LOG TYPE: Electric Log

SOURCE: LAGRANGE PETROLEUM WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-179.0	CARBONDALE	DANVILLE	COAL	-	572.0	
-187.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	580.0	
-217.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	610.0	
-234.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	10.0	627.0	
-271.0	CARBONDALE	HERRIN	COAL	6.0	664.0	
-299.0	CARBONDALE	BRIAR HILL	COAL	-	692.0	
-346.0	CARBONDALE	SPRINGFIELD	COAL	3.0	739.0	GRAY SHALE ROOF
-355.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SILTSTONE	10.0	748.0	
-420.0	CARBONDALE	HOUCHIN CREEK	COAL	-	813.0	

MAPID: 06500834000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 17 QUARTERS/FOOTAGES: 330' N line, 330' E line of SE NW

QUADRANGLE: WALPOLE LONGITUDE: -88.569325 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.916774 DATE COLLECTED: 6 / 0 / 1955

SURFACE ELEVATION (FT.): 445.0 LOGGED (FT.): 3358.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., HOWARD H E WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-449.0	CARBONDALE	HOUCHIN CREEK	COAL	0.5	894.0	
-485.0	CARBONDALE	SURVANT	COAL	3.0	930.0	
-565.0	CARBONDALE	COLCHESTER	COAL	0.5	1010.0	
-585.0	CARBONDALE	DEKOVEN	COAL	3.0	1030.0	
-613.0	CARBONDALE	LOWER DEKOVEN	COAL	1.8	1058.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-619.0	CARBONDALE	DAVIS	COAL	3.5	1064.0	
-655.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1100.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501218000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' W line of NE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.562388 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.918531 DATE COLLECTED: 10 / 0 / 1957

SURFACE ELEVATION (FT.): 401.0 LOGGED (FT.): 3325.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC., ASHLAND ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-434.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	835.0	
-474.0	CARBONDALE	SURVANT	COAL	1.3	875.0	
-544.0	CARBONDALE	COLCHESTER	COAL	0.5	945.0	
-564.0	CARBONDALE	DEKOVEN	COAL	3.0	965.0	
-594.0	CARBONDALE	LOWER DEKOVEN	COAL	1.8	995.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-602.0	CARBONDALE	DAVIS	COAL	2.5	1003.0	
-638.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1039.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503645000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 17 QUARTERS/FOOTAGES: NE NE NE NE

QUADRANGLE: WALPOLE LONGITUDE: -88.55947 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.920791 DATE COLLECTED: 9 / 23 / 1968

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 802.5 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAEER COAL CO 1-HA WELL TYPE: Coal Test

COMMENT: CORE C-8471

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
102.4			COAL	1.9	297.6	
-147.8			COAL	1.0	547.8	
-210.8			COAL	2.3	610.8	
-291.7	CARBONDALE	HERRIN	COAL	7.8	691.7	
-375.3	CARBONDALE	SPRINGFIELD	COAL	6.7	775.3	

**MAPID:** 06503709000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 17    **QUARTERS/FOOTAGES:** SW SW SW SW  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.576922    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.907314    **DATE COLLECTED:** 12 / 20 / 1968  
**SURFACE ELEVATION (FT.):** 400.0    **LOGGED (FT.):** 778.0    **LOG TYPE:** Other Core Study  
**SOURCE:** TRUAX-TRAER COAL CO    12-HA    **WELL TYPE:** Coal Test  
**COMMENT:** CORE C-8482 ; ELEV ADDED, FROM DEM

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
352.0			COAL	1.8	48.0	
-127.0			COAL	1.3	527.0	
-188.4	CARBONDALE	DANVILLE	COAL	1.6	588.4	
-266.4	CARBONDALE	HERRIN	COAL	7.8	666.4	
-368.0	CARBONDALE	SPRINGFIELD	COAL	6.8	768.0	

**MAPID:** 06524872000C    **VERSION:** 1    **PROJECT:** RJJ-DAVIS  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 17    **QUARTERS/FOOTAGES:** 330' S line, 330' W line of NE SE  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.562459    **GEOLOGIST:** JACOBSON  
**CONFIDENTIAL:** N    **LATITUDE:** 37.911227    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 410.0    **LOGGED (FT.):** 23.0    **LOG TYPE:** Nuclear Log  
**SOURCE:**  
**COMMENT:**    **WELL TYPE:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-422.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	832.0	
-462.0	CARBONDALE	SURVANT	COAL	3.0	872.0	
-540.0	CARBONDALE	COLCHESTER	COAL	0.5	950.0	
-562.0	CARBONDALE	DEKOVEN	COAL	2.5	972.0	
-590.0	CARBONDALE	LOWER DEKOVEN	COAL	3.0	1000.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-598.0	CARBONDALE	DAVIS	COAL	4.0	1008.0	
-639.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1049.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

**MAPID:** 06590049000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 17    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.56819    **GEOLOGIST:** C TREWORGY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.912916    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	SPRINGFIELD	COAL	5.3		

MAPID: 06590103000C    VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 17    QUARTERS/FOOTAGES:

QUADRANGLE: WALPOLE    LONGITUDE: -88.576698

GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.909037

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

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

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MAPID: 06500033000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 6E    SECTION: 18    QUARTERS/FOOTAGES: 3625' S line, 1920' E line

QUADRANGLE: WALPOLE    LONGITUDE: -88.584111    GEOLOGIST: C TREWORGY

CONFIDENTIAL: N    LATITUDE: 37.916813    DATE COLLECTED: 0 / 0 / 1922

SURFACE ELEVATION (FT.): 423.0    LOGGED (FT.): 793.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 19    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
423.0			CLAY	8.0	0.0
415.0			HARD PAN	12.5	8.0
402.5			BLUE SHALE	4.0	20.5
398.5			FOSSILIFEROUS SHALE	1.0	24.5
397.5			SANDY SHALE	19.5	25.5
378.0			BLUE SHALE	16.0	45.0
362.0			COAL	1.3	61.0
360.7			UNDERCLAY	1.7	62.3
359.0			SANDY SHALE	20.0	64.0
339.0			COAL	0.5	84.0
338.5			BLUE SHALE	5.5	84.5
333.0			SANDY SHALE	30.0	90.0
303.0			SANDSTONE	17.0	120.0
286.0			SANDY SHALE	8.0	137.0
278.0			SANDSTONE	35.0	145.0
243.0			BLUE SHALE	4.0	180.0
239.0			SANDSTONE	15.0	184.0
224.0			BLUE SHALE	0.3	199.0
223.7			COAL	0.5	199.3
223.2			UNDERCLAY	0.2	199.8
223.0			CALCAREOUS SHALE	6.0	200.0
217.0			SANDY SHALE	36.0	206.0
181.0	MODESTO		BLUE SHALE	46.0	242.0
135.0	MODESTO		SANDSTONE	27.0	288.0
108.0	MODESTO	WOMAC	COAL	1.0	315.0
107.0	MODESTO		BLUE SHALE	8.0	316.0
99.0	MODESTO		SANDY SHALE	76.0	324.0
23.0	MODESTO		BLUE SHALE	22.5	400.0
0.5	MODESTO	CHAPEL	COAL	1.5	422.5
-1.0	MODESTO		GRAY SHALE	6.0	424.0
-7.0	MODESTO		SANDY SHALE	8.0	430.0
-15.0	MODESTO		BLUE SHALE	9.0	438.0
-24.0	MODESTO		SANDY SHALE	43.0	447.0
-67.0	MODESTO		BLUE SHALE	50.0	490.0
-117.0	MODESTO		SANDY SHALE	13.0	540.0
-130.0	MODESTO		BLACK SHALE	3.0	553.0
-133.0	MODESTO		DARK SHALE	8.5	556.0
-141.5	MODESTO		COAL	0.5	564.5
-142.0	MODESTO		SANDY SHALE	17.0	565.0

-159.0	MODESTO		BLUE SHALE	16.0	582.0	
-175.0	MODESTO		LIMESTONE	5.0	598.0	
-180.0	MODESTO		DARK SHALE	4.0	603.0	
-184.0	MODESTO		BLUE SHALE	15.7	607.0	
-199.7	MODESTO		COAL	2.0	622.7	
-201.7	MODESTO		BLUE SHALE	3.3	624.7	
-205.0	MODESTO		BLUE SHALE	15.3	628.0	
-220.3	MODESTO		COAL	0.3	643.3	
-220.7	MODESTO		UNDERCLAY	0.3	643.7	
-221.0	MODESTO		BLUE SHALE	9.0	644.0	
-230.0	MODESTO	PIASA	LIMESTONE	7.0	653.0	
-237.0	MODESTO	PIASA	LIMESTONE	2.1	660.0	
-239.1	MODESTO		BLACK SHALE	0.2	662.1	
-239.3	CARBONDALE	DANVILLE	COAL	1.5	662.3	
-240.8	CARBONDALE		BLUE SHALE	0.3	663.8	
-241.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	8.0	664.0	
-249.0	CARBONDALE	ANVIL ROCK	SANDSTONE	7.0	672.0	
-256.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	10.0	679.0	
-266.0	CARBONDALE		BLUE SHALE	7.0	689.0	
-273.0	CARBONDALE		BLACK SHALE	2.5	696.0	
-275.5	CARBONDALE	BRERETON	LIMESTONE	3.5	698.5	
-279.0	CARBONDALE	ANNA	BLACK SHALE	4.3	702.0	
-283.3	CARBONDALE	HERRIN	COAL	4.2	706.3	
-287.5	CARBONDALE	HERRIN	ROCK	0.1	710.5	BLUE BAND
-287.6	CARBONDALE	HERRIN	COAL	3.9	710.6	
-291.5	CARBONDALE		UNDERCLAY	0.5	714.5	
-292.0	CARBONDALE		SANDY SHALE	13.5	715.0	
-305.5	CARBONDALE		CONGLOMERATE	1.0	728.5	
-306.5	CARBONDALE		SANDY SHALE	8.5	729.5	
-315.0	CARBONDALE		SANDSTONE	10.4	738.0	
-325.4	CARBONDALE	ST. DAVID	FOSSILIFEROUS LIMESTONE	1.1	748.4	
-326.5	CARBONDALE	ST. DAVID	LIMESTONE	2.0	749.5	
-328.5	CARBONDALE		BLACK SHALE	3.5	751.5	
-332.0	CARBONDALE		SANDY SHALE	4.0	755.0	
-336.0	CARBONDALE		BLUE SHALE	13.0	759.0	
-349.0	CARBONDALE		SANDY SHALE	14.3	772.0	
-363.3	CARBONDALE	SPRINGFIELD	COAL	5.7	786.3	
-369.0	CARBONDALE		UNDERCLAY	0.3	792.0	
-369.3	CARBONDALE		UNDERCLAY	0.8	792.3	

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MAPID: 06500033000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 18 QUARTERS/FOOTAGES: 3625' S line, 1920' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.584111 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.916813 DATE COLLECTED:

SURFACE ELEVATION (FT.): 423.0 LOGGED (FT.): 793.0 LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-200.0	CARBONDALE	DANVILLE	COAL	2.0	623.0	
-230.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	653.0	
-249.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	8.0	672.0	
-283.0	CARBONDALE	HERRIN	COAL	8.2	706.0	
-315.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	10.0	738.0	
-329.0	CARBONDALE	BRIAR HILL	COAL	-	752.0	
-363.0	CARBONDALE	SPRINGFIELD	COAL	5.7	786.0	GRAY SHALE ROOF

MAPID: 06501641000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 18 QUARTERS/FOOTAGES: 1650' N line, 330' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.57857 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.916838 DATE COLLECTED: 6 / 0 / 1959

SURFACE ELEVATION (FT.): 433.0 LOGGED (FT.): 3360.0 LOG TYPE: Electric Log

SOURCE: MISKELL J H, HOWARD ETAL 1 WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-457.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	890.0	
-504.0	CARBONDALE	SURVANT	COAL	3.0	937.0	
-567.0	CARBONDALE	COLCHESTER	COAL	0.5	1000.0	
-587.0	CARBONDALE	DEKOVEN	COAL	3.0	1020.0	
-617.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	1050.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-622.0	CARBONDALE	DAVIS	COAL	3.0	1055.0	
-662.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	1095.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503710000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 18 QUARTERS/FOOTAGES: 2640' N line, 2640' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.586641 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.914092 DATE COLLECTED: 12 / 17 / 1968

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 779.5 LOG TYPE: Other Core Study

SOURCE: TRUAX-TRAER COAL CO 10-HA WELL TYPE: Coal Test

COMMENT: CORE C-8480

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
244.4			COAL	1.4	175.6
135.9			COAL	1.6	284.1
-251.4	CARBONDALE	HERRIN	COAL	5.7	671.4
-351.2	CARBONDALE	SPRINGFIELD	COAL	6.0	771.2

MAPID: 06503710000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 6E SECTION: 18 QUARTERS/FOOTAGES: 2640' N line, 2640' E line

