

Status Report**Total Records: 492**

Top 3 County Records		Top 3 Log Type Records		Top 3 Coal Records		Top 3 Member Records	
Douglas	492	Drillers Log	249	HERRIN	449	HERRIN COAL	449
		Electric Log	115	SPRINGFIELD	113	ENERGY SHALE	255
		Survey Core Study	57	DANVILLE	102	ENERGY SANDY SHALE	187

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
SHUMWAY	LIMESTONE	155.5	155.5	155.5	1.5	1.5	1.5
MILLERSVILLE	LIMESTONE	390.0	296.0	426.0	32.2	27.3	39.0
CARTHAGE	LIMESTONE	598.8	431.0	668.0	6.8	4.0	10.0
NEW HAVEN	COAL	616.5	616.5	616.5	5.0	5.0	5.0
CHAPEL	COAL	727.0	663.0	759.0	2.3	1.5	4.0
TRIVOLI	SANDSTONE	601.0	590.0	611.0	63.3	50.0	80.0
WEST FRANKLIN	LIMESTONE	680.2	83.0	812.0	7.6	2.0	44.5
PIASA	LIMESTONE	76.1	53.0	122.5	2.4	0.6	7.5
FARMINGTON	SHALE	73.3	73.0	73.5	27.0	27.0	27.0
DANVILLE	COAL	744.0	64.5	929.0	2.5	0.3	4.0
BANKSTON FORK	LIMESTONE	122.9	60.0	250.0	6.9	0.5	19.0
BRERETON	LIMESTONE	915.3	907.0	923.5	1.8	1.0	2.5
ANNA	SHALE	926.0	926.0	926.0	6.5	6.5	6.5
ENERGY	SHALE	130.2	55.0	257.0	76.1	5.9	144.5
HERRIN	COAL	316.4	85.0	1004.0	5.8	0.5	11.4
ST. DAVID	LIMESTONE	236.8	217.8	255.7	3.0	1.7	4.3
TURNER MINE	SHALE	277.8	80.8	976.0	2.2	0.3	8.0
SPRINGFIELD	COAL	623.8	81.9	1022.0	2.9	0.5	5.5
EXCELLO	SHALE	335.4	151.5	974.5	3.2	1.0	6.5
HOUCHIN CREEK	COAL	830.3	150.5	1160.0	1.7	0.5	3.4
SURVANT	COAL	537.5	195.8	1017.0	2.7	0.3	7.0
MECCA QUARRY	SHALE	414.6	280.5	1057.0	2.5	0.9	5.0
COLCHESTER	COAL	949.7	203.0	1217.0	1.0	0.1	2.5
SEELYVILLE	COAL	1153.8	1114.0	1219.0	3.3	2.5	4.0
BORDEN STS.	SANDSTONE	335.0	335.0	335.0	30.0	30.0	30.0
Net Coal					27.1		

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: 04100375000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 1 QUARTERS/FOOTAGES: NE NW NE
QUADRANGLE: ARCOLA LONGITUDE: -88.364293 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.694848 DATE COLLECTED:
SURFACE ELEVATION (FT.): 651.0 LOGGED (FT.): 1173.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
49.0	MODESTO	TRIVOLI	SANDSTONE	50.0	602.0
-114.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	765.0
-251.0	CARBONDALE	DANVILLE	COAL	2.5	902.0
-337.0	CARBONDALE	HERRIN	COAL	2.0	988.0
-347.0	CARBONDALE	SPRINGFIELD	COAL	3.0	998.0
-359.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1010.0
-522.0	CARBONDALE	COLCHESTER	COAL	-	1173.0

MAPID: 04100424000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 14N 7E **SECTION:** 1 **QUARTERS/FOOTAGES:** NE SE NE
QUADRANGLE: ARCOLA **LONGITUDE:** -88.359622 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.691195 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** 1145.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
62.0	MODESTO	TRIVOLI	SANDSTONE	80.0	590.0	
-92.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	744.0	
-226.0	CARBONDALE	DANVILLE	COAL	2.5	878.0	
-280.0	CARBONDALE	HERRIN	COAL	3.0	932.0	
-303.0	CARBONDALE	HERRIN	COAL	1.5	955.0	LOWER BENCH OF HERRIN
-325.0	CARBONDALE	SPRINGFIELD	COAL	4.5	977.0	
-438.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1090.0	
-493.0	CARBONDALE	COLCHESTER	COAL	-	1145.0	

MAPID: 04100485000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 14N 7E **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NE SW
QUADRANGLE: ARTHUR **LONGITUDE:** -88.466523 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.687565 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 661.0 **LOGGED (FT.):** 1155.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
7.0	BOND	CARTHAGE	LIMESTONE	9.0	654.0	
-119.0	MODESTO	WEST FRANKLIN	LIMESTONE	-	780.0	
-268.0	CARBONDALE	DANVILLE	COAL	3.0	929.0	
-426.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1087.0	
-494.0	CARBONDALE	COLCHESTER	COAL	-	1155.0	

MAPID: 04100386000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 7 QUARTERS/FOOTAGES: NW NE SW
QUADRANGLE: ARTHUR LONGITUDE: -88.466348 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.672729 DATE COLLECTED:
SURFACE ELEVATION (FT.): 664.0 LOGGED (FT.): 1156.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
30.0	BOND	CARTHAGE	LIMESTONE	5.0	634.0
-88.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	752.0
-224.0	CARBONDALE	DANVILLE	COAL	2.0	888.0
-428.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1092.0
-492.0	CARBONDALE	COLCHESTER	COAL	-	1156.0

MAPID: 04100102000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 9 QUARTERS/FOOTAGES: SE SE NE
QUADRANGLE: ARTHUR LONGITUDE: -88.416192 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.674819 DATE COLLECTED:
SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 1209.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
8.0	BOND	CARTHAGE	LIMESTONE	5.0	646.0
-112.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	766.0
-222.0	CARBONDALE	DANVILLE	COAL	-	876.0
-492.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1146.0
-555.0	CARBONDALE	COLCHESTER	COAL	-	1209.0

MAPID: 04100095000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 11 QUARTERS/FOOTAGES: 1702' N line, 330' W line of NE SW
QUADRANGLE: ARTHUR LONGITUDE: -88.390412 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.669138 DATE COLLECTED:
SURFACE ELEVATION (FT.): 653.0 LOGGED (FT.): 1217.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-9.0	BOND	CARTHAGE	LIMESTONE	4.0	662.0
-125.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	778.0
-222.0	CARBONDALE	DANVILLE	COAL	-	875.0
-507.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1160.0
-564.0	CARBONDALE	COLCHESTER	COAL	-	1217.0

MAPID: 04100113000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 12 QUARTERS/FOOTAGES: NE NW SW
QUADRANGLE: ARCOLA LONGITUDE: -88.373956 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.672943 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 1188.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-3.0	BOND	CARTHAGE	LIMESTONE	7.0	653.0
-120.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	770.0
-230.0	CARBONDALE	DANVILLE	COAL	-	880.0
-340.0	CARBONDALE	HERRIN	COAL	-	990.0
-360.0	CARBONDALE	SPRINGFIELD	COAL	3.0	1010.0
-483.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1133.0
-538.0	CARBONDALE	COLCHESTER	COAL	-	1188.0

MAPID: 04100128000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 12 QUARTERS/FOOTAGES: SE SW NE
QUADRANGLE: ARCOLA LONGITUDE: -88.364532 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.674743 DATE COLLECTED:
SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 1148.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
30.0	BOND	CARTHAGE	LIMESTONE	7.0	626.0
-84.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	740.0
-194.0	CARBONDALE	DANVILLE	COAL	-	850.0
-303.0	CARBONDALE	HERRIN	COAL	-	959.0
-319.0	CARBONDALE	SPRINGFIELD	COAL	3.0	975.0
-431.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1087.0
-492.0	CARBONDALE	COLCHESTER	COAL	-	1148.0

MAPID: 04100115000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 13 QUARTERS/FOOTAGES: SW NE NW
QUADRANGLE: ARCOLA LONGITUDE: -88.371759 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.663834 DATE COLLECTED:
SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 1164.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
31.0	BOND	CARTHAGE	LIMESTONE	6.0	623.0
-86.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	740.0
-215.0	CARBONDALE	DANVILLE	COAL	-	869.0
-306.0	CARBONDALE	SPRINGFIELD	COAL	2.0	960.0
-418.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1072.0
-473.0	CARBONDALE	COLCHESTER	COAL	-	1127.0
-506.0	SPOON	SEELYVILLE	COAL	4.0	1160.0

MAPID: 04100142000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 13 QUARTERS/FOOTAGES: NE NE SE
QUADRANGLE: ARCOLA LONGITUDE: -88.359875 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.658431 DATE COLLECTED:
SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 1090.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
51.0	BOND	CARTHAGE	LIMESTONE	5.0	597.0
-59.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	707.0
-186.0	CARBONDALE	DANVILLE	COAL	2.0	834.0
-245.0	CARBONDALE	HERRIN	COAL	3.0	893.0
-280.0	CARBONDALE	SPRINGFIELD	COAL	4.0	928.0
-382.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1030.0
-442.0	CARBONDALE	COLCHESTER	COAL	-	1090.0

MAPID: 04100093000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 7E SECTION: 14 QUARTERS/FOOTAGES: SW SW SE
QUADRANGLE: ARTHUR LONGITUDE: -88.385826 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.652932 DATE COLLECTED:
SURFACE ELEVATION (FT.): 659.0 LOGGED (FT.): 1140.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
52.0	BOND	CARTHAGE	LIMESTONE	7.0	607.0
-68.0	MODESTO	WEST FRANKLIN	LIMESTONE	9.0	727.0
-198.0	CARBONDALE	DANVILLE	COAL	2.0	857.0
-305.0	CARBONDALE	SPRINGFIELD	COAL	-	964.0
-424.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1083.0
-481.0	CARBONDALE	COLCHESTER	COAL	-	1140.0

MAPID: 04100324000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 4 QUARTERS/FOOTAGES: NW SW NW
QUADRANGLE: ARCOLA LONGITUDE: -88.319824 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.691216 DATE COLLECTED:
SURFACE ELEVATION (FT.): 680.0 LOGGED (FT.): 1117.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-47.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	727.0
-170.0	CARBONDALE	DANVILLE	COAL	-	850.0
-255.0	CARBONDALE	HERRIN	COAL	4.5	935.0
-282.0	CARBONDALE	SPRINGFIELD	COAL	-	962.0
-380.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1060.0
-437.0	CARBONDALE	COLCHESTER	COAL	-	1117.0

MAPID: 04100425000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 5 QUARTERS/FOOTAGES: NW SE NW
QUADRANGLE: ARCOLA LONGITUDE: -88.334216 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.691235 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 1125.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
41.0	BOND	CARTHAGE	LIMESTONE	6.0	634.0
-56.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	731.0
-174.0	CARBONDALE	DANVILLE	COAL	-	849.0
-259.0	CARBONDALE	HERRIN	COAL	4.0	934.0
-285.0	CARBONDALE	SPRINGFIELD	COAL	-	960.0
-393.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1068.0
-450.0	CARBONDALE	COLCHESTER	COAL	-	1125.0

MAPID: 04100398000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 6 QUARTERS/FOOTAGES: SE SE NW
QUADRANGLE: ARCOLA LONGITUDE: -88.350722 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.689388 DATE COLLECTED:
SURFACE ELEVATION (FT.): 664.0 LOGGED (FT.): 1134.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-4.0	BOND	CARTHAGE	LIMESTONE	5.0	668.0
-73.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	737.0
-197.0	CARBONDALE	DANVILLE	COAL	2.5	861.0
-286.0	CARBONDALE	HERRIN	COAL	3.0	950.0
-306.0	CARBONDALE	SPRINGFIELD	COAL	-	970.0
-416.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1080.0
-470.0	CARBONDALE	COLCHESTER	COAL	-	1134.0

MAPID: 04100307000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 7 QUARTERS/FOOTAGES: NW SE SW
QUADRANGLE: ARCOLA LONGITUDE: -88.352973 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.669245 DATE COLLECTED:
SURFACE ELEVATION (FT.): 659.0 LOGGED (FT.): 1165.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
48.0	BOND	CARTHAGE	LIMESTONE	6.0	611.0
-63.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	722.0
-176.0	CARBONDALE	DANVILLE	COAL	-	835.0
-273.0	CARBONDALE	HERRIN	COAL	-	932.0
-298.0	CARBONDALE	SPRINGFIELD	COAL	-	957.0
-406.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1065.0
-466.0	CARBONDALE	COLCHESTER	COAL	-	1125.0
-503.0	SPOON	SEELYVILLE	COAL	3.0	1162.0

MAPID: 04100518000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 8 QUARTERS/FOOTAGES: SW NE NW
QUADRANGLE: ARCOLA LONGITUDE: -88.334343 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.678414 DATE COLLECTED:
SURFACE ELEVATION (FT.): 667.0 LOGGED (FT.): 1099.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: SS ON #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
67.0	BOND	CARTHAGE	LIMESTONE	6.0	600.0
-42.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	709.0
-148.0	CARBONDALE	DANVILLE	COAL	-	815.0
-250.0	CARBONDALE	HERRIN	COAL	4.0	917.0
-373.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1040.0
-432.0	CARBONDALE	COLCHESTER	COAL	-	1099.0

MAPID: 04100735000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 8 QUARTERS/FOOTAGES: 1000' S line, 60' W line of SW
QUADRANGLE: ARCOLA LONGITUDE: -88.340128 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.669277 DATE COLLECTED:
SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 1135.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
34.0	BOND	CARTHAGE	LIMESTONE	8.0	606.0
-74.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	714.0
-189.0	CARBONDALE	DANVILLE	COAL	3.0	829.0
-284.0	CARBONDALE	HERRIN	COAL	2.5	924.0
-286.5	CARBONDALE	HERRIN	SHALE	5.5	926.5
-292.0	CARBONDALE	HERRIN	COAL	3.0	932.0
-311.0	CARBONDALE	SPRINGFIELD	COAL	-	951.0
-414.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1054.0
-472.0	CARBONDALE	COLCHESTER	COAL	-	1112.0
-492.0	SPOON	SEELYVILLE	COAL	3.0	1132.0

MAPID: 04100209000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 16 QUARTERS/FOOTAGES: NE NW NW
QUADRANGLE: ARCOLA LONGITUDE: -88.317829 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.665607 DATE COLLECTED:
SURFACE ELEVATION (FT.): 679.0 LOGGED (FT.): 1140.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
29.0	BOND	CARTHAGE	LIMESTONE	7.0	650.0
-74.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	753.0
-184.0	CARBONDALE	DANVILLE	COAL	2.5	863.0
-281.0	CARBONDALE	HERRIN	COAL	4.0	960.0
-304.0	CARBONDALE	SPRINGFIELD	COAL	4.0	983.0
-401.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1080.0
-461.0	CARBONDALE	COLCHESTER	COAL	-	1140.0

MAPID: 04100176000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 17 QUARTERS/FOOTAGES: SE SE NW
QUADRANGLE: ARCOLA LONGITUDE: -88.332231 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.660199 DATE COLLECTED:
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 1156.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
22.0	BOND	CARTHAGE	LIMESTONE	5.0	636.0
-84.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	742.0
-199.0	CARBONDALE	DANVILLE	COAL	-	857.0
-311.0	CARBONDALE	HERRIN	COAL	-	969.0
-326.0	CARBONDALE	SPRINGFIELD	COAL	2.5	984.0
-437.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1095.0
-498.0	CARBONDALE	COLCHESTER	COAL	-	1156.0

MAPID: 04100155000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 18 QUARTERS/FOOTAGES: NE NE SE
QUADRANGLE: ARCOLA LONGITUDE: -88.341811 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.658406 DATE COLLECTED:
SURFACE ELEVATION (FT.): 659.0 LOGGED (FT.): 1126.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
55.0	BOND	CARTHAGE	LIMESTONE	6.0	604.0
-58.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	717.0
-184.0	CARBONDALE	DANVILLE	COAL	-	843.0
-291.0	CARBONDALE	HERRIN	COAL	3.5	950.0
-301.0	CARBONDALE	SPRINGFIELD	COAL	-	960.0
-411.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1070.0
-467.0	CARBONDALE	COLCHESTER	COAL	-	1126.0

MAPID: 04100547000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 14N 8E SECTION: 18 QUARTERS/FOOTAGES: NE NW NE
QUADRANGLE: ARCOLA LONGITUDE: -88.346139 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.665609 DATE COLLECTED:
SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 1139.5 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
50.0	BOND	CARTHAGE	LIMESTONE	9.0	606.0
-60.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	716.0
-179.0	CARBONDALE	DANVILLE	COAL	2.5	835.0
-276.0	CARBONDALE	HERRIN	COAL	-	932.0
-297.0	CARBONDALE	SPRINGFIELD	COAL	-	953.0
-404.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1060.0
-456.0	CARBONDALE	COLCHESTER	COAL	-	1112.0
-480.0	SPOON	SEELYVILLE	COAL	3.5	1136.0

MAPID: 04121604000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 14N 9E SECTION: 3 QUARTERS/FOOTAGES: 325' N line, 380' E line
QUADRANGLE: HINDSBORO LONGITUDE: -88.177424 GEOLOGIST: E. PRUSSEN
CONFIDENTIAL: N LATITUDE: 39.694524 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 638.0 LOGGED (FT.): 229.0 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY PH-11 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
638.0			UNCONSOLIDATED	174.0	0.0
464.0			ROCK	52.0	174.0
412.0	CARBONDALE	HERRIN	COAL	3.0	226.0

MAPID: 04121604000C VERSION: 2 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 14N 9E SECTION: 3 QUARTERS/FOOTAGES: 325' N line, 380' E line
QUADRANGLE: HINDSBORO LONGITUDE: -88.177424 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.694524 DATE COLLECTED: 9 / 0 / 1971
SURFACE ELEVATION (FT.): 638.0 LOGGED (FT.): 448.0 LOG TYPE: Electric Log
SOURCE: HYDROCARBON SURVEY PH-11 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-				-	NO COAL PICKS
-				-	NO COAL PICKS

MAPID: 04121633000C VERSION: 1

PROJECT: NCRDS87

COUNTY: DOUGLAS TWP/RNG: 14N 9E SECTION: 10 QUARTERS/FOOTAGES: 115' S line, 60' E line
QUADRANGLE: HINDSBORO LONGITUDE: -88.176607 GEOLOGIST: WEIBEL
CONFIDENTIAL: N LATITUDE: 39.666791 DATE COLLECTED: 9 / 2 / 1971
SURFACE ELEVATION (FT.): 645.0 LOGGED (FT.): 447.0 LOG TYPE: Multiple log types
SOURCE: HYDROCARBON SURVEY WELL TYPE: Coal Test
COMMENT: LOG-TYPES 12, 19

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.0			UNCONSOLIDATED	148.0	0.0	
-	CARBONDALE	DANVILLE	COAL	0.0		
497.0	CARBONDALE		UNCLASSIFIED	27.0	148.0	
470.0	CARBONDALE	ENERGY	BLACK SHALE	0.0	175.0	
470.0	CARBONDALE	HERRIN	COAL	2.5	175.0	
467.5	CARBONDALE		UNCLASSIFIED	19.5	177.5	
448.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	197.0	
446.0	CARBONDALE	SPRINGFIELD	COAL	1.5	199.0	QUESTIONABLE
444.5	CARBONDALE		UNCLASSIFIED	19.5	200.5	
425.0	CARBONDALE	EXCELLO	BLACK SHALE	4.0	220.0	
421.0	CARBONDALE		UNCLASSIFIED	39.5	224.0	
381.5	CARBONDALE		UNCLASSIFIED	3.5	263.5	
378.0	CARBONDALE	COLCHESTER	COAL	1.0	267.0	QUESTIONABLE
377.0			UNCLASSIFIED	32.0	268.0	
345.0			UNCLASSIFIED	147.0	300.0	LOWER PENNSYLVANIAN

MAPID: 04100294000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 14N 9E SECTION: 17 QUARTERS/FOOTAGES: NW SE NE
QUADRANGLE: HINDSBORO LONGITUDE: -88.217411 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.661769 DATE COLLECTED:
SURFACE ELEVATION (FT.): 665.0 LOGGED (FT.): 224.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.0	CARBONDALE	HERRIN	COAL	2.5	140.0	
505.0	CARBONDALE	SPRINGFIELD	COAL	-	160.0	
441.0	CARBONDALE	COLCHESTER	COAL	-	224.0	

MAPID: 04121605000C

VERSION: 1

PROJECT: ISGS96

COUNTY: DOUGLAS

TWP/RNG: 14N 10E

SECTION: 2

QUARTERS/FOOTAGES: 355' N line, 715' W line

QUADRANGLE: OAKLAND

LONGITUDE: -88.059853

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N

LATITUDE: 39.694751

DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 657.0

LOGGED (FT.): 300.9

LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY

PG-24

WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
657.0			UNCONSOLIDATED	74.0	0.0	
583.0			ROCK	223.0	74.0	
360.0	CARBONDALE	HERRIN	COAL	3.9	297.0	MAP SAYS "4-" FEET OF COAL

MAPID: 04121605000C

VERSION: 2

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 14N 10E

SECTION: 2

QUARTERS/FOOTAGES: 355' N line, 715' W line

QUADRANGLE: OAKLAND

LONGITUDE: -88.059853

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.694751

DATE COLLECTED: 10 / 0 / 1971

SURFACE ELEVATION (FT.): 657.0

LOGGED (FT.): 433.0

LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY

PG-24

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121978000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.053254

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.68845

DATE COLLECTED:

SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 270.0

LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8915

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1098040.64N-581201.75E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0			CLAY & GRAVEL	10.0	0.0	UNITS 1-19 FROM DRILLERS LOG/INTERBEDDED
619.0			CLAY	2.0	10.0	DARK
617.0			CLAY	12.0	12.0	GRAY
605.0			CLAY & GRAVEL	14.0	24.0	INTERBEDDED; GRAY
591.0	MODESTO		SANDSTONE	4.0	38.0	
587.0	MODESTO		SHALE & SANDSTONE	26.0	42.0	THICKNESS ADJ TO MATCH LOG DEPTHS
561.0	MODESTO		SHALE & SANDSTONE	8.0	68.0	INTERBEDDED
553.0	MODESTO		SHALE	6.0	76.0	
547.0	MODESTO		LIMESTONE	1.0	82.0	
546.0	MODESTO		SANDSTONE/LIMESTONE	3.0	83.0	INTERBEDDED
543.0	MODESTO		SANDSTONE	8.0	86.0	
535.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.5	94.0	
529.5			SHALE	16.5	99.5	
513.0			SHALE	2.0	116.0	BRN
511.0	CARBONDALE		SHALE	11.0	118.0	
500.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	129.0	
492.0	CARBONDALE	ENERGY	SANDY SHALE	63.0	137.0	
429.0	CARBONDALE	ENERGY	SHALY SANDSTONE	14.0	200.0	
415.0	CARBONDALE	ENERGY	SANDY SHALE	18.0	214.0	
397.0	CARBONDALE	ENERGY	SHALE	10.0	232.0	INITIS 20-32 FROM CORE; GRY
387.0	CARBONDALE	ENERGY	SIDERITE	0.1	242.0	BRN
386.9	CARBONDALE	ENERGY	SHALE	4.2	242.1	SIDERITE BAND; GRY
382.7	CARBONDALE	ENERGY	SIDERITE	0.1	246.3	BRN
382.7	CARBONDALE	ENERGY	SHALE	0.8	246.3	GRY
381.9	CARBONDALE	ENERGY	BLACK SHALE	0.0	247.1	
381.8	CARBONDALE	HERRIN	COAL	3.2	247.2	
378.6	CARBONDALE	HERRIN	SHALY COAL	0.0	250.4	
378.6	CARBONDALE	HERRIN	COAL	0.4	250.4	
378.2	CARBONDALE		SHALE	0.4	250.8	
377.8	CARBONDALE		SHALE	1.3	251.2	GRY/GRN
376.5	CARBONDALE		CALCAREOUS SHALE	3.2	252.5	CONGLOMERITIC
373.3	CARBONDALE	ST. DAVID	LIMESTONE	1.8	255.7	CONGLOMERITIC; GRY
371.5	CARBONDALE	ST. DAVID	LIMESTONE	2.5	257.5	UNITS 33-36 FROM DRILLERS LOG
369.0	CARBONDALE		SHALE	2.0	260.0	GRY
367.0	CARBONDALE	SPRINGFIELD	COAL	2.0	262.0	NO INDICATION ON GAMMA/DENSITY LOG
365.0	CARBONDALE		SHALE	6.0	264.0	

MAPID: 04121974000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 3 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.072036

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.688365

DATE COLLECTED: 8 / 3 / 1989

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 478.1

LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8913

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1098003.45N-571035.48E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0			CLAY	14.0	0.0	UNITS 1 THRU 15 FROM DRILLER'S LOG; TAN
676.0			SANDY CLAY	97.0	14.0	GRY
579.0	MODESTO		SHALE	51.0	111.0	GRY
528.0	MODESTO		SANDY SHALE	14.0	162.0	
514.0	MODESTO		SANDSTONE	18.0	176.0	
496.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	194.0	
490.0	MODESTO		SHALE	7.0	200.0	GRY
483.0			SHALE	2.5	207.0	W/COAL STREAKS; BLK
480.5			UNDERCLAY	4.5	209.5	
476.0			CALCAREOUS SILTSTONE	6.0	214.0	
470.0			SHALE	29.0	220.0	GRY
441.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	249.0	
434.0	CARBONDALE	ENERGY	SANDSTONE	2.0	256.0	
432.0	CARBONDALE	ENERGY	SHALE	14.0	258.0	
418.0	CARBONDALE	ENERGY	SHALE	18.0	272.0	
400.0	CARBONDALE	ENERGY	SHALE	10.0	290.0	UNITS 16 THRU 40 FROM CORE; GRY
390.0	CARBONDALE	ENERGY	SHALE	1.6	300.0	GRY
388.4	CARBONDALE	ENERGY	SIDERITE	0.1	301.6	BRN
388.4	CARBONDALE	ENERGY	SHALE	0.0	301.6	GRY
388.4	CARBONDALE	ENERGY	SIDERITE	0.1	301.6	BRN
388.3	CARBONDALE	ENERGY	SHALE	0.5	301.7	GRY
387.8	CARBONDALE	ENERGY	SIDERITE	0.1	302.2	BRN
387.8	CARBONDALE	ENERGY	SHALE	0.3	302.2	GRY
387.5	CARBONDALE	ENERGY	SHALE	2.1	302.5	GRY
385.4	CARBONDALE	ENERGY	SIDERITE	0.1	304.6	
385.4	CARBONDALE	ENERGY	SHALE	1.5	304.6	GRY
383.9	CARBONDALE	ENERGY	SIDERITE	0.1	306.1	BRN
383.8	CARBONDALE	ENERGY	SHALE	0.4	306.2	GRY
383.5	CARBONDALE	ENERGY	SHALE	0.2	306.5	GRY
383.3	CARBONDALE	ENERGY	SIDERITE	0.2	306.7	
383.2	CARBONDALE	ENERGY	SHALE	1.5	306.8	GRY
381.7	CARBONDALE	ENERGY	SILTY SHALE	0.9	308.3	
380.8	CARBONDALE	ENERGY	SILTY SHALE	1.7	309.2	
379.1	CARBONDALE	ENERGY	SILTY SHALE	6.5	310.9	
372.7	CARBONDALE	ENERGY	SHALE	0.4	317.3	W/SIDERITIC BANDS; GRY
372.2	CARBONDALE	HERRIN	SHALY COAL	0.2	317.8	UPPER BENCH
372.1	CARBONDALE	ENERGY	SHALE	0.1	317.9	RASHY; BLK
372.0	CARBONDALE	ENERGY	SHALE	1.9	318.0	GRY
370.1	CARBONDALE	ENERGY	SILTY SHALE	10.1	319.9	PLANT FOSSILS

360.0	CARBONDALE	ENERGY	SHALE	15.0	330.0	SILTY SH; GRY
345.0	CARBONDALE	ENERGY	SANDSTONE/SHALE	13.0	345.0	UNITS41-57 FROM DRILLERS LOG/INTERBEDDED
332.0	CARBONDALE	ENERGY	SHALE	12.0	358.0	GRY
320.0	CARBONDALE	HERRIN	COAL	3.5	370.0	FROM DENSITY LOG
316.5	CARBONDALE		UNDERCLAY	1.9	373.5	
314.5	CARBONDALE		LIMESTONE	1.0	375.5	
313.5	CARBONDALE		GREEN SHALE	5.5	376.5	
308.0	CARBONDALE		GREEN SHALE	9.0	382.0	
299.0	CARBONDALE	SPRINGFIELD	COAL	1.5	391.0	
297.5	CARBONDALE		GREEN SHALE	2.5	392.5	
295.0	CARBONDALE		SHALE	19.0	395.0	GRY
276.0	CARBONDALE		SHALE	16.0	414.0	GRY
260.0	CARBONDALE	EXCELLO	SHALE/COAL	6.0	430.0	INTERBEDDED
254.0	CARBONDALE		SHALE	26.0	436.0	GRY
228.0	CARBONDALE		COAL	0.3	462.0	
227.7	CARBONDALE		SHALE	9.7	462.3	GRY
218.0	CARBONDALE		SANDSTONE	6.0	472.0	
212.0	CARBONDALE		SHALE	4.0	478.0	GRY

MAPID: 04121977000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 3 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.072036

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.688365

DATE COLLECTED:

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 375.6

LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8913A

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1098024.84N-571044.98E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0			CLAY	14.0	0.0	UNIT 1 THRU 22 FROM DRILLER'S LOG; TAN
676.0			CLAY	96.0	14.0	GRY
580.0	MODESTO		SHALE	53.0	110.0	GRY
527.0	MODESTO		SANDY SHALE	14.0	163.0	
513.0	MODESTO		SANDSTONE	18.0	177.0	
495.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	195.0	
490.0	MODESTO		SHALE	8.0	200.0	
482.0	MODESTO		SHALE	2.5	208.0	W/COAL
479.5	MODESTO		CLAYSTONE	4.5	210.5	
475.0			CALCAREOUS SILTSTONE	6.0	215.0	
469.0			SHALE	29.0	221.0	GRY
440.0	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	250.0	
433.0	CARBONDALE	ENERGY	SANDSTONE	2.0	257.0	
431.0	CARBONDALE	ENERGY	SHALE	14.0	259.0	GRY
417.0	CARBONDALE	ENERGY	SANDY SHALE	18.0	273.0	
399.0	CARBONDALE	ENERGY	SHALE	9.0	291.0	GRY
390.0	CARBONDALE	ENERGY	SHALE	17.5	300.0	GRY
372.5	CARBONDALE	HERRIN	COAL	0.5	317.5	UPPER BENCH OF COAL
372.0	CARBONDALE	ENERGY	SHALE	12.0	318.0	
360.0	CARBONDALE	ENERGY	SHALE	15.0	330.0	SLTSTN; GRY
345.0	CARBONDALE	ENERGY	SANDY SHALE	13.0	345.0	
332.0	CARBONDALE	ENERGY	SHALE	7.0	358.0	GRY
325.0	CARBONDALE	ENERGY	SILTY SHALE	5.3	365.0	UNITS 23-30 FROM CORE/SIDERITE BANDS
319.7	CARBONDALE	ENERGY	SHALE	0.2	370.3	GRY
319.5	CARBONDALE	HERRIN	COAL	2.6	370.5	
316.9	CARBONDALE	HERRIN	SHALE	0.6	373.1	THICKNESS ADJ TO MATCH LOG DEPTHS
316.3	CARBONDALE	HERRIN	COAL	0.9	373.7	
315.4	CARBONDALE		SHALE	0.8	374.6	
314.6	CARBONDALE		CALCAREOUS SHALE	0.2	375.4	
314.4			LIMESTONE	1.8	375.6	

MAPID: 04121606000C VERSION: 1 PROJECT: ISGS96

COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 4 QUARTERS/FOOTAGES: 105' N line, 1055' W line

QUADRANGLE: OAKLAND LONGITUDE: -88.096412 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.695264 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 320.1 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY PG-20 WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	163.0	0.0	
480.0			ROCK	153.0	163.0	
327.0	CARBONDALE	HERRIN	COAL	4.1	316.0	MAP SAYS "4+" FEET OF COAL

MAPID: 04121606000C VERSION: 2 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 4 QUARTERS/FOOTAGES: 105' N line, 1055' W line

QUADRANGLE: OAKLAND LONGITUDE: -88.096412 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.695264 DATE COLLECTED: 9 / 0 / 1971

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 447.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PG-20 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121709000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 6 QUARTERS/FOOTAGES:

QUADRANGLE: HINDSBORO LONGITUDE: -88.129141

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.688122

DATE COLLECTED: 7 / 3 / 1989

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 423.0

LOG TYPE: Gamma Ray Density

SOURCE: READY DRILLING, LANMAN-LINN 1

WELL TYPE: Producer-Oil and Gas

COMMENT: GAMMA-DENSITY LOG RUN BY AMCO-IL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	158.0	0.0	
485.0	CARBONDALE		UNCLASSIFIED	20.0	158.0	
465.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	178.0	
459.5	CARBONDALE	ENERGY	SHALE & SILTSTONE	114.0	183.5	
345.5	CARBONDALE	HERRIN	COAL	0.4	297.5	EXPANDED SCALE LOG 288-308'
345.1	CARBONDALE	HERRIN	SHALE	0.2	297.9	
344.9	CARBONDALE	HERRIN	COAL	2.5	298.1	
342.5	CARBONDALE	HERRIN	SHALE	0.5	300.5	
342.0	CARBONDALE	HERRIN	COAL	0.4	301.0	
341.6	CARBONDALE		UNCLASSIFIED	32.7	301.4	UNDERCLAY, SHALE, SILTSTONE
309.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	334.0	
307.0	CARBONDALE	SPRINGFIELD	COAL	2.0	336.0	
305.0	CARBONDALE		UNCLASSIFIED	22.0	338.0	
283.0	CARBONDALE		LIMESTONE	1.5	360.0	
281.5	CARBONDALE		SHALE	15.5	361.5	
266.0	CARBONDALE	EXCELLO	BLACK SHALE	1.5	377.0	
264.5	CARBONDALE	HOUCHIN CREEK	COAL	1.0	378.5	VERY HIGH GAMMA COUNT
263.5	CARBONDALE		SHALE & SILTSTONE	43.5	379.5	

MAPID: 04121973000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 14N 10E **SECTION:** 7 **QUARTERS/FOOTAGES:**
QUADRANGLE: HINDSBORO **LONGITUDE:** -88.129382 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.673566 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 344.0 **LOG TYPE:** Multiple log types
SOURCE: AMCO-IL AM-8912 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG&CORE 1097139.2N-560090.93E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			CLAY	8.0	0.0	UNITS 1 THRU 10 FROM DRILLER'S LOG; TAN
-			CLAY	24.0	8.0	GRY
-			CLAY	2.0	32.0	TAN
-			CLAY & GRAVEL	126.0	34.0	GRY
-			SHALE	2.0	160.0	
-			SHALE	16.0	162.0	GRY
-			SHALE	2.0	178.0	
-			SANDY SHALE	34.0	180.0	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	214.0	
-	CARBONDALE	ENERGY	SANDY SHALE	100.0	220.0	THICKNESS ADJ TO MATCH LOG DEPTHS
-	CARBONDALE	ENERGY	SHALE	9.9	320.0	UNIT 11 THRU 23 FROM CORE; GRY
-	CARBONDALE	ENERGY	SHALE	3.4	329.9	GRY
-	CARBONDALE	ENERGY	SIDERITE	0.1	333.2	BRN
-	CARBONDALE	ENERGY	SHALE	0.3	333.4	GRY
-	CARBONDALE	ENERGY	SHALE	0.1	333.6	GRY
-	CARBONDALE	ENERGY	SHALE	0.3	333.7	GRY
-	CARBONDALE	HERRIN	COAL	3.0	334.0	
-	CARBONDALE	HERRIN	SHALE	0.1	337.0	GRY
-	CARBONDALE	HERRIN	COAL	0.6	337.1	
-	CARBONDALE		SHALE	0.1	337.6	RASHY; GRY
-	CARBONDALE		SHALE	0.3	337.7	GRY/GRN
-	CARBONDALE		CALCAREOUS SHALE	4.5	338.0	
-	CARBONDALE		SHALE	1.5	342.5	GRY/GRN

MAPID: 04121578000C **VERSION:** 1 **PROJECT:** ISGS96
COUNTY: DOUGLAS **TWP/RNG:** 14N 10E **SECTION:** 17 **QUARTERS/FOOTAGES:** 125' N line, 95' E line
QUADRANGLE: OAKLAND **LONGITUDE:** -88.100578 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.666069 **DATE COLLECTED:** 0 / 0 / 1976
SURFACE ELEVATION (FT.): 694.0 **LOGGED (FT.):** 374.5 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY PG-19 **WELL TYPE:** Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
694.0			UNCONSOLIDATED	217.0	0.0	
477.0			ROCK	154.0	217.0	
323.0	CARBONDALE	HERRIN	COAL	3.5	371.0	

MAPID: 04121578000C VERSION: 2 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 17 QUARTERS/FOOTAGES: 125' N line, 95' E line
QUADRANGLE: OAKLAND LONGITUDE: -88.100578 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.666069 DATE COLLECTED: 9 / 24 / 1971
SURFACE ELEVATION (FT.): 694.0 LOGGED (FT.): 445.0 LOG TYPE: Electric Log
SOURCE: HYDROCARBON SURVEY PG-19 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
323.0	CARBONDALE	HERRIN	COAL	2.0	371.0	

MAPID: 04121579000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 18 QUARTERS/FOOTAGES: 40' N line, 780' W line
QUADRANGLE: HINDSBORO LONGITUDE: -88.136625 GEOLOGIST: C TREWORYG
CONFIDENTIAL: N LATITUDE: 39.666141 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 315.9 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY PH-21 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
663.0			UNCONSOLIDATED	102.0	0.0	
561.0			ROCK	210.0	102.0	
351.0	CARBONDALE	HERRIN	COAL	3.9	312.0	MAP SAYS "4-" FEET OF COAL

MAPID: 04121579000C VERSION: 2 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 14N 10E SECTION: 18 QUARTERS/FOOTAGES: 40' N line, 780' W line
QUADRANGLE: HINDSBORO LONGITUDE: -88.136625 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.666141 DATE COLLECTED: 9 / 22 / 1971
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 447.0 LOG TYPE: Electric Log
SOURCE: HYDROCARBON SURVEY PH-21 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
350.0	CARBONDALE	HERRIN	COAL	2.0	313.0	

MAPID: 04121607000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 14N 11E SECTION: 6 QUARTERS/FOOTAGES: 565' N line, 110' W line
QUADRANGLE: OAKLAND LONGITUDE: -88.025349 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.694724 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 239.0 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY PG-25 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
658.0			UNCONSOLIDATED	122.0	0.0
536.0			ROCK	113.0	122.0
423.0	CARBONDALE	HERRIN	COAL	4.0	235.0

MAPID: 04121607000C VERSION: 2 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 14N 11E SECTION: 6 QUARTERS/FOOTAGES: 565' N line, 110' W line
QUADRANGLE: OAKLAND LONGITUDE: -88.025349 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.694724 DATE COLLECTED: 10 / 0 / 1971
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 447.0 LOG TYPE: Electric Log
SOURCE: HYDROCARBON SURVEY PG-25 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-				-	NO COAL PICKS
-				-	NO COAL PICKS

MAPID: 04121608000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 14N 14W SECTION: 5 QUARTERS/FOOTAGES: 75' N line, 54' E line
QUADRANGLE: BROCTON LONGITUDE: -87.985781 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.699809 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 653.0 LOGGED (FT.): 137.1 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY CO-76-6 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
653.0			UNCONSOLIDATED	80.0	0.0
573.0			ROCK	53.0	80.0
520.0	CARBONDALE	HERRIN	COAL	4.1	133.0

MAPID: 04121608000C **VERSION:** 2 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 14N 14W **SECTION:** 5 **QUARTERS/FOOTAGES:** 75' N line, 54' E line
QUADRANGLE: BROCTON **LONGITUDE:** -87.985781 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.699809 **DATE COLLECTED:** 0 / 0 / 1976
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 160.0 **LOG TYPE:** Electric Log
SOURCE: HYDROCARBON SURVEY CO-76-6 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		UNIT	OVERBURDEN	COMMENT
-				-				NO COAL PICKS
-				-				NO COAL PICKS

MAPID: 04121975000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 14N 14W **SECTION:** 6 **QUARTERS/FOOTAGES:** 500' S line, 50' E line
QUADRANGLE: OAKLAND **LONGITUDE:** -88.003807 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.686902 **DATE COLLECTED:** 6 / 21 / 1989
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 165.0 **LOG TYPE:** Multiple log types
SOURCE: AMCO-IL #AM-8906 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG&CORE 1099949.7N-592579.18E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		UNIT	OVERBURDEN	COMMENT
643.0			UNCONSOLIDATED	60.0	0.0			UNITS 1-4 FROM DRILLER'S LOG
583.0	CARBONDALE	ENERGY	SHALE	43.0	60.0			
540.0	CARBONDALE	ENERGY	SHALE	2.0	103.0			SH W/ SID
538.0	CARBONDALE	ENERGY	SHALE	35.0	105.0			
503.0	CARBONDALE	ENERGY	SHALE	10.8	140.0			UNITS 5-18 FROM CORE
492.2	CARBONDALE	HERRIN	COAL	2.7	150.8			
489.5	CARBONDALE	HERRIN	SHALE	0.0	153.5			
489.5	CARBONDALE	HERRIN	COAL	0.3	153.5			
489.2	CARBONDALE	HERRIN	CARBONACEOUS SHALE	0.0	153.8			
489.2	CARBONDALE	HERRIN	COAL	0.8	153.8			
488.4	CARBONDALE	HERRIN	SHALE	0.0	154.6			
488.4	CARBONDALE	HERRIN	COAL	0.1	154.6			
488.3	CARBONDALE		SHALE	0.4	154.7			
487.9	CARBONDALE		SHALE	1.0	155.1			
487.0	CARBONDALE		LIMESTONE	1.8	156.0			GRAY
485.2	CARBONDALE		CALCAREOUS SHALE	3.5	157.8			
481.7	CARBONDALE		SHALE	2.2	161.3			
479.5	CARBONDALE		SHALE	1.5	163.5			

MAPID: 04100497000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 2 QUARTERS/FOOTAGES: 660' S line, 660' E line of SW
QUADRANGLE: ATWOOD LONGITUDE: -88.387731 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.77043 DATE COLLECTED:
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 1087.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #5,#6 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
6.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	657.0	
-117.0	CARBONDALE	DANVILLE	COAL	2.5	780.0	
-377.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1040.0	
-424.0	CARBONDALE	COLCHESTER	COAL	-	1087.0	

MAPID: 04100309000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 3 QUARTERS/FOOTAGES: 990' S line, 1650' W line of NE
QUADRANGLE: ATWOOD LONGITUDE: -88.398476 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.782977 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 1113.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
67.0	BOND	CARTHAGE	LIMESTONE	7.0	603.0	
-54.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	724.0	
-208.0	CARBONDALE	DANVILLE	COAL	3.0	878.0	
-232.0	CARBONDALE	HERRIN	COAL	4.0	902.0	
-276.0	CARBONDALE	SPRINGFIELD	COAL	5.0	946.0	
-383.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1053.0	
-443.0	CARBONDALE	COLCHESTER	COAL	-	1113.0	

MAPID: 04100371000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 3 QUARTERS/FOOTAGES: 4290' S line, 1650' E line of NE
QUADRANGLE: ATWOOD LONGITUDE: -88.401093 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.787918 DATE COLLECTED:
SURFACE ELEVATION (FT.): 672.0 LOGGED (FT.): 1125.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
65.0	BOND	CARTHAGE	LIMESTONE	7.0	607.0
-105.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	777.0
-202.0	CARBONDALE	DANVILLE	COAL	2.5	874.0
-231.0	CARBONDALE	HERRIN	COAL	-	903.0
-263.0	CARBONDALE	SPRINGFIELD	COAL	4.0	935.0
-354.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1026.0
-453.0	CARBONDALE	COLCHESTER	COAL	-	1125.0

MAPID: 04100575000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 3 QUARTERS/FOOTAGES: 4854' S line, 330' W line
QUADRANGLE: ATWOOD LONGITUDE: -88.412486 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.782555 DATE COLLECTED:
SURFACE ELEVATION (FT.): 664.0 LOGGED (FT.): 1136.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
61.0	BOND	CARTHAGE	LIMESTONE	7.0	603.0
-68.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	732.0
-223.0	CARBONDALE	DANVILLE	COAL	2.5	887.0
-251.0	CARBONDALE	HERRIN	COAL	3.0	915.0
-286.0	CARBONDALE	SPRINGFIELD	COAL	5.0	950.0
-383.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1047.0
-472.0	CARBONDALE	COLCHESTER	COAL	-	1136.0

MAPID: 04100261000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 4 QUARTERS/FOOTAGES: 1650' S line, 330' E line of NE SE
QUADRANGLE: ATWOOD LONGITUDE: -88.414786 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.779341 DATE COLLECTED:
SURFACE ELEVATION (FT.): 668.0 LOGGED (FT.): 1155.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
47.0	BOND	CARTHAGE	LIMESTONE	7.0	621.0
-83.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	751.0
-237.0	CARBONDALE	DANVILLE	COAL	3.0	905.0
-270.0	CARBONDALE	HERRIN	COAL	-	938.0
-304.0	CARBONDALE	SPRINGFIELD	COAL	5.5	972.0
-400.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1068.0
-487.0	CARBONDALE	COLCHESTER	COAL	-	1155.0

MAPID: 04100568000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 4 QUARTERS/FOOTAGES: 990' S line, 330' E line of NW
QUADRANGLE: ATWOOD LONGITUDE: -88.424461 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.782963 DATE COLLECTED:
SURFACE ELEVATION (FT.): 672.0 LOGGED (FT.): 1157.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
43.0	BOND	CARTHAGE	LIMESTONE	7.0	629.0
-98.0	MODESTO	WEST FRANKLIN	LIMESTONE	9.0	770.0
-242.0	CARBONDALE	DANVILLE	COAL	3.0	914.0
-276.0	CARBONDALE	HERRIN	COAL	3.5	948.0
-302.0	CARBONDALE	SPRINGFIELD	COAL	4.0	974.0
-399.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1071.0
-485.0	CARBONDALE	COLCHESTER	COAL	-	1157.0

MAPID: 04100464000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 7 QUARTERS/FOOTAGES: 330' S line, 330' E line of NE
QUADRANGLE: ATWOOD LONGITUDE: -88.452337 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.762007 DATE COLLECTED:
SURFACE ELEVATION (FT.): 651.0 LOGGED (FT.): 1120.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-106.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	757.0
-249.0	CARBONDALE	DANVILLE	COAL	2.0	900.0
-272.0	CARBONDALE	HERRIN	COAL	3.5	923.0
-309.0	CARBONDALE	SPRINGFIELD	COAL	4.0	960.0
-379.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1030.0
-469.0	CARBONDALE	COLCHESTER	COAL	-	1120.0

MAPID: 04100696000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 8 QUARTERS/FOOTAGES: SW NW SE
QUADRANGLE: ATWOOD LONGITUDE: -88.440603 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.758369 DATE COLLECTED:
SURFACE ELEVATION (FT.): 661.0 LOGGED (FT.): 1082.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-151.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	812.0
-259.0	CARBONDALE	DANVILLE	COAL	2.0	920.0
-289.0	CARBONDALE	HERRIN	COAL	3.0	950.0
-333.0	CARBONDALE	SPRINGFIELD	COAL	3.0	994.0
-421.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1082.0

MAPID: 04100163000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 10 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: ATWOOD LONGITUDE: -88.395838 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.767851 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 1111.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
141.0	BOND	CARTHAGE	LIMESTONE	7.0	534.0
-30.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	705.0
-140.0	CARBONDALE	DANVILLE	COAL	-	815.0
-413.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1088.0
-436.0	CARBONDALE	COLCHESTER	COAL	-	1111.0

MAPID: 04100480000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 11 QUARTERS/FOOTAGES: NE SW SW
QUADRANGLE: ATWOOD LONGITUDE: -88.391037 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.756803 DATE COLLECTED:
SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 1105.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
88.0	BOND	CARTHAGE	LIMESTONE	6.0	574.0
-22.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	684.0
-138.0	CARBONDALE	DANVILLE	COAL	-	800.0
-443.0	CARBONDALE	COLCHESTER	COAL	-	1105.0

MAPID: 04100507000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 11 QUARTERS/FOOTAGES: SW SW NE NE
QUADRANGLE: ATWOOD LONGITUDE: -88.380054 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.765311 DATE COLLECTED:
SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 1090.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
110.0	BOND	CARTHAGE	LIMESTONE	7.0	550.0
3.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	657.0
-109.0	CARBONDALE	DANVILLE	COAL	-	769.0
-388.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1048.0
-430.0	CARBONDALE	COLCHESTER	COAL	-	1090.0

MAPID: 04100153000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 12 QUARTERS/FOOTAGES: SW SW SE
QUADRANGLE: TUSCOLA LONGITUDE: -88.365538 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.754953 DATE COLLECTED:
SURFACE ELEVATION (FT.): 667.0 LOGGED (FT.): 1103.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
101.0	BOND	CARTHAGE	LIMESTONE	8.0	566.0	
-16.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	683.0	
-120.0	CARBONDALE	DANVILLE	COAL	-	787.0	
-398.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1065.0	
-436.0	CARBONDALE	COLCHESTER	COAL	-	1103.0	

MAPID: 04100325000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 12 QUARTERS/FOOTAGES: NW NE NW
QUADRANGLE: TUSCOLA LONGITUDE: -88.370079 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.767482 DATE COLLECTED:
SURFACE ELEVATION (FT.): 657.0 LOGGED (FT.): 1057.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
15.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	642.0	
-88.0	CARBONDALE	DANVILLE	COAL	2.0	745.0	
-363.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1020.0	
-400.0	CARBONDALE	COLCHESTER	COAL	-	1057.0	

MAPID: 04100186000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 13 QUARTERS/FOOTAGES: SE SE NE
QUADRANGLE: ARCOLA LONGITUDE: -88.358817 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.747562 DATE COLLECTED:
SURFACE ELEVATION (FT.): 673.0 LOGGED (FT.): 1117.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
50.0	BOND	CARTHAGE	LIMESTONE	8.0	623.0
-70.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	743.0
-199.0	CARBONDALE	DANVILLE	COAL	2.5	872.0
-266.0	CARBONDALE	HERRIN	COAL	-	939.0
-287.0	CARBONDALE	SPRINGFIELD	COAL	3.5	960.0
-402.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1075.0
-444.0	CARBONDALE	COLCHESTER	COAL	-	1117.0

MAPID: 04100258000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 13 QUARTERS/FOOTAGES: NW NE NW
QUADRANGLE: TUSCOLA LONGITUDE: -88.370235 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.75313 DATE COLLECTED:
SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 1117.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-24.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	686.0
-133.0	CARBONDALE	DANVILLE	COAL	-	795.0
-455.0	CARBONDALE	COLCHESTER	COAL	-	1117.0

MAPID: 04100286000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 7E **SECTION:** 14 **QUARTERS/FOOTAGES:** NE NW NW
QUADRANGLE: ATWOOD **LONGITUDE:** -88.391048 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.753148 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** 1117.5 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: #6,#5 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
97.0	BOND	CARTHAGE	LIMESTONE	10.0	562.0
-22.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	681.0
-142.0	CARBONDALE	DANVILLE	COAL	-	801.0
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1071.0
-458.0	CARBONDALE	COLCHESTER	COAL	-	1117.0
-455.0	SPOON	SEELYVILLE	COAL	3.5	1114.0

MAPID: 04100110000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 7E **SECTION:** 15 **QUARTERS/FOOTAGES:** SE NE SE
QUADRANGLE: ARTHUR **LONGITUDE:** -88.396122 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.744054 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 663.0 **LOGGED (FT.):** 1145.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: #6,#5 OUT, FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
78.0	BOND	CARTHAGE	LIMESTONE	6.0	585.0
-43.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	706.0
-161.0	CARBONDALE	DANVILLE	COAL	2.0	824.0
-437.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1100.0
-482.0	CARBONDALE	COLCHESTER	COAL	-	1145.0

MAPID: 04100159000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 15 QUARTERS/FOOTAGES: NE NW NW
QUADRANGLE: ATWOOD LONGITUDE: -88.410022 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.753698 DATE COLLECTED:
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 1147.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
58.0	BOND	CARTHAGE	LIMESTONE	5.0	600.0
-60.0	MODESTO	WEST FRANKLIN	LIMESTONE	4.0	718.0
-192.0	CARBONDALE	DANVILLE	COAL	-	850.0
-438.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1096.0
-489.0	CARBONDALE	COLCHESTER	COAL	-	1147.0

MAPID: 04100320000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 17 QUARTERS/FOOTAGES: SW NE NE
QUADRANGLE: ATWOOD LONGITUDE: -88.435956 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.751128 DATE COLLECTED:
SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 1156.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
12.0	BOND	CARTHAGE	LIMESTONE	7.0	632.0
-118.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	762.0
-268.0	CARBONDALE	DANVILLE	COAL	3.0	912.0
-296.0	CARBONDALE	HERRIN	COAL	4.5	940.0
-346.0	CARBONDALE	SPRINGFIELD	COAL	4.0	990.0
-445.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1089.0
-512.0	CARBONDALE	COLCHESTER	COAL	-	1156.0