QUADRANGLE: WALPOLE LONGITUDE: -88.586641 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.914092 DATE COLLECTED:

SURFACE ELEVATION (FT.): 420.0 LOGGED (FT.): 677.3 LOG TYPE: Survey Core Study

SOURCE: TRUAX-TRAER COAL CO 10-HA WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-150.2	MODESTO	PIASA	LIMESTONE	2.3	570.2
-152.5	MODESTO		SILTY SHALE	37.9	572.5
-190.4	CARBONDALE	DANVILLE	COAL	0.3	610.4
-190.7	CARBONDALE		SILTY SHALE	16.8	610.7
-207.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	627.5
-212.8	CARBONDALE	LAWSON	SILTY SHALE	6.8	632.8
-219.6	CARBONDALE	LAWSON	CARBONACEOUS SANDSTONE	12.5	639.6
-232.1	CARBONDALE	LAWSON	SHALE & SILTSTONE	7.3	652.1
-239.3	CARBONDALE	LAWSON	SILTY SHALE	4.3	659.3
-243.6	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	0.4	663.6
-244.0	CARBONDALE	JAMESTOWN	BONE COAL	0.5	664.0
-244.5	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.3	664.5
-246.8	CARBONDALE	ANNA	BLACK SHALE	2.9	666.8
-249.7	CARBONDALE	ENERGY	GRAY SHALE	1.3	669.7
-251.0	CARBONDALE	HERRIN	COAL	6.3	671.0



**MAPID:** 06590037000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 18    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.586352    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.914048    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	6.0	

**MAPID:** 06590038000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 6E    **SECTION:** 18    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** WALPOLE    **LONGITUDE:** -88.583663    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.916716    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.7	

**MAPID:** 06503602000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 1    **QUARTERS/FOOTAGES:** 0' S line, 0' W line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.393378    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.936778    **DATE COLLECTED:** 12 / 16 / 1967  
**SURFACE ELEVATION (FT.):** 395.0    **LOGGED (FT.):** 719.4    **LOG TYPE:** Other Core Study  
**SOURCE:** PEABODY COAL CO.    3    **WELL TYPE:** Coal Test  
**COMMENT:** C-6834

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-98.1			COAL	1.7	493.1
-208.9	CARBONDALE	HERRIN	COAL	5.8	603.9
-272.6	CARBONDALE	BRIAR HILL	COAL	2.1	667.6
-317.6	CARBONDALE	SPRINGFIELD	COAL	5.2	712.6

MAPID: 06503602000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 1 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.393378

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.936778

DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0

LOGGED (FT.): 606.9

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 3

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-200.6	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.6	595.6	
-203.2	CARBONDALE	ANNA	BLACK SHALE	4.8	598.2	
-208.0	CARBONDALE	HERRIN	COAL	3.9	603.0	

MAPID: 06523853000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 1 QUARTERS/FOOTAGES: 1320' S line, 2310' W line of SE SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.380567

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.940384

DATE COLLECTED: 4 / 23 / 1975

SURFACE ELEVATION (FT.): 422.0

LOGGED (FT.): 742.5

LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 82-C

WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-120.5	CARBONDALE	DANVILLE	COAL	2.0	542.5	
-200.4	CARBONDALE	HERRIN	COAL	3.4	622.4	
-262.5	CARBONDALE	BRIAR HILL	COAL	1.5	684.5	
-305.2	CARBONDALE	SPRINGFIELD	COAL	5.4	727.2	

MAPID: 06503747000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 2 QUARTERS/FOOTAGES: 1650' S line, 1320' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.407406

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.941327

DATE COLLECTED: 12 / 1 / 1972

SURFACE ELEVATION (FT.): 425.0

LOGGED (FT.): 774.0

LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 75-C

WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-40.0			COAL	2.0	465.0	
-122.0			COAL	1.8	547.0	
-220.6	CARBONDALE	HERRIN	COAL	4.6	645.6	
-339.8	CARBONDALE	SPRINGFIELD	COAL	7.0	764.8	

MAPID: 06503747000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 2 QUARTERS/FOOTAGES: 1650' S line, 1320' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.407406

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.941327

DATE COLLECTED:

SURFACE ELEVATION (FT.): 425.0 LOGGED (FT.): 651.6

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 75-C

WELL TYPE: Coal Test

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-213.9	CARBONDALE	BRERETON	LIMESTONE	2.5	638.9
-216.4	CARBONDALE	ANNA	BLACK SHALE	5.6	641.4
-222.0	CARBONDALE	HERRIN	COAL	4.6	647.0

MAPID: 06523876000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 2 QUARTERS/FOOTAGES: NW NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.409533

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.949349

DATE COLLECTED: 5 / 25 / 1970

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 785.2

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 41-C

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-276.2	CARBONDALE	HERRIN	COAL	5.1	657.2
-397.4	CARBONDALE	SPRINGFIELD	COAL	6.1	778.4

MAPID: 06500598000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 3 QUARTERS/FOOTAGES: 330' S line, 430' W line of SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.419674 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.937587 DATE COLLECTED:

SURFACE ELEVATION (FT.): 405.0 LOGGED (FT.): 3290.0 LOG TYPE: Electric Log

SOURCE: GEORGE & WRATHER OIL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-137.0	CARBONDALE	DANVILLE	COAL	-	542.0	
-139.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	16.0	544.0	
-170.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	575.0	
-177.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	48.0	582.0	
-233.0	CARBONDALE	HERRIN	COAL	4.0	638.0	
-247.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	14.0	652.0	
-287.0	CARBONDALE	BRIAR HILL	COAL	-	692.0	
-291.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	7.0	696.0	
-349.0	CARBONDALE	SPRINGFIELD	COAL	8.0	754.0	BLACK SHALE & LIMESTONE ROOF
-345.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	14.0	750.0	
-397.0	CARBONDALE	HOUCHIN CREEK	COAL	-	802.0	

MAPID: 06503604000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 3 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.430287 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.936546 DATE COLLECTED: 12 / 19 / 1967

SURFACE ELEVATION (FT.): 364.0 LOGGED (FT.): 779.4 LOG TYPE: Other Core Study

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

COMMENT: C-3715

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-67.8			COAL WITH SHALE	1.1	431.8	"COAL-SLATE"
-151.8			COAL	2.0	515.8	
-258.4	CARBONDALE	HERRIN	COAL	6.6	622.4	
-316.7	CARBONDALE	BRIAR HILL	COAL	1.4	680.7	
-402.4	CARBONDALE	SPRINGFIELD	COAL	7.6	766.4	

MAPID: 06503604000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 3 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.430287 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.936546 DATE COLLECTED:

SURFACE ELEVATION (FT.): 364.0 LOGGED (FT.): 628.6 LOG TYPE: Drillers Log

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

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-151.4	CARBONDALE	DANVILLE	COAL	2.0	515.4
-153.4	CARBONDALE		SILTY SHALE	31.5	517.4
-184.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.9	548.8
-187.7	CARBONDALE	LAWSON	GRAY SHALE	11.5	551.7
-199.2	CARBONDALE	LAWSON	SANDSTONE	47.5	563.2
-246.7	CARBONDALE	BRERETON	LIMESTONE	7.8	610.7
-254.5	CARBONDALE	ANNA	BLACK SHALE	3.5	618.5
-258.0	CARBONDALE	HERRIN	COAL	6.6	622.0

MAPID: 06503629000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 4 QUARTERS/FOOTAGES: 0' N line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.448503 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.951162 DATE COLLECTED: 1 / 15 / 1969

SURFACE ELEVATION (FT.): 362.0 LOGGED (FT.): 786.5 LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 13 WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY; C-7058

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-302.3	CARBONDALE	HERRIN	COAL	4.6	664.3
-416.6	CARBONDALE	SPRINGFIELD	COAL	3.4	778.6

MAPID: 06503629000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 4 QUARTERS/FOOTAGES: 0' N line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.448503 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.951162 DATE COLLECTED:

SURFACE ELEVATION (FT.): 362.0 LOGGED (FT.): 668.6 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 13 WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-216.9	CARBONDALE	DANVILLE	COAL	1.3	578.9
-218.2	CARBONDALE		SILTY SHALE	23.8	580.2
-241.9	CARBONDALE	BANKSTON FORK	LIMESTONE	0.6	603.9
-242.5	CARBONDALE	LAWSON	SILTY SHALE	40.5	604.5
-283.0	CARBONDALE	LAWSON	SANDSTONE	8.2	645.0
-291.2	CARBONDALE	LAWSON	SILTY SHALE	3.1	653.2
-294.3	CARBONDALE	BRERETON	LIMESTONE	5.4	656.3
-299.7	CARBONDALE	ANNA	BLACK SHALE	2.3	661.7
-302.0	CARBONDALE	HERRIN	COAL	4.6	664.0

MAPID: 06503748000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 4 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.437051 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.945648 DATE COLLECTED: 7 / 8 / 1970

SURFACE ELEVATION (FT.): LOGGED (FT.): 772.2 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 45-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			COAL	1.0	244.0
-	CARBONDALE	HERRIN	COAL	5.5	638.5
-	CARBONDALE	SPRINGFIELD	COAL	7.1	763.3

**MAPID:** 06503733000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 5    **QUARTERS/FOOTAGES:** 0' N line, 2640' E line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.457709    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.951078    **DATE COLLECTED:** 2 / 24 / 1972  
**SURFACE ELEVATION (FT.):** 365.0    **LOGGED (FT.):** 793.4    **LOG TYPE:** Other Core Study  
**SOURCE:** PEABODY COAL CO.    58-C    **WELL TYPE:** Coal Test  
**COMMENT:** SURVEY CORE STUDY; C-8983

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-51.0			COAL	1.2	416.0
-218.5			COAL	1.8	583.5
-306.6	CARBONDALE	HERRIN	COAL	5.3	671.6
-359.5	CARBONDALE	BRIAR HILL	COAL	1.5	724.5
-417.1	CARBONDALE	SPRINGFIELD	COAL	7.3	782.1

**MAPID:** 06503733000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 5    **QUARTERS/FOOTAGES:** 0' N line, 2640' E line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.457709    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.951078    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 365.0    **LOGGED (FT.):** 677.3    **LOG TYPE:** Survey Core Study  
**SOURCE:** PEABODY COAL CO.    58-C    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-299.8	CARBONDALE	CONANT	CALCAREOUS SHALE	0.2	664.8
-300.1	CARBONDALE		CLAYSTONE	0.7	665.1
-300.8	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	3.7	665.8
-304.5	CARBONDALE	ANNA	BLACK SHALE	2.5	669.5
-307.0	CARBONDALE	HERRIN	COAL	5.3	672.0

**MAPID:** 06523843000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 7    **QUARTERS/FOOTAGES:** 1320' S line, 1650' E line of SE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.472742    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.925278    **DATE COLLECTED:** 8 / 22 / 1970  
**SURFACE ELEVATION (FT.):** 408.0    **LOGGED (FT.):** 760.6    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    49-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
118.0	MODESTO	CHAPEL	COAL	1.3	290.0
-172.0	CARBONDALE	DANVILLE	COAL	1.5	580.0
-248.0	CARBONDALE	HERRIN	COAL	5.3	656.0
-346.0	CARBONDALE	SPRINGFIELD	COAL	4.6	754.0

MAPID: 06523843000C    VERSION: 2

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 7    QUARTERS/FOOTAGES: 1320' S line, 1650' E line of SE

QUADRANGLE: BROUGHTON

LONGITUDE: -88.472742

GEOLOGIST: HOKE

CONFIDENTIAL: N

LATITUDE: 37.925278

DATE COLLECTED: 8 / 22 / 1970

SURFACE ELEVATION (FT.): 408.0

LOGGED (FT.): 760.6

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    49-C

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
408.0			SANDY CLAY	43.5	0.0
364.5			GRAY SHALE	3.5	43.5
361.0			LIMESTONE	0.7	47.0
360.3			GRAY SHALE	26.8	47.7
333.5			LIMESTONE	5.5	74.5
328.0			SANDY SHALE	50.0	80.0
278.0			LIMESTONE	4.6	130.0
273.4			GRAY SHALE	5.4	134.6
268.0			LIMESTONE	2.5	140.0
265.5			GRAY SHALE	101.5	142.5
164.0			BLACK SHALE	4.6	244.0
159.4	MODESTO		GRAY SHALE	11.4	248.6
148.0	MODESTO		SANDSTONE	30.0	260.0
118.0	MODESTO	WOMAC	COAL	1.3	290.0
116.7	MODESTO		GRAY SHALE	5.0	291.3
111.7	MODESTO		SANDSTONE	4.7	296.3
107.0	MODESTO		SANDY SHALE	69.0	301.0
38.0	MODESTO		LIMESTONE	4.0	370.0
34.0	MODESTO		SANDSTONE	6.0	374.0
28.0	MODESTO		GRAY SHALE	7.0	380.0
21.0	MODESTO		SANDSTONE	18.0	387.0
3.0	MODESTO		SANDY SHALE	10.0	405.0
-7.0	MODESTO		SANDSTONE	33.0	415.0
-40.0	MODESTO		GRAY SHALE	27.0	448.0
-67.0	MODESTO		LIMESTONE	3.0	475.0
-70.0	MODESTO		GRAY SHALE	20.0	478.0
-90.0	MODESTO		BLACK SHALE	1.0	498.0
-91.0	MODESTO		LIMESTONE	3.5	499.0
-94.5	MODESTO		SANDSTONE	7.5	502.5
-102.0	MODESTO		SANDY SHALE	18.0	510.0
-120.0	MODESTO		SANDSTONE	11.0	528.0
-131.0	MODESTO	PIASA	LIMESTONE	6.0	539.0
-137.0	MODESTO		SANDSTONE	2.0	545.0
-139.0	MODESTO		SANDY SHALE	10.0	547.0
-149.0	MODESTO		SANDSTONE	10.0	557.0
-159.0	MODESTO		SANDY SHALE	13.0	567.0
-172.0	CARBONDALE	DANVILLE	COAL	1.5	580.0
-173.5	CARBONDALE		GRAY SHALE	3.5	581.5
-177.0	CARBONDALE		SANDSTONE	4.0	585.0



-181.0	CARBONDALE		SANDY SHALE	19.0	589.0	
-200.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.4	608.0	
-203.4	CARBONDALE		GRAY SHALE	8.6	611.4	
-212.0	CARBONDALE		COAL	0.5	620.0	
-212.5	CARBONDALE	ANVIL ROCK	SANDSTONE	10.0	620.5	
-222.5	CARBONDALE	ANVIL ROCK	SANDY SHALE	18.5	630.5	
-241.0	CARBONDALE	BRERETON	LIMESTONE	3.4	649.0	
-244.4	CARBONDALE	ANNA	BLACK SHALE	3.2	652.4	
-247.6	CARBONDALE	HERRIN	BONE COAL	0.4	655.6	
-248.0	CARBONDALE	HERRIN	COAL	0.5	656.0	
-248.5	CARBONDALE	HERRIN	PYRITE	0.0	656.5	
-248.6	CARBONDALE	HERRIN	COAL	1.1	656.6	
-249.7	CARBONDALE	HERRIN	FUSAIN	0.0	657.7	
-249.7	CARBONDALE	HERRIN	COAL	0.5	657.7	
-250.2	CARBONDALE	HERRIN	FUSAIN	0.0	658.2	
-250.2	CARBONDALE	HERRIN	COAL	0.5	658.2	
-250.7	CARBONDALE	HERRIN	SHALE	0.0	658.7	
-250.7	CARBONDALE	HERRIN	COAL	0.2	658.7	
-250.9	CARBONDALE	HERRIN	SHALE	0.0	658.9	SH W/ SOME PYRITE
-250.9	CARBONDALE	HERRIN	COAL	0.2	658.9	
-251.2	CARBONDALE	HERRIN	SHALE	0.1	659.2	
-251.3	CARBONDALE	HERRIN	COAL	0.1	659.3	
-251.4	CARBONDALE	HERRIN	SHALE	0.0	659.4	
-251.4	CARBONDALE	HERRIN	COAL	0.0	659.4	
-251.4	CARBONDALE	HERRIN	SHALE	0.1	659.4	
-251.5	CARBONDALE	HERRIN	COAL	0.7	659.5	
-252.2	CARBONDALE	HERRIN	SHALE	0.1	660.2	
-252.2	CARBONDALE	HERRIN	COAL	1.0	660.2	
-253.3	CARBONDALE		UNDERCLAY	1.5	661.3	
-254.8	CARBONDALE		SANDSTONE	16.2	662.8	
-271.0	CARBONDALE		GRAY SHALE	11.0	679.0	
-282.0	CARBONDALE		SANDY SHALE	59.0	690.0	
-341.0	CARBONDALE	ST. DAVID	LIMESTONE	1.0	749.0	
-342.0	CARBONDALE	TURNER MINE	BLACK SHALE	4.0	750.0	
-346.0	CARBONDALE	SPRINGFIELD	COAL	4.6	754.0	
-350.6	CARBONDALE		UNDERCLAY	2.0	758.6	

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MAPID: 06523855000C    VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 7    QUARTERS/FOOTAGES: 1980' N line, 0' E line of NE

QUADRANGLE: BROUGHTON    LONGITUDE: -88.467037    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 37.930823    DATE COLLECTED: 5 / 30 / 1975

SURFACE ELEVATION (FT.): 384.0    LOGGED (FT.): 787.0    LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO.    85-C    WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-83.5	MODESTO	CHAPEL	COAL	1.5	467.5	
-144.0	CARBONDALE	DANVILLE	COAL	2.0	528.0	
-223.6	CARBONDALE	HERRIN	COAL	4.9	607.6	
-	CARBONDALE	BRIAR HILL	UNCLASSIFIED	0.0		CUT OUT
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0		CUT OUT

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MAPID: 06523855000C    VERSION: 2

PROJECT: NCRDS93

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 7    QUARTERS/FOOTAGES: 1980' N line, 0' E line of NE

QUADRANGLE: BROUGHTON    LONGITUDE: -88.467037    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.930823    DATE COLLECTED: 5 / 30 / 1975

SURFACE ELEVATION (FT.): 384.0    LOGGED (FT.): 787.0    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    85C    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
384.0			UNCONSOLIDATED	37.0	0.0	CLAY AND SAND
347.0	BOND		GRAY SHALE	10.0	37.0	
337.0	BOND	CARTHAGE	LIMESTONE	6.0	47.0	
331.0	BOND		GRAY SHALE	49.0	53.0	
282.0	MODESTO		SANDSTONE	28.0	102.0	
254.0	MODESTO		GRAY SHALE	78.0	130.0	
176.0	MODESTO		BLACK SHALE	4.0	208.0	
172.0	MODESTO		UNDERCLAY	4.0	212.0	
168.0	MODESTO		SANDSTONE	35.0	216.0	
133.0	MODESTO		LIMESTONE	2.0	251.0	
131.0	MODESTO		SANDSTONE	33.0	253.0	
98.0	MODESTO		SANDY SHALE	25.0	286.0	
73.0	MODESTO		GRAY SHALE	16.0	311.0	
57.0	MODESTO		BLACK SHALE	1.5	327.0	
55.5	MODESTO	CHAPEL	COAL	2.5	328.5	
53.0	MODESTO		UNDERCLAY	4.0	331.0	
49.0	MODESTO		LIMESTONE	1.5	335.0	
47.5	MODESTO		SANDSTONE	16.5	336.5	
31.0	MODESTO		GRAY SHALE	21.0	353.0	
10.0	MODESTO		SANDY SHALE	10.0	374.0	
0.0	MODESTO		SANDSTONE	67.0	384.0	
-67.0	MODESTO		DARK GRAY SHALE	15.0	451.0	
-82.0	MODESTO		BLACK SHALE	1.5	466.0	
-83.5	MODESTO		COAL	1.5	467.5	
-85.0	MODESTO		UNDERCLAY	2.0	469.0	
-87.0	MODESTO		SANDSTONE	3.0	471.0	
-90.0	MODESTO		CALCAREOUS SHALE	2.0	474.0	
-92.0	MODESTO		LIMESTONE	2.0	476.0	
-94.0	MODESTO		GRAY SHALE	32.0	478.0	
-126.0	MODESTO	PIASA	LIMESTONE	1.5	510.0	
-127.5	MODESTO	PIASA	CALCAREOUS SHALE	16.5	511.5	
-144.0	CARBONDALE	DANVILLE	COAL	2.0	528.0	
-146.0	CARBONDALE		UNDERCLAY	1.0	530.0	
-147.0	CARBONDALE	ANVIL ROCK	SANDSTONE	19.0	531.0	
-166.0	CARBONDALE	ANVIL ROCK	SANDSTONE	33.0	550.0	
-199.0	CARBONDALE	ANVIL ROCK	SANDSTONE	11.0	583.0	
-210.0	CARBONDALE	ANVIL ROCK	SANDSTONE	4.0	594.0	
-214.0	CARBONDALE		GRAY SHALE	3.0	598.0	
-217.0	CARBONDALE		BLACK SHALE	1.0	601.0	

-218.0	CARBONDALE	BRERETON	LIMESTONE	0.5	602.0
-218.5	CARBONDALE	BRERETON	LIMESTONE	4.4	602.5
-222.9	CARBONDALE	ANNA	BLACK SHALE	0.7	606.9
-223.6	CARBONDALE	HERRIN	COAL	4.9	607.6
-228.5	CARBONDALE		UNDERCLAY	2.0	612.5
-230.5	CARBONDALE		SANDSTONE	8.0	614.5
-238.5	CARBONDALE		SANDSTONE	3.0	622.5
-241.5	CARBONDALE		LIMESTONE	2.5	625.5
-244.0	CARBONDALE		SANDSTONE	12.0	628.0
-256.0	CARBONDALE		SANDY SHALE	147.0	640.0

**MAPID:** 06523881000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 8    **QUARTERS/FOOTAGES:** NE NE  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.45098    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.934573    **DATE COLLECTED:** 7 / 24 / 1970  
**SURFACE ELEVATION (FT.):** 380.0    **LOGGED (FT.):** 766.3    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    34-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-260.5	CARBONDALE	HERRIN	COAL	5.2	640.5
-377.0	CARBONDALE	SPRINGFIELD	COAL	6.1	757.0

**MAPID:** 06523882000C    **VERSION:** 1    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 8    **QUARTERS/FOOTAGES:** SE SW SW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.463545    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.922564    **DATE COLLECTED:** 4 / 16 / 1970  
**SURFACE ELEVATION (FT.):** 400.0    **LOGGED (FT.):** 747.2    **LOG TYPE:** Drillers Log  
**SOURCE:** PEABODY COAL CO.    31-C    **WELL TYPE:** Coal Test  
**COMMENT:**

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN COMMENT
-183.8	CARBONDALE	HERRIN	COAL	5.3	583.8

MAPID: 06523882000C    VERSION: 2

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 8    QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: BROUGHTON    LONGITUDE: -88.463545    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.922564    DATE COLLECTED: 4 / 16 / 1970

SURFACE ELEVATION (FT.): 400.0    LOGGED (FT.): 747.2    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    31-C    WELL TYPE: Coal Test

COMMENT: LOCATION: E-7

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
400.0	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	SURFACE CLAY
384.0	BOND		GRAY SHALE	13.2	16.0	
370.8	BOND	CARTHAGE	LIMESTONE	6.5	29.2	
364.3	MODESTO		SANDY SHALE	44.8	35.7	
319.5	MODESTO		COAL	0.5	80.5	
319.0	MODESTO		SANDY SHALE	102.8	81.0	
216.2	MODESTO		BLACK SHALE	3.5	183.8	
212.7	MODESTO		GRAY SHALE	6.7	187.3	
206.0	MODESTO		CALCAREOUS SANDSTONE	15.5	194.0	
190.5	MODESTO		SANDSTONE	55.5	209.5	
135.0	MODESTO		SANDSTONE	17.0	265.0	SANDSTONE WITH SHALE STREAKS
118.0	MODESTO		SANDY SHALE	12.0	282.0	
106.0	MODESTO		SANDSTONE	12.5	294.0	SANDSTONE WITH SHALE STREAKS
93.5	MODESTO	CHAPEL	COAL	1.0	306.5	
92.5	MODESTO		SANDY SHALE	6.0	307.5	
86.5	MODESTO		CALCAREOUS SANDSTONE	14.5	313.5	
72.0	MODESTO		SANDY SHALE	30.0	328.0	
42.0	MODESTO		SANDSTONE	45.0	358.0	
-3.0	MODESTO		LIMESTONE	3.0	403.0	
-6.0	MODESTO		SANDY SHALE	31.0	406.0	
-37.0	MODESTO		DARK SHALE	8.0	437.0	DARK SHALE WITH COAL STREAKS
-45.0	MODESTO		COAL	2.0	445.0	
-47.0	MODESTO		UNDERCLAY	2.0	447.0	
-49.0	MODESTO		SANDSTONE	16.0	449.0	
-65.0	MODESTO		SANDSTONE	5.0	465.0	SANDSTONE WITH SHALE STREAKS
-70.0	MODESTO		LIMESTONE	2.5	470.0	
-72.5	MODESTO		SANDY SHALE	33.5	472.5	
-106.0	CARBONDALE	DANVILLE	COAL	1.5	506.0	
-107.5	CARBONDALE		SANDY SHALE	22.0	507.5	
-129.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	529.5	
-132.5	CARBONDALE		SANDSTONE	6.5	532.5	
-139.0	CARBONDALE		GRAY SHALE	21.0	539.0	
-160.0	CARBONDALE		SANDSTONE	16.8	560.0	SANDSTONE WITH SHALE STREAKS
-176.8	CARBONDALE	BRERETON	LIMESTONE	6.2	576.8	
-183.0	CARBONDALE		DARK SHALE	0.8	583.0	DARK SHALE AND SLATE
-183.8	CARBONDALE	HERRIN	COAL	0.6	583.8	
-184.4	CARBONDALE	HERRIN	SHALE	0.1	584.4	SHALE BAND