MAPID: 04100412000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 18 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: ARTHUR LONGITUDE: -88.47126 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.746153 DATE COLLECTED:
SURFACE ELEVATION (FT.): 666.0 LOGGED (FT.): 1089.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
76.0	BOND	CARTHAGE	LIMESTONE	8.0	590.0
-66.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	732.0
-204.0	CARBONDALE	DANVILLE	COAL	-	870.0
-224.0	CARBONDALE	HERRIN	COAL	5.0	890.0
-264.0	CARBONDALE	SPRINGFIELD	COAL	4.0	930.0
-342.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1008.0
-423.0	CARBONDALE	COLCHESTER	COAL	-	1089.0

MAPID: 04100308000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 23 QUARTERS/FOOTAGES: SW SW NE
QUADRANGLE: ARTHUR LONGITUDE: -88.384758 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.733051 DATE COLLECTED:
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 1129.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
90.0	BOND	CARTHAGE	LIMESTONE	8.0	573.0
-29.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	692.0
-145.0	CARBONDALE	DANVILLE	COAL	-	808.0
-264.0	CARBONDALE	SPRINGFIELD	COAL	2.5	927.0
-466.0	CARBONDALE	COLCHESTER	COAL	-	1129.0

MAPID: 04100385000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 23 QUARTERS/FOOTAGES: SW NE NE
QUADRANGLE: ARTHUR LONGITUDE: -88.380103 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.736656 DATE COLLECTED:
SURFACE ELEVATION (FT.): 664.0 LOGGED (FT.): 1143.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5,#4 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
82.0	BOND	CARTHAGE	LIMESTONE	7.0	582.0	
-41.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	705.0	
-159.0	CARBONDALE	DANVILLE	COAL	-	823.0	
-479.0	CARBONDALE	COLCHESTER	COAL	-	1143.0	

MAPID: 04100444000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 24 QUARTERS/FOOTAGES: SW NE NW
QUADRANGLE: ARCOLA LONGITUDE: -88.370804 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.736606 DATE COLLECTED:
SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 1144.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-68.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	730.0	
-188.0	CARBONDALE	DANVILLE	COAL	-	850.0	
-281.0	CARBONDALE	HERRIN	COAL	3.0	943.0	
-313.0	CARBONDALE	SPRINGFIELD	COAL	4.0	975.0	
-437.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1099.0	
-482.0	CARBONDALE	COLCHESTER	COAL	-	1144.0	

MAPID: 04100467000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 7E **SECTION:** 25 **QUARTERS/FOOTAGES:** 330' S line, 660' E line of SW
QUADRANGLE: ARCOLA **LONGITUDE:** -88.370273 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.711183 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 666.0 **LOGGED (FT.):** 1179.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
10.0	BOND	CARTHAGE	LIMESTONE	8.0	656.0
-115.0	MODESTO	WEST FRANKLIN	LIMESTONE	9.0	781.0
-255.0	CARBONDALE	DANVILLE	COAL	3.0	921.0
-338.0	CARBONDALE	HERRIN	COAL	7.0	1004.0
-454.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1120.0
-513.0	CARBONDALE	COLCHESTER	COAL	-	1179.0

MAPID: 04100578000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 7E **SECTION:** 25 **QUARTERS/FOOTAGES:** NE NE NW
QUADRANGLE: ARCOLA **LONGITUDE:** -88.368615 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.724047 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 663.0 **LOGGED (FT.):** 1156.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: #6 SPLT?, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
1.0	BOND	CARTHAGE	LIMESTONE	5.0	662.0
-107.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	770.0
-247.0	CARBONDALE	DANVILLE	COAL	2.5	910.0
-294.0	CARBONDALE	HERRIN	COAL	-	957.0
-320.0	CARBONDALE	SPRINGFIELD	COAL	4.0	983.0
-447.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1110.0
-493.0	CARBONDALE	COLCHESTER	COAL	-	1156.0

MAPID: 04100332000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 26 QUARTERS/FOOTAGES: 355' S line, 405' W line of NW
QUADRANGLE: ARTHUR LONGITUDE: -88.39405 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.718506 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 1164.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6,#5 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
45.0	BOND	CARTHAGE	LIMESTONE	6.0	605.0
-77.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	727.0
-190.0	CARBONDALE	DANVILLE	COAL	2.0	840.0
-463.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1113.0
-514.0	CARBONDALE	COLCHESTER	COAL	-	1164.0

MAPID: 04100468000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 26 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: ARTHUR LONGITUDE: -88.377909 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.724065 DATE COLLECTED:
SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 1138.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
26.0	BOND	CARTHAGE	LIMESTONE	7.0	628.0
-102.0	MODESTO	WEST FRANKLIN	LIMESTONE	10.0	756.0
-246.0	CARBONDALE	DANVILLE	COAL	4.0	900.0
-300.0	CARBONDALE	HERRIN	COAL	-	954.0
-336.0	CARBONDALE	SPRINGFIELD	COAL	4.5	990.0
-446.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1100.0
-484.0	CARBONDALE	COLCHESTER	COAL	-	1138.0

MAPID: 04121392000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 29 QUARTERS/FOOTAGES: 648' S line, 60' W line
 QUADRANGLE: ARTHUR LONGITUDE: -88.451621 GEOLOGIST: R. SMITH
 CONFIDENTIAL: N LATITUDE: 39.712469 DATE COLLECTED: 4 / 21 / 1980
 SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 1000.0 LOG TYPE: Multiple log types
 SOURCE: MOBIL OIL CORP. MI-80-29-4 WELL TYPE: Coal Test
 COMMENT: GAMMA, DENS, RESIST, AND DRILLERS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
660.0			UNCONSOLIDATED	95.0	0.0
565.0	MATTOON		GRAY SHALE	3.0	95.0
562.0	MATTOON		BLACK SHALE	7.5	98.0
554.5	MATTOON		LIMESTONE	0.5	105.5
554.0	MATTOON		GRAY SHALE	21.0	106.0
533.0	MATTOON		SANDSTONE	5.0	127.0
528.0	MATTOON		GRAY SHALE	6.0	132.0
522.0	MATTOON		DARK SHALE	10.0	138.0
512.0	MATTOON		LIMESTONE	5.0	148.0
507.0	MATTOON		GRAY SHALE	3.0	153.0
504.0	MATTOON		LIMESTONE	2.0	156.0
502.0	MATTOON		DARK SHALE	3.0	158.0
499.0	MATTOON		LIMESTONE	1.0	161.0
498.0	MATTOON		SHALE	44.0	162.0
454.0	MATTOON		SANDSTONE	6.0	206.0
448.0	MATTOON		SHALE	36.0	212.0
412.0	MATTOON		SANDSTONE/LIMESTONE	10.0	248.0
402.0	MATTOON		SANDSTONE	33.0	258.0
369.0	MATTOON		LIMESTONE	0.5	291.0
368.5	MATTOON		SANDSTONE	38.5	291.5
330.0	MATTOON		GRAY SHALE	5.0	330.0
325.0	MATTOON		COAL	2.0	335.0
323.0	MATTOON		GRAY SHALE	41.0	337.0
282.0	MATTOON		COAL	2.0	378.0
280.0	MATTOON		GRAY SHALE	45.0	380.0
235.0	BOND	MILLERSVILLE	LIMESTONE	6.0	425.0
229.0	BOND	MILLERSVILLE	GRAY SHALE	4.0	431.0
225.0	BOND	MILLERSVILLE	LIMESTONE	28.0	435.0
197.0	BOND		GRAY SHALE	45.0	463.0
152.0	BOND		SANDSTONE	2.0	508.0
150.0	BOND		GRAY SHALE	20.0	510.0
130.0	BOND		COAL	1.0	530.0
129.0	BOND		SHALE	34.0	531.0
95.0	BOND		BLACK SHALE & CLAY	2.0	565.0
93.0	BOND		GRAY SHALE	28.0	567.0
65.0	BOND		SANDSTONE	3.0	595.0
62.0	BOND		GRAY SHALE	10.0	598.0
52.0	BOND		SANDSTONE	2.0	608.0
50.0	BOND		COAL	2.0	610.0

48.0	BOND		GRAY SHALE	23.5	612.0	
24.5	BOND	CARTHAGE	LIMESTONE	8.5	635.5	
16.0	MODESTO		GRAY SHALE	2.0	644.0	
14.0	MODESTO		BLACK SHALE	1.0	646.0	
13.0	MODESTO		GRAY SHALE	43.0	647.0	
-30.0	MODESTO		BLACK SHALE & CLAY	2.0	690.0	
-32.0	MODESTO		GRAY SHALE	67.0	692.0	
-99.0	MODESTO	CHAPEL	COAL	1.5	759.0	
-100.5	MODESTO		UNDERCLAY	1.5	760.5	
-102.0	MODESTO		LIMESTONE W/ SHALE	4.0	762.0	
-106.0	MODESTO	WEST FRANKLIN	LIMESTONE	3.5	766.0	
-109.5	MODESTO	WEST FRANKLIN	GRAY SHALE	9.5	769.5	
-119.0	MODESTO	WEST FRANKLIN	LIMESTONE	12.0	779.0	
-131.0	MODESTO		GRAY SHALE	25.0	791.0	
-156.0	MODESTO		LIMESTONE	1.0	816.0	
-157.0	MODESTO		GRAY SHALE	90.5	817.0	
-247.5	CARBONDALE	DANVILLE	COAL	4.0	907.5	
-251.5	CARBONDALE		GRAY SHALE	5.5	911.5	
-257.0	CARBONDALE		LIMESTONE W/ SHALE	2.0	917.0	
-259.0	CARBONDALE		GRAY SHALE	3.0	919.0	
-262.0	CARBONDALE		LIMESTONE	1.5	922.0	
-263.5	CARBONDALE		GRAY SHALE	0.5	923.5	
-264.0	CARBONDALE		LIMESTONE	0.5	924.0	
-264.5	CARBONDALE		GRAY SHALE	5.5	924.5	
-270.0	CARBONDALE	HERRIN	COAL	6.5	930.0	SOME BLACK SHALE INCLUDED
-276.5	CARBONDALE		UNDERCLAY	3.5	936.5	
-280.0	CARBONDALE		GRAY SHALE	33.0	940.0	
-313.0	CARBONDALE		LIMESTONE	1.0	973.0	
-314.0	CARBONDALE		DARK SHALE	8.0	974.0	SOME COAL, POSSIBLE #5
-322.0	CARBONDALE	SPRINGFIELD	COAL	1.5	982.0	COAL THIN OR ABSENT
-323.5	CARBONDALE		LIMESTONE	5.5	983.5	
-329.0	CARBONDALE		GRAY SHALE	11.0	989.0	

MAPID: 04121392000C VERSION: 2

PROJECT: NCRDS87

COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 29 QUARTERS/FOOTAGES: 648' S line, 60' W line

QUADRANGLE: ARTHUR LONGITUDE: -88.451621 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 39.712469 DATE COLLECTED: 4 / 21 / 1980

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 1000.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL CORP. MI-80-29-4 WELL TYPE: Coal Test

COMMENT: LOG-TYPES: 11, 19, 23, 26

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.0			UNCONSOLIDATED	92.0	0.0	
568.0	MATTOON		UNCLASSIFIED	6.0	92.0	
562.0	MATTOON		BLACK SHALE	2.5	98.0	
559.5	MATTOON		UNCLASSIFIED	55.0	100.5	
504.5	MATTOON	SHUMWAY	LIMESTONE	1.5	155.5	
503.0	MATTOON		BLACK SHALE	5.0	157.0	
498.0	MATTOON		LIMESTONE	1.0	162.0	
497.0	MATTOON		UNCLASSIFIED	177.0	163.0	
320.0	MATTOON		COAL	1.0	340.0	
319.0	MATTOON		UNCLASSIFIED	36.0	341.0	
283.0	MATTOON		BLACK SHALE	3.0	377.0	
280.0	MATTOON		COAL	1.0	380.0	
279.0	MATTOON		UNCLASSIFIED	45.0	381.0	
234.0	BOND	MILLERSVILLE	LIMESTONE	6.0	426.0	
228.0	BOND		UNCLASSIFIED	8.0	432.0	
220.0	BOND	MILLERSVILLE	LIMESTONE	24.0	440.0	
196.0	BOND		SHALE	0.0	464.0	
196.0	BOND		UNCLASSIFIED	17.0	464.0	
179.0	BOND		COAL	1.0	481.0	
178.0	BOND		UNCLASSIFIED	47.0	482.0	
131.0	BOND		COAL	0.5	529.0	PROBABLE
130.5	BOND		UNCLASSIFIED	33.5	529.5	
97.0	BOND		BLACK SHALE	3.5	563.0	
93.5	BOND		COAL	0.5	566.5	PROBABLE
93.0	BOND		UNCLASSIFIED	43.0	567.0	
50.0	BOND		COAL	2.0	610.0	
48.0	BOND		UNCLASSIFIED	24.0	612.0	
24.0	BOND	CARTHAGE	LIMESTONE	8.0	636.0	
16.0	MODESTO		BLACK SHALE	5.0	644.0	
11.0	MODESTO		UNCLASSIFIED	40.0	649.0	
-29.0	MODESTO		BLACK SHALE	7.0	689.0	
-36.0	MODESTO		UNCLASSIFIED	58.0	696.0	
-94.0	MODESTO		BLACK SHALE	5.0	754.0	
-99.0	MODESTO	CHAPEL	COAL	1.5	759.0	
-100.5	MODESTO		UNCLASSIFIED	3.5	760.5	
-104.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	764.0	UPPER BENCH
-111.0	MODESTO		UNCLASSIFIED	9.0	771.0	
-120.0	MODESTO	WEST FRANKLIN	LIMESTONE	12.0	780.0	LOWER BENCH
-132.0	MODESTO		BLACK SHALE	4.0	792.0	

-136.0	MODESTO		UNCLASSIFIED	113.5	796.0	
-249.5	CARBONDALE	DANVILLE	COAL	3.0	909.5	
-252.5	CARBONDALE		UNCLASSIFIED	11.0	912.5	
-263.5	CARBONDALE	BRERETON	LIMESTONE	2.5	923.5	WITH SH
-266.0	CARBONDALE	ANNA	BLACK SHALE	6.5	926.0	PARTING
-272.5	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	6.0	932.5	
-278.5	CARBONDALE		UNCLASSIFIED	37.5	938.5	
-316.0	CARBONDALE	TURNER MINE	BLACK SHALE	8.0	976.0	
-324.0	CARBONDALE	SPRINGFIELD	COAL	0.0	984.0	PERHAPS VERY THIN
-324.0	CARBONDALE		UNCLASSIFIED	16.0	984.0	TOTAL DEPTH

MAPID: 04100225000C

VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS

TWP/RNG: 15N 7E

SECTION: 31

QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: ARTHUR

LONGITUDE: -88.453626

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N

LATITUDE: 39.696872

DATE COLLECTED:

SURFACE ELEVATION (FT.): 655.0

LOGGED (FT.): 898.0

LOG TYPE: Electric Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
47.0	BOND	CARTHAGE	LIMESTONE	4.0	608.0	
-67.0	MODESTO	WEST FRANKLIN	LIMESTONE	4.0	722.0	
-243.0	CARBONDALE	DANVILLE	COAL	-	898.0	

MAPID: 04121393000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 31 QUARTERS/FOOTAGES: 1302' S line, 510' W line

QUADRANGLE: ARTHUR LONGITUDE: -88.471145 GEOLOGIST: R. SMITH

CONFIDENTIAL: N LATITUDE: 39.699566 DATE COLLECTED: 5 / 13 / 1980

SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 942.0 LOG TYPE: Multiple log types

SOURCE: MOBIL OIL CORP. 80-31-12 WELL TYPE: Coal Test

COMMENT: GAMMA, DENS, RESIST AND DRILLERS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
655.0			UNCONSOLIDATED	80.0	0.0
575.0	MATTOON		LIMESTONE	2.0	80.0
573.0	MATTOON		SHALE	12.0	82.0
561.0	MATTOON		LIMESTONE	1.0	94.0
560.0	MATTOON		GRAY SHALE	7.0	95.0
553.0	MATTOON		LIMESTONE	1.0	102.0
552.0	MATTOON		GRAY SHALE	15.0	103.0
537.0	MATTOON		SANDSTONE	2.0	118.0
535.0	MATTOON		GRAY SHALE	4.5	120.0
530.5	MATTOON		LIMESTONE	1.5	124.5
529.0	MATTOON		SHALE	14.0	126.0
515.0	MATTOON		LIMESTONE	7.5	140.0
507.5	MATTOON		GRAY SHALE	1.0	147.5
506.5	MATTOON		LIMESTONE	2.0	148.5
504.5	MATTOON		GRAY SHALE	0.5	150.5
504.0	MATTOON		BLACK SHALE	2.0	151.0
502.0	MATTOON		LIMESTONE	1.5	153.0
500.5	MATTOON		SHALE	18.5	154.5
482.0	MATTOON		LIMESTONE	0.5	173.0
481.5	MATTOON		SHALE	81.5	173.5
400.0	MATTOON		LIMESTONE	1.0	255.0
399.0	MATTOON		GRAY SHALE	2.0	256.0
397.0	MATTOON		SANDSTONE	52.0	258.0
345.0	MATTOON		GRAY SHALE	50.0	310.0
295.0	MATTOON		BLACK SHALE & CLAY	2.0	360.0
293.0	MATTOON		GRAY SHALE	20.0	362.0
273.0	MATTOON		LIMESTONE	0.5	382.0
272.5	MATTOON		GRAY SHALE	21.5	382.5
251.0	MATTOON		BLACK SHALE & CLAY	2.0	404.0
249.0	MATTOON		GRAY SHALE	5.0	406.0
244.0	BOND	MILLERSVILLE	LIMESTONE	8.5	411.0
235.5	BOND	MILLERSVILLE	GRAY SHALE	7.5	419.5
228.0	BOND	MILLERSVILLE	LIMESTONE	4.0	427.0
224.0	BOND	MILLERSVILLE	GRAY SHALE	1.5	431.0
222.5	BOND	MILLERSVILLE	LIMESTONE	17.5	432.5
205.0	BOND		GRAY SHALE	30.0	450.0
175.0	BOND		SANDSTONE	2.0	480.0
173.0	BOND		GRAY SHALE	29.0	482.0
144.0	BOND		COAL	1.0	511.0

143.0	BOND		SHALE	28.0	512.0
115.0	BOND		LIMESTONE	1.0	540.0
114.0	BOND		GRAY SHALE	19.0	541.0
95.0	BOND		LIMESTONE	0.5	560.0
94.5	BOND		GRAY SHALE	9.5	560.5
85.0	BOND		SANDSTONE	8.0	570.0
77.0	BOND		GRAY SHALE	7.0	578.0
70.0	BOND		LIMESTONE	1.0	585.0
69.0	BOND		COAL	2.0	586.0
67.0	BOND		GRAY SHALE	20.0	588.0
47.0	BOND	CARTHAGE	LIMESTONE	8.5	608.0
38.5	MODESTO	NEW HAVEN	BLACK SHALE & CLAY	5.0	616.5
33.5	MODESTO		GRAY SHALE	9.5	621.5
24.0	MODESTO		LIMESTONE	3.0	631.0
21.0	MODESTO		GRAY SHALE	1.0	634.0
20.0	MODESTO		LIMESTONE	1.5	635.0
18.5	MODESTO		SANDSTONE	11.5	636.5
7.0	MODESTO		GRAY SHALE	15.0	648.0
-8.0	MODESTO	CHAPEL	BLACK SHALE & CLAY	4.0	663.0
-12.0	MODESTO		SHALE	58.0	667.0
-70.0	MODESTO		COAL	2.0	725.0
-72.0	MODESTO		GRAY SHALE	3.0	727.0
-75.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.5	730.0
-81.5	MODESTO	WEST FRANKLIN	GRAY SHALE	3.5	736.5
-85.0	MODESTO	WEST FRANKLIN	LIMESTONE	9.5	740.0
-94.5	MODESTO	WEST FRANKLIN	GRAY SHALE	20.5	749.5
-115.0	MODESTO	WEST FRANKLIN	LIMESTONE	4.5	770.0
-119.5	MODESTO		SHALE	114.5	774.5
-234.0	CARBONDALE	DANVILLE	COAL	3.5	889.0
-237.5	CARBONDALE		GRAY SHALE	14.5	892.5
-252.0	CARBONDALE	BRERETON	LIMESTONE	1.0	907.0
-253.0	CARBONDALE	HERRIN	COAL	6.5	908.0
-259.5	CARBONDALE		UNCLASSIFIED	27.5	914.5

MAPID: 04100457000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 34 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: ARTHUR LONGITUDE: -88.413354 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.696686 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 1221.5 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
15.0	BOND	CARTHAGE	LIMESTONE	7.0	635.0
-100.0	MODESTO	WEST FRANKLIN	LIMESTONE	12.0	750.0
-207.0	CARBONDALE	DANVILLE	COAL	-	857.0
-484.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1134.0
-547.0	CARBONDALE	COLCHESTER	COAL	-	1197.0
-569.0	SPOON	SEELYVILLE	COAL	2.5	1219.0

MAPID: 04100348000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 35 QUARTERS/FOOTAGES: 947' S line, 330' W line of NE SE
QUADRANGLE: ARTHUR LONGITUDE: -88.380709 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.701986 DATE COLLECTED:
SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 1189.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
45.0	MODESTO	TRIVOLI	SANDSTONE	60.0	611.0
-127.0	MODESTO	WEST FRANKLIN	LIMESTONE	9.0	783.0
-269.0	CARBONDALE	DANVILLE	COAL	3.5	925.0
-338.0	CARBONDALE	HERRIN	COAL	2.0	994.0
-361.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1017.0
-474.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1130.0
-533.0	CARBONDALE	COLCHESTER	COAL	-	1189.0

MAPID: 04100101000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 7E SECTION: 36 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: ARTHUR LONGITUDE: -88.376138 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.696654 DATE COLLECTED:
SURFACE ELEVATION (FT.): 653.0 LOGGED (FT.): 1196.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-7.0	BOND	CARTHAGE	LIMESTONE	8.0	660.0
-129.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	782.0
-269.0	CARBONDALE	DANVILLE	COAL	2.0	922.0
-345.0	CARBONDALE	HERRIN	COAL	-	998.0
-369.0	CARBONDALE	SPRINGFIELD	COAL	4.0	1022.0
-480.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1133.0
-543.0	CARBONDALE	COLCHESTER	COAL	-	1196.0

MAPID: 04100005000C VERSION: 1 PROJECT: NCRDS88
COUNTY: DOUGLAS TWP/RNG: 15N 8E SECTION: 2 QUARTERS/FOOTAGES: SW NW SW
QUADRANGLE: TUSCOLA LONGITUDE: -88.281936 GEOLOGIST: R. SMITH
CONFIDENTIAL: N LATITUDE: 39.775472 DATE COLLECTED: 0 / 0 / 1938
SURFACE ELEVATION (FT.): LOGGED (FT.): 149.0 LOG TYPE: Drillers Log
SOURCE: E.C. BAKER AND SONS WELL TYPE: Water Well
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCONSOLIDATED	129.0	0.0
-			SHALE	18.0	129.0
-			COAL	2.0	147.0
-			SHALE	0.0	149.0

MAPID: 04121444000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 15N 8E SECTION: 8 QUARTERS/FOOTAGES: SW SE NW
QUADRANGLE: TUSCOLA LONGITUDE: -88.333124 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.761962 DATE COLLECTED: 12 / 3 / 1981
SURFACE ELEVATION (FT.): LOGGED (FT.): 946.0 LOG TYPE: Electric Log
SOURCE: FREEMAN UNITED COAL CO. A-1-81 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	SHELBURN	DANVILLE	COAL	3.0	839.5
-	CARBONDALE	HERRIN	COAL	7.0	879.5

MAPID: 04100245000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 8E **SECTION:** 17 **QUARTERS/FOOTAGES:** NE NE NE
QUADRANGLE: TUSCOLA **LONGITUDE:** -88.3214 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.752974 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 674.0 **LOGGED (FT.):** 1060.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-41.0	MODESTO	WEST FRANKLIN	LIMESTONE	-	715.0
-141.0	CARBONDALE	DANVILLE	COAL	-	815.0
-219.0	CARBONDALE	HERRIN	COAL	-	893.0
-246.0	CARBONDALE	SPRINGFIELD	COAL	-	920.0
-386.0	CARBONDALE	COLCHESTER	COAL	-	1060.0

MAPID: 04100459000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 8E **SECTION:** 19 **QUARTERS/FOOTAGES:** 990' N line, 927' W line
QUADRANGLE: ARCOLA **LONGITUDE:** -88.35466 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.736892 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 678.0 **LOGGED (FT.):** 1134.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
36.0	BOND	CARTHAGE	LIMESTONE	6.0	642.0
-92.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	770.0
-224.0	CARBONDALE	DANVILLE	COAL	3.0	902.0
-265.0	CARBONDALE	HERRIN	COAL	4.0	943.0
-292.0	CARBONDALE	SPRINGFIELD	COAL	2.5	970.0
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1090.0
-456.0	CARBONDALE	COLCHESTER	COAL	-	1134.0

MAPID: 04100156000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 8E **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NW SW
QUADRANGLE: ARCOLA **LONGITUDE:** -88.338741 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.73114 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 683.0 **LOGGED (FT.):** 1129.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
28.0	BOND	CARTHAGE	LIMESTONE	5.0	655.0
-100.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	783.0
-207.0	CARBONDALE	DANVILLE	COAL	2.5	890.0
-260.0	CARBONDALE	HERRIN	COAL	6.0	943.0
-289.0	CARBONDALE	SPRINGFIELD	COAL	2.5	972.0
-407.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1090.0
-446.0	CARBONDALE	COLCHESTER	COAL	-	1129.0

MAPID: 04121445000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 8E **SECTION:** 20 **QUARTERS/FOOTAGES:** NW NE NW
QUADRANGLE: ARCOLA **LONGITUDE:** -88.333912 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.738446 **DATE COLLECTED:** 12 / 10 / 1981
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 975.0 **LOG TYPE:** Drillers Log
SOURCE: FREEMAN UNITED COAL CO. A-2-81 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			COAL	0.5	408.0
-			COAL	1.0	465.0
-			COAL	0.5	554.0
-			COAL	1.5	677.0
-			COAL	2.0	726.0
-	SHELBURN	DANVILLE	COAL	4.0	863.0
-	CARBONDALE	HERRIN	COAL	7.0	919.0
-	CARBONDALE	SPRINGFIELD	COAL	4.0	937.0

MAPID: 04100465000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 8E SECTION: 28 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: ARCOLA LONGITUDE: -88.319836 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.716474 DATE COLLECTED:
SURFACE ELEVATION (FT.): 678.0 LOGGED (FT.): 1064.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
93.0	BOND	CARTHAGE	LIMESTONE	7.0	585.0
-15.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	693.0
-124.0	CARBONDALE	DANVILLE	COAL	-	802.0
-206.0	CARBONDALE	HERRIN	COAL	6.5	884.0
-234.0	CARBONDALE	SPRINGFIELD	COAL	3.0	912.0
-342.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1020.0
-386.0	CARBONDALE	COLCHESTER	COAL	-	1064.0

MAPID: 04100407000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 8E SECTION: 29 QUARTERS/FOOTAGES: NE SE SW
QUADRANGLE: ARCOLA LONGITUDE: -88.331898 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.712929 DATE COLLECTED:
SURFACE ELEVATION (FT.): 683.0 LOGGED (FT.): 1087.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
80.0	BOND	CARTHAGE	LIMESTONE	7.0	603.0
-24.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	707.0
-124.0	CARBONDALE	DANVILLE	COAL	2.0	807.0
-221.0	CARBONDALE	HERRIN	COAL	6.0	904.0
-250.0	CARBONDALE	SPRINGFIELD	COAL	2.0	933.0
-357.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1040.0
-404.0	CARBONDALE	COLCHESTER	COAL	-	1087.0

MAPID: 04121334000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 15N 8E SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 330' E line of NE SE NE
QUADRANGLE: ARCOLA LONGITUDE: -88.322177 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.720978 DATE COLLECTED: 6 / 21 / 1978
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 923.1 LOG TYPE: Survey Core Study
SOURCE: FREEMAN UNITED COAL CO. A-1-78 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-214.0	CARBONDALE	HERRIN	COAL	6.0	889.0

MAPID: 04100410000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 8E SECTION: 31 QUARTERS/FOOTAGES: SW NW NE
QUADRANGLE: ARCOLA LONGITUDE: -88.348417 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.707535 DATE COLLECTED:
SURFACE ELEVATION (FT.): 672.0 LOGGED (FT.): 1137.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
22.0	BOND	CARTHAGE	LIMESTONE	7.0	650.0
-100.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	772.0
-231.0	CARBONDALE	DANVILLE	COAL	3.0	903.0
-271.0	CARBONDALE	HERRIN	COAL	6.0	943.0
-301.0	CARBONDALE	SPRINGFIELD	COAL	3.0	973.0
-412.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1084.0
-465.0	CARBONDALE	COLCHESTER	COAL	-	1137.0

MAPID: 04100441000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 8E SECTION: 32 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: ARCOLA LONGITUDE: -88.339003 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.696726 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 1120.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: SPLIT #6, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
53.0	BOND	CARTHAGE	LIMESTONE	7.0	617.0
-55.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	725.0
-160.0	CARBONDALE	DANVILLE	COAL	-	830.0
-267.0	CARBONDALE	HERRIN	COAL	5.0	937.0
-287.0	CARBONDALE	SPRINGFIELD	COAL	4.0	957.0
-400.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1070.0
-450.0	CARBONDALE	COLCHESTER	COAL	-	1120.0

MAPID: 04100244000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 15N 8E **SECTION:** 33 **QUARTERS/FOOTAGES:** NW NW SE
QUADRANGLE: ARCOLA **LONGITUDE:** -88.310336 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.702065 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 1095.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-43.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	713.0
-155.0	CARBONDALE	DANVILLE	COAL	2.5	825.0
-245.0	CARBONDALE	HERRIN	COAL	5.0	915.0
-272.0	CARBONDALE	SPRINGFIELD	COAL	4.0	942.0
-373.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1043.0
-425.0	CARBONDALE	COLCHESTER	COAL	-	1095.0

MAPID: 04121609000C **VERSION:** 1 **PROJECT:** ISGS96
COUNTY: DOUGLAS **TWP/RNG:** 15N 9E **SECTION:** 1 **QUARTERS/FOOTAGES:** 4745' N line, 870' E line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.142519 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.778663 **DATE COLLECTED:** 0 / 0 / 1976
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 210.0 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY PH-24 **WELL TYPE:** Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
643.0			UNCONSOLIDATED	121.0	0.0
522.0			ROCK	82.0	121.0
440.0	CARBONDALE	HERRIN	COAL	7.0	203.0

MAPID: 04121609000C **VERSION:** 2 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 9E **SECTION:** 1 **QUARTERS/FOOTAGES:** 4745' N line, 870' E line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.142519 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.778663 **DATE COLLECTED:** 9 / 0 / 1971
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 447.0 **LOG TYPE:** Electric Log
SOURCE: HYDROCARBON SURVEY PH-24 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-				-	NO COAL PICKS
-				-	NO COAL PICKS

MAPID: 04121610000C **VERSION:** 1 **PROJECT:** ISGS96
COUNTY: DOUGLAS **TWP/RNG:** 15N 9E **SECTION:** 2 **QUARTERS/FOOTAGES:** 3350' N line, 85' W line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.175963 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.782411 **DATE COLLECTED:** 0 / 0 / 1976
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 0.0 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY PH-23 **WELL TYPE:** Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

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

MAPID: 04121610000C **VERSION:** 2 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 9E **SECTION:** 2 **QUARTERS/FOOTAGES:** 3350' N line, 85' W line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.175963 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.782411 **DATE COLLECTED:** 9 / 0 / 1971
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 445.0 **LOG TYPE:** Electric Log
SOURCE: HYDROCARBON SURVEY PH-23 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-				-	NO COAL PICKS
-				-	NO COAL PICKS

MAPID: 04121809000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 9E **SECTION:** 2 **QUARTERS/FOOTAGES:** 607' N line, 65' E line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.157848 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.78996 **DATE COLLECTED:** 8 / 10 / 1971
SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 196.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 98 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
647.0			UNCONSOLIDATED	3.0	0.0
644.0			SAND	6.0	3.0
638.0			CLAY & GRAVEL	94.5	9.0 GRAY
543.5	CARBONDALE	ENERGY	SANDY SHALE	18.0	103.5
525.5	CARBONDALE	ENERGY	SANDY SHALE	53.5	121.5
472.0	CARBONDALE	ENERGY	SILTY SHALE	11.1	175.0
460.9	CARBONDALE	HERRIN	COAL	6.3	186.1
454.7	CARBONDALE		UNDERCLAY	0.5	192.3
454.2	CARBONDALE		COAL	0.1	192.8
454.1	CARBONDALE		UNDERCLAY	1.5	192.9
452.6	CARBONDALE		SHALE	0.6	194.4

MAPID: 04121815000C VERSION: 1

PROJECT: VILLAGROVE

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 2 QUARTERS/FOOTAGES: 1384' N line, 30' E line
QUADRANGLE: VILLA GROVE LONGITUDE: -88.157717 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.787816 DATE COLLECTED: 8 / 25 / 1971
SURFACE ELEVATION (FT.): 651.0 LOGGED (FT.): 200.0 LOG TYPE: Drillers Log
SOURCE: IL STATE GEOLOGICAL SURVEY 104 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
651.0			UNCONSOLIDATED	12.0	0.0	
639.0			GLACIAL DRIFT	147.0	12.0	
492.0	CARBONDALE	ENERGY	SILTY SHALE	17.2	159.0	
474.8	CARBONDALE	HERRIN	COAL	6.0	176.2	
468.8	CARBONDALE		CLAYSTONE	4.8	182.2	
464.0	CARBONDALE		SILTY SHALE	9.8	187.0	
454.2	CARBONDALE	SPRINGFIELD	COAL	1.8	196.8	CORRELATION UNCERTAIN
452.4	CARBONDALE		CLAYSTONE	0.9	198.6	
451.5	CARBONDALE		UNCERTAIN	0.5	199.5	LOG SAYS "SULFUR BALL"

MAPID: 04121871000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 2 QUARTERS/FOOTAGES: 3586' S line, 1990' E line
QUADRANGLE: VILLA GROVE LONGITUDE: -88.164702 GEOLOGIST: BARGH
CONFIDENTIAL: N LATITUDE: 39.777635 DATE COLLECTED: 8 / 6 / 1973
SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 157.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 159 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0			UNCONSOLIDATED	97.5	0.0	
557.5	CARBONDALE	ENERGY	SHALE	18.0	97.5	W/SS
539.5	CARBONDALE	ENERGY	SANDSTONE	16.5	115.5	
523.0	CARBONDALE	ENERGY	SANDY SHALE	13.0	132.0	
510.0	CARBONDALE	ENERGY	SHALE	3.1	145.0	
506.9	CARBONDALE	HERRIN	COAL	6.8	148.1	
500.2	CARBONDALE		UNDERCLAY	2.1	154.8	

MAPID: 04121812000C VERSION: 1 PROJECT: VILLAGROVE

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 3 QUARTERS/FOOTAGES: 2885' S line, 250' E line

QUADRANGLE: VILLA GROVE LONGITUDE: -88.177162 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.775775 DATE COLLECTED: 8 / 18 / 1971

SURFACE ELEVATION (FT.): 652.0 LOGGED (FT.): 205.0 LOG TYPE: Drillers Log

SOURCE: IL STATE GEOLOGICAL SURVEY 101 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
652.0			UNCONSOLIDATED	11.5	0.0	
640.5			GLACIAL DRIFT	102.5	11.5	
538.0	CARBONDALE	ENERGY	SILTY SHALE	31.8	114.0	
506.2	CARBONDALE	HERRIN	COAL	6.0	145.8	
500.1	CARBONDALE		UNDERCLAY	2.3	151.9	
497.8	CARBONDALE		LIMESTONE & SHALE	13.8	154.2	
484.0	CARBONDALE		SILTY SHALE	2.0	168.0	
482.0	CARBONDALE	TURNER MINE	GREEN SHALE	1.2	170.0	
480.8	CARBONDALE	SPRINGFIELD	COAL	0.5	171.2	
480.3	CARBONDALE		GRAY SHALE	4.3	171.7	
476.0	CARBONDALE		SANDY SHALE	11.5	176.0	W/LS NODULES
464.5	CARBONDALE		GREEN SHALE	5.5	187.5	W/ LS NODULES
459.0	CARBONDALE		SHALY SANDSTONE	2.8	193.0	
456.2	CARBONDALE	SURVANT	COAL	0.3	195.8	
456.0	CARBONDALE		SHALE/UNDERCLAY	2.0	196.0	
454.0	CARBONDALE		SANDY SHALE	7.0	198.0	W/ LS NODULES

MAPID: 04121813000C VERSION: 1

PROJECT: IGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 3 QUARTERS/FOOTAGES: 18' N line, 42' W line of NE SW

QUADRANGLE: VILLA GROVE LONGITUDE: -88.190419 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.779657 DATE COLLECTED: 8 / 23 / 1971

SURFACE ELEVATION (FT.): 651.0 LOGGED (FT.): 205.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 102 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
651.0			UNCONSOLIDATED	9.0	0.0	
642.0			UNCONSOLIDATED	92.0	9.0	HERRIN COAL ERODED
550.0	CARBONDALE		SANDY SHALE	8.5	101.0	
541.5	CARBONDALE		CALCAREOUS SANDSTONE	3.1	109.5	
538.4	CARBONDALE		SILTY SHALE	11.3	112.6	
527.2	CARBONDALE		SANDY SHALE	0.9	123.8	
526.2	CARBONDALE		SANDSTONE	1.8	124.8	
524.4	CARBONDALE		SANDY SHALE	1.0	126.6	
523.4	CARBONDALE		SILTY SHALE	1.4	127.6	
522.0	CARBONDALE		SHALE/COAL	0.3	129.0	COAL IS SLATY
521.7	CARBONDALE		SHALE	3.3	129.3	SH W/ NODULES; GY
518.4	CARBONDALE		SIDERITE	1.0	132.6	
517.4	CARBONDALE		SHALE	2.3	133.6	
515.1	CARBONDALE		COAL	0.1	135.9	
515.0	CARBONDALE		SHALE	15.6	136.0	W/SIDERITE
499.5	CARBONDALE	EXCELLO	SHALE	1.7	151.5	W/SULPHUR
497.8	CARBONDALE	HOUCHIN CREEK	COAL	1.1	153.2	UNCERTAIN CORRELATION
496.7	CARBONDALE		UNDERCLAY	2.3	154.3	
494.5	CARBONDALE		SILTY, SANDY SHALE	9.5	156.5	
485.0	CARBONDALE		SANDSTONE/SHALE	9.7	166.0	
475.3	CARBONDALE		SANDY SHALE	29.3	175.7	

MAPID: 04121814000C **VERSION:** 1 **PROJECT:** VILLAGROVE
COUNTY: DOUGLAS **TWP/RNG:** 15N 9E **SECTION:** 3 **QUARTERS/FOOTAGES:** 1610' N line, 76' E line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.176538 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.787215 **DATE COLLECTED:** 8 / 24 / 1971
SURFACE ELEVATION (FT.): 659.0 **LOGGED (FT.):** 223.0 **LOG TYPE:** Drillers Log
SOURCE: IL STATE GEOLOGICAL SURVEY 103 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
659.0			UNCONSOLIDATED	11.0	0.0	
648.0			GLACIAL DRIFT	104.0	11.0	
545.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	25.3	114.0	
519.7	CARBONDALE	HERRIN	COAL	4.0	139.3	
515.7	CARBONDALE		CLAYSTONE	1.9	143.3	
513.7	CARBONDALE		SILTY SHALE	2.8	145.3	
511.0	CARBONDALE		GREEN SHALE	0.8	148.0	
510.2	CARBONDALE	SPRINGFIELD	COAL	2.0	148.8	UNCERTAIN CORRELATION
508.2	CARBONDALE		CLAYSTONE	1.3	150.8	
507.0	CARBONDALE		LIMESTONE & SHALE	3.0	152.0	
504.0	CARBONDALE		SILTY SHALE	14.0	155.0	
490.0	CARBONDALE		GRAY SHALE & SANDSTONE	29.0	169.0	
461.0	CARBONDALE	HOUCHIN CREEK	COAL	0.8	198.0	
460.2	CARBONDALE		SHALE	11.3	198.8	
448.9	CARBONDALE	COLCHESTER	COAL	1.7	210.1	
447.2	CARBONDALE		CLAYSTONE	1.3	211.8	
446.0	CARBONDALE		CALCAREOUS SHALE	10.0	213.0	

MAPID: 04121836000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 9E **SECTION:** 9 **QUARTERS/FOOTAGES:** 45' S line, 63' W line of SW NE
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.204445 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.760779 **DATE COLLECTED:** 10 / 27 / 1971
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 89.8 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 125 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.0			UNCONSOLIDATED	9.0	0.0	
636.0			UNCONSOLIDATED	71.1	9.0	HERRIN COAL ERODED
564.9	CARBONDALE		SILTY SHALE	0.7	80.1	
564.2	CARBONDALE	TURNER MINE	SHALE	1.2	80.8	
563.1	CARBONDALE	SPRINGFIELD	COAL	0.5	81.9	
562.6	CARBONDALE		UNDERCLAY	0.6	82.4	
562.0	CARBONDALE		SILTY SHALE	6.8	83.0	W/SIDERITE NODULES

MAPID: 04100246000C VERSION: 1 PROJECT: AVAIL
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 10 QUARTERS/FOOTAGES: 330' N line, 330' E line of NW NW
QUADRANGLE: VILLA GROVE LONGITUDE: -88.19172 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.766872 DATE COLLECTED: 9 / 0 / 1956
SURFACE ELEVATION (FT.): 646.0 LOGGED (FT.): 91.0 LOG TYPE: Drillers Log
SOURCE: HILGENBURG 1 WELL TYPE: Oil and Gas Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
561.0	CARBONDALE	HERRIN	COAL	6.0	85.0	

MAPID: 04121611000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 10 QUARTERS/FOOTAGES: 395' S line, 80' E line
QUADRANGLE: VILLA GROVE LONGITUDE: -88.17693 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.75429 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 161.1 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY PH-40 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.0			UNCONSOLIDATED	131.0	0.0	
510.0			ROCK	24.0	131.0	
486.0	CARBONDALE	HERRIN	COAL	6.1	155.0	MAP SAYS "6+" FEET OF COAL

MAPID: 04121611000C VERSION: 2 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 10 QUARTERS/FOOTAGES: 395' S line, 80' E line
QUADRANGLE: VILLA GROVE LONGITUDE: -88.17693 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.75429 DATE COLLECTED: 11 / 0 / 1971
SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 447.0 LOG TYPE: Electric Log
SOURCE: HYDROCARBON SURVEY PH-40 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121832000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 10 QUARTERS/FOOTAGES: 68' N line, 1349' W line of NE SW
QUADRANGLE: VILLA GROVE LONGITUDE: -88.185793 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.760349 DATE COLLECTED: 10 / 14 / 1971
SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 121.5 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 120 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.0			UNCONSOLIDATED	7.0	0.0	
634.0			UNCONSOLIDATED	68.0	7.0	
566.0	CARBONDALE	ENERGY	SILTY SHALE	39.1	75.0	
526.9	CARBONDALE	HERRIN	COAL	6.1	114.1	
520.8	CARBONDALE		UNDERCLAY	0.3	120.2	

MAPID: 04121788000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 11 QUARTERS/FOOTAGES: 75' N line, 42' W line of SE NE
QUADRANGLE: VILLA GROVE LONGITUDE: -88.162235 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.763872 DATE COLLECTED: 4 / 26 / 1971
SURFACE ELEVATION (FT.): 637.9 LOGGED (FT.): 197.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 78 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.9			UNCONSOLIDATED	11.0	0.0	
626.9			UNCONSOLIDATED	86.5	11.0	
540.4	CARBONDALE	BANKSTON FORK	LIMESTONE	10.3	97.5	GRAY
530.1	CARBONDALE	ENERGY	SANDSTONE/SHALE	18.2	107.8	
511.9	CARBONDALE	ENERGY	SANDY SHALE	62.9	126.0	
449.0	CARBONDALE	HERRIN	COAL	6.3	188.9	
442.7	CARBONDALE		UNDERCLAY	1.8	195.2	

MAPID: 04121786000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 12 QUARTERS/FOOTAGES: 213' N line, 502' W line of NW NE
 QUADRANGLE: VILLA GROVE LONGITUDE: -88.146732 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.767076 DATE COLLECTED: 4 / 21 / 1971
 SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 249.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 76 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0			UNCONSOLIDATED	12.0	0.0	
623.0			CLAY	100.5	12.0	
522.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	112.4	
520.6	CARBONDALE	ENERGY	SHALE & SANDSTONE	82.8	114.4	
437.7	CARBONDALE	HERRIN	COAL	7.6	197.3	
430.2	CARBONDALE		CLAYSTONE & SHALE	3.2	204.8	
427.0	CARBONDALE		SHALE	6.5	208.0	W/LS CHUNKS
420.5	CARBONDALE		SILTY SHALE	5.0	214.5	
415.5	CARBONDALE	TURNER MINE	SHALE	5.5	219.5	
410.0	CARBONDALE	SPRINGFIELD	COAL	3.0	225.0	
407.0	CARBONDALE		UNDERCLAY	2.5	228.0	
404.5	CARBONDALE		SANDSTONE	1.5	230.5	
403.0	CARBONDALE		SANDY SHALE	17.0	232.0	

MAPID: 04121792000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 12 QUARTERS/FOOTAGES: 445' S line, 116' E line of SE SW
 QUADRANGLE: VILLA GROVE LONGITUDE: -88.149051 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.75436 DATE COLLECTED: 6 / 23 / 1971
 SURFACE ELEVATION (FT.): 627.0 LOGGED (FT.): 214.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 82 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.0			UNCONSOLIDATED	12.0	0.0	
615.0			CLAY	99.3	12.0	
515.7	CARBONDALE	BANKSTON FORK	LIMESTONE	7.3	111.3	
508.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	81.5	118.5	
427.0	CARBONDALE	ENERGY	SILTY SHALE	2.5	200.0	STRIPPED W/NODULES
424.5	CARBONDALE	HERRIN	COAL	0.1	202.5	
424.4	CARBONDALE	HERRIN	SHALE	0.8	202.6	SHALE PARTING
423.6	CARBONDALE	HERRIN	COAL	2.3	203.4	
421.2	CARBONDALE	HERRIN	SHALE	1.1	205.8	W/COAL SEAMS
420.2	CARBONDALE	HERRIN	COAL	4.2	206.8	
416.0	CARBONDALE		UNDERCLAY	1.8	211.0	
414.2	CARBONDALE		LIMESTONE W/ SHALE	1.3	212.8	

MAPID: 04121612000C VERSION: 1 PROJECT: ISGS96

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 13 QUARTERS/FOOTAGES: 60' N line, 607' E line

QUADRANGLE: VILLA GROVE LONGITUDE: -88.141289 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.752957 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 214.9 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY PG-21 WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0			UNCONSOLIDATED	122.0	0.0	
507.0			ROCK	89.0	122.0	
418.0	CARBONDALE	HERRIN	COAL	3.9	211.0	MAP SAYS "4-" FEET OF COAL

MAPID: 04121612000C VERSION: 2 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 13 QUARTERS/FOOTAGES: 60' N line, 607' E line

QUADRANGLE: VILLA GROVE LONGITUDE: -88.141289 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.752957 DATE COLLECTED: 9 / 0 / 1971

SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 444.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PG-21 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121785000C VERSION: 1 PROJECT: ISGS

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 13 QUARTERS/FOOTAGES: 147' N line, 449' E line of NE

QUADRANGLE: VILLA GROVE LONGITUDE: -88.140714 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.752716 DATE COLLECTED: 4 / 21 / 1971

SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 230.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0			UNCONSOLIDATED	14.0	0.0	
615.0			UNCONSOLIDATED	97.0	14.0	
518.0	CARBONDALE	BANKSTON FORK	LIMESTONE	13.7	111.0	GRAY
504.3	CARBONDALE	ENERGY	SANDY SHALE	8.3	124.7	
496.0	CARBONDALE	ENERGY	SANDSTONE/SHALE	13.0	133.0	
483.0	CARBONDALE	ENERGY	SANDY SHALE	27.2	146.0	
455.8	CARBONDALE	HERRIN	COAL	3.3	173.2	UPPER BENCH
452.5	CARBONDALE		UNDERCLAY	5.0	176.5	
447.5	CARBONDALE	ENERGY	SILTY SHALE	2.3	181.5	
445.2	CARBONDALE	ENERGY	SANDY SHALE	25.3	183.8	THICKNESS ADJ TO MATCH LOG DEPTHS
420.0	CARBONDALE	ENERGY	SILTY SHALE	1.8	209.0	W/SIDERITE BNDS.
418.2	CARBONDALE	HERRIN	COAL	3.5	210.8	THICKNESS ADJ TO MATCH LOG DEPTHS
414.7	CARBONDALE		UNDERCLAY	4.2	214.3	W/SHALE
410.5	CARBONDALE		CALCAREOUS SHALE	21.5	218.5	

MAPID: 04121791000C VERSION: 1

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 13 QUARTERS/FOOTAGES: 78' S line, 238' W line of SW

QUADRANGLE: HINDSBORO LONGITUDE: -88.156438 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.738589 DATE COLLECTED: 6 / 22 / 1971

SURFACE ELEVATION (FT.): 636.0 LOGGED (FT.): 218.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 81 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
636.0			UNCONSOLIDATED	12.0	0.0	
624.0			UNCONSOLIDATED	91.0	12.0	
533.0	CARBONDALE		SHALE	3.0	103.0	MULTI
530.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.3	106.0	GRAY
523.7	CARBONDALE	ENERGY	SANDY SHALE	17.8	112.3	THICKNESS ADJ TO MATCH LOG DEPTHS
506.0	CARBONDALE	ENERGY	SHALE	7.8	130.0	
498.2	CARBONDALE	HERRIN	COAL	0.6	137.8	UPPER BENCH
497.6	CARBONDALE		UNDERCLAY/SHALE	1.6	138.4	
496.0	CARBONDALE	ENERGY	SANDY SHALE	15.5	140.0	
480.5	CARBONDALE	ENERGY	SHALE	50.3	155.5	SILTY SANDY
430.2	CARBONDALE	ENERGY	SHALE	6.1	205.8	W/SIDERITE BANDS
424.1	CARBONDALE	ENERGY	SHALE	0.1	211.9	
424.0	CARBONDALE	HERRIN	COAL	3.3	212.0	
420.7	CARBONDALE		UNDERCLAY	0.7	215.3	
420.0	CARBONDALE		SHALE	2.0	216.0	

MAPID: 04122742000C VERSION: 1

PROJECT: NCRDS98

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 13 QUARTERS/FOOTAGES: 950' N line, 2600' W line

QUADRANGLE: VILLA GROVE LONGITUDE: -88.14857 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.750187 DATE COLLECTED: 7 / 8 / 1997

SURFACE ELEVATION (FT.): 625.0 LOGGED (FT.): 365.0 LOG TYPE:

SOURCE: ISGS VG#1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0	PLEISTOCENE		UNCONSOLIDATED	92.0	0.0	
533.0	CARBONDALE		CLAYSTONE & SILTSTONE	8.0	92.0	
525.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	100.0	
514.0	CARBONDALE	BANKSTON FORK	SHALE	1.0	111.0	
513.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	112.0	
512.0	CARBONDALE		SHALE	46.2	113.0	
465.8	CARBONDALE	HERRIN	COAL	2.3	159.2	UPPER BENCH
463.5	CARBONDALE		UNDERCLAY	0.8	161.5	
462.7	CARBONDALE		SHALE & SILTSTONE	2.4	162.3	
460.3	CARBONDALE		SILTSTONE	3.3	164.7	
457.0	CARBONDALE		SHALE	19.0	168.0	
438.0	CARBONDALE		SILTSTONE	4.0	187.0	
434.0	CARBONDALE		SHALE	9.6	191.0	
424.4	CARBONDALE	HERRIN	COAL	3.7	200.6	
420.7	CARBONDALE		CLAYSTONE & SILTSTONE	14.8	204.3	
406.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.0	219.0	
405.0	CARBONDALE	SPRINGFIELD	COAL	3.8	220.0	
401.2	CARBONDALE		SHALE	25.8	223.8	
375.5	CARBONDALE	EXCELLO	BLACK SHALE	2.2	249.5	
373.3	CARBONDALE	HOUCHIN CREEK	COAL	2.1	251.7	
371.2	CARBONDALE		SHALE	26.7	253.8	
344.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.5	280.5	
342.0	CARBONDALE	COLCHESTER	COAL	0.8	283.0	
341.2	TRADEWATER		SHALE	3.7	283.8	
337.5	TRADEWATER		SILTSTONE	5.5	287.5	
332.0	TRADEWATER		SHALE	14.5	293.0	
317.5	TRADEWATER		SANDSTONE	27.5	307.5	BASE OF PENNSYLVANIAN
290.0	MISSISSIPPIAN	BORDEN STS.	SILTY SHALE	30.0	335.0	

MAPID: 04122742000C VERSION: 2

PROJECT: VILLAGROVE

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 13 QUARTERS/FOOTAGES: 950' N line, 2600' W line

QUADRANGLE: VILLA GROVE LONGITUDE: -88.14857 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.750187 DATE COLLECTED: 7 / 8 / 1997