-184.5	CARBONDALE	HERRIN	COAL	0.1	584.5	
-184.5	CARBONDALE	HERRIN	SHALE	0.1	584.5	SHALE BAND
-184.6	CARBONDALE	HERRIN	COAL	0.3	584.6	
-184.9	CARBONDALE	HERRIN	COAL	0.4	584.9	COAL WITH PYRITE
-185.3	CARBONDALE	HERRIN	COAL	0.5	585.3	
-185.8	CARBONDALE	HERRIN	COAL	0.4	585.8	COAL WITH FUSIONS
-186.2	CARBONDALE	HERRIN	COAL	0.9	586.2	
-187.1	CARBONDALE	HERRIN	BLACK SHALE	0.1	587.1	SLATE AND PYRITE
-187.2	CARBONDALE	HERRIN	COAL	0.1	587.2	
-187.3	CARBONDALE	HERRIN	SHALE	0.0	587.3	SHALE BAND
-187.4	CARBONDALE	HERRIN	COAL	0.2	587.4	
-187.6	CARBONDALE	HERRIN	COAL	0.5	587.6	COAL WITH FUSIONS
-188.1	CARBONDALE	HERRIN	COAL	0.3	588.1	
-188.3	CARBONDALE	HERRIN	PYRITE	0.2	588.3	PYRITE BAND
-188.5	CARBONDALE		COAL	0.6	588.5	
-189.1	CARBONDALE		UNDERCLAY	1.6	589.1	
-190.7	CARBONDALE		SANDSTONE	15.3	590.7	
-206.0	CARBONDALE		GRAY SHALE	18.0	606.0	
-224.0	CARBONDALE		SANDSTONE	103.7	624.0	
-327.7	CARBONDALE		GRAY SHALE	1.8	727.7	
-329.5	CARBONDALE		SANDSTONE	17.7	729.5	

MAPID: 06500667000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 9    QUARTERS/FOOTAGES: 2310' N line, 1650' E line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.436105    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.930129    DATE COLLECTED:

SURFACE ELEVATION (FT.): 370.0    LOGGED (FT.): 3263.0    LOG TYPE: Electric Log

SOURCE: TEXACO, INC.    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-106.0	CARBONDALE	DANVILLE	COAL	-	476.0	
-110.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	15.0	480.0	
-136.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	506.0	
-142.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	54.0	512.0	
-202.0	CARBONDALE	HERRIN	COAL	-	572.0	
-250.0	CARBONDALE	BRIAR HILL	COAL	-	620.0	
-265.0	CARBONDALE	CANTON	SILTSTONE/SANDSTONE	8.0	635.0	
-318.0	CARBONDALE	SPRINGFIELD	COAL	6.0	688.0	BLACK SHALE & LIMESTONE ROOF
-352.0	CARBONDALE	SS BELOW NO. 5	SANDSTONE/SHALE	83.0	722.0	

MAPID: 06500667000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 9 QUARTERS/FOOTAGES: 2310' N line, 1650' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.436105

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.930129

DATE COLLECTED:

SURFACE ELEVATION (FT.): 370.0

LOGGED (FT.): 576.0

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
-108.5	CARBONDALE	DANVILLE	COAL	1.0	478.5
-109.5	CARBONDALE		SHALE & SANDSTONE	21.0	479.5
-130.5	CARBONDALE	ALLENBY	COAL	2.0	500.5
-132.5	CARBONDALE		CLAYSTONE & SHALE	4.0	502.5
-136.5	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	3.0	506.5
-139.5	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	55.0	509.5
-194.5	CARBONDALE	LAWSON	GRAY SHALE	2.0	564.5
-196.5	CARBONDALE	BRERETON	LIMESTONE & SHALE	3.0	566.5
-199.5	CARBONDALE	ANNA	BLACK SHALE	1.5	569.5
-201.0	CARBONDALE	HERRIN	COAL	5.0	571.0

MAPID: 06500667000C VERSION: 3

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 9 QUARTERS/FOOTAGES: 2310' N line, 1650' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.436105

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.930129

DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 370.0

LOGGED (FT.): 1875.0

LOG TYPE: Electric Log

SOURCE: TEXACO, INC.

WELL TYPE: Producer-Oil and Gas

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-490.0	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	860.0
-562.0	SPOON	DAVIS	UNCLASSIFIED	-	932.0
-1505.0	BASE OF PENN.		UNCLASSIFIED	-	1875.0

MAPID: 06500667000C VERSION: 4

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 9 QUARTERS/FOOTAGES: 2310' N line, 1650' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.436105 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.930129 DATE COLLECTED: 4 / 0 / 1952

SURFACE ELEVATION (FT.): 370.0 LOGGED (FT.): 3263.0 LOG TYPE: Electric Log

SOURCE: TEXACO, INC., WARREN HEIRS WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-378.0	CARBONDALE	HOUCHIN CREEK	COAL	0.0	748.0	
-490.0	CARBONDALE	COLCHESTER	COAL	0.5	860.0	
-520.0	CARBONDALE	DEKOVEN	COAL	3.0	890.0	
-558.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	928.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-562.0	CARBONDALE	DAVIS	COAL	3.0	932.0	
-598.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	968.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06523846000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 9 QUARTERS/FOOTAGES: NW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.437196 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.934672 DATE COLLECTED: 12 / 9 / 1974

SURFACE ELEVATION (FT.): 372.0 LOGGED (FT.): 747.3 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 78-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-167.0	CARBONDALE	DANVILLE	COAL	2.0	539.0	CORE AVAIL BUT DEPTHS DONT AGREE W/LOG
-238.0	CARBONDALE	HERRIN	COAL	4.6	610.0	CORE AVAIL BUT DEPTHS DONT AGREE W/LOG
-302.0	CARBONDALE	BRIAR HILL	COAL	1.5	674.0	CORE AVAIL BUT DEPTHS DONT AGREE W/LOG
-359.0	CARBONDALE	SPRINGFIELD	COAL	6.6	731.0	



MAPID: 06500597000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 10 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.424637 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.930218 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 1866.0 LOG TYPE: Electric Log

SOURCE: SLAGTER ARTHUR J WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-122.0	CARBONDALE	DANVILLE	COAL	-	520.0	
-124.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	14.0	522.0	
-149.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	547.0	
-156.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	46.0	554.0	
-208.0	CARBONDALE	HERRIN	COAL	4.0	606.0	
-262.0	CARBONDALE	BRIAR HILL	COAL	-	660.0	
-267.0	CARBONDALE	CANTON	SILTSTONE/SANDSTONE	19.0	665.0	
-330.0	CARBONDALE	SPRINGFIELD	COAL	6.0	728.0	BLACK SHALE & LIMESTONE ROOF
-382.0	CARBONDALE	HOUCHIN CREEK	COAL	-	780.0	

MAPID: 06501067000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.426981 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.924718 DATE COLLECTED: 8 / 0 / 1956

SURFACE ELEVATION (FT.): 393.0 LOGGED (FT.): 3255.0 LOG TYPE: Electric Log

SOURCE: BAINES, DON DRLG. CO., YOUNG HEIRS WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-382.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	775.0	
-412.0	CARBONDALE	SURVANT	COAL	1.6	805.0	
-490.0	CARBONDALE	COLCHESTER	COAL	0.5	883.0	
-502.0	CARBONDALE	DEKOVEN	COAL	3.0	895.0	
-537.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	930.0	80 PERCENT SANDSTONE IN DEKOVEN SPLIT
-542.0	CARBONDALE	DAVIS	COAL	3.0	935.0	
-572.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	965.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06503749000C    VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 10    QUARTERS/FOOTAGES: 1320' S line, 1320' W line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.4258    GEOLOGIST:

CONFIDENTIAL: N    LATITUDE: 37.925629    DATE COLLECTED:

SURFACE ELEVATION (FT.): 387.0    LOGGED (FT.): 596.1    LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO.    51-C    WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-192.9	CARBONDALE	CONANT	CALCAREOUS SHALE	4.3	579.9
-197.2	CARBONDALE		CALCAREOUS SHALE	2.2	584.2
-199.4	CARBONDALE	BRERETON	LIMESTONE	3.0	586.4
-202.4	CARBONDALE	ANNA	BLACK SHALE	1.6	589.4
-204.0	CARBONDALE	HERRIN	COAL	5.1	591.0

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MAPID: 06503749000C    VERSION: 2

PROJECT: NCRDS93

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 10    QUARTERS/FOOTAGES: 1320' S line, 1320' W line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.4258    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.925629    DATE COLLECTED: 9 / 27 / 1970

SURFACE ELEVATION (FT.): 387.0    LOGGED (FT.): 719.0    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    51-C    WELL TYPE: Coal Test

COMMENT: CENTER OF SW 1/4

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
387.0			CLAY	89.0	0.0
298.0	MODESTO		GRAY SHALE	99.0	89.0
199.0	MODESTO		BLACK SHALE	3.0	188.0
196.0	MODESTO		GRAY SHALE	10.0	191.0
186.0	MODESTO		SANDY SHALE	19.0	201.0
167.0	MODESTO		SANDSTONE	60.0	220.0
107.0	MODESTO		GRAY SHALE	25.0	280.0
82.0	MODESTO		BLACK SHALE	1.4	305.0
80.6	MODESTO		COAL	1.0	306.4
79.6	MODESTO		GRAY SHALE	3.0	307.4
76.6	MODESTO		LIMESTONE	4.2	310.4
72.4	MODESTO		SANDSTONE	6.4	314.6
66.0	MODESTO		SANDY SHALE	30.0	321.0
36.0	MODESTO		GRAY SHALE	42.0	351.0
-6.0	MODESTO		LIMESTONE	3.5	393.0
-9.5	MODESTO		SANDY SHALE	38.5	396.5
-48.0	MODESTO		GRAY SHALE	10.0	435.0
-58.0	MODESTO		LIMESTONE	2.0	445.0
-60.0	MODESTO		SANDY SHALE	13.0	447.0
-73.0	MODESTO		GRAY SHALE	5.0	460.0
-78.0	MODESTO	PIASA	LIMESTONE	4.0	465.0
-82.0			BLACK SHALE	2.5	469.0
-84.5			GRAY SHALE	22.5	471.5
-107.0			LIMESTONE	2.0	494.0
-109.0			SANDY SHALE	10.0	496.0
-119.0			GRAY SHALE	14.0	506.0
-133.0	CARBONDALE	DANVILLE	COAL	1.2	520.0
-134.2	CARBONDALE		SANDY SHALE	11.0	521.2
-145.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	532.2
-148.2	CARBONDALE		GRAY SHALE	5.8	535.2
-154.0	CARBONDALE	ANVIL ROCK	SANDSTONE	19.0	541.0
-173.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	5.0	560.0
-178.0	CARBONDALE	ANVIL ROCK	SANDSTONE	15.0	565.0
-193.0	CARBONDALE		SANDY SHALE	3.5	580.0
-196.5	CARBONDALE	CONANT	LIMESTONE	0.5	583.5
-197.0	CARBONDALE		SHALE	1.4	584.0
-198.4	CARBONDALE	BRERETON	LIMESTONE	0.8	585.4
-199.2	CARBONDALE	BRERETON	LIMESTONE	3.0	586.2
-202.2	CARBONDALE	ANNA	BLACK SHALE	1.8	589.2

-204.0	CARBONDALE	HERRIN	COAL	0.2	591.0
-204.2	CARBONDALE	HERRIN	COAL	1.1	591.2
-205.3	CARBONDALE	HERRIN	COAL	0.1	592.3
-205.4	CARBONDALE	HERRIN	COAL	1.1	592.4
-206.5	CARBONDALE	HERRIN	COAL	0.1	593.5
-206.6	CARBONDALE	HERRIN	COAL	0.1	593.6
-206.7	CARBONDALE	HERRIN	PYRITE	0.0	593.7
-206.7	CARBONDALE	HERRIN	COAL	0.1	593.7
-206.8	CARBONDALE	HERRIN	PYRITE	0.0	593.8
-206.8	CARBONDALE	HERRIN	COAL	0.3	593.8
-207.1	CARBONDALE	HERRIN	ROCK	0.3	594.1
-207.4	CARBONDALE	HERRIN	COAL	1.3	594.4
-208.7	CARBONDALE	HERRIN	PYRITE	0.0	595.7
-208.8	CARBONDALE	HERRIN	COAL	0.1	595.8
-208.8	CARBONDALE	HERRIN	SHALE	0.0	595.8
-208.8	CARBONDALE	HERRIN	COAL	0.3	595.8
-209.1	CARBONDALE		UNDERCLAY	3.9	596.1
-213.0	CARBONDALE		LIMESTONE	2.2	600.0
-215.2	CARBONDALE		SANDY SHALE	45.3	602.2
-260.5	CARBONDALE		GRAY SHALE	5.5	647.5
-266.0	CARBONDALE		SANDSTONE	7.0	653.0
-273.0	CARBONDALE		SANDY SHALE	3.0	660.0
-276.0	CARBONDALE		LIMESTONE	1.0	663.0
-277.0	CARBONDALE		GRAY SHALE	39.0	664.0
-316.0	CARBONDALE		CALCAREOUS SHALE	1.0	703.0
-317.0	CARBONDALE		BLACK SHALE	2.3	704.0
-319.3	CARBONDALE		LIMESTONE	0.3	706.3
-319.5	CARBONDALE		SHALE	0.6	706.5
-320.1	CARBONDALE		LIMESTONE	0.7	707.1
-320.7	CARBONDALE		BLACK SHALE	1.7	707.7
-322.4	CARBONDALE		LIMESTONE	0.8	709.4
-323.1	CARBONDALE		BLACK SHALE	0.1	710.1
-323.2	CARBONDALE	SPRINGFIELD	COAL	1.4	710.2
-324.6	CARBONDALE	SPRINGFIELD	FUSAIN	0.0	711.6
-324.6	CARBONDALE	SPRINGFIELD	COAL	0.4	711.6
-325.0	CARBONDALE	SPRINGFIELD	COAL	0.5	712.0
-325.5	CARBONDALE	SPRINGFIELD	COAL	0.8	712.5
-326.3	CARBONDALE	SPRINGFIELD	COAL	2.3	713.3
-328.5	CARBONDALE	SPRINGFIELD	COAL	0.0	715.5
-328.6	CARBONDALE	SPRINGFIELD	COAL	0.3	715.6
-328.9	CARBONDALE	SPRINGFIELD	PYRITE	0.0	715.9
-328.9	CARBONDALE	SPRINGFIELD	COAL	0.3	715.9
-329.2	CARBONDALE		SHALE	0.1	716.2
-329.3	CARBONDALE		UNDERCLAY	1.7	716.3
-331.1	CARBONDALE		SANDSTONE	0.9	718.1

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MAPID: 06503749000C    VERSION: 3

PROJECT: EIA-DOE

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 10    QUARTERS/FOOTAGES: 1320' S line, 1320' W line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.4258    GEOLOGIST: PRUSSEN

CONFIDENTIAL: N    LATITUDE: 37.925629    DATE COLLECTED: 9 / 27 / 1970

SURFACE ELEVATION (FT.): 387.0    LOGGED (FT.): 719.0    LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO.    51-C    WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-204.0	CARBONDALE	HERRIN	COAL	5.1	591.0	
-323.1	CARBONDALE	SPRINGFIELD	COAL	6.0	710.1	

MAPID: 06500665000C    VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 11    QUARTERS/FOOTAGES: 330' N line, 330' E line of NW SW

QUADRANGLE: BROUGHTON    LONGITUDE: -88.408572    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.928542    DATE COLLECTED:

SURFACE ELEVATION (FT.): 395.0    LOGGED (FT.): 3220.0    LOG TYPE: Electric Log

SOURCE: JOHNSTON DRLG CO    WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-55.0	CARBONDALE	DANVILLE	COAL	-	450.0	
-59.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	14.0	454.0	
-85.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	480.0	
-98.0	CARBONDALE	ANVIL ROCK		48.0	493.0	
-151.0	CARBONDALE	HERRIN	COAL	4.0	546.0	
-199.0	CARBONDALE	BRIAR HILL	COAL	-	594.0	
-229.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	6.0	624.0	
-271.0	CARBONDALE	SPRINGFIELD	COAL	6.0	666.0	BLACK SHALE & LIMESTONE ROOF
-325.0	CARBONDALE	HOUCHIN CREEK	COAL	-	720.0	

MAPID: 06500666000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.394539 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.934048 DATE COLLECTED: 6 / 0 / 1952

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3242.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC., HUNT WAYNE WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-369.0	CARBONDALE	HOUCHIN CREEK	COAL	3.5	750.0	
-394.0	CARBONDALE	SURVANT	COAL	2.8	775.0	
-472.0	CARBONDALE	COLCHESTER	COAL	0.5	853.0	
-504.0	CARBONDALE	DEKOVEN	COAL	3.0	885.0	
-527.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	908.0	80 PERCENT SANDSTONE IN DEKOVEN SPLIT
-534.0	CARBONDALE	DAVIS	COAL	3.0	915.0	
-564.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	945.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-	-	

MAPID: 06500666000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.394539 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.934048 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3242.0 LOG TYPE: Electric Log

SOURCE: CALVERT DRILLING, INC. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-94.0	CARBONDALE	DANVILLE	COAL	-	475.0	
-99.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	6.0	480.0	
-137.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	50.0	518.0	
-194.0	CARBONDALE	HERRIN	COAL	4.0	575.0	
-253.0	CARBONDALE	BRIAR HILL	COAL	-	634.0	
-261.0	CARBONDALE	CANTON	SILTSTONE/SANDSTONE	20.0	642.0	
-302.0	CARBONDALE	SPRINGFIELD	COAL	7.0	683.0	BLACK SHALE & LIMESTONE ROOF
-363.0	CARBONDALE	HOUCHIN CREEK	COAL	-	744.0	

MAPID: 06501106000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 330' W line of SW SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.401611 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.923086 DATE COLLECTED: 1 / 0 / 1957

SURFACE ELEVATION (FT.): 377.0 LOGGED (FT.): 3236.0 LOG TYPE: Electric Log

SOURCE: FELMONT CORPORATION, RILEY MAUD WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-346.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	723.0	
-373.0	CARBONDALE	SURVANT	COAL	3.0	750.0	
-468.0	CARBONDALE	COLCHESTER	COAL	0.0	845.0	
-473.0	CARBONDALE	DEKOVEN	COAL	3.0	850.0	
-498.0	CARBONDALE	LOWER DEKOVEN	COAL	0.0	875.0	100 PERCENT SANDSTONE IN DEKOVEN SPLIT
-503.0	CARBONDALE	DAVIS	COAL	3.0	880.0	
-538.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	915.0	
-548.0	TRADEWATER	STONEFORT	LIMESTONE	5.0	925.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501331000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 990' W line of SW SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.408649 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.924882 DATE COLLECTED: 8 / 0 / 1956

SURFACE ELEVATION (FT.): 375.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: HOWARD & HOWELL, CHOISSER EMIL WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-355.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	730.0	
-377.0	CARBONDALE	SURVANT	COAL	3.0	752.0	
-445.0	CARBONDALE	COLCHESTER	COAL	0.5	820.0	
-480.0	CARBONDALE	DEKOVEN	COAL	3.0	855.0	
-512.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	887.0	95 PERCENT SANDSTONE IN DEKOVEN SPLIT
-518.0	CARBONDALE	DAVIS	COAL	3.0	893.0	
-545.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	920.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06501331000C VERSION: 2

PROJECT: CUSMAP

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' N line, 990' W line of SW SW  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.408649 GEOLOGIST:  
 CONFIDENTIAL: N LATITUDE: 37.924882 DATE COLLECTED: 8 / 0 / 1956  
 SURFACE ELEVATION (FT.): 375.5 LOGGED (FT.): 1830.0 LOG TYPE: Electric Log  
 SOURCE: HOWARD & HOWELL WELL TYPE: Producer-Oil and Gas  
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-444.5	CARBONDALE	COLCHESTER	UNCLASSIFIED	-	820.0
-519.5	SPOON	DAVIS	UNCLASSIFIED	-	895.0
-1454.5	BASE OF PENN.		UNCLASSIFIED	-	1830.0

MAPID: 06503609000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 1320' E line  
 QUADRANGLE: BROUGHTON LONGITUDE: -88.398025 GEOLOGIST: PRUSSEN  
 CONFIDENTIAL: N LATITUDE: 37.923107 DATE COLLECTED: 2 / 8 / 1968  
 SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 660.5 LOG TYPE: Other Core Study  
 SOURCE: PEABODY COAL CO. 11 WELL TYPE: Coal Test  
 COMMENT: C-6838

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
237.5			COAL	1.2	162.5
13.3			COAL	2.1	386.7
-62.2			COAL	1.6	462.2
-150.5	CARBONDALE	HERRIN	COAL	4.9	550.5
-207.8	CARBONDALE	BRIAR HILL	COAL	1.8	607.8
-255.1	CARBONDALE	SPRINGFIELD	COAL	4.4	655.1



MAPID: 06503609000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: 330' S line, 1320' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.398025

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.923107

DATE COLLECTED:

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 553.1

LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 11

WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-63.7	CARBONDALE	DANVILLE	COAL	1.6	463.7
-65.3	CARBONDALE		GRAY SHALE	24.0	465.3
-89.3	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	489.3
-92.0	CARBONDALE	LAWSON	GRAY SHALE	23.5	492.0
-115.4	CARBONDALE	LAWSON	SANDSTONE	10.5	515.4
-125.9	CARBONDALE	LAWSON	GRAY SHALE	8.6	525.9
-134.5	CARBONDALE	LAWSON	SANDSTONE	5.0	534.5
-139.5	CARBONDALE	LAWSON	GRAY SHALE	2.2	539.5
-141.6	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	2.5	541.6
-144.1	CARBONDALE		CALCAREOUS SHALE	0.1	544.1
-144.3	CARBONDALE	BRERETON	LIMESTONE W/ SHALE	4.5	544.3
-148.8	CARBONDALE	ANNA	BLACK SHALE	1.3	548.8
-150.0	CARBONDALE	HERRIN	COAL	3.1	550.0

MAPID: 06523884000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 11 QUARTERS/FOOTAGES: NW NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.409751

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.934942

DATE COLLECTED: 5 / 13 / 1970

SURFACE ELEVATION (FT.): 400.0 LOGGED (FT.): 121.5

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 39-C

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-201.0	CARBONDALE	HERRIN	COAL	4.8	601.0
-308.7	CARBONDALE	SPRINGFIELD	COAL	4.9	708.7

MAPID: 06523908000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 12 QUARTERS/FOOTAGES: 1650' S line, 1320' W line of NW SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.388801

GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.93042

DATE COLLECTED: 12 / 15 / 1972

SURFACE ELEVATION (FT.): LOGGED (FT.): 670.0

LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 76-C

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	5.0	564.4	
-	CARBONDALE	SPRINGFIELD	COAL	5.5	661.9	

MAPID: 06500663000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 13 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.380561

GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.910749

DATE COLLECTED: 10 / 0 / 1948

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 2306.0

LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD., FRIEND LESLIE

WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-282.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	680.0	
-314.0	CARBONDALE	SURVANT	COAL	3.0	712.0	
-374.0	CARBONDALE	COLCHESTER	COAL	0.5	772.0	
-402.0	CARBONDALE	DEKOVEN	COAL	3.0	800.0	
-440.0	CARBONDALE	LOWER DEKOVEN	COAL	2.0	838.0	100 PERCENT SANDSTONE IN DEKOVEN SPLIT
-446.0	CARBONDALE	DAVIS	COAL	3.0	844.0	
-476.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	874.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500663000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 13 QUARTERS/FOOTAGES: 330' N line, 330' E line of SW SE

QUADRANGLE: BROUGHTON LONGITUDE: -88.380561 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.910749 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 2306.0 LOG TYPE: Electric Log

SOURCE: BREHM, C. E. DRLG.&PROD. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-22.0	CARBONDALE	DANVILLE	COAL	-	420.0	
-27.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	5.0	425.0	
-57.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	455.0	
-71.0	CARBONDALE	ANVIL ROCK	SILTSTONE	5.0	469.0	
-100.0	CARBONDALE	HERRIN	COAL	3.0	498.0	
-112.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	14.0	510.0	
-154.0	CARBONDALE	BRIAR HILL	COAL	-	552.0	
-170.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	8.0	568.0	
-206.0	CARBONDALE	SPRINGFIELD	COAL	6.0	604.0	BLACK SHALE ROOF
-278.0	CARBONDALE	HOUCHIN CREEK	COAL	-	676.0	

MAPID: 06500664000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 13 QUARTERS/FOOTAGES: 330' S line, 330' W line of NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.39227 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.915868 DATE COLLECTED:

SURFACE ELEVATION (FT.): 401.0 LOGGED (FT.): 3163.0 LOG TYPE: Electric Log

SOURCE: PEP DRILLING COMPANY WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-27.0	CARBONDALE	DANVILLE	COAL	-	428.0	
-42.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	10.0	443.0	
-89.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	28.0	490.0	
-125.0	CARBONDALE	HERRIN	COAL	4.0	526.0	
-179.0	CARBONDALE	BRIAR HILL	COAL	-	580.0	
-225.0	CARBONDALE	SPRINGFIELD	COAL	4.0	626.0	BLACK SHALE ROOF
-297.0	CARBONDALE	HOUCHIN CREEK	COAL	-	698.0	