SURFACE ELEVATION (FT.): 625.0 LOGGED (FT.): 365.0 LOG TYPE: Survey Core Study

SOURCE: IL STATE GEOLOGICAL SURVEY VG #1 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG & CORE DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0	PLEISTOCENE		UNCONSOLIDATED	92.0	0.0	
533.0	CARBONDALE		CLAYSTONE	8.0	92.0	
525.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	100.0	
514.0	CARBONDALE	BANKSTON FORK	SHALE	1.0	111.0	
513.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	112.0	
512.0	CARBONDALE		SHALE	46.2	113.0	
465.8	CARBONDALE	HERRIN	COAL	2.3	159.2	UPPER BENCH
463.5	CARBONDALE		UNDERCLAY	0.8	161.5	
462.7	CARBONDALE		SHALE & SILTSTONE	2.4	162.3	
460.3	CARBONDALE		SILTSTONE	3.3	164.7	
457.0	CARBONDALE		SHALE	19.0	168.0	
438.0	CARBONDALE		SILTSTONE	4.0	187.0	
434.0	CARBONDALE		SHALE	9.6	191.0	
424.4	CARBONDALE	HERRIN	COAL	3.7	200.6	LOWER BENCH
420.7	CARBONDALE		CLAYSTONE & SILTSTONE	14.8	204.3	
406.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.0	219.0	
405.0	CARBONDALE	SPRINGFIELD	COAL	3.8	220.0	
401.2	CARBONDALE		SHALE	25.8	223.8	
375.5	CARBONDALE	EXCELLO	BLACK SHALE	2.2	249.5	
373.3	CARBONDALE	HOUCHIN CREEK	COAL	2.1	251.7	
371.2	CARBONDALE		SHALE	26.7	253.8	
344.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.5	280.5	
342.0	CARBONDALE	COLCHESTER	COAL	0.8	283.0	
341.2	TRADEWATER		SHALE	3.7	283.8	
337.5	TRADEWATER		SANDSTONE/SILTSTONE	5.5	287.5	
332.0	TRADEWATER		SHALE & SILTSTONE	14.5	293.0	
317.5	TRADEWATER		SANDSTONE	27.5	307.5	
290.0	MISSISSIPPIAN	BORDEN STS.	SILTSTONE	30.0	335.0	

MAPID: 04100249000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 14 QUARTERS/FOOTAGES: SW SW NW
 QUADRANGLE: HINDSBORO LONGITUDE: -88.175237 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.746791 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 634.0 LOGGED (FT.): 247.0 LOG TYPE: Electric Log
 SOURCE: WELL TYPE: Oil and Gas Test
 COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
467.0	CARBONDALE	HERRIN	COAL	3.0	167.0	
445.0	CARBONDALE	SPRINGFIELD	COAL	3.0	189.0	
412.0	CARBONDALE	HOUCHIN CREEK	COAL	-	222.0	
387.0	CARBONDALE	COLCHESTER	COAL	-	247.0	

MAPID: 04121789000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 14 QUARTERS/FOOTAGES: 887' S line, 170' W line of NE NW
 QUADRANGLE: VILLA GROVE LONGITUDE: -88.171381 GEOLOGIST: BARGH
 CONFIDENTIAL: N LATITUDE: 39.751964 DATE COLLECTED: 6 / 15 / 1971
 SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 195.5 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 79 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0			UNCONSOLIDATED	14.0	0.0	
621.0			UNCONSOLIDATED	58.0	14.0	
563.0	CARBONDALE		SHALE	16.7	72.0	MULTI
546.3	CARBONDALE	BANKSTON FORK	LIMESTONE	9.8	88.7	GRAY
536.5	CARBONDALE	ENERGY	SANDSTONE	2.2	98.5	
534.3	CARBONDALE	ENERGY	SANDY SHALE	17.3	100.7	
517.0	CARBONDALE	ENERGY	SANDY SHALE	28.3	118.0	
488.7	CARBONDALE	HERRIN	COAL	1.2	146.3	UPPER BENCH
487.6	CARBONDALE		UNDERCLAY	2.7	147.4	
485.0	CARBONDALE	ENERGY	SANDY SHALE	32.6	150.0	
452.4	CARBONDALE	ENERGY	SILTY SHALE	2.7	182.6	W/SIDERITE
449.7	CARBONDALE	ENERGY	SHALE	1.4	185.3	STRIPPED
448.3	CARBONDALE	HERRIN	COAL	3.2	186.7	
445.2	CARBONDALE		UNDERCLAY	1.7	189.8	
443.5	CARBONDALE		LIMESTONE W/ SHALE	4.0	191.5	

MAPID: 04121835000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 15 QUARTERS/FOOTAGES: 46' N line, 70' W line
QUADRANGLE: VILLA GROVE LONGITUDE: -88.195129 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.753235 DATE COLLECTED: 10 / 26 / 1971
SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 101.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 124 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	12.0	0.0	
631.0			UNCONSOLIDATED	43.5	12.0	
587.5	CARBONDALE	ENERGY	SILTY SHALE	36.9	55.5	
550.6	CARBONDALE	HERRIN	COAL	6.7	92.4	
543.9	CARBONDALE		UNDERCLAY	1.9	99.1	

MAPID: 04121850000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 16 QUARTERS/FOOTAGES: 623' N line, 680' W line of NW SE
QUADRANGLE: HINDBORO LONGITUDE: -88.20205 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.744243 DATE COLLECTED: 12 / 20 / 1971
SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 91.5 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 139 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0			UNCONSOLIDATED	8.0	0.0	
627.0			UNCONSOLIDATED	48.0	8.0	
579.0	CARBONDALE	ENERGY	SANDY SHALE	12.0	56.0	
567.0	CARBONDALE		SANDY SHALE	14.1	68.0	W/SS SEAMS
552.9	CARBONDALE		SILTY SHALE	2.4	82.1	W/SIDERITE
550.5	CARBONDALE		SILTY SHALE	1.4	84.5	COAL SEAMS
549.1	CARBONDALE	HERRIN	COAL	4.4	85.9	
544.7	CARBONDALE		UNDERCLAY	1.2	90.3	

MAPID: 04121851000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 21 QUARTERS/FOOTAGES: 367' S line, 177' E line of NE SE
 QUADRANGLE: HINDSBORO LONGITUDE: -88.195387 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.728761 DATE COLLECTED: 12 / 21 / 1971
 SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 152.2 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 140 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	7.0	0.0	
633.0			UNCONSOLIDATED	135.0	7.0	HERRIN COAL ERODED
498.0	CARBONDALE		SHALE	8.5	142.0	
489.5	CARBONDALE	HOUCHIN CREEK	COAL	0.7	150.5	CORRELATION UNCERTAIN
488.8	CARBONDALE		UNDERCLAY	1.0	151.2	

MAPID: 04121849000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 22 QUARTERS/FOOTAGES: 130' N line, 610' W line of NW NE
 QUADRANGLE: HINDSBORO LONGITUDE: -88.183291 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.738199 DATE COLLECTED: 12 / 20 / 1971
 SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 117.5 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 138 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0			UNCONSOLIDATED	10.0	0.0	
620.0			UNCONSOLIDATED	86.0	10.0	
534.0	CARBONDALE	ENERGY	SILTY SHALE	2.0	96.0	
532.0	CARBONDALE	ENERGY	SHALE	1.3	98.0	W/SULPHUR BALLS; BLK
530.7	CARBONDALE	ENERGY	SANDY SHALE	5.3	99.3	
525.4	CARBONDALE	ENERGY	SILTY SHALE	3.0	104.6	W/SIDERITE NODULES
522.4	CARBONDALE	HERRIN	COAL	0.9	107.6	UPPER BENCH
521.5	CARBONDALE		SILTY SHALE	2.0	108.5	GRAY
519.5	CARBONDALE		SANDSTONE	7.0	110.5	HOLE DID NOT REACH MAIN BED/HERRIN COAL

MAPID: 04121613000C

VERSION: 1

PROJECT: ISGS96

COUNTY: DOUGLAS

TWP/RNG: 15N 9E

SECTION: 23

QUARTERS/FOOTAGES: 500' S line, 120' W line

QUADRANGLE: HINDSBORO

LONGITUDE: -88.17485

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N

LATITUDE: 39.725445

DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 640.0

LOGGED (FT.): 183.5

LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY

PH-16

WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	84.0	0.0	
556.0			ROCK	95.0	84.0	
461.0	CARBONDALE	HERRIN	COAL	4.5	179.0	

MAPID: 04121613000C

VERSION: 2

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 15N 9E

SECTION: 23

QUARTERS/FOOTAGES: 500' S line, 120' W line

QUADRANGLE: HINDSBORO

LONGITUDE: -88.17485

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.725445

DATE COLLECTED: 9 / 0 / 1971

SURFACE ELEVATION (FT.): 640.0

LOGGED (FT.): 445.0

LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY

PH-16

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121790000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 24 QUARTERS/FOOTAGES: 769' S line, 330' E line of NE NE
 QUADRANGLE: HINDSBORO LONGITUDE: -88.139804 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.736761 DATE COLLECTED: 6 / 17 / 1971
 SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 250.2 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 80 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0			UNCONSOLIDATED	11.0	0.0	
624.0			UNCONSOLIDATED	144.0	11.0	THICKNESS ADJ TO MATCH LOG DEPTHS
480.0	CARBONDALE	ENERGY	SANDY SHALE	5.0	155.0	
475.0	CARBONDALE	ENERGY	SILTY SHALE	18.0	160.0	
457.0	CARBONDALE	HERRIN	COAL	0.6	178.0	UPPER BENCH
456.4	CARBONDALE	ENERGY	SANDY SHALE	5.9	178.6	
450.5	CARBONDALE	ENERGY	SANDY LIMESTONE	0.3	184.5	
450.2	CARBONDALE	ENERGY	SANDY SHALE	23.1	184.8	
427.2	CARBONDALE	ENERGY	SILTY, SANDY SHALE	9.2	207.8	W/SIDERITE
418.0	CARBONDALE	ENERGY	SILTY SHALE	2.1	217.0	W/SIDERITE
415.9	CARBONDALE	ENERGY	SHALE	1.4	219.1	
414.5	CARBONDALE	ENERGY	SHALE	17.9	220.5	W/SIDERITE BANDS
396.6	CARBONDALE	ENERGY	SHALE	0.5	238.4	
396.1	CARBONDALE	HERRIN	COAL	3.4	238.9	
392.7	CARBONDALE		UNDERCLAY	1.3	242.3	
391.5	CARBONDALE		LIMESTONE W/ SHALE	6.7	243.5	

MAPID: 04122434000C VERSION: 1

PROJECT: ISGS96

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 24 QUARTERS/FOOTAGES: 1100' S line, 300' E line
 QUADRANGLE: HINDSBORO LONGITUDE: -88.139572 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.727158 DATE COLLECTED: 0 / 0 / 1976
 SURFACE ELEVATION (FT.): LOGGED (FT.): 240.1 LOG TYPE: Company map
 SOURCE: HYDROCARBON SURVEY 77-C-1 WELL TYPE: Coal Test
 COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	134.0	0.0	
-			ROCK	103.0	134.0	
-	CARBONDALE	HERRIN	COAL	3.4	237.0	

MAPID: 04121810000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 25 QUARTERS/FOOTAGES: 359' S line, 881' E line of SE NE

QUADRANGLE: HINDSBORO LONGITUDE: -88.141724 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.71812 DATE COLLECTED: 7 / 12 / 1971

SURFACE ELEVATION (FT.): 638.0 LOGGED (FT.): 332.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 99 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.0			UNCONSOLIDATED	3.0	0.0	
635.0			CLAY	7.0	3.0	BRN/GRA
628.0			CLAY	25.0	10.0	GRAY
603.0			SAND & GRAVEL	10.0	35.0	
593.0			SANDY CLAY	99.0	45.0	GRAY
494.0	CARBONDALE	ENERGY	SILTY SHALE	34.0	144.0	
460.0	CARBONDALE	ENERGY	SANDY SHALE	71.5	178.0	
388.5	CARBONDALE	ENERGY	SILTY SHALE	4.2	249.5	W/SIDERITE
384.3	CARBONDALE	HERRIN	COAL	4.1	253.7	
380.2	CARBONDALE		SHALE	0.8	257.8	
379.5	CARBONDALE		UNDERCLAY	1.5	258.5	
378.0	CARBONDALE		UNDERCLAY	2.3	260.0	W/NODULES
375.7	CARBONDALE		CLAYSTONE & SHALE	3.4	262.3	GRAY
372.3	CARBONDALE		SHALE	3.6	265.7	THICKNESS ADJ TO MATCH LOG DEPTHS
368.7	CARBONDALE	TURNER MINE	SHALE	0.6	269.3	
368.2	CARBONDALE	TURNER MINE	LIMESTONE	0.3	269.8	CONCRETION?
367.9	CARBONDALE	TURNER MINE	SHALE	0.3	270.1	
367.7	CARBONDALE	SPRINGFIELD	COAL	2.5	270.3	
365.2	CARBONDALE		SHALE	0.2	272.8	
365.0	CARBONDALE		UNDERCLAY	1.3	273.0	
363.7	CARBONDALE		SILTY, SANDY SHALE	10.4	274.3	
353.3	CARBONDALE		SHALE	1.8	284.7	W/NODULES
351.5	CARBONDALE		SHALE	12.1	286.5	THICKNESS ADJ TO MATCH LOG DEPTHS
339.4	CARBONDALE	HOUCHIN CREEK	COAL	3.3	298.6	THICKNESS ADJ TO MATCH LOG DEPTHS
336.1	CARBONDALE		UNDERCLAY	3.3	301.9	THICKNESS ADJ TO MATCH LOG DEPTHS
332.8	CARBONDALE		SHALE	1.4	305.2	
331.4	CARBONDALE		SHALE	0.7	306.6	GRN/GRY
330.7	CARBONDALE		SILTY, SANDY SHALE	8.9	307.3	W/SIDERITE
321.8	CARBONDALE		COAL	0.3	316.2	
321.5	CARBONDALE		SILTY SHALE	15.5	316.5	W/SIDERITE

MAPID: 04121614000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 33 QUARTERS/FOOTAGES: 65' N line, 100' E line
QUADRANGLE: HINDSBORO LONGITUDE: -88.195423 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.709491 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 256.5 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY PG-12 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	138.0	0.0	
502.0			ROCK	15.0	138.0	
487.0	CARBONDALE	HERRIN	COAL	3.5	153.0	

MAPID: 04121614000C VERSION: 2 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 33 QUARTERS/FOOTAGES: 65' N line, 100' E line
QUADRANGLE: HINDSBORO LONGITUDE: -88.195423 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.709491 DATE COLLECTED: 9 / 0 / 1971
SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 448.0 LOG TYPE: Electric Log
SOURCE: HYDROCARBON SURVEY PG-12 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121615000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 33 QUARTERS/FOOTAGES: 55' S line, 365' W line
QUADRANGLE: HINDSBORO LONGITUDE: -88.212621 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.695129 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 0.0 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY PH-9 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

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

MAPID: 04121615000C

VERSION: 2

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 15N 9E

SECTION: 33

QUARTERS/FOOTAGES: 55' S line, 365' W line

QUADRANGLE: HINDBORO

LONGITUDE: -88.212621

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.695129

DATE COLLECTED: 9 / 0 / 1971

SURFACE ELEVATION (FT.): 641.0

LOGGED (FT.): 447.0

LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY

PH-9

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121811000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 9E SECTION: 35 QUARTERS/FOOTAGES: 313' N line, 120' W line of NW

QUADRANGLE: HINDSBORO LONGITUDE: -88.175541

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.70891

DATE COLLECTED:

SURFACE ELEVATION (FT.): 636.0 LOGGED (FT.): 329.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 100

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
636.0			UNCONSOLIDATED	8.5	0.0	
627.5			UNCONSOLIDATED	133.5	8.5	
494.0	CARBONDALE	ENERGY	SANDY SHALE	33.0	142.0	
461.0	CARBONDALE	ENERGY	SILTY SHALE	23.0	175.0	
438.0	CARBONDALE	ENERGY	SANDY SHALE	21.5	198.0	
416.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	7.2	219.5	W/SIDERITE
409.3	CARBONDALE	HERRIN	COAL	0.8	226.7	UPPER BENCH
408.5	CARBONDALE	ENERGY	SHALE	8.0	227.5	W/NODULES
400.5	CARBONDALE	ENERGY	SHALE	4.4	235.5	THICKNESS ADJ TO MATCH LOG DEPTHS
396.1	CARBONDALE	HERRIN	COAL	2.6	239.9	
393.5	CARBONDALE		UNDERCLAY	0.6	242.5	
392.9	CARBONDALE		SHALE	1.9	243.1	
391.0	CARBONDALE		LIMESTONE W/ SHALE	1.5	245.0	
389.5	CARBONDALE		SANDY SHALE	4.5	246.5	
385.0	CARBONDALE		SHALE	5.7	251.0	THICKNESS ADJ TO MATCH LOG DEPTHS
379.3	CARBONDALE		SHALE	8.4	256.7	W/SIDERITE
370.9	CARBONDALE		CALCAREOUS SHALE	0.9	265.1	
370.0	CARBONDALE		SHALE	1.8	266.0	
368.2	CARBONDALE		CALCAREOUS SHALE	0.2	267.8	
368.0	CARBONDALE		SHALE	0.1	268.0	
367.9	CARBONDALE	SPRINGFIELD	COAL	2.1	268.1	
365.8	CARBONDALE		UNDERCLAY	1.6	270.2	
364.2	CARBONDALE		SILTY, SANDY SHALE	9.5	271.8	
354.7	CARBONDALE		SANDY SHALE	1.7	281.3	
353.0	CARBONDALE		SHALE	0.3	283.0	
352.7	CARBONDALE		SANDSTONE	0.3	283.3	W/HAIRLINE COAL SEAMS
352.4	CARBONDALE		SHALE	6.3	283.6	W/SIDERITE
346.2	CARBONDALE		SHALE	5.2	289.8	W/FOSSILS
341.0	CARBONDALE		SHALE	4.9	295.0	W/SIDERITE
336.1	CARBONDALE	EXCELLO	SHALE	1.5	299.9	W/SULPHUR
334.5	CARBONDALE	HOUCHIN CREEK	COAL	1.1	301.5	
333.4	CARBONDALE		UNDERCLAY	1.8	302.6	
331.7	CARBONDALE		SANDSTONE	4.4	304.3	
327.2	CARBONDALE		SANDY SHALE	0.6	308.8	
326.7	CARBONDALE		SHALE	0.5	309.3	
326.2	CARBONDALE		SANDY SHALE	0.8	309.8	
325.3	CARBONDALE		SANDSTONE	1.8	310.7	
323.5	CARBONDALE		SANDY SHALE	4.0	312.5	W/BROWN SANDY HARD SANDSTONE SEAMS
319.5	CARBONDALE		SHALE	5.1	316.5	

314.4	CARBONDALE	SHALE	6.9	321.6	STRIPPED
307.5	CARBONDALE	UNDERCLAY	0.5	328.5	

MAPID: 04100029000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 1 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE

QUADRANGLE: MURDOCK LONGITUDE: -88.026379 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.780299 DATE COLLECTED: 1 / 0 / 1945

SURFACE ELEVATION (FT.): LOGGED (FT.): 167.6 LOG TYPE: Survey Core Study

SOURCE: BELL & ZOLLER COAL CO. 20 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	-	167.6	NO THICKNESS GIVEN
-	CARBONDALE	HERRIN	COAL	-	167.6	NO THICKNESS GIVEN

MAPID: 04100029000C VERSION: 2 PROJECT: ISGS88

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 1 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE

QUADRANGLE: MURDOCK LONGITUDE: -88.026379 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.780299 DATE COLLECTED: 1 / 0 / 1945

SURFACE ELEVATION (FT.): LOGGED (FT.): 173.2 LOG TYPE: Survey Sample Study

SOURCE: BELL AND ZOLLER COAL CO. WELL TYPE: Coal Test

COMMENT: CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	78.0	0.0	
-	CARBONDALE		SHALE	3.6	78.0	
-	CARBONDALE	ENERGY	SILTSTONE & SHALE	3.6	81.6	
-	CARBONDALE	ENERGY	SANDSTONE/SHALE	2.8	85.2	
-	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.8	87.9	
-	CARBONDALE	ENERGY	SANDSTONE/SHALE	4.8	88.8	
-	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.4	93.6	
-	CARBONDALE	ENERGY	SILTSTONE & SHALE	5.1	94.0	
-	CARBONDALE	ENERGY	SANDY SHALE	6.4	99.1	
-	CARBONDALE	ENERGY	SANDSTONE/SHALE	8.0	105.5	
-	CARBONDALE	ENERGY	SHALE	4.3	113.5	
-	CARBONDALE	ENERGY	CARBONACEOUS SHALE	10.2	117.8	
-	CARBONDALE	ENERGY	SILTSTONE	10.1	127.9	
-	CARBONDALE	ENERGY	SILTY SHALE	19.6	138.0	
-	CARBONDALE	ENERGY	SHALE	5.6	157.6	
-	CARBONDALE	ENERGY	SHALE	2.8	163.2	
-	CARBONDALE	HERRIN	COAL	7.2	166.0	

MAPID: 04121729000C VERSION: 1 PROJECT: ISGS95
COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 1 QUARTERS/FOOTAGES: 1320' S line, 1' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.026418 GEOLOGIST: BARGH
CONFIDENTIAL: N LATITUDE: 39.772297 DATE COLLECTED:
SURFACE ELEVATION (FT.): 639.4 LOGGED (FT.): 162.3 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 19 WELL TYPE: Coal Test
COMMENT: LOC.: 1/2 MMILE N OF SE CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.4			UNCONSOLIDATED	73.0	0.0	
566.4			SANDY SHALE	3.0	73.0	
563.4	CARBONDALE	ENERGY	SANDSTONE	5.0	76.0	
558.4	CARBONDALE	ENERGY	SANDY SHALE	25.0	81.0	
533.4	CARBONDALE	ENERGY	SHALE	49.3	106.0	PTLY SDY
484.1	CARBONDALE	HERRIN	COAL	7.0	155.3	#6 COAL SEAM

MAPID: 04121730000C VERSION: 1 PROJECT: ISGS95
COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 1 QUARTERS/FOOTAGES: 1320' S line, 1' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.026418 GEOLOGIST: BARGH
CONFIDENTIAL: N LATITUDE: 39.772297 DATE COLLECTED:
SURFACE ELEVATION (FT.): 642.8 LOGGED (FT.): 173.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 20 WELL TYPE: Coal Test
COMMENT: LOC.: 1 MILE N OF DH19

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.8			UNCONSOLIDATED	78.0	0.0	
564.8	CARBONDALE	ENERGY	SHALE	87.8	78.0	PTLY SDY
477.0	CARBONDALE	HERRIN	COAL	7.2	165.8	#6 COAL SEAM

MAPID: 04121793000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 1 QUARTERS/FOOTAGES: 57' N line, 60' W line of NW SW
QUADRANGLE: MURDOCK LONGITUDE: -88.045062 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.780111 DATE COLLECTED: 6 / 28 / 1971
SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 171.5 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 83 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	9.0	0.0	
630.0			CLAY	31.0	9.0	
599.0				3.0	40.0	
596.0			UNCONSOLIDATED	7.0	43.0	
589.0	MODESTO		SANDY SHALE	9.0	50.0	
580.0	MODESTO		SHALE	2.0	59.0	MULTI
578.0	MODESTO		SILTY SHALE	3.5	61.0	
574.5	CARBONDALE	DANVILLE	COAL	0.3	64.5	
574.2	CARBONDALE		UNDERCLAY	1.3	64.8	
573.0	CARBONDALE		SHALE	2.5	66.0	MULTI
570.5	CARBONDALE		SHALE	1.7	68.5	
568.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.3	70.2	GRAY
563.5	CARBONDALE	ENERGY	SANDSTONE	2.5	75.5	
561.0	CARBONDALE	ENERGY	SANDSTONE/SHALE	80.5	78.0	
480.5	CARBONDALE	ENERGY	SHALE	6.0	158.5	SILTY SANDY
474.5	CARBONDALE	HERRIN	COAL	7.0	164.5	

MAPID: 04100030000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES: SW SW SW SW
QUADRANGLE: MURDOCK LONGITUDE: -88.063617 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.769272 DATE COLLECTED: 12 / 0 / 1944
SURFACE ELEVATION (FT.): LOGGED (FT.): 215.0 LOG TYPE: Survey Core Study
SOURCE: BELL & ZOLLER COAL CO 15 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	-	214.8	NO THICKNESS GIVEN
-	CARBONDALE	HERRIN	COAL	-	214.8	NO THICKNESS GIVEN

MAPID: 04100031000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.045316 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.768556 **DATE COLLECTED:** 1 / 0 / 1945
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 185.7 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER COAL CO. 16 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	-	185.7	NO THICKNESS GIVEN
-	CARBONDALE	HERRIN	COAL	-	185.7	NO THICKNESS GIVEN
-			COAL	1.0	185.7	

MAPID: 04100031000C **VERSION:** 2 **PROJECT:** ISGS88
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.045316 **GEOLOGIST:** SROKA
CONFIDENTIAL: N **LATITUDE:** 39.768556 **DATE COLLECTED:** 1 / 0 / 1945
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 185.7 **LOG TYPE:** Drillers Log
SOURCE: BELL AND ZOLLER **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG; BELL AND ZOLLER #16

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-			UNCONSOLIDATED	62.7	0.0	
-			CALCAREOUS SANDSTONE	0.3	62.7	
-			SILTY SHALE	19.0	63.0	
-	CARBONDALE		SHALE	2.3	82.0	
-	CARBONDALE		SHALE	2.9	84.3	
-	CARBONDALE		SHALE	3.0	87.2	
-	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	90.2	SHALEY UPPER; SANDY & SILTY LOWER .67 FT
-	CARBONDALE	ENERGY	SANDSTONE/SILTSTONE	15.6	92.4	
-	CARBONDALE	ENERGY	SILTSTONE	3.3	108.0	GRAY
-	CARBONDALE	ENERGY	SHALE & SANDSTONE	20.1	111.3	CALCAREOUS
-	CARBONDALE	ENERGY	SHALE & SILTSTONE	48.2	131.3	CALCAREOUS
-	CARBONDALE	ENERGY	SHALE	5.2	179.5	
-	CARBONDALE	HERRIN	COAL	1.0	184.7	INCOMPLETE THICKNESS

MAPID: 04100032000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.06301 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.781761 **DATE COLLECTED:** 1 / 0 / 1945
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 211.0 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER COAL CO. 17 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
431.0	CARBONDALE	HERRIN	COAL	-	211.0	NO THICKNESS GIVEN
431.0	CARBONDALE	HERRIN	COAL	-	211.0	NO THICKNESS GIVEN

MAPID: 04100032000C **VERSION:** 2 **PROJECT:** ISGS88
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.06301 **GEOLOGIST:** SROKA
CONFIDENTIAL: N **LATITUDE:** 39.781761 **DATE COLLECTED:** 0 / 0 / 1945
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 211.0 **LOG TYPE:** Drillers Log
SOURCE: BELL AND ZOLLER COAL CO **WELL TYPE:** Coal Test
COMMENT: CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
642.0			UNCLASSIFIED	113.2	0.0	
528.8	CARBONDALE		SHALE	10.4	113.2	
518.4	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.3	123.6	
515.2	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.4	126.8	
513.7	CARBONDALE	ENERGY	SILTSTONE & SHALE	9.4	128.3	
504.3	CARBONDALE	ENERGY	SHALE & SILTSTONE	3.8	137.7	
500.5	CARBONDALE	ENERGY	SILTSTONE & SHALE	5.6	141.5	
494.9	CARBONDALE	ENERGY	SHALE & SILTSTONE	4.4	147.1	
490.5	CARBONDALE	ENERGY	SANDSTONE	2.4	151.5	
488.1	CARBONDALE	ENERGY	SHALE & SILTSTONE	5.2	153.9	
482.9	CARBONDALE	ENERGY	SILTY SHALE	2.3	159.1	
480.7	CARBONDALE	ENERGY	SHALE	12.6	161.3	N SH SLTST SS
468.1	CARBONDALE	ENERGY	SILTY SHALE	11.6	173.9	
456.5	CARBONDALE	ENERGY	SHALE	25.5	185.5	
431.0	CARBONDALE	HERRIN	COAL	0.0	211.0	T.D., TOP OF COAL, NO THICKNESS GIVEN