MAPID: 06500845000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 13 QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.382783 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.921331 DATE COLLECTED: 8 / 0 / 1955

SURFACE ELEVATION (FT.): 448.0 LOGGED (FT.): 3238.0 LOG TYPE: Electric Log

SOURCE: WEINERT, H. H., ESTATE, CUSIC F & G V WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-307.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	755.0	
-327.0	CARBONDALE	SURVANT	COAL	2.5	775.0	
-395.0	CARBONDALE	COLCHESTER	COAL	0.5	843.0	
-432.0	CARBONDALE	DEKOVEN	COAL	3.0	880.0	
-467.0	CARBONDALE	LOWER DEKOVEN	COAL	1.2	915.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-476.0	CARBONDALE	DAVIS	COAL	3.0	924.0	
-504.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	952.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500845000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 13 QUARTERS/FOOTAGES: 330' N line, 2310' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.382783 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.921331 DATE COLLECTED:

SURFACE ELEVATION (FT.): 448.0 LOGGED (FT.): 586.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
7.0	MODESTO	PIASA	LIMESTONE & SHALE	4.0	441.0	
3.0	MODESTO		SHALE	58.5	445.0	
-55.5	CARBONDALE	DANVILLE	COAL	1.5	503.5	
-57.0	CARBONDALE		SHALE & SANDSTONE	34.0	505.0	
-91.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	539.0	
-97.0	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	9.0	545.0	
-106.0	CARBONDALE	LAWSON	SHALE	20.0	554.0	
-126.0	CARBONDALE	BRERETON	LIMESTONE	5.5	574.0	
-131.5	CARBONDALE	ANNA	BLACK SHALE	1.5	579.5	
-133.0	CARBONDALE	HERRIN	COAL	5.0	581.0	

MAPID: 06523856000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 13 QUARTERS/FOOTAGES: NE NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.386418 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.920447 DATE COLLECTED: 5 / 11 / 1975

SURFACE ELEVATION (FT.): 480.0 LOGGED (FT.): 666.9 LOG TYPE: Other Core Study

SOURCE: PEABODY COAL CO. 83-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
205.0	MODESTO	WOMAC	COAL	1.5	275.0	
80.0	MODESTO	WEST FRANKLIN	LIMESTONE	13.0	400.0	2 BENCHES
-24.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	504.0	
-67.0	CARBONDALE	HERRIN	COAL	5.0	547.0	
-125.0	CARBONDALE	BRIAR HILL	COAL	2.0	605.0	
-172.3	CARBONDALE	SPRINGFIELD	COAL	5.0	652.3	

MAPID: 06503603000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 14 QUARTERS/FOOTAGES: NW NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.409767 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.920296 DATE COLLECTED: 12 / 8 / 1967

SURFACE ELEVATION (FT.): 360.0 LOGGED (FT.): 629.7 LOG TYPE: Other Core Study

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

COMMENT: C-2852

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
3.0			COAL	1.2	357.0	
-70.0			COAL	1.7	430.0	
-159.9	CARBONDALE	HERRIN	COAL	5.1	519.9	
-211.6	CARBONDALE	BRIAR HILL	COAL	1.5	571.6	
-263.4	CARBONDALE	SPRINGFIELD	COAL	5.1	623.4	

MAPID: 06503750000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 14 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: BROUGHTON LONGITUDE: -88.400426 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.916706 DATE COLLECTED: 8 / 10 / 1970

SURFACE ELEVATION (FT.): 378.0 LOGGED (FT.): 623.0 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 48-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-130.2	CARBONDALE	HERRIN	COAL	5.0	508.2	
-178.9	CARBONDALE	BRIAR HILL	COAL	1.6	556.9	
-231.1	CARBONDALE	SPRINGFIELD	COAL	4.8	609.1	

MAPID: 06503751000C VERSION: 1

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 14 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.412101 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.907474 DATE COLLECTED: 9 / 9 / 1970

SURFACE ELEVATION (FT.): 355.0 LOGGED (FT.): 628.1 LOG TYPE: Drillers Log

SOURCE: PEABODY COAL CO. 50-C WELL TYPE: Coal Test

COMMENT: SURVEY CORE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
226.0			COAL	1.1	129.0
-87.0			COAL	1.0	442.0
-162.0	CARBONDALE	HERRIN	COAL	5.2	517.0
-210.0			COAL	1.5	565.0
-267.1	CARBONDALE	SPRINGFIELD	COAL	5.0	622.1

MAPID: 06503751000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 14 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.412101 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.907474 DATE COLLECTED:

SURFACE ELEVATION (FT.): 355.0 LOGGED (FT.): 522.2 LOG TYPE: Survey Core Study

SOURCE: PEABODY COAL CO. 50-C WELL TYPE: Coal Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-85.9	CARBONDALE	DANVILLE	COAL	1.0	440.9
-86.9	CARBONDALE		GRAY SHALE	28.3	441.9
-115.2	CARBONDALE	BANKSTON FORK	LIMESTONE	6.7	470.2
-121.9	CARBONDALE	LAWSON	ARGILLACEOUS SANDSTONE	6.6	476.9
-128.5	CARBONDALE	LAWSON	SILTY SHALE	25.9	483.5
-154.4	CARBONDALE	CONANT	LIMESTONE/UNDERCLAY	1.0	509.4
-155.4	CARBONDALE	JAMESTOWN	BONE COAL	0.1	510.4
-155.5	CARBONDALE		CALCAREOUS SHALE	2.5	510.5
-158.0	CARBONDALE	BRERETON	LIMESTONE/UNDERCLAY	2.3	513.0
-160.3	CARBONDALE	ANNA	BLACK SHALE	1.7	515.3
-162.0	CARBONDALE	HERRIN	COAL	5.2	517.0

MAPID: 06500015000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 15    QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: BROUGHTON    LONGITUDE: -88.42238    GEOLOGIST: C TREWORYG

CONFIDENTIAL: N    LATITUDE: 37.915622    DATE COLLECTED: 0 / 0 / 1920

SURFACE ELEVATION (FT.): 359.3    LOGGED (FT.): 659.8    LOG TYPE: Drillers Log

SOURCE: TRI-COUNTY COAL CO.    1001    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
359.3			CLAY	37.0	0.0
322.3	MODESTO		SANDSTONE	13.0	37.0
309.3	MODESTO		GRAY SHALE	59.0	50.0
250.3	MODESTO		BLACK SHALE	6.0	109.0
244.3	MODESTO		GRAY SHALE	41.0	115.0
203.3	MODESTO		BLACK SHALE	3.0	156.0
200.3	MODESTO		GRAY SHALE	8.0	159.0
192.3	MODESTO		SANDY SHALE	15.5	167.0
176.8	MODESTO	WOMAC	COAL	1.5	182.5
175.3	MODESTO		GRAY SHALE	1.0	184.0
174.3	MODESTO		SANDY SHALE	39.0	185.0
135.3	MODESTO		GRAY SHALE	39.0	224.0
96.3	MODESTO	MOUND CITY	BLACK SHALE	2.0	263.0
94.3	MODESTO		SHALE	2.4	265.0
91.9	MODESTO	CHAPEL	COAL	0.6	267.4
91.3	MODESTO		SANDY SHALE	54.0	268.0
37.3	MODESTO		GRAY SHALE	16.0	322.0
21.3	MODESTO		SANDY SHALE	12.0	338.0
9.3	MODESTO		LIMESTONE	2.0	350.0
7.3	MODESTO		SANDY SHALE	16.0	352.0
-8.7	MODESTO		BLACK SHALE	1.0	368.0
-9.7	MODESTO		GRAY SHALE	20.0	369.0
-29.7	MODESTO		BLACK SHALE	6.0	389.0
-35.7	MODESTO		GRAY SHALE	7.0	395.0
-42.7	MODESTO		LIMESTONE	5.0	402.0
-47.7	MODESTO		BLUE SHALE	31.0	407.0
-78.7	MODESTO		BLUE SHALE	18.0	438.0
-96.7	MODESTO		BLUE SHALE	9.0	456.0
-105.7	CARBONDALE	DANVILLE	COAL	0.3	465.0
-106.0	CARBONDALE		SANDSTONE	8.7	465.3
-114.7	CARBONDALE		BLUE SHALE	10.0	474.0
-124.7	CARBONDALE		SHALE	7.0	484.0
-131.7	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	491.0
-142.7	CARBONDALE		GRAY SHALE	6.0	502.0
-148.7	CARBONDALE	ANVIL ROCK	SANDSTONE	33.0	508.0
-181.7	CARBONDALE		BLACK SHALE	2.0	541.0
-183.7	CARBONDALE	BRERETON	LIMESTONE	2.0	543.0
-185.7	CARBONDALE	ANNA	BLACK SHALE	2.0	545.0
-187.7	CARBONDALE	HERRIN	COAL	4.6	547.0

-192.3	CARBONDALE		BLUE SHALE	2.4	551.6
-194.7	CARBONDALE		SANDSTONE	21.0	554.0
-215.7	CARBONDALE		BLUE SHALE	7.0	575.0
-222.7	CARBONDALE		GRAY SHALE	16.0	582.0
-238.7	CARBONDALE		BLUE SHALE	11.0	598.0
-249.7	CARBONDALE	BRIAR HILL	COAL	1.0	609.0
-250.7	CARBONDALE		LIMESTONE	2.0	610.0
-252.7	CARBONDALE		COAL	0.5	612.0
-253.2	CARBONDALE		GRAY SHALE	7.5	612.5
-260.7	CARBONDALE		SANDSTONE	5.0	620.0
-265.7	CARBONDALE		GRAY SHALE	16.0	625.0
-281.7	CARBONDALE		BLUE SHALE	8.0	641.0
-289.7	CARBONDALE	ST. DAVID	LIMESTONE	1.0	649.0
-290.7	CARBONDALE	TURNER MINE	BLACK SHALE	4.3	650.0
-295.0	CARBONDALE	SPRINGFIELD	COAL	4.9	654.3
-300.0	CARBONDALE		GRAY SHALE	0.6	659.3

MAPID: 06500015000C    VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 15    QUARTERS/FOOTAGES: SE SE NW

QUADRANGLE: BROUGHTON    LONGITUDE: -88.42238    GEOLOGIST: HOPKINS

CONFIDENTIAL: N    LATITUDE: 37.915622    DATE COLLECTED:

SURFACE ELEVATION (FT.): 359.0    LOGGED (FT.): 659.0    LOG TYPE: Drillers Log

SOURCE: TRI-COUNTIES COAL    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
-106.0	CARBONDALE	DANVILLE	COAL	0.3	465.0	
-107.0	CARBONDALE	SS BELOW NO. 7		9.0	466.0	
-132.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	491.0	
-149.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	33.0	508.0	
-188.0	CARBONDALE	HERRIN	COAL	4.6	547.0	
-195.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	21.0	554.0	
-250.0	CARBONDALE	BRIAR HILL	COAL	1.0	609.0	
-261.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	5.0	620.0	
-295.0	CARBONDALE	SPRINGFIELD	COAL	4.9	654.0	BLACK SHALE & LIMESTONE ROOF



MAPID: 06500436000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 15 QUARTERS/FOOTAGES: 330' N line, 660' E line of NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.423563 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.921097 DATE COLLECTED:

SURFACE ELEVATION (FT.): 381.0 LOGGED (FT.): 3279.0 LOG TYPE: Electric Log

SOURCE: CAMERON OIL CO. WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-115.0	CARBONDALE	DANVILLE	COAL	-	496.0	
-121.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	14.0	502.0	
-142.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	523.0	
-152.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	43.0	533.0	
-205.0	CARBONDALE	HERRIN	COAL	-	586.0	
-215.0	CARBONDALE	VERMILIONVILLE	CALCAREOUS SANDSTONE	7.0	596.0	
-259.0	CARBONDALE	BRIAR HILL	COAL	-	640.0	
-269.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	14.0	650.0	
-329.0	CARBONDALE	SPRINGFIELD	COAL	5.0	710.0	BLACK SHALE & LIMESTONE ROOF
-371.0	CARBONDALE	HOUCHIN CREEK	COAL	-	752.0	

MAPID: 06500712000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 15 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.426943 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.917421 DATE COLLECTED: 8 / 0 / 1951

SURFACE ELEVATION (FT.): 359.0 LOGGED (FT.): 3192.0 LOG TYPE: Electric Log

SOURCE: VANDENBARK BROS, BUTLER C R WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-379.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	738.0	
-409.0	CARBONDALE	SURVANT	COAL	0.8	768.0	
-486.0	CARBONDALE	COLCHESTER	COAL	0.0	845.0	
-486.0	CARBONDALE	DEKOVEN	COAL	3.0	845.0	
-531.0	CARBONDALE	LOWER DEKOVEN	COAL	1.0	890.0	90 PERCENT SANDSTONE IN DEKOVEN SPLIT
-536.0	CARBONDALE	DAVIS	COAL	3.0	895.0	
-570.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	929.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500712000C VERSION: 2

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 15 QUARTERS/FOOTAGES: 1650' N line, 990' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.426943 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.917421 DATE COLLECTED:

SURFACE ELEVATION (FT.): 359.0 LOGGED (FT.): 3192.0 LOG TYPE: Electric Log

SOURCE: VANDENBARK BROS WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-113.0	CARBONDALE	DANVILLE	COAL	-	472.0	
-116.0	CARBONDALE	SS BELOW NO. 7	CALCAREOUS SANDSTONE	21.0	475.0	
-148.0	CARBONDALE	BANKSTON FORK	LIMESTONE	-	507.0	
-175.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	24.0	534.0	
-207.0	CARBONDALE	HERRIN	COAL	4.0	566.0	
-217.0	CARBONDALE	VERMILIONVILLE	SANDSTONE/SILTSTONE	9.0	576.0	
-257.0	CARBONDALE	BRIAR HILL	COAL	-	616.0	
-267.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	10.0	626.0	
-324.0	CARBONDALE	SPRINGFIELD	COAL	8.0	683.0	BLACK SHALE & LIMESTONE ROOF
-365.0	CARBONDALE	SS BELOW NO. 5	CALCAREOUS SANDSTONE	10.0	724.0	
-375.0	CARBONDALE	HOUCHIN CREEK	COAL	-	734.0	

MAPID: 06503607000C VERSION: 1

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 15 QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.430295 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.907345 DATE COLLECTED:

SURFACE ELEVATION (FT.): 368.0 LOGGED (FT.): 532.8 LOG TYPE: Survey Core Study

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

COMMENT: POOR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-87.8	CARBONDALE	DANVILLE	COAL	1.9	455.8	
-116.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.8	484.9	
-122.7	CARBONDALE	LAWSON	GRAY SHALE	26.4	490.7	
-149.1	CARBONDALE	LAWSON	SANDSTONE	3.7	517.1	
-152.8	CARBONDALE	LAWSON	GRAY SHALE	1.3	520.8	
-154.1	CARBONDALE	BRERETON	LIMESTONE	5.1	522.1	
-159.2	CARBONDALE	ANNA	BLACK SHALE	0.8	527.2	
-160.0	CARBONDALE	HERRIN	COAL	4.8	528.0	

MAPID: 06503607000C    VERSION: 2

PROJECT: NCRDS93

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 15    QUARTERS/FOOTAGES: 0' S line, 0' W line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.430295    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.907345    DATE COLLECTED: 1 / 4 / 1968

SURFACE ELEVATION (FT.): 368.0    LOGGED (FT.): 699.5    LOG TYPE: Drillers Log

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

COMMENT: IGS CORE#: C-6836, LOCATION A-17

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
368.0			UNCONSOLIDATED	26.5	0.0	SOIL AND CLAY
341.5	BOND		SANDSTONE	2.5	26.5	
339.0	BOND		SANDY SHALE	229.7	29.0	
109.3	BOND		SHALE	2.1	258.7	
107.2	BOND		COAL	0.8	260.8	
106.4	BOND		GRAY SHALE	1.5	261.6	
104.9	BOND		SANDSTONE	21.9	263.1	
83.0	BOND		GRAY SHALE	6.8	285.0	
76.2	BOND		LIMESTONE	1.5	291.8	
74.7	BOND		SANDSTONE	5.7	293.3	
69.0	BOND		SANDY SHALE	48.3	299.0	
20.7	BOND	CARTHAGE	LIMESTONE	2.5	347.3	
18.2	MODESTO		GRAY SHALE	19.5	349.8	
-1.3	MODESTO		LIMESTONE	1.9	369.3	
-3.2	MODESTO		GRAY SHALE	21.7	371.2	
-24.9	MODESTO		COAL	1.1	392.9	
-26.0	MODESTO		GRAY SHALE	12.9	394.0	
-38.9	MODESTO	PIASA	LIMESTONE	8.1	406.9	
-47.0	MODESTO		GRAY SHALE	40.5	415.0	
-87.5	CARBONDALE	DANVILLE	COAL	1.9	455.5	
-89.4	CARBONDALE		GRAY SHALE	3.9	457.4	
-93.3	CARBONDALE		SANDSTONE	6.5	461.3	
-99.8	CARBONDALE		GRAY SHALE	16.8	467.8	
-116.6	CARBONDALE		LIMESTONE	5.8	484.6	
-122.4	CARBONDALE		GRAY SHALE	26.4	490.4	
-148.8	CARBONDALE	ANVIL ROCK	SANDSTONE	3.7	516.8	
-152.4	CARBONDALE		GRAY SHALE	1.3	520.4	
-153.8	CARBONDALE	BRERETON	LIMESTONE	5.1	521.8	
-158.8	CARBONDALE	ANNA	SHALE	0.8	526.8	
-159.7	CARBONDALE	HERRIN	COAL	2.9	527.7	
-162.5	CARBONDALE	HERRIN	PYRITE	0.0	530.5	
-162.5	CARBONDALE	HERRIN	COAL	0.2	530.5	
-162.7	CARBONDALE	HERRIN	BLUE SHALE	0.2	530.7	
-163.0	CARBONDALE	HERRIN	COAL	1.5	531.0	
-164.4	CARBONDALE		UNDERCLAY	1.5	532.4	
-165.9	CARBONDALE		LIMESTONE	3.6	533.9	
-169.6	CARBONDALE		GRAY SHALE	1.5	537.6	
-171.1	CARBONDALE		SANDSTONE	13.5	539.1	
-184.5	CARBONDALE		GRAY SHALE	19.5	552.5	

-204.0	CARBONDALE	BRIAR HILL	COAL	1.3	572.0
-205.3	CARBONDALE		GRAY SHALE	41.9	573.3
-247.2	CARBONDALE		SANDSTONE	4.2	615.2
-251.3	CARBONDALE		SANDY SHALE	80.1	619.3

**MAPID:** 06503607000C    **VERSION:** 3    **PROJECT:** EIA-DOE  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 15    **QUARTERS/FOOTAGES:** 0' S line, 0' W line  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.430295    **GEOLOGIST:** PRUSSEN  
**CONFIDENTIAL:** N    **LATITUDE:** 37.907345    **DATE COLLECTED:** 1 / 4 / 1968  
**SURFACE ELEVATION (FT.):** 368.0    **LOGGED (FT.):** 699.5    **LOG TYPE:** Other Core Study  
**SOURCE:** PEABODY COAL CO.    8    **WELL TYPE:** Coal Test  
**COMMENT:** C-6836

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-24.9			COAL	1.1	392.9
-87.5			COAL	1.9	455.5
-159.7	CARBONDALE	HERRIN	COAL	4.8	527.7
-204.0	CARBONDALE	BRIAR HILL	COAL	1.3	572.0
-	CARBONDALE	SPRINGFIELD	UNCLASSIFIED	0.0	CUT OUT

MAPID: 06503605000C    VERSION: 1

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 16    QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: BROUGHTON    LONGITUDE: -88.447555    GEOLOGIST: HOKE

CONFIDENTIAL: N    LATITUDE: 37.920878    DATE COLLECTED: 12 / 22 / 1967

SURFACE ELEVATION (FT.): 370.0    LOGGED (FT.): 683.2    LOG TYPE: Drillers Log

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

COMMENT: IGS CORE#: C-3716

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
370.0			UNCONSOLIDATED	21.0	0.0	SOIL AND CLAY
349.0	MODESTO		SANDY SHALE	219.0	21.0	
130.0	MODESTO		SANDSTONE	7.5	240.0	
122.5	MODESTO		GRAY SHALE	26.0	247.5	
96.5	MODESTO	CHAPEL	COAL	0.5	273.5	
96.0	MODESTO		GRAY SHALE	2.4	274.0	
93.6	MODESTO		SANDSTONE	1.7	276.4	
91.9	MODESTO		LIMESTONE	1.4	278.1	
90.5	MODESTO		SHALE	87.9	279.5	SH W/ SS STREAKS
2.6	MODESTO		LIMESTONE	2.2	367.4	
0.4	MODESTO		GRAY SHALE	17.2	369.6	
-16.7	MODESTO	POND CREEK	COAL	0.4	386.7	
-17.1	MODESTO		GRAY SHALE	1.6	387.1	
-18.6	MODESTO		LIMESTONE	3.8	388.6	
-22.4	MODESTO		GRAY SHALE	17.2	392.4	
-39.6	MODESTO		SHALE	2.4	409.6	
-42.0	MODESTO	DEGRAFF	COAL	0.7	412.0	
-42.7	MODESTO		GRAY SHALE	13.2	412.7	
-55.8	MODESTO	PIASA	LIMESTONE	6.8	425.8	
-62.6	MODESTO		GRAY SHALE	39.2	432.6	
-101.8	CARBONDALE	DANVILLE	COAL	1.4	471.8	
-103.2	CARBONDALE		GRAY SHALE	24.0	473.2	
-127.2	CARBONDALE		LIMESTONE	2.7	497.2	
-129.9	CARBONDALE		SANDSTONE	5.0	499.9	
-134.8	CARBONDALE		GRAY SHALE	48.2	504.8	
-182.9	CARBONDALE	CONANT	LIMESTONE	1.5	552.9	
-184.4	CARBONDALE		DARK GRAY SHALE	2.5	554.4	
-186.8	CARBONDALE	BRERETON	LIMESTONE	5.0	556.8	
-191.8	CARBONDALE		SHALE	0.7	561.8	
-192.5	CARBONDALE	HERRIN	COAL	0.6	562.5	
-193.1	CARBONDALE	HERRIN	PYRITE	0.1	563.1	
-193.2	CARBONDALE	HERRIN	COAL	2.1	563.2	
-195.3	CARBONDALE	HERRIN	PYRITE	0.0	565.3	
-195.3	CARBONDALE	HERRIN	COAL	0.1	565.3	
-195.4	CARBONDALE	HERRIN	BLUE SHALE	0.3	565.4	BLUE BAND
-195.7	CARBONDALE	HERRIN	COAL	0.1	565.7	
-195.8	CARBONDALE	HERRIN	PYRITE	0.0	565.8	
-195.8	CARBONDALE	HERRIN	COAL	1.9	565.8	
-197.7	CARBONDALE		UNDERCLAY	3.5	567.7	

-201.2	CARBONDALE		GRAY SHALE	30.6	571.2	
-240.8	CARBONDALE	BRIAR HILL	COAL	0.7	610.8	
-241.4	CARBONDALE		GRAY SHALE	49.1	611.4	
-290.6	CARBONDALE		LIMESTONE	2.6	660.6	
-293.1	CARBONDALE		SHALE	4.8	663.1	
-297.8	CARBONDALE		GRAY SHALE	8.8	667.8	
-306.6	CARBONDALE	SPRINGFIELD	COAL	0.3	676.6	COAL AND RASH
-306.9	CARBONDALE	SPRINGFIELD	COAL	0.6	676.9	
-307.5	CARBONDALE	SPRINGFIELD	PYRITE	0.0	677.5	
-307.5	CARBONDALE	SPRINGFIELD	COAL	0.3	677.5	
-307.8	CARBONDALE	SPRINGFIELD	FUSAIN	0.0	677.8	
-307.8	CARBONDALE	SPRINGFIELD	COAL	3.9	677.8	
-311.7	CARBONDALE		UNDERCLAY	1.5	681.7	

**MAPID:** 06503605000C    **VERSION:** 2    **PROJECT:** ROOF STUDY  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 16    **QUARTERS/FOOTAGES:** NW NW NW  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.447555    **GEOLOGIST:**  
**CONFIDENTIAL:** N    **LATITUDE:** 37.920878    **DATE COLLECTED:**  
**SURFACE ELEVATION (FT.):** 370.0    **LOGGED (FT.):** 568.2    **LOG TYPE:** Survey Core Study  
**SOURCE:** PEABODY COAL CO.    6    **WELL TYPE:** Coal Test  
**COMMENT:** FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-56.4	MODESTO	PIASA	LIMESTONE	6.8	426.4
-63.2	MODESTO		GRAY SHALE	39.2	433.2
-102.4	CARBONDALE	DANVILLE	COAL	1.4	472.4
-103.8	CARBONDALE		GRAY SHALE	24.0	473.8
-127.8	CARBONDALE	BANKSTON FORK	LIMESTONE	2.7	497.8
-130.5	CARBONDALE	LAWSON	GRAY SHALE	5.0	500.5
-135.4	CARBONDALE	LAWSON	GRAY SHALE	48.2	505.4
-183.6	CARBONDALE	CONANT	LIMESTONE AND SANDSTONE	1.5	553.6
-185.0	CARBONDALE	JAMESTOWN	BONE COAL	0.2	555.0
-185.2	CARBONDALE		CLAYSTONE & SHALE	2.2	555.2
-187.4	CARBONDALE	BRERETON	LIMESTONE	5.0	557.4
-192.4	CARBONDALE	ANNA	BLACK SHALE	0.7	562.4
-193.0	CARBONDALE	HERRIN	COAL	5.2	563.0