MAPID: 04100038000C

VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 15N 10E

SECTION: 2

QUARTERS/FOOTAGES: 50' N line, 2650' E line

QUADRANGLE: MURDOCK

LONGITUDE: -88.054719

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.791877

DATE COLLECTED: 12 / 0 / 1944

SURFACE ELEVATION (FT.): 642.0

LOGGED (FT.): 198.0

LOG TYPE: Survey Core Study

SOURCE: BELL & ZOLLER COAL CO. 10

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
444.0	CARBONDALE	HERRIN	COAL	-	198.0	NO THICKNESS GIVEN
444.0	CARBONDALE	HERRIN	COAL	-	198.0	NO THICKNESS GIVEN

MAPID: 04100038000C VERSION: 2

PROJECT: ISGS88

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES: 50' N line, 2650' E line

QUADRANGLE: MURDOCK LONGITUDE: -88.054719 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.791877 DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 198.0 LOG TYPE: Drillers Log

SOURCE: BELL ANS ZOLLER COAL CO. WELL TYPE: Coal Test

COMMENT: CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.0			UNCLASSIFIED	66.2	0.0	
575.8			SHALE & CONGLOMERATE	1.2	66.2	CONTAINS BLK LS PEBBLES AND COAL FRAGS
574.7			SANDSTONE	3.2	67.3	GRAY
571.5			CONGLOMERATE	0.8	70.5	SHALEY, GRAY
570.7			SANDSTONE	4.0	71.3	WITH COAL PARTINGS
566.7			SANDSTONE & CONGLOMERATE	3.9	75.3	CONTAINS CHERT AND BLK LS PEBBLES
562.7			SHALE	9.5	79.3	
553.2			SHALE	12.1	88.8	WITH SIDERITE CONCRETIONS
541.2			SHALE	1.5	100.8	
539.7	CARBONDALE		SHALE	3.1	102.3	
536.6	CARBONDALE		SHALE	3.8	105.4	WITH OCCASIONAL SIDERITE CONCRETIONS
532.7	CARBONDALE		BLACK SHALE	0.5	109.3	WITH COAL
532.2	CARBONDALE		UNDERCLAY	5.7	109.8	
526.6	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	115.4	
521.1	CARBONDALE		SHALE	0.9	120.9	CAREOUS, GRAY
520.2	CARBONDALE	ENERGY	SANDSTONE/SHALE	4.3	121.8	WITH SIDERITE ENRICHED ZONES
515.9	CARBONDALE	ENERGY	SHALE & SILTSTONE	2.5	126.1	
513.4	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.6	128.6	
512.8	CARBONDALE	ENERGY	SHALE & SILTSTONE	9.5	129.2	WITH SIDERITE CONCRETIONS
503.3	CARBONDALE	ENERGY	SHALE	12.0	138.7	
491.3	CARBONDALE	ENERGY	SANDSTONE	22.0	150.7	
469.3	CARBONDALE	ENERGY	SILTSTONE	7.5	172.7	
461.8	CARBONDALE	ENERGY	SILTY SHALE	17.8	180.2	
444.0	CARBONDALE	HERRIN	COAL	0.0	198.0	T.D., TOP OF COAL, THICKNESS NOT GIVEN

MAPID: 04101065000C

VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 15N 10E

SECTION: 2

QUARTERS/FOOTAGES: NW NE SE

QUADRANGLE: MURDOCK

LONGITUDE: -88.048828

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.778808

DATE COLLECTED: 3 / 16 / 1971

SURFACE ELEVATION (FT.): 640.0

LOGGED (FT.): 191.3

LOG TYPE: Survey Core Study

SOURCE: BELL & ZOLLER COAL CO. 54

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
562.0	SHELBURN	DANVILLE	COAL	2.7	78.0	
470.6	CARBONDALE	HERRIN	COAL	6.8	169.4	THICK. ESTIMATED/REMOVED BY CO.

MAPID: 04101065000C VERSION: 2

PROJECT: ISGS88

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES: NW NE SE

QUADRANGLE: MURDOCK LONGITUDE: -88.048828 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.778808 DATE COLLECTED: 3 / 16 / 1971

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 191.5 LOG TYPE: Multiple log types

SOURCE: BELL AND ZOLLER COAL CO. WELL TYPE: Coal Test

COMMENT: CORE, STRIP LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	45.5	0.0	
594.5	MODESTO		SHALY SILTSTONE	7.1	45.5	
587.4	MODESTO		CORE LOSS	4.3	52.6	
583.2	MODESTO		SHALY SILTSTONE	2.3	56.8	
580.8	MODESTO		SHALE	3.3	59.2	GRADATIONAL CONTACT WITH UPPER UNIT
577.5	MODESTO		CORE LOSS	0.5	62.5	
577.0	MODESTO		SHALE	7.8	63.0	
569.2	MODESTO		LIMESTONE	0.3	70.8	POSSIBLE CONCRETION
569.0	MODESTO		SHALE	1.7	71.0	PYRITE NODULES AND TRAILS
567.3	MODESTO		CARBONACEOUS SHALE	2.3	72.7	ABUNDANT CARB. STEM FRAGS
565.0	MODESTO		CORE LOSS	0.8	75.0	
564.2	MODESTO		SHALE	1.2	75.8	SOME CARB. STEM FRAGS; BRACHIOPODS
563.0	MODESTO		BLACK SHALE	1.0	77.0	BRACHIOPODS, BIVALVES; STEMS AT BASE
562.0	CARBONDALE	DANVILLE	COAL	2.7	78.0	
559.4	CARBONDALE		CORE LOSS	0.8	80.6	
558.6	CARBONDALE		CLAYSTONE & SILTSTONE	1.2	81.4	
557.4	CARBONDALE	ENERGY	SILTSTONE	0.8	82.6	
556.7	CARBONDALE	ENERGY	SHALE & SANDSTONE	1.9	83.3	10% SS INTERLAM
554.7	CARBONDALE	ENERGY	CORE LOSS	1.6	85.3	
553.2	CARBONDALE	ENERGY	SANDSTONE/SHALE	9.9	86.8	30% SH INTERLAM
543.2	CARBONDALE	ENERGY	SHALE & SANDSTONE	4.3	96.8	5-10% SS INTERLAM
539.0	CARBONDALE	ENERGY	SHALE	6.8	101.0	OCCASIONAL SIDERITE NOD. OR BAND
532.2	CARBONDALE	ENERGY	SILTY SHALE	2.7	107.8	
529.5	CARBONDALE	ENERGY	SANDSTONE/SHALE	15.0	110.5	15% SH INTERLAM
514.5	CARBONDALE	ENERGY	SILTSTONE/SANDSTONE	19.5	125.5	15-20% SS INTERLAM
495.0	CARBONDALE	ENERGY	SILTY SHALE	19.0	145.0	
476.0	CARBONDALE	ENERGY	BLACK SHALE	5.4	164.0	
470.6	CARBONDALE	HERRIN	COAL	6.8	169.4	
463.8	CARBONDALE		CARBONACEOUS CLAYSTONE	1.7	176.2	
462.2	CARBONDALE		CLAYSTONE	3.3	177.8	LS NODULES; LOSS AT 178.58- 179.08
458.8	CARBONDALE		SILTY LIMESTONE	0.6	181.2	
458.2	CARBONDALE		CLAYSTONE	1.8	181.8	LS NODULES
456.3	CARBONDALE		SHALE	7.7	183.7	

MAPID: 04101086000C

VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 15N 10E

SECTION: 2

QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: MURDOCK

LONGITUDE: -88.051193

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.778809

DATE COLLECTED: 8 / 31 / 1971

SURFACE ELEVATION (FT.): 640.9

LOGGED (FT.): 196.8

LOG TYPE: Survey Core Study

SOURCE: BELL & ZOLLER COAL CO. 105

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
463.6	CARBONDALE	HERRIN	COAL	7.5	177.3	THICK. ESTIMATED/REMOVED BY CO.

MAPID: 04101086000C VERSION: 2

PROJECT: ISGS88

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: MURDOCK LONGITUDE: -88.051193 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.778809 DATE COLLECTED:

SURFACE ELEVATION (FT.): 640.9 LOGGED (FT.): 196.5 LOG TYPE: Drillers Log

SOURCE: BELL AND ZOLLER COAL CO WELL TYPE: Coal Test

COMMENT: CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.9			UNCONSOLIDATED	45.0	0.0	
595.9	CARBONDALE		CLAYSTONE & SILTSTONE	1.9	45.0	
594.0	CARBONDALE		SHALY SILTSTONE	3.3	46.9	
590.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.5	50.2	
590.2	CARBONDALE		CORE LOSS	4.7	50.7	
585.6	CARBONDALE		SHALY SILTSTONE	8.1	55.3	
577.5	CARBONDALE		LIMESTONE	0.2	63.4	
577.3	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	63.6	
576.6	CARBONDALE		SHALE	1.4	64.3	
575.1	CARBONDALE		CORE LOSS	9.6	65.8	
565.6	CARBONDALE		SANDSTONE/SHALE	0.4	75.3	25% SH INTERLAM
565.1	CARBONDALE		CLAYSTONE & SILTSTONE	5.0	75.8	
560.1	CARBONDALE		CORE LOSS	1.7	80.8	
558.5	CARBONDALE		CLAYSTONE & SILTSTONE	1.5	82.4	
557.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.1	83.9	
555.9	CARBONDALE	ENERGY	SANDSTONE	9.0	85.0	SHALEY IN PARTS
546.9	CARBONDALE	ENERGY	SHALE & SANDSTONE	4.5	94.0	UPTO 35% SS INTERLAM
542.4	CARBONDALE	ENERGY	SHALY SANDSTONE	1.5	98.5	
540.9	CARBONDALE	ENERGY	SHALE & SANDSTONE	4.2	100.0	15% SS INTERLAM
536.7	CARBONDALE	ENERGY	SANDSTONE/SHALE	1.0	104.2	
535.7	CARBONDALE	ENERGY	SHALE	7.5	105.2	UPTO 40% SS INTERLAM
528.2	CARBONDALE	ENERGY	SILTSTONE	12.5	112.7	N SLTST SH SS
515.7	CARBONDALE	ENERGY	SHALE	11.8	125.2	N SH SLTST SS
503.9	CARBONDALE	ENERGY	SANDSTONE/SHALE	12.0	137.0	30-40% SH INTERLAM
491.9	CARBONDALE	ENERGY	SILTSTONE/SANDSTONE	19.7	149.0	20-25% SS INTERLAM
472.2	CARBONDALE	ENERGY	SHALE	8.7	168.7	SILTY NEAR TOP
463.6	CARBONDALE	HERRIN	COAL	7.5	177.3	
456.1	CARBONDALE		CLAYSTONE	2.0	184.8	ROOTLETS (CARBONIZED) IN TOP .5 FOOT
454.1	CARBONDALE		CLAYSTONE & SILTSTONE	2.2	186.8	
451.9	CARBONDALE		SHALE	7.8	189.0	

MAPID: 04121183000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES: 31' S line, 1050' W line of SW SE

QUADRANGLE: MURDOCK LONGITUDE: -88.051006

GEOLOGIST:

CONFIDENTIAL: N LATITUDE: 39.768635

DATE COLLECTED: 8 / 22 / 1974

SURFACE ELEVATION (FT.): 638.7 LOGGED (FT.): 209.0

LOG TYPE: Survey Core Study

SOURCE: ZEIGLER COAL CO. 197

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.7			SANDY CLAY	12.5	0.0	
626.2			CLAY	7.5	12.5	OC GRAVEL
618.7			SAND & GRAVEL	6.5	20.0	
612.2			SANDY CLAY	25.5	26.5	
586.7			SILTY SHALE	6.0	52.0	
580.7			SILTY, SANDY SHALE	20.5	58.0	W/SS
560.2			SHALE	10.5	78.5	MULTI
549.7	CARBONDALE		SHALE	7.5	89.0	GRN/GRY
542.2	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	96.5	
539.2	CARBONDALE	ENERGY	SANDSTONE	36.5	99.5	W/SANDY SHALE
502.7	CARBONDALE	ENERGY	SILTY, SANDY SHALE	49.5	136.0	CORE STARTS @ 176.0'
453.2	CARBONDALE	HERRIN	COAL	7.1	185.5	
446.0	CARBONDALE		UNDERCLAY	1.0	192.7	
445.0	CARBONDALE		SHALE	1.6	193.7	W/NODULES; GRY
443.4	CARBONDALE		SHALE	3.0	195.3	W/NODULES; GRN
440.4	CARBONDALE		SHALE	1.4	198.3	W/LS NODULES; GRN/GRY
439.0	CARBONDALE		SHALE	4.9	199.7	W/SAND NODULES; GRY
434.1	CARBONDALE		LIMESTONE	0.3	204.6	
433.8	CARBONDALE		SHALE	0.5	204.9	W/LS SEAMS; GRY
433.3	CARBONDALE	TURNER MINE	SHALE	1.8	205.4	W/SANDY SEAMS; BLK
431.4	CARBONDALE	SPRINGFIELD	COAL	0.8	207.3	

MAPID: 04121718000C

VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS

TWP/RNG: 15N 10E

SECTION: 2

QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK

LONGITUDE: -88.054733

GEOLOGIST: BARGH

CONFIDENTIAL: N

LATITUDE: 39.78028

DATE COLLECTED:

SURFACE ELEVATION (FT.): 640.4

LOGGED (FT.): 204.7

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 9

WELL TYPE: Coal Test

COMMENT: NORTH CENTER OF SECTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.4			UNCONSOLIDATED	38.0	0.0	
602.4			ARGILACEOUS SHALE	2.0	38.0	
600.4	MODESTO		SANDSTONE	17.0	40.0	
583.4	MODESTO		LIMESTONE	3.0	57.0	
580.4	MODESTO		SHALE	3.0	60.0	
577.4	MODESTO		SANDSTONE	1.0	63.0	
576.4	MODESTO		SHALE	4.0	64.0	
572.4	MODESTO	PIASA	LIMESTONE	1.0	68.0	
571.4	MODESTO		SHALE	18.5	69.0	
552.9			SHALE	2.0	87.5	
550.9	CARBONDALE		SHALE	15.0	89.5	
535.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	104.5	
530.4	CARBONDALE	ENERGY	SHALY SANDSTONE	28.0	110.0	
502.4	CARBONDALE	ENERGY	SHALY SANDSTONE	20.0	138.0	
482.4	CARBONDALE	ENERGY	SHALY SANDSTONE	20.0	158.0	
462.4	CARBONDALE	ENERGY	SHALE	18.9	178.0	
443.5	CARBONDALE	HERRIN	COAL	6.8	196.9	#6
436.6	CARBONDALE		UNDERCLAY	0.9	203.8	

MAPID: 04121724000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1' S line, 1' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.064207 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.768542 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 223.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 15 **WELL TYPE:** Coal Test
COMMENT: SW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.0			CLAY	18.0	0.0	
619.0			SAND & GRAVEL	22.0	18.0	
597.0			CLAY & GRAVEL	28.0	40.0	
569.0			SHALE	10.0	68.0	MULTI-COLORED W/GRAVEL W/LIME PARTINGS
559.0			SANDY SHALE	22.0	78.0	
537.0			SANDY SHALE	4.0	100.0	
533.0			SHALE	3.0	104.0	
530.0			SHALE	14.0	107.0	MOTTLED
516.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	121.0	
510.0	CARBONDALE	ENERGY	SANDY SHALE	88.0	127.0	
422.0	CARBONDALE	HERRIN	COAL	7.2	215.0	
414.8	CARBONDALE		UNDERCLAY	0.8	222.2	

MAPID: 04121725000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1' S line, 1' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.045316 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.768556 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 194.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 16 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
636.0			UNCONSOLIDATED	54.0	0.0	
582.0			SHALE	41.0	54.0	MOTTLED
541.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	95.0	
539.0	CARBONDALE	ENERGY	SANDY SHALE	63.0	97.0	
476.0	CARBONDALE	ENERGY	SHALE	25.7	160.0	
450.3	CARBONDALE	HERRIN	COAL	7.3	185.7	
443.1	CARBONDALE		UNDERCLAY	1.1	192.9	

MAPID: 04121726000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.054733

GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.78028

DATE COLLECTED:

SURFACE ELEVATION (FT.): 641.5 LOGGED (FT.): 196.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 17

WELL TYPE: Coal Test

COMMENT: LOC.: WEST CENTER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.5			UNCONSOLIDATED	99.0	0.0	
542.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	99.0	
537.5	CARBONDALE	ENERGY	SANDY SHALE	51.0	104.0	
486.5	CARBONDALE	ENERGY	SHALE	35.5	155.0	
451.0	CARBONDALE	HERRIN	COAL	5.5	190.5	#6 COAL SEAM

MAPID: 04121727000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.054733

GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.78028

DATE COLLECTED:

SURFACE ELEVATION (FT.): 641.5 LOGGED (FT.): 198.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 17-A

WELL TYPE: Coal Test

COMMENT: LO...: 4' DUE WEST OF DH#17. W/C OF SECT.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.5			UNCONSOLIDATED	99.0	0.0	
542.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	99.0	
537.5	CARBONDALE	ENERGY	SANDY SHALE	3.0	104.0	
534.5	CARBONDALE	ENERGY	SHALE	60.0	107.0	PTLY SDY
474.5	CARBONDALE	ENERGY	SHALE	23.5	167.0	
451.0	CARBONDALE	HERRIN	COAL	6.8	190.5	#6 COAL SEAM
444.2	CARBONDALE		SHALE	0.7	197.3	

MAPID: 04121728000C VERSION: 1 PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.054733 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.78028 DATE COLLECTED:

SURFACE ELEVATION (FT.): 637.5 LOGGED (FT.): 174.0 LOG TYPE: Drillers Log

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

COMMENT: LOC.: 1/2 N OF D.H. 16

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.5			UNCONSOLIDATED	72.0	0.0	
565.5	CARBONDALE		SHALE	7.0	72.0	SFT
558.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	79.0	
555.5	CARBONDALE	ENERGY	SANDY SHALE	32.0	82.0	
523.5	CARBONDALE	ENERGY	SHALE	50.0	114.0	W/SDY STRS
473.5	CARBONDALE	ENERGY	SHALE	1.3	164.0	DK
472.2	CARBONDALE	HERRIN	COAL	6.8	165.3	#6 COAL SEAM
465.5	CARBONDALE		UNDERCLAY	2.0	172.0	

MAPID: 04121764000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES: 220' S line, 1000' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.048884 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.769158 DATE COLLECTED: 3 / 8 / 1971
 SURFACE ELEVATION (FT.): 638.2 LOGGED (FT.): 190.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 54 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.2			CLAY	10.0	0.0	
628.2			CLAY	4.0	10.0	BROWN
624.2			CLAY	1.0	14.0	LT. GRAY
623.2			CLAY & GRAVEL	15.5	15.0	
607.7			CLAY	0.5	30.5	GRAY
607.2			CLAY & GRAVEL	5.0	31.0	GRAY/BRN
602.2			CLAY	1.5	36.0	GRAY
600.7			SANDY CLAY	2.5	37.5	
598.2	MODESTO		SANDY SHALE	5.5	40.0	
592.7	MODESTO		SILTY SHALE	17.3	45.5	NODULES
575.4	MODESTO		SHALE & SANDSTONE	12.2	62.8	
563.2	MODESTO		SHALE	2.9	75.0	
560.3	CARBONDALE	DANVILLE	COAL	0.3	77.9	
560.0	CARBONDALE	DANVILLE	PYRITE	0.3	78.2	
559.7	CARBONDALE	DANVILLE	COAL	1.3	78.5	
558.4	CARBONDALE		UNDERCLAY	2.8	79.8	THICKNESS ADJ TO MATCH LOG DEPTHS
555.6	CARBONDALE	ENERGY	SHALE	2.7	82.6	SLTY; SNDY
552.9	CARBONDALE	ENERGY	SANDY SHALE	11.6	85.3	
541.4	CARBONDALE	ENERGY	SILTY SHALE	13.7	96.8	NODULES
527.7	CARBONDALE	ENERGY	SANDY SHALE	17.2	110.5	
510.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	25.8	127.7	
484.7	CARBONDALE	ENERGY	SILTY SHALE	15.9	153.5	
468.8	CARBONDALE	HERRIN	COAL	6.7	169.4	
462.1	CARBONDALE		UNDERCLAY	2.5	176.1	
459.6	CARBONDALE		UNDERCLAY	1.9	178.6	NODULES
457.7	CARBONDALE		CLAYSTONE	6.7	180.5	NODULES
451.0	CARBONDALE		LIMESTONE	0.3	187.2	
450.8	CARBONDALE		SHALE	4.6	187.4	

MAPID: 04121816000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES: 4201' S line, 996' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.048839 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.780147 DATE COLLECTED: 9 / 1 / 1971
 SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 206.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 105 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			CLAY	5.0	0.0	
634.0			CLAY	10.0	5.0	BROWN
624.0			CLAY & GRAVEL	5.0	15.0	BRN/GRY
619.0			CLAY & GRAVEL	10.0	20.0	GRAY
609.0			CLAY & GRAVEL	5.0	30.0	BROWN
604.0			SANDY CLAY	5.0	35.0	
599.0			SANDY SHALE	23.5	40.0	
575.5			SHALE	0.5	63.5	
575.0			SHALE	11.0	64.0	
564.0			SANDSTONE	0.7	75.0	W/BLACK SHALE
563.3			SHALE	2.5	75.7	
560.8	CARBONDALE		SHALE	5.8	78.2	THICKNESS ADJ TO MATCH LOG DEPTHS
555.1	CARBONDALE	BANKSTON FORK	LIMESTONE	1.1	83.9	
554.0	CARBONDALE	ENERGY	SANDSTONE	0.7	85.0	
553.3	CARBONDALE	ENERGY	SANDSTONE	1.0	85.7	CALCARIOUS
552.3	CARBONDALE	ENERGY	SANDSTONE/SHALE	17.5	86.7	
534.8	CARBONDALE	ENERGY	SANDSTONE	1.1	104.2	
533.7	CARBONDALE	ENERGY	SANDY SHALE	4.8	105.3	
529.0	CARBONDALE	ENERGY	SANDY SHALE	9.3	110.0	W/BROWN SANDY HARDSEAMS
519.7	CARBONDALE	ENERGY	SHALE	3.3	119.3	THICKNESS ADJ TO MATCH LOG DEPTHS
516.3	CARBONDALE	ENERGY	SILTY SHALE	13.7	122.7	
502.7	CARBONDALE	ENERGY	SANDY SHALE	2.2	136.3	
500.5	CARBONDALE	ENERGY	SANDSTONE	10.5	138.5	W/SH STREAKS
490.0	CARBONDALE	ENERGY	SANDY SHALE	18.0	149.0	
472.0	CARBONDALE	ENERGY	SILTY SHALE	10.4	167.0	
461.6	CARBONDALE	HERRIN	COAL	7.1	177.4	
454.5	CARBONDALE		UNDERCLAY	0.8	184.5	
453.7	CARBONDALE		LIMESTONE AND SANDSTONE	7.8	185.3	
446.0	CARBONDALE		SHALE	2.7	193.0	
443.3	CARBONDALE		SHALE	2.8	195.7	W/NODULES
440.5	CARBONDALE	TURNER MINE	SHALE	1.5	198.5	W/NODULES
439.0	CARBONDALE	TURNER MINE	SHALE	0.3	200.0	
438.7	CARBONDALE	TURNER MINE	SHALE	0.3	200.3	SLATY COAL
438.3	CARBONDALE	SPRINGFIELD	COAL	2.6	200.7	
435.7	CARBONDALE		UNDERCLAY	2.8	203.3	

MAPID: 04121854000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** 429' S line, 1517' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.058782 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.769727 **DATE COLLECTED:** 1 / 7 / 1972
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 180.2 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 143 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	7.0	0.0	
633.0			UNCONSOLIDATED	37.2	7.0	
595.8			SANDY SHALE	18.8	44.2	
577.0			SHALE	5.0	63.0	
572.0			SHALE	12.5	68.0	MULTI
559.5	CARBONDALE		SHALE	3.7	80.5	
555.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	84.2	
554.3	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.8	85.7	
553.5	CARBONDALE	ENERGY	SANDSTONE	12.5	86.5	W/SANDY SH SEAMS
541.0	CARBONDALE	ENERGY	SANDY SHALE	6.5	99.0	
534.5	CARBONDALE	ENERGY	SANDY SHALE	73.2	105.5	W/SS/SEAMS
461.3	CARBONDALE	HERRIN	COAL	1.5	178.7	HOLE PROBABLY DID NOT PENETRATE ALL SEAM

MAPID: 04121855000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:** 354' S line, 1517' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.058782 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.76952 **DATE COLLECTED:** 1 / 12 / 1972
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 185.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 144 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	8.0	0.0	
632.0			UNCONSOLIDATED	32.4	8.0	
599.6			SANDY SHALE	28.0	40.4	W/SS SEAMS
571.6			SHALE	8.0	68.4	
563.6	CARBONDALE		SHALE	6.6	76.4	
557.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.5	83.0	
555.5	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.5	84.5	
554.0	CARBONDALE	ENERGY	SANDSTONE	7.0	86.0	
547.0	CARBONDALE	ENERGY	SANDY SHALE	46.5	93.0	W/SS SEAMS
500.5	CARBONDALE	ENERGY	SANDY SHALE	38.7	139.5	
461.8	CARBONDALE	HERRIN	COAL	6.8	178.2	

MAPID: 04121869000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.049143

GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.779182

DATE COLLECTED: 7 / 5 / 1973

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 177.2

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 157

WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
634.0	PLEISTOCENE		GLACIAL DRIFT	48.8	6.0	
585.2	SHELBURN		SHALE	14.6	54.8	GRY
570.6	SHELBURN		VARRIGATED SHALE	11.6	69.4	
559.0	SHELBURN		GRAY SHALE	3.5	81.0	
555.5	SHELBURN	BANKSTON FORK	LIMESTONE	2.5	84.5	
553.0	CARBONDALE	ENERGY	SANDSTONE	84.0	87.0	W/ SH
469.0	CARBONDALE	ENERGY	GRAY SHALE	6.2	171.0	
462.8	CARBONDALE	HERRIN	COAL	-	177.2	