MAPID: 06503605000C VERSION: 3

PROJECT: EIA-DOE

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 16 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: BROUGHTON LONGITUDE: -88.447555 GEOLOGIST: PRUSSEN

CONFIDENTIAL: N LATITUDE: 37.920878 DATE COLLECTED: 12 / 22 / 1967

SURFACE ELEVATION (FT.): 370.0 LOGGED (FT.): 683.2 LOG TYPE: Other Core Study

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

COMMENT: C-3716

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-101.8			COAL	1.4	471.8	
-192.5	CARBONDALE	HERRIN	COAL	5.2	562.5	
-240.8	CARBONDALE	BRIAR HILL	COAL	0.7	610.8	
-306.6	CARBONDALE	SPRINGFIELD	COAL	5.1	676.6	

MAPID: 06500496000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 17 QUARTERS/FOOTAGES: 330' S line, 330' W line of SE SW

QUADRANGLE: BROUGHTON LONGITUDE: -88.461291 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.907961 DATE COLLECTED:

SURFACE ELEVATION (FT.): 384.0 LOGGED (FT.): 3660.0 LOG TYPE: Electric Log

SOURCE: ROBINSON CARL ETAL WELL TYPE: Producer-Oil

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-84.0	CARBONDALE	DANVILLE	COAL	-	468.0	
-138.0	CARBONDALE	ANVIL ROCK	CALCAREOUS SANDSTONE	20.0	522.0	
-167.0	CARBONDALE	HERRIN	COAL	5.0	551.0	
-211.0	CARBONDALE	BRIAR HILL	COAL	-	595.0	
-216.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	5.0	600.0	
-281.0	CARBONDALE	SPRINGFIELD	COAL	5.0	665.0	BLACK SHALE & LIMESTONE ROOF
-344.0	CARBONDALE	HOUCHIN CREEK	COAL	-	728.0	

MAPID: 06500935000C VERSION: 1

PROJECT: RJJ-DAVIS

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 17 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.45212 GEOLOGIST: JACOBSON

CONFIDENTIAL: N LATITUDE: 37.909871 DATE COLLECTED: 1 / 0 / 1956

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 3310.0 LOG TYPE: Electric Log

SOURCE: FELMONT CORPORATION, GWALTNEY T E WELL TYPE: Oil and Gas Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-353.0	CARBONDALE	HOUCHIN CREEK	COAL	0.0	755.0	
-378.0	CARBONDALE	SURVANT	COAL	0.0	780.0	
-453.0	CARBONDALE	COLCHESTER	COAL	0.5	855.0	
-483.0	CARBONDALE	DEKOVEN	COAL	4.0	885.0	
-513.0	CARBONDALE	LOWER DEKOVEN	COAL	1.6	915.0	100 PERCENT SANDSTONE IN DEKOVEN SPLIT
-523.0	CARBONDALE	DAVIS	COAL	3.5	925.0	
-548.0	TRADEWATER	SEAHORNE LS	LIMESTONE	0.5	950.0	
-	TRADEWATER	CREAL SPRING	LIMESTONE	-		

MAPID: 06500935000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 17 QUARTERS/FOOTAGES: 990' S line, 990' E line

QUADRANGLE: BROUGHTON LONGITUDE: -88.45212 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.909871 DATE COLLECTED:

SURFACE ELEVATION (FT.): 402.0 LOGGED (FT.): 532.5 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-6.0	MODESTO	PIASA	LIMESTONE & SHALE	7.0	408.0	
-13.0	MODESTO		GRAY SHALE	36.0	415.0	
-49.0	CARBONDALE	DANVILLE	COAL	1.0	451.0	
-50.0	CARBONDALE		SILTY SHALE	17.0	452.0	
-67.0	CARBONDALE	BANKSTON FORK	CALCAREOUS SHALE	6.0	469.0	
-73.0	CARBONDALE	LAWSON	SILTY SHALE	10.0	475.0	
-83.0	CARBONDALE	LAWSON	SANDSTONE	36.0	485.0	
-119.0	CARBONDALE	LAWSON	SHALE	2.0	521.0	
-121.0	CARBONDALE	BRERETON	LIMESTONE	6.0	523.0	
-127.0	CARBONDALE	ANNA	BLACK SHALE	1.0	529.0	
-128.0	CARBONDALE	HERRIN	COAL	2.5	530.0	



MAPID: 06500548000C VERSION: 1

PROJECT: CIRC 431

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 18 QUARTERS/FOOTAGES: 1320' S line, 1320' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.480792 GEOLOGIST: HOPKINS

CONFIDENTIAL: N LATITUDE: 37.910593 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 696.0 LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-116.0	CARBONDALE	DANVILLE	COAL	1.9	514.0	
-140.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	538.0	
-167.0	CARBONDALE	ANVIL ROCK	SANDSTONE/SHALE	20.0	565.0	
-196.0	CARBONDALE	HERRIN	COAL	6.9	594.0	
-251.0	CARBONDALE	CANTON	CALCAREOUS SANDSTONE	9.0	649.0	
-292.0	CARBONDALE	SPRINGFIELD	COAL	5.7	690.0	BLACK SHALE & LIMESTONE ROOF

MAPID: 06500548000C VERSION: 2

PROJECT: ROOF STUDY

COUNTY: HAMILTON TWP/RNG: 7S 7E SECTION: 18 QUARTERS/FOOTAGES: 1320' S line, 1320' W line

QUADRANGLE: BROUGHTON LONGITUDE: -88.480792 GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 37.910593 DATE COLLECTED:

SURFACE ELEVATION (FT.): 398.0 LOGGED (FT.): 599.8 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-77.1	MODESTO	PIASA	CALCAREOUS SHALE	8.0	475.1	
-85.1	MODESTO		SHALE	31.0	483.1	
-116.1	CARBONDALE	DANVILLE	COAL	1.9	514.1	
-118.0	CARBONDALE		SHALE	22.1	516.0	
-140.1	CARBONDALE	BANKSTON FORK	LIMESTONE & SHALE	8.0	538.1	
-148.1	CARBONDALE	LAWSON	GRAY SHALE	3.0	546.1	
-151.1	CARBONDALE	LAWSON	SILTY SHALE	16.0	549.1	
-167.1	CARBONDALE	LAWSON	SHALE & SANDSTONE	20.0	565.1	
-187.1	CARBONDALE	BRERETON	LIMESTONE	2.0	585.1	
-189.1	CARBONDALE	ANNA	BLACK SHALE	6.9	587.1	
-196.0	CARBONDALE	HERRIN	COAL	5.8	594.0	

MAPID: 06500548000C    VERSION: 3

PROJECT: NCRDS92

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 18    QUARTERS/FOOTAGES: 1320' S line, 1320' W line

QUADRANGLE: BROUGHTON    LONGITUDE: -88.480792    GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.910593    DATE COLLECTED: 0 / 0 / 1921

SURFACE ELEVATION (FT.): 398.0    LOGGED (FT.): 696.0    LOG TYPE: Drillers Log

SOURCE: AMERICAN COKE & CHEMICAL CO. 24    WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
398.0			CLAY	19.0	0.0	
379.0			UNCLASSIFIED	3.0	19.0	LOG SAYS 'BROKEN LEDGE'
376.0			LIMESTONE	8.0	22.0	
368.0			GRAY SHALE	93.0	30.0	
275.0			SANDY SHALE	48.0	123.0	
227.0	MODESTO		SANDSTONE	11.0	171.0	
216.0	MODESTO		SANDY SHALE	28.0	182.0	
188.0	MODESTO		GRAY SHALE	4.0	210.0	
184.0	MODESTO	WOMAC	COAL	1.5	214.0	
182.5	MODESTO		SANDY SHALE	6.5	215.5	
176.0	MODESTO		SANDSTONE	15.0	222.0	
161.0	MODESTO		SANDY SHALE	43.0	237.0	
118.0	MODESTO		BLUE SHALE	23.0	280.0	
95.0	MODESTO	CHAPEL	COAL	0.5	303.0	
94.5	MODESTO		GRAY SHALE	4.5	303.5	
90.0	MODESTO		SANDSTONE	6.0	308.0	
84.0	MODESTO		SANDSTONE	57.0	314.0	
27.0	MODESTO		BLUE SHALE	49.0	371.0	BLUE SH W/ LS BANDS
-22.0	MODESTO		BLUE SHALE	4.0	420.0	
-26.0	MODESTO		COAL	0.5	424.0	
-26.5	MODESTO		CALCAREOUS SHALE	2.5	424.5	
-29.0	MODESTO		BLUE SHALE	20.0	427.0	
-49.0	MODESTO		BLUE SHALE	28.0	447.0	BLUE SH W/ LS BANDS
-77.0	MODESTO		CALCAREOUS SHALE	8.0	475.0	
-85.0	MODESTO		SANDY SHALE	5.0	483.0	
-90.0	MODESTO		BLACK SHALE	5.0	488.0	
-95.0	MODESTO		BLUE SHALE	19.0	493.0	BLU SH W/ LS BANDS
-114.0	MODESTO		BLACK SHALE	2.0	512.0	
-116.0	CARBONDALE	DANVILLE	COAL	1.9	514.0	
-117.9	CARBONDALE		SANDY SHALE	6.1	515.9	
-124.0	CARBONDALE		BLUE SHALE	9.0	522.0	
-133.0	CARBONDALE		CALCAREOUS SHALE	7.0	531.0	
-140.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	538.0	
-148.0	CARBONDALE		GRAY SHALE	3.0	546.0	
-151.0	CARBONDALE	ANVIL ROCK	SANDY SHALE	16.0	549.0	
-167.0	CARBONDALE	ANVIL ROCK	SANDSTONE	20.0	565.0	SS & SH
-187.0	CARBONDALE	BRERETON	LIMESTONE	2.0	585.0	
-189.0	CARBONDALE	ANNA	BLACK SHALE	6.9	587.0	
-195.9	CARBONDALE	HERRIN	COAL	5.8	593.9	

-201.8	CARBONDALE		UNDERCLAY	2.3	599.8
-204.0	CARBONDALE		CALCAREOUS SHALE	5.0	602.0
-209.0	CARBONDALE		GRAY SHALE	2.0	607.0
-211.0	CARBONDALE		CALCAREOUS SHALE	13.0	609.0
-224.0	CARBONDALE		BLUE SHALE	27.0	622.0
-251.0	CARBONDALE		SANDSTONE	9.0	649.0
-260.0	CARBONDALE		SANDY SHALE	12.0	658.0
-272.0	CARBONDALE		BLUE SHALE	12.5	670.0
-284.5	CARBONDALE	ST. DAVID	LIMESTONE	2.0	682.5
-286.5	CARBONDALE	TURNER MINE	BLACK SHALE	2.8	684.5
-289.3	CARBONDALE	TURNER MINE	LIMESTONE	0.8	687.3
-290.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.8	688.0
-291.8	CARBONDALE	SPRINGFIELD	COAL	5.7	689.8
-297.5	CARBONDALE		UNDERCLAY	0.5	695.5

**MAPID:** 06590092000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.480855    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.910279    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.7	

**MAPID:** 06590093000C    **VERSION:** 1    **PROJECT:** GALATIA  
**COUNTY:** HAMILTON    **TWP/RNG:** 7S 7E    **SECTION:** 18    **QUARTERS/FOOTAGES:**  
**QUADRANGLE:** BROUGHTON    **LONGITUDE:** -88.479388    **GEOLOGIST:** C TREWORY  
**CONFIDENTIAL:** N    **LATITUDE:** 37.920423    **DATE COLLECTED:** 5 / 1 / 1979  
**SURFACE ELEVATION (FT.):**    **LOGGED (FT.):**    **LOG TYPE:** Company map  
**SOURCE:** KERR-MCGEE COAL CO.    **WELL TYPE:** Coal Test  
**COMMENT:** MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	6.8	3.12% SULFUR

MAPID: 06590094000C    VERSION: 1

PROJECT: GALATIA

COUNTY: HAMILTON    TWP/RNG: 7S 7E    SECTION: 18    QUARTERS/FOOTAGES:

QUADRANGLE: BROUGHTON    LONGITUDE: -88.471701

GEOLOGIST: C TREWORY

CONFIDENTIAL: N    LATITUDE: 37.919581

DATE COLLECTED: 5 / 1 / 1979

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

LOG TYPE: Company map

SOURCE: KERR-MCGEE COAL CO.

WELL TYPE: Coal Test

COMMENT: MAP OF DATA PTS, ISGS COAL SECTION FILES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	CARBONDALE	SPRINGFIELD	COAL	5.7	

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