MAPID: 04121870000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.054733

GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.78028

DATE COLLECTED: 7 / 10 / 1973

SURFACE ELEVATION (FT.): 640.5 LOGGED (FT.): 177.2

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 158

WELL TYPE: Coal Test

COMMENT: ROCK DUST HOLE (POWDER)

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.5			UNCONSOLIDATED	54.5	0.0	
586.0			SHALE	10.9	54.5	
575.1			SHALE	4.0	65.4	MULTI
571.1	CARBONDALE		SHALE	11.6	69.4	
559.5	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	81.0	
553.5	CARBONDALE	ENERGY	SANDSTONE	84.0	87.0	W/SH
469.5	CARBONDALE	ENERGY	SHALE	6.2	171.0	
463.3	CARBONDALE	HERRIN	COAL	-	177.2	TOP OF COAL

MAPID: 04121878000C **VERSION:** 1 **PROJECT:** ISGS 90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 2 **QUARTERS/FOOTAGES:**
QUADRANGLE: MURDOCK **LONGITUDE:** -88.049352 **GEOLOGIST:** M VANKO
CONFIDENTIAL: N **LATITUDE:** 39.791607 **DATE COLLECTED:** 4 / 21 / 1971
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 198.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 166 **WELL TYPE:** Coal Test
COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	4.0	0.0	
636.0	PLEISTOCENE		GLACIAL DRIFT	38.0	4.0	
598.0	SHELBURN		SANDSTONE	16.0	42.0	
582.0	SHELBURN		SILTY, SANDY SHALE	14.5	58.0	W/ SS
567.5	SHELBURN	PIASA	LIMESTONE	1.0	72.5	
566.5	SHELBURN	FARMINGTON	SILTY SHALE	27.0	73.5	GRAY
539.5	SHELBURN	DANVILLE	BONE COAL	0.5	100.5	
539.0	SHELBURN		SHALE	8.5	101.0	GRY
530.5	SHELBURN	BANKSTON FORK	LIMESTONE	2.0	109.5	
528.5	CARBONDALE	ENERGY	SILTY SHALE	38.5	111.5	GRY
490.0	CARBONDALE	ENERGY	SANDY SHALE	48.0	150.0	W/SS (STRIPPED)
442.0	CARBONDALE	HERRIN	COAL	-	198.0	

MAPID: 04100043000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 3 **QUARTERS/FOOTAGES:** 1' S line, 15' W line of SW SW NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.082633 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.780249 **DATE COLLECTED:** 11 / 29 / 1944
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 219.7 **LOG TYPE:** Drillers Log
SOURCE: BELL & ZOLLER COAL CO. 14 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	7.0	219.7	THICK. ESTIMATED

MAPID: 04100044000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 3 **QUARTERS/FOOTAGES:** 40' N line, 1' W line of NW NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.073322 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.791929 **DATE COLLECTED:** 11 / 29 / 1944
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 194.0 **LOG TYPE:** Drillers Log
SOURCE: BELL & ZOLLER COAL CO. 11 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	-	194.0	NO THICKNESS GIVEN
-	CARBONDALE	HERRIN	COAL	-	194.0	NO THICKNESS GIVEN

MAPID: 04121720000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 3 **QUARTERS/FOOTAGES:** 50' N line, 2640' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.073623 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.791903 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 639.4 **LOGGED (FT.):** 216.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 11 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.4			UNCONSOLIDATED	25.0	0.0	
614.4			CLAY	5.0	25.0	
609.4			GRAVEL	12.0	30.0	
597.4			CLAY	18.0	42.0	
579.4			SANDY CLAY	15.0	60.0	
564.4			CLAY	15.0	75.0	
549.4			CLAY	6.0	90.0	
543.4			SHALE	16.0	96.0	
527.4	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	112.0	CHERTY LS
520.4	CARBONDALE	ENERGY	SHALY SANDSTONE	8.0	119.0	
512.4	CARBONDALE	ENERGY	SHALE	18.0	127.0	
494.4	CARBONDALE	ENERGY	SHALY SANDSTONE	48.0	145.0	
446.4	CARBONDALE	ENERGY	DARK SHALE	14.7	193.0	
431.7	CARBONDALE	HERRIN	COAL	7.6	207.7	#6
424.1	CARBONDALE		UNDERCLAY	0.8	215.3	

MAPID: 04121723000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 3 **QUARTERS/FOOTAGES:** 3987' S line, 41' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.082556 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.779464 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 638.3 **LOGGED (FT.):** 227.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 14 **WELL TYPE:** Coal Test
COMMENT: ESTIMATED LOCATION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.3			UNCONSOLIDATED	38.0	0.0	
600.3			CLAY	30.0	38.0	CLY & GRAVEL
570.3			SHALE & SANDSTONE	52.0	68.0	& GRAVEL
518.3			CALCAREOUS SHALE	8.0	120.0	
510.3	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	128.0	
507.3	CARBONDALE	ENERGY	SANDY SHALE	73.0	131.0	
434.3	CARBONDALE	ENERGY	SHALE	15.7	204.0	
418.6	CARBONDALE	HERRIN	COAL	6.3	219.7	#6
412.3	CARBONDALE		SHALE	1.0	226.0	

MAPID: 04121794000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 3 **QUARTERS/FOOTAGES:** 44' N line, 55' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.064376 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.791928 **DATE COLLECTED:** 6 / 29 / 1971
SURFACE ELEVATION (FT.): 638.2 **LOGGED (FT.):** 215.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 84 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.2			UNCONSOLIDATED	13.0	0.0	
625.2			UNCONSOLIDATED	108.8	13.0	
516.4	CARBONDALE	ENERGY	SANDY SHALE	45.3	121.8	
471.2	CARBONDALE	ENERGY	SANDY SHALE	38.6	167.0	
432.6	CARBONDALE	HERRIN	COAL	6.4	205.6	
426.2	CARBONDALE		UNDERCLAY	1.8	212.0	
424.4	CARBONDALE		LIMESTONE W/ SHALE	1.2	213.8	

MAPID: 04121795000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 3 **QUARTERS/FOOTAGES:** 50' N line, 67' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.082233 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.791893 **DATE COLLECTED:** 6 / 30 / 1971
SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 213.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 84-A **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.0			UNCONSOLIDATED	13.0	0.0	
625.0			UNCONSOLIDATED	108.8	13.0	
516.2	CARBONDALE	ENERGY	SANDY SHALE	45.3	121.8	
471.0	CARBONDALE	ENERGY	SHALE	37.5	167.0	SILTY SANDY W/ SIDERITE
433.5	CARBONDALE	HERRIN	COAL	7.0	204.5	
426.5	CARBONDALE		LIMESTONE W/ SHALE	2.0	211.5	

MAPID: 04100045000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 4 **QUARTERS/FOOTAGES:** 40' N line, 1' W line of NW NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.091902 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.791852 **DATE COLLECTED:** 11 / 29 / 1944
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 200.0 **LOG TYPE:** Drillers Log
SOURCE: BELL & ZOLLER COAL CO. 12 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	-	200.0	DEPTH EST./NO THICK. GIVEN
-	CARBONDALE	HERRIN	COAL	-	200.0	DEPTH EST./NO THICK. GIVEN

MAPID: 04121616000C VERSION: 1 PROJECT: ISGS96
COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 4 QUARTERS/FOOTAGES: 3440' N line, 45' W line
QUADRANGLE: MURDOCK LONGITUDE: -88.101205 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.7824 DATE COLLECTED: 0 / 0 / 1976
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 223.0 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY PH-25 WELL TYPE: Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.0			UNCONSOLIDATED	139.0	0.0	
503.0			ROCK	77.0	139.0	
426.0	CARBONDALE	HERRIN	COAL	7.0	216.0	

MAPID: 04121616000C VERSION: 2 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 4 QUARTERS/FOOTAGES: 3440' N line, 45' W line
QUADRANGLE: MURDOCK LONGITUDE: -88.101205 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.7824 DATE COLLECTED: 9 / 0 / 1971
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 447.0 LOG TYPE: Electric Log
SOURCE: HYDROCARBON SURVEY PH-25 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121721000C VERSION: 1 PROJECT: ISGS95
COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 4 QUARTERS/FOOTAGES:
QUADRANGLE: MURDOCK LONGITUDE: -88.092029 GEOLOGIST: BARGH
CONFIDENTIAL: N LATITUDE: 39.78021 DATE COLLECTED:
SURFACE ELEVATION (FT.): 638.8 LOGGED (FT.): 201.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 12 WELL TYPE: Coal Test
COMMENT: NORTH CENTER OF SECTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.8			UNCONSOLIDATED	40.0	0.0	
598.8			SANDY SHALE	45.0	40.0	
553.8			SHALE	20.0	85.0	MUD & GRAVEL
533.8	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	105.0	
528.8	CARBONDALE	ENERGY	SANDY SHALE	84.2	110.0	
444.6	CARBONDALE	HERRIN	COAL	6.8	194.2	#6

MAPID: 04121767000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 4 **QUARTERS/FOOTAGES:** 80' S line, 47' W line of SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.101243 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.768673 **DATE COLLECTED:** 3 / 2 / 1971
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 245.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 57 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
636.0			CLAY	8.0	0.0
628.0			CLAY & GRAVEL	70.0	8.0
558.0			SAND & GRAVEL	5.0	78.0
553.0			CLAY & GRAVEL	7.0	83.0
546.0			SAND & GRAVEL	4.0	90.0
542.0			CLAY	48.0	94.0
494.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	142.0
488.0	CARBONDALE	ENERGY	SANDSTONE	2.0	148.0
486.0	CARBONDALE	ENERGY	SANDY SHALE	86.6	150.0
399.4	CARBONDALE	HERRIN	COAL	6.8	236.6
392.6	CARBONDALE		UNDERCLAY	1.8	243.4

MAPID: 04121863000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 4 **QUARTERS/FOOTAGES:** 1946' N line, 60' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.101137 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.786524 **DATE COLLECTED:** 2 / 22 / 1972
SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 218.3 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 152 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
641.0			UNCONSOLIDATED	6.0	0.0
635.0			UNCONSOLIDATED	118.5	6.0
516.5	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	124.5
512.7	CARBONDALE	ENERGY	SANDSTONE	3.8	128.3
509.0	CARBONDALE	ENERGY	SANDY SHALE	70.8	132.0
438.2	CARBONDALE	ENERGY	SANDSTONE	7.6	202.8
430.7	CARBONDALE	HERRIN	COAL	6.8	210.3
423.9	CARBONDALE		UNDERCLAY	1.3	217.1

MAPID: 04121752000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 5 QUARTERS/FOOTAGES: 1' S line, 1' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.120229 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.768171 DATE COLLECTED:

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 241.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 42 WELL TYPE: Coal Test

COMMENT: LOC.: SW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	195.0	0.0	
448.0	CARBONDALE		COAL	0.5	195.0	"COAL SHOWING, SOME LIME"
447.5	CARBONDALE	ENERGY	UNDERCLAY	2.5	195.5	
445.0	CARBONDALE	ENERGY	SHALE	4.0	198.0	
441.0	CARBONDALE	ENERGY	SANDY SHALE	4.0	202.0	
437.0	CARBONDALE	ENERGY	SHALE	22.9	206.0	OILY
414.1	CARBONDALE	ENERGY	SHALE	4.8	228.9	
409.3	CARBONDALE	HERRIN	COAL	6.3	233.7	
403.0	CARBONDALE		UNDERCLAY	1.0	240.0	

MAPID: 04121765000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 5 QUARTERS/FOOTAGES: 71' N line, 57' W line of NW NW

QUADRANGLE: MURDOCK LONGITUDE: -88.119965 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.791612 DATE COLLECTED: 3 / 8 / 1971

SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 216.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 55 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.0			UNCONSOLIDATED	3.0	0.0	
639.0			CLAY	9.0	3.0	BRN
630.0			CLAY	6.0	12.0	BRN GRAY
624.0			CLAY & GRAVEL	25.5	18.0	
598.5			SAND	2.0	43.5	
596.5			SANDY CLAY	32.0	45.5	W/GRAVEL
564.5			SAND & GRAVEL	5.0	77.5	
559.5			SANDY CLAY	99.5	82.5	
460.0			SANDY CLAY	4.0	182.0	W/COAL PARTINGS DRIFT & WOOD
456.0	CARBONDALE	ENERGY	SAND	12.0	186.0	
444.0	CARBONDALE	ENERGY	SANDY SHALE	9.1	198.0	
434.9	CARBONDALE	HERRIN	COAL	6.3	207.1	
428.6	CARBONDALE		UNDERCLAY	1.1	213.4	
427.5	CARBONDALE		UNDERCLAY	1.5	214.5	W/NODULES

MAPID: 04121766000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 6 QUARTERS/FOOTAGES: 30' S line, 77' W line of SE SW
QUADRANGLE: VILLA GROVE LONGITUDE: -88.134387 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.76875 DATE COLLECTED: 4 / 7 / 1971
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 222.8 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 56 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.0			UNCONSOLIDATED	189.0	0.0	
453.0	CARBONDALE	ENERGY	SHALE	25.5	189.0	SLTY; SNDY
427.5	CARBONDALE	HERRIN	COAL	6.5	214.5	
421.0	CARBONDALE		UNDERCLAY	1.8	221.0	

MAPID: 04121777000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 6 QUARTERS/FOOTAGES: 87' N line, 44' W line of NW
QUADRANGLE: VILLA GROVE LONGITUDE: -88.13916 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.79154 DATE COLLECTED: 4 / 12 / 1971
SURFACE ELEVATION (FT.): 646.0 LOGGED (FT.): 227.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 67 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
646.0			UNCONSOLIDATED	9.0	0.0	
637.0			CLAY	201.5	9.0	HERRIN COAL ERODED?
435.5	CARBONDALE		SHALE	7.3	210.5	STRIPPED
428.2	CARBONDALE	ST. DAVID	LIMESTONE	0.3	217.8	
428.0	CARBONDALE	ST. DAVID	CALCAREOUS SHALE	1.4	218.0	
426.6	CARBONDALE	TURNER MINE	SHALE	0.8	219.4	
425.7	CARBONDALE	SPRINGFIELD	COAL	2.3	220.3	CORRELATION UNCERTAIN
423.5	CARBONDALE		SHALE	0.3	222.5	W/LIME NODULES
423.2	CARBONDALE		LIMESTONE	1.2	222.8	

MAPID: 04121817000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 6 QUARTERS/FOOTAGES: 76' N line, 1324' W line of NE NW

QUADRANGLE: VILLA GROVE LONGITUDE: -88.129791

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.791583

DATE COLLECTED: 9 / 8 / 1971

SURFACE ELEVATION (FT.): 646.0 LOGGED (FT.): 238.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 106

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
646.0			UNCONSOLIDATED	6.0	0.0	
640.0			UNCONSOLIDATED	16.0	6.0	
624.0			SAND & GRAVEL	54.0	22.0	
570.0			CLAY	14.0	76.0	
556.0			SAND & GRAVEL	25.0	90.0	THICKNESS ADJ TO MATCH LOG DEPTHS
531.0			CLAY	70.0	115.0	
461.0			SAND & GRAVEL	13.0	185.0	
448.0			NO RECORD	9.0	198.0	NO RECORD IN LOG
439.0	CARBONDALE	HERRIN	COAL	0.5	207.0	HERRIN COAL ERODED
438.5	CARBONDALE		UNDERCLAY	1.3	207.5	
437.2	CARBONDALE		LIMESTONE W/ SHALE	9.2	208.8	
428.0	CARBONDALE		SANDY SHALE	3.0	218.0	
425.0	CARBONDALE		SHALE	4.9	221.0	W/SANDY STRIPES
420.1	CARBONDALE		SHALE	3.1	225.9	W/NODULES
417.0	CARBONDALE		LIMESTONE	0.8	229.0	
416.2	CARBONDALE		SANDY SHALE	0.4	229.8	
415.8	CARBONDALE		SANDY SHALE	0.5	230.2	
415.3	CARBONDALE		SHALE	1.3	230.7	W/LS NODULES
414.0	CARBONDALE		SHALE	3.8	232.0	
410.2	CARBONDALE		SANDY SHALE	0.3	235.8	STRIPPED
409.9	CARBONDALE	TURNER MINE	SHALE	0.9	236.1	
409.0	CARBONDALE	SPRINGFIELD	COAL	1.0	237.0	

MAPID: 04121818000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 6 **QUARTERS/FOOTAGES:** 2085' N line, 6' W line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.139335 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.786027 **DATE COLLECTED:** 9 / 10 / 1971
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 233.7 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 107 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.0			UNCONSOLIDATED	9.0	0.0	
636.0			UNCONSOLIDATED	191.5	9.0	
444.5			SANDSTONE	1.0	200.5	BOULDERS
443.5			SANDSTONE	8.9	201.5	S/DRIFT
434.6			SANDSTONE	0.6	210.4	SS IS CONGLOMERATE
434.0			SILTY SHALE	1.0	211.0	
433.0	CARBONDALE		LIMESTONE W/ SHALE	6.8	212.0	CONGLOMERATE
426.2	CARBONDALE		LIMESTONE	0.3	218.8	
425.8	CARBONDALE		SHALE	0.5	219.2	GRN/GRY
425.3	CARBONDALE	TURNER MINE	BLACK SHALE	1.1	219.7	
424.2	CARBONDALE	SPRINGFIELD	SHALY COAL	1.9	220.8	PLUS SULPHUR
422.3	CARBONDALE	SPRINGFIELD	COAL	0.7	222.7	
421.7	CARBONDALE		UNDERCLAY	0.3	223.3	

MAPID: 04121834000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 6 **QUARTERS/FOOTAGES:** 4787' S line, 20' W line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.139312 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.78206 **DATE COLLECTED:** 10 / 26 / 1971
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 219.8 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 123 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0			UNCONSOLIDATED	13.0	0.0	
631.0			UNCONSOLIDATED	189.8	13.0	
441.2	CARBONDALE	ENERGY	SILTY SHALE	7.9	202.8	
433.2	CARBONDALE	HERRIN	COAL	6.9	210.8	
426.3	CARBONDALE		UNDERCLAY	2.1	217.7	

MAPID: 04121903000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 6 QUARTERS/FOOTAGES: 1' N line, 1' W line of NE SE

QUADRANGLE: MURDOCK LONGITUDE: -88.124993 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.780066 DATE COLLECTED: 5 / 22 / 1974

SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 229.8 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 190 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.0			UNCONSOLIDATED	12.5	0.0	
629.5			CLAY	21.5	12.5	
608.0			SAND & GRAVEL	5.5	34.0	THICKNESS ADJ TO MATCH LOG DEPTHS
602.5			CLAY	156.5	39.5	OC GRAVEL POCKETS
446.0	CARBONDALE	ENERGY	SHALE	1.5	196.0	
444.5	CARBONDALE	ENERGY	SILTY SHALE	0.5	197.5	W/SS
444.0	CARBONDALE	ENERGY	SANDSTONE	0.1	198.0	CORING STARTS @ 198'
443.9	CARBONDALE	ENERGY	SILTY SHALE	17.2	198.1	
426.7	CARBONDALE	ENERGY	SILTY, SANDY SHALE	4.4	215.3	W/SS SEAMS
422.3	CARBONDALE	ENERGY	SILTY SHALE	1.4	219.7	
420.9	CARBONDALE	ENERGY	SHALE	0.2	221.1	W/COAL SEAMS
420.7	CARBONDALE	HERRIN	COAL	6.9	221.3	
413.8	CARBONDALE		CLAYSTONE	1.6	228.2	GRAY

MAPID: 04121784000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 7 QUARTERS/FOOTAGES: 74' N line, 50' W line of NE SE

QUADRANGLE: MURDOCK LONGITUDE: -88.124881 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.760814 DATE COLLECTED: 4 / 20 / 1971

SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 244.5 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 74 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.0			UNCONSOLIDATED	9.0	0.0	
632.0			UNCONSOLIDATED	167.0	9.0	
465.0	CARBONDALE	ENERGY	SILTY SHALE	32.5	176.0	
432.5	CARBONDALE	ENERGY	SILTY SHALE	26.6	208.5	W/SIDERITE BANDS
405.9	CARBONDALE	HERRIN	COAL	7.6	235.1	
398.3	CARBONDALE		LIMESTONE W/ SHALE	1.8	242.7	LIME IN CONG.

MAPID: 04121808000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 7 QUARTERS/FOOTAGES: 18' S line, 465' W line of SW

QUADRANGLE: VILLA GROVE LONGITUDE: -88.137485

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.754015

DATE COLLECTED: 8 / 4 / 1971

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 244.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 97

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	3.0	0.0	
637.0				5.0	3.0	
632.0			SANDY CLAY	126.5	8.0	GRAY
505.5	CARBONDALE		CALCAREOUS SHALE	3.5	134.5	
502.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.5	138.0	
490.5	CARBONDALE	ENERGY	SANDY SHALE	25.5	149.5	
465.0	CARBONDALE	ENERGY	SILTY SHALE	20.0	175.0	
445.0	CARBONDALE	ENERGY	SILTY SHALE	2.8	195.0	W/SIDERITE
442.2	CARBONDALE	HERRIN	COAL	2.0	197.8	UPPER BENCH
440.2	CARBONDALE	ENERGY	SILTY SHALE	2.1	199.8	
438.1	CARBONDALE	ENERGY	SHALE	12.6	201.9	INTERBEDDED SH & SS
425.5	CARBONDALE	ENERGY	SHALE & SANDSTONE	22.1	214.5	
403.4	CARBONDALE	ENERGY	SHALE	0.1	236.6	
403.3	CARBONDALE		BONE COAL	0.0	236.7	
403.2	CARBONDALE	HERRIN	COAL	4.4	236.8	
398.8	CARBONDALE		UNDERCLAY	1.3	241.2	
397.6	CARBONDALE		CALCAREOUS SHALE	1.6	242.4	

MAPID: 04121861000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 8 QUARTERS/FOOTAGES: 59' S line, 16' E line of SE SW

QUADRANGLE: MURDOCK LONGITUDE: -88.110872

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.753886

DATE COLLECTED: 2 / 18 / 1972

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 251.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 150

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	8.0	0.0	
635.0			UNCONSOLIDATED	183.3	8.0	
451.7	CARBONDALE	ENERGY	SILTY SHALE	4.8	191.3	
447.0	CARBONDALE	ENERGY	SANDY SHALE	42.3	196.0	
404.7	CARBONDALE	ENERGY	SILTY SHALE	2.4	238.3	
402.2	CARBONDALE	ENERGY	SILTY SHALE	3.0	240.8	W/SIDERITE
399.2	CARBONDALE	ENERGY	SHALE	2.4	243.8	
396.8	CARBONDALE	HERRIN	COAL	3.8	246.2	
393.0	CARBONDALE		UNDERCLAY	1.0	250.0	

MAPID: 04121617000C VERSION: 1 PROJECT: ISGS96

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 9 QUARTERS/FOOTAGES: 30' S line, 25' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.101158 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.75392 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 249.5 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY PG-22 WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
639.0			UNCONSOLIDATED	169.0	0.0
470.0			ROCK	75.0	169.0
395.0	CARBONDALE	HERRIN	COAL	5.5	244.0

MAPID: 04121617000C VERSION: 2 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 9 QUARTERS/FOOTAGES: 30' S line, 25' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.101158 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.75392 DATE COLLECTED: 9 / 0 / 1971

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 447.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PG-22 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-				-	NO COALPICKS
-				-	NO COAL PICKS

MAPID: 04121768000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 9 QUARTERS/FOOTAGES: 236' N line, 524' E line of NE NE

QUADRANGLE: MURDOCK LONGITUDE: -88.084773 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.767808 DATE COLLECTED: 2 / 26 / 1971

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 253.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 58 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	12.0	0.0	
627.0			CLAY	9.0	12.0	GRAY
618.0			CLAY & GRAVEL	14.0	21.0	
604.0			SAND & GRAVEL	6.0	35.0	
598.0			CLAY & GRAVEL	70.0	41.0	
528.0	MODESTO		SANDSTONE	2.0	111.0	
526.0	MODESTO		SHALE	21.0	113.0	
505.0	MODESTO		SHALE	2.8	134.0	
502.2	CARBONDALE	DANVILLE	COAL	1.5	136.8	
500.7	CARBONDALE		UNDERCLAY	7.3	138.3	
493.5	CARBONDALE		CALCAREOUS SHALE	1.5	145.5	
492.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.8	147.0	
485.2	CARBONDALE	ENERGY	SANDY SHALE	71.2	153.8	THICKNESS ADJ TO MATCH LOG DEPTHS
414.0	CARBONDALE	ENERGY	SANDY SHALE	19.0	225.0	
395.0	CARBONDALE	HERRIN	COAL	7.0	244.0	
388.0	CARBONDALE		UNDERCLAY	2.0	251.0	W/LIME CHUNKS

MAPID: 04121774000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 9 QUARTERS/FOOTAGES: 41' S line, 72' W line of SW SW

QUADRANGLE: MURDOCK LONGITUDE: -88.100992 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.753951 DATE COLLECTED: 3 / 11 / 1971

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 253.5 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 64 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	4.0	0.0	
635.0			CLAY	8.0	4.0	BROWN
627.0			CLAY & GRAVEL	10.0	12.0	GRAY/GRN
617.0			CLAY & GRAVEL	123.0	22.0	GRAY
494.0			CLAY	8.0	145.0	W/COAL & WOOD
486.0			CLAY	15.5	153.0	
470.5	CARBONDALE	ENERGY	SILTY SHALE	9.5	168.5	
461.0	CARBONDALE	HERRIN	COAL	1.0	178.0	UPPER BENCH
460.0	CARBONDALE	ENERGY	SILTY SHALE	12.0	179.0	
448.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	23.6	191.0	STRIPPED
424.4	CARBONDALE	ENERGY	SHALE	4.8	214.6	THICKNESS ADJ TO MATCH LOG DEPTHS
419.6	CARBONDALE	ENERGY	SHALE	0.6	219.4	
419.0	CARBONDALE	ENERGY	SHALE	25.0	220.0	W/BROWN SIDERITE
394.0	CARBONDALE	ENERGY	SHALE	0.8	245.0	STRIPPED
393.2	CARBONDALE	HERRIN	COAL	4.4	245.8	
388.8	CARBONDALE		UNDERCLAY	3.3	250.2	

MAPID: 04121775000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 9 QUARTERS/FOOTAGES: 45' N line, 41' W line of NW SW

QUADRANGLE: MURDOCK LONGITUDE: -88.101181 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.76102 DATE COLLECTED: 4 / 6 / 1971

SURFACE ELEVATION (FT.): 637.0 LOGGED (FT.): 245.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 65 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.0			UNCONSOLIDATED	4.0	0.0	
633.0			CLAY	172.5	4.0	
460.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	15.5	176.5	
445.0	CARBONDALE	ENERGY	SANDSTONE	44.4	192.0	
400.6	CARBONDALE	ENERGY	SHALE	0.3	236.4	
400.3	CARBONDALE	HERRIN	COAL	6.1	236.7	
394.2	CARBONDALE		UNDERCLAY	2.3	242.8	

MAPID: 04121379000C VERSION: 1 PROJECT: NCRDS99

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 10 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.07355 GEOLOGIST: J MCBETH

CONFIDENTIAL: N LATITUDE: 39.761203 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 228.8 LOG TYPE: Company Sample Study

SOURCE: ZIEGLER COAL CO. 230 WELL TYPE: Coal Test

COMMENT: FROM AMCO COAL QUALITY DATA

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	223.0	0.0	
-	CARBONDALE	HERRIN	COAL	5.8	223.0	

MAPID: 04121381000C VERSION: 1 PROJECT: NCRDS99

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 10 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.07355 GEOLOGIST: J MCBETH

CONFIDENTIAL: N LATITUDE: 39.761203 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 229.8 LOG TYPE: Company Sample Study

SOURCE: ZEIGLER COAL CO. 232 WELL TYPE: Coal Test

COMMENT: FROM AMCO COAL QUALITY DATA

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	224.0	0.0	
-	CARBONDALE	HERRIN	COAL	5.8	224.0	

MAPID: 04121776000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 10 QUARTERS/FOOTAGES: 1' S line, 614' E line of SW NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.071093 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.761203 DATE COLLECTED: 4 / 5 / 1971
 SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 231.3 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 66 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	4.0	0.0	
635.0			CLAY	47.0	4.0	
588.0	MODESTO		SHALE	3.0	51.0	WEATHERED
585.0	MODESTO		SILTY SHALE	8.0	54.0	
577.0	MODESTO		CALCAREOUS SHALE	3.5	62.0	FOSSIL
573.5	MODESTO		COAL	0.3	65.5	
573.2	MODESTO		SILTY SHALE	4.7	65.8	THICKNESS ADJ TO MATCH LOG DEPTHS
568.5	MODESTO	PIASA	LIMESTONE	2.0	70.5	
566.5	MODESTO		SHALE	11.5	72.5	MULTI
555.0			SILTY SHALE	25.5	84.0	
529.5			LIMESTONE	0.5	109.5	
529.0			SHALE	9.0	110.0	MULTI
520.0	CARBONDALE		SILTY SHALE	7.5	119.0	
512.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	126.5	
507.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	26.5	131.5	
481.0	CARBONDALE	ENERGY	SANDY SHALE	14.0	158.0	STRIPPED
467.0	CARBONDALE	ENERGY	SANDY SHALE	26.0	172.0	
441.0	CARBONDALE	ENERGY	SANDSTONE	1.5	198.0	CALCARIOUS
439.5	CARBONDALE	ENERGY	SANDY SHALE	6.0	199.5	STRIPPED
433.5	CARBONDALE	ENERGY	SILTY SHALE	20.4	205.5	W/SIDERITE
413.1	CARBONDALE	HERRIN	COAL	5.4	225.9	

MAPID: 04121184000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 11 QUARTERS/FOOTAGES: 56' S, 474' E, NW/c NW SW
 QUADRANGLE: MURDOCK LONGITUDE: -88.052402 GEOLOGIST: LOG BOOK
 CONFIDENTIAL: N LATITUDE: 39.763037 DATE COLLECTED: 10 / 16 / 1974
 SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 221.0 LOG TYPE: Survey Core Study
 SOURCE: ZEIGLER COAL CO. 206 WELL TYPE: Coal Test
 COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.5	SHELBURN	DANVILLE	COAL	1.5	149.5	
426.7	CARBONDALE	HERRIN	COAL	6.3	203.3	

MAPID: 04121618000C VERSION: 1 PROJECT: ISGS96

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 11 QUARTERS/FOOTAGES: 90' S line, 195' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.063577 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.7541 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 622.0 LOGGED (FT.): 232.0 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY PG-23 WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
622.0			UNCONSOLIDATED	22.0	0.0
600.0			ROCK	204.0	22.0
396.0	CARBONDALE	HERRIN	COAL	6.0	226.0

MAPID: 04121618000C VERSION: 2 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 11 QUARTERS/FOOTAGES: 90' S line, 195' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.063577 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.7541 DATE COLLECTED: 10 / 0 / 1971

SURFACE ELEVATION (FT.): 622.0 LOGGED (FT.): 448.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PG-23 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-				-	NO COAL PICKS
-				-	NO COAL PICKS

MAPID: 04121714000C VERSION: 1 PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 11 QUARTERS/FOOTAGES: NW NW SW SE

QUADRANGLE: MURDOCK LONGITUDE: -88.054185 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.757066 DATE COLLECTED:

SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 234.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 5 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
648.0			CLAY	15.0	0.0	
633.0			SAND & GRAVEL	20.0	15.0	
613.0	MODESTO		SOFT SHALE	18.0	35.0	
595.0	MODESTO	PIASA	LIMESTONE	4.0	53.0	
591.0			SANDY SHALE	55.0	57.0	
536.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	112.0	
531.0	CARBONDALE	ENERGY	SHALE	28.5	117.0	
502.5	CARBONDALE	HERRIN	COAL	1.0	145.5	UPPER SPLIT OF SEAM
501.5	CARBONDALE	ENERGY	SANDY SHALE	65.5	146.5	
436.0	CARBONDALE	HERRIN	COAL	5.5	212.0	#6 COAL SEAM
430.5	CARBONDALE		SHALE	15.0	217.5	
415.5	CARBONDALE	SPRINGFIELD	COAL	1.5	232.5	

MAPID: 04121924000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 11 QUARTERS/FOOTAGES: 1' S line, 1' E line of NE NW

QUADRANGLE: MURDOCK LONGITUDE: -88.054768 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.764877 DATE COLLECTED: 3 / 25 / 1975

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 219.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 214 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	4.0	0.0	
635.0			CLAY	11.0	4.0	BROWN
624.0			CLAY	38.0	15.0	W/OC GRAVEL; GRAY
586.0			SHALE	6.0	53.0	MULTI
580.0			SHALE	2.0	59.0	GRN/GRY
578.0			SHALE	11.0	61.0	MULTI
567.0			SHALE	33.0	72.0	GRN/GRY
534.0	CARBONDALE		SILTY SHALE	9.0	105.0	
525.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	114.0	
521.0	CARBONDALE	ENERGY	SANDY SHALE	34.0	118.0	
487.0	CARBONDALE	ENERGY	SILTY SHALE	8.0	152.0	W/SS
479.0	CARBONDALE	ENERGY	SANDSTONE	16.5	160.0	CORE STARTS 160"
462.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	28.5	176.5	
434.0	CARBONDALE	ENERGY	SHALE	3.9	205.0	W/SIDERITE
430.1	CARBONDALE	HERRIN	COAL	7.0	208.9	
423.2	CARBONDALE		UNDERCLAY	2.2	215.8	
421.0	CARBONDALE		CALCAREOUS SHALE	1.0	218.0	

MAPID: 04122476000C VERSION: 1 PROJECT: NCRDS99

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 11 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.054768 GEOLOGIST: J MCBETH

CONFIDENTIAL: N LATITUDE: 39.7612 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 244.0 LOG TYPE: Company Sample Study

SOURCE: ZEIGLER COAL CO. 248 WELL TYPE: Coal Test

COMMENT: FROM AMCO COAL QUALITY DATA

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	239.0	0.0	
-	CARBONDALE	HERRIN	COAL	5.0	239.0	

MAPID: 041HCSOPG23 VERSION: 1

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 11 QUARTERS/FOOTAGES: 300' S line, 250' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.063375 GEOLOGIST: C.TREWORY

CONFIDENTIAL: N LATITUDE: 39.754677 DATE COLLECTED: 2 / 0 / 1974

SURFACE ELEVATION (FT.): LOGGED (FT.): 232.0 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY NO.PG-23 WELL TYPE: Coal Test

COMMENT: IGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	20.0	0.0	
-	CARBONDALE		ROCK	206.0	20.0	
-	CARBONDALE	HERRIN	COAL	6.0	226.0	

MAPID: 04100033000C VERSION: 1

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 12 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: MURDOCK LONGITUDE: -88.027601 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.767735 DATE COLLECTED: 1 / 0 / 1945

SURFACE ELEVATION (FT.): LOGGED (FT.): 153.6 LOG TYPE: Survey Core Study

SOURCE: BELL & ZOLLER COAL CO. 19 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	-	153.8	NO THICKNESS GIVEN
-	CARBONDALE	HERRIN	COAL	-	153.8	NO THICKNESS GIVEN

MAPID: 04100033000C **VERSION:** 2 **PROJECT:** ISGS88
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 12 **QUARTERS/FOOTAGES:** NE NE NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.027601 **GEOLOGIST:** SROKA
CONFIDENTIAL: N **LATITUDE:** 39.767735 **DATE COLLECTED:** 1 / 0 / 1945
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 153.8 **LOG TYPE:** Drillers Log
SOURCE: BELL AND ZOLLER COAL CO. **WELL TYPE:** Coal Test
COMMENT: CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	76.0	0.0	
-	CARBONDALE	ENERGY	CALCAREOUS SILTSTONE	3.7	76.0	
-	CARBONDALE	ENERGY	SHALE	2.0	79.7	
-	CARBONDALE	ENERGY	SILTSTONE & SHALE	7.0	81.7	
-	CARBONDALE	ENERGY	SILTY SHALE	2.9	88.7	
-	CARBONDALE	ENERGY	SANDSTONE	6.2	91.6	DRK. GRAY SH LAMINAE UPPER 1 FOOT
-	CARBONDALE	ENERGY	SANDSTONE/SHALE	25.6	97.8	
-	CARBONDALE	ENERGY	SILTSTONE	1.6	123.3	WITH 3 BANDS OF COALY DEBRIS
-	CARBONDALE	ENERGY	SILTSTONE & SHALE	6.6	124.9	
-	CARBONDALE	ENERGY	CARBONACEOUS SHALE	4.3	131.5	
-	CARBONDALE	ENERGY	CARBONACEOUS SHALE	16.1	135.8	WITH OCCASSIONAL SLTST LAMINAE
-	CARBONDALE	ENERGY	SHALE	1.9	151.9	
-	CARBONDALE	HERRIN	COAL	0.0	153.8	T.D.; TOP OF COAL, NO THICKNESS GIVEN

MAPID: 04100063000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 12 **QUARTERS/FOOTAGES:** 1500' S line, 1310' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.031007 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.758143 **DATE COLLECTED:** 3 / 25 / 1952
SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 192.0 **LOG TYPE:** Survey Core Study
SOURCE: PAUL WEIR COMPANY 4 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
461.4	CARBONDALE	HERRIN	COAL	3.6	176.6	

MAPID: 04121185000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 12 **QUARTERS/FOOTAGES:** 417' S, 509' E, NW/c SW NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.044226 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.760761 **DATE COLLECTED:** 10 / 15 / 1974
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 194.9 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 205 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
512.0	SHELBURN	DANVILLE	COAL	3.0	118.0
450.8	CARBONDALE	HERRIN	COAL	5.5	179.2

MAPID: 04121619000C **VERSION:** 1 **PROJECT:** ISGS96
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 12 **QUARTERS/FOOTAGES:** 30' S line, 90' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.026603 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.754135 **DATE COLLECTED:** 0 / 0 / 1976
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 186.0 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY PH-26 **WELL TYPE:** Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
646.0			UNCONSOLIDATED	38.0	0.0
608.0			ROCK	142.0	38.0
466.0	CARBONDALE	HERRIN	COAL	6.0	180.0

MAPID: 04121619000C **VERSION:** 2 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 12 **QUARTERS/FOOTAGES:** 30' S line, 90' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.026603 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.754135 **DATE COLLECTED:** 10 / 0 / 1971
SURFACE ELEVATION (FT.): 646.0 **LOGGED (FT.):** 446.0 **LOG TYPE:** Electric Log
SOURCE: HYDROCARBON SURVEY PH-26 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-				-	NO COAL PICKS
-				-	NO COAL PICKS

MAPID: 04121885000C
VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS
TWP/RNG: 15N 10E
SECTION: 12

QUADRANGLE: MURDOCK
LONGITUDE: -88.031036
GEOLOGIST: C TREWORGY

CONFIDENTIAL: N
LATITUDE: 39.757646
DATE COLLECTED: 3 / 24 / 1952

SURFACE ELEVATION (FT.): 638.0
LOGGED (FT.): 191.8
LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 172
WELL TYPE: Coal Test

COMMENT: LOG SAYS "SE 1/4 N OF CENTER OF SE 1/4"

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.0			UNCONSOLIDATED	4.0	0.0	
634.0			CLAY	6.0	4.0	
628.0			SAND & GRAVEL	65.0	10.0	
563.0	CARBONDALE	ENERGY	SHALE	7.0	75.0	
556.0	CARBONDALE	ENERGY	SILTY SHALE	50.0	82.0	
506.0	CARBONDALE	ENERGY	SANDY SHALE	6.1	132.0	
499.9	CARBONDALE	ENERGY	SANDY SHALE	16.5	138.1	BLEEDING OIL
483.4	CARBONDALE	ENERGY	SANDY SHALE	5.0	154.6	
478.4	CARBONDALE	ENERGY	SHALY SANDSTONE	1.1	159.6	GRN/GRAY
477.3	CARBONDALE	ENERGY	SHALY SANDSTONE	1.0	160.7	GRY
476.3	CARBONDALE	ENERGY	SILTY SHALE	4.6	161.7	
471.7	CARBONDALE	ENERGY	SHALE	10.5	166.3	PYRITIC
461.2	CARBONDALE	HERRIN	COAL	3.4	176.8	
457.8	CARBONDALE		UNDERCLAY	3.2	180.2	GRAY
454.7	CARBONDALE		SHALY LIMESTONE	0.4	183.3	BRN/GRAY
454.2	CARBONDALE		SHALE	2.4	183.8	GRN/GRAY
451.8	CARBONDALE		LIMESTONE	0.2	186.2	SHALELY
451.7	CARBONDALE		SHALE	2.8	186.3	GRN/GRAY
448.8	CARBONDALE		SHALY LIMESTONE	0.2	189.2	BRN/GRAY
448.7	CARBONDALE		SHALE	0.8	189.3	
447.9	CARBONDALE		SHALY LIMESTONE	0.3	190.1	
447.7	CARBONDALE		SHALE	1.4	190.3	

MAPID: 04121902000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 12 QUARTERS/FOOTAGES: 453' N line, 36' W line of NW SW NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.035713 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.763692 DATE COLLECTED: 5 / 20 / 1974
 SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 171.3 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 189 WELL TYPE: Coal Test
 COMMENT: ALSO SEE OLD COUNTY#21209 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.0			UNCONSOLIDATED	12.0	0.0	
629.0			SANDY CLAY	26.5	12.0	
602.5			CLAY	32.0	38.5	OC GRAVEL
570.5			CLAY	2.0	70.5	GREEN
568.5	CARBONDALE	BANKSTON FORK	LIMESTONE	2.5	72.5	
566.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	75.0	CORE STARTS @ 75'
564.2	CARBONDALE	ENERGY	SANDSTONE	7.7	76.8	W/OC SH SEAMS
556.6	CARBONDALE	ENERGY	SILTY, SANDY SHALE	6.8	84.4	W/SS
549.7	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.5	91.3	
549.2			SILTY, SANDY SHALE	36.8	91.8	W/SS
512.4	CARBONDALE	ENERGY	SILTY, SANDY SHALE	7.7	128.6	W/SIDERITE
504.7	CARBONDALE	HERRIN	COAL	1.6	136.3	UPPER BENCH
503.1	CARBONDALE	ENERGY	UNDERCLAY	0.5	137.9	W/HALIN COAL SEAMS; GRAY
502.7	CARBONDALE	ENERGY	SILTY SHALE	24.2	138.3	W/SIDERITE
478.5	CARBONDALE	HERRIN	COAL	6.0	162.5	
472.5	CARBONDALE		CLAYSTONE	1.7	168.5	GRAY
470.8	CARBONDALE		SHALE & CONGLOMERATE	1.1	170.2	

MAPID: 041HCSOPH26Z VERSION: 1

PROJECT: CGT-MISC

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 12 QUARTERS/FOOTAGES: 200' S line, 200' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.027001 GEOLOGIST: C.TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.754598 DATE COLLECTED: 2 / 0 / 1974
 SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Company map
 SOURCE: HYDROCARBON SURVEY NO.PH-26 WELL TYPE: Coal Test
 COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	38.0	0.0	
-			ROCK	142.0	38.0	
-	CARBONDALE	HERRIN	COAL	6.0	180.0	

MAPID: 04122496000C VERSION: 1 PROJECT: NCRDS99

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 13 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.035594 GEOLOGIST: J MCBETH

CONFIDENTIAL: N LATITUDE: 39.746785 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 193.7 LOG TYPE: Company Sample Study

SOURCE: ZEIGLER COAL CO. 239 WELL TYPE: Coal Test

COMMENT: FROM AMCO COAL QUALITY DATA

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	189.0	0.0	
-	CARBONDALE	HERRIN	COAL	4.7	189.0	

MAPID: 04100061000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 14 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: MURDOCK LONGITUDE: -88.063056 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.752962 DATE COLLECTED: 3 / 0 / 1952

SURFACE ELEVATION (FT.): 628.0 LOGGED (FT.): 235.0 LOG TYPE: Survey Core Study

SOURCE: PAUL WEIR COAL CO 2 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
402.7	CARBONDALE	HERRIN	COAL	1.8	225.3	

MAPID: 04100061000C VERSION: 2

PROJECT: ISGS88

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 14 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: MURDOCK LONGITUDE: -88.063056 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.752962 DATE COLLECTED: 3 / 15 / 1952

SURFACE ELEVATION (FT.): 628.0 LOGGED (FT.): 235.0 LOG TYPE: Drillers Log

SOURCE: PAUL WEIR WELL TYPE: Coal Test

COMMENT: DRILLERS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
628.0			UNCONSOLIDATED	86.0	0.0	
542.0	MODESTO		SANDY SHALE	14.3	86.0	
527.7	MODESTO		SHALE	3.3	100.3	
524.4	MODESTO		SHALE	2.4	103.6	
522.0	MODESTO		SHALE	0.6	106.0	
521.4	CARBONDALE		SHALE	3.7	106.6	
517.7	CARBONDALE		SHALE	0.7	110.3	WITH LS NODULES IRON STAINED
517.1	CARBONDALE		CLAYSTONE & SILTSTONE	3.4	110.9	
513.7	CARBONDALE	BANKSTON FORK	SILTY LIMESTONE	12.0	114.3	
501.7	CARBONDALE	ENERGY	SANDY SHALE	9.1	126.3	
492.6	CARBONDALE	ENERGY	SILTY SHALE	21.0	135.4	
471.6	CARBONDALE	ENERGY	SHALE	4.9	156.4	
466.7	CARBONDALE	ENERGY	BLACK SHALE	0.3	161.3	
466.3	CARBONDALE		BONE COAL	0.3	161.7	JAMESTOWN OR SPLIT OF HERRIN
466.0	CARBONDALE	ENERGY	SHALE	3.0	162.0	
463.0	CARBONDALE	ENERGY	SILTY SHALE	16.5	165.0	
446.5	CARBONDALE	ENERGY	SANDY SHALE	2.5	181.5	
444.0	CARBONDALE	ENERGY	SHALE	25.7	184.0	
418.3	CARBONDALE	ENERGY	BLACK SHALE	0.8	209.7	
417.5	CARBONDALE	ENERGY	SHALE	14.8	210.5	
402.7	CARBONDALE	HERRIN	COAL	1.8	225.3	
400.9	CARBONDALE		UNDERCLAY	7.9	227.1	

MAPID: 04121883000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 500' W line of NW

QUADRANGLE: MURDOCK LONGITUDE: -88.062487 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.75385 DATE COLLECTED: 3 / 15 / 1952

SURFACE ELEVATION (FT.): 628.0 LOGGED (FT.): 235.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 170 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
628.0			UNCONSOLIDATED	6.0	0.0	
622.0			CLAY	14.0	6.0	
608.0			SAND & GRAVEL	50.0	20.0	
558.0			SHALE	16.0	70.0	
542.0			SANDY SHALE	14.3	86.0	
527.7			SHALE	3.3	100.3	GRN/GRY
524.4			SHALE	2.4	103.6	GRY/BRN
522.0			SHALE	4.3	106.0	MOTTLED W/YELLOW & RED; GRN/GRY
517.7			SHALE	0.7	110.3	LS NODULES
517.1	CARBONDALE		UNDERCLAY	3.4	110.9	GRY
513.7	CARBONDALE	BANKSTON FORK	SHALY LIMESTONE	12.0	114.3	GRY
501.7	CARBONDALE	ENERGY	SANDY SHALE	9.1	126.3	
492.6	CARBONDALE	ENERGY	SHALE	21.0	135.4	
471.6	CARBONDALE	ENERGY	SHALE	4.9	156.4	
466.7	CARBONDALE	ENERGY	SHALE	0.3	161.3	PYRITIC; GRY/BLK
466.3	CARBONDALE	HERRIN	BONE COAL	0.2	161.7	UPPER BENCH
466.2	CARBONDALE	HERRIN	COAL	0.2	161.8	UPPER BENCH
466.0	CARBONDALE	ENERGY	SHALE	3.0	162.0	GRY
463.0	CARBONDALE	ENERGY	SILTY SHALE	16.5	165.0	
446.5	CARBONDALE	ENERGY	SANDY SHALE	2.5	181.5	
444.0	CARBONDALE	ENERGY	SHALE	25.7	184.0	GRY
418.3	CARBONDALE	ENERGY	SHALE	0.8	209.7	GRY/BLK
417.5	CARBONDALE	ENERGY	SHALE	14.8	210.5	GRY
402.7	CARBONDALE	HERRIN	COAL	1.8	225.3	
400.9	CARBONDALE		UNDERCLAY	7.9	227.1	SLICKERSIDED

MAPID: 04121979000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 16 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.091865

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.746657

DATE COLLECTED: 8 / 7 / 1989

SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 281.2

LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8916

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1119497.23N-570521.74E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0			CLAY	14.0	0.0	UNITS 1 THRU 13 FROM DRILLER'S LOG; TAN
618.0			SANDY CLAY	16.0	14.0	GRAY
602.0			SANDY CLAY	76.0	30.0	GRAY
526.0	MODESTO	WEST FRANKLIN	LIMESTONE	2.0	106.0	
524.0	MODESTO		SHALE	12.0	108.0	
512.0	MODESTO		SHALE	12.0	120.0	GRY
500.0			SHALE	7.0	132.0	GRY
493.0			SHALE	5.0	139.0	BRN
488.0	CARBONDALE		SHALE	11.0	144.0	
477.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.5	155.0	
470.5	CARBONDALE	ENERGY	SHALY SANDSTONE	18.5	161.5	
452.0	CARBONDALE	ENERGY	SHALE	20.0	180.0	
432.0	CARBONDALE	ENERGY	SHALE	57.0	200.0	
375.0	CARBONDALE	ENERGY	SANDY SHALE	5.9	257.0	UNITS 14-31 FROM CORE/SLIGHTLY MICACEOUS
369.1	CARBONDALE	ENERGY	SIDERITE	0.1	262.9	BRN
369.1	CARBONDALE	ENERGY	SILTY SHALE	3.7	262.9	ONE SIDERITE NODULE ARENACEOUS STREAKS
365.4	CARBONDALE	ENERGY	SIDERITE	0.1	266.6	BRN
365.3	CARBONDALE	ENERGY	SILTY SHALE	0.6	266.7	
364.8	CARBONDALE	ENERGY	SHALE	6.1	267.2	W/SIDERITE NODULES
358.7	CARBONDALE	ENERGY	SHALE	0.2	273.3	GRY
358.4	CARBONDALE	ENERGY	BLACK SHALE	0.0	273.6	
358.4	CARBONDALE	HERRIN	COAL	0.3	273.6	
358.1	CARBONDALE	HERRIN	SHALE	0.1	273.9	
358.0	CARBONDALE	HERRIN	COAL	2.2	274.0	W/RASHY BANDS
355.9	CARBONDALE	HERRIN	SHALE	0.1	276.1	GRY
355.8	CARBONDALE	HERRIN	COAL	0.4	276.2	ONE RASHY ZONE
355.4	CARBONDALE	HERRIN	SHALE	0.0	276.6	GRY
355.4	CARBONDALE	HERRIN	COAL	0.1	276.6	ONE BONEY BAND/SMALL PYRITE BANDS
355.2	CARBONDALE		SHALE	0.5	276.8	SLICKENSIDED
354.7	CARBONDALE		SHALE	1.1	277.3	SLICKENSIDED
353.7	CARBONDALE		CALCAREOUS SHALE	2.9	278.3	LIMESTONE NODULES

MAPID: 04121821000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 17 QUARTERS/FOOTAGES: 11' S line, 9' E line
 QUADRANGLE: OAKLAND LONGITUDE: -88.100894 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.739364 DATE COLLECTED: 9 / 21 / 1972
 SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 275.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 110 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0			UNCONSOLIDATED	13.5	0.0	
626.5			UNCONSOLIDATED	156.0	13.5	
470.5	CARBONDALE	ENERGY	SANDY SHALE	19.8	169.5	
450.7	CARBONDALE	ENERGY	SHALE	0.3	189.3	
450.4	CARBONDALE	HERRIN	COAL	0.5	189.6	UPPER BENCH
450.0	CARBONDALE		UNDERCLAY	1.9	190.0	
448.0	CARBONDALE	ENERGY	SANDY SHALE	53.5	192.0	THICKNESS ADJ TO MATCH LOG DEPTHS
394.5	CARBONDALE	ENERGY	SILTY SHALE	4.6	245.5	W/SIDERITE
390.0	CARBONDALE	ENERGY	SHALE	0.2	250.0	
389.7	CARBONDALE	ENERGY	SILTY SHALE	9.0	250.3	
380.7	CARBONDALE	ENERGY	SILTY SHALE	8.3	259.3	THICKNESS ADJ TO MATCH LOG DEPTHS
372.5	CARBONDALE	ENERGY	SILTY SHALE	2.3	267.5	
370.2	CARBONDALE	ENERGY	SHALE	5.2	269.8	

MAPID: 04121976000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 18 QUARTERS/FOOTAGES:
 QUADRANGLE: HINDBORO LONGITUDE: -88.129523 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.746373 DATE COLLECTED: 8 / 3 / 1989
 SURFACE ELEVATION (FT.): 638.0 LOGGED (FT.): 280.0 LOG TYPE: Gamma Ray Density
 SOURCE: AMCO-IL #AM-8914 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.0			UNCONSOLIDATED	178.0	0.0	
460.0	CARBONDALE	ENERGY	SHALE	79.0	178.0	W/SIDERITE
381.0	CARBONDALE	HERRIN	COAL	3.4	257.0	EXPANDED SCALE LOG 245- 270
377.6	CARBONDALE	HERRIN	SHALE	0.1	260.4	
377.5	CARBONDALE	HERRIN	COAL	0.6	260.5	
376.9	CARBONDALE		UNDERCLAY	8.9	261.1	
368.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	270.0	
366.0	CARBONDALE	SPRINGFIELD	COAL	3.0	272.0	
363.0	CARBONDALE		UNDERCLAY	5.0	275.0	

MAPID: 04121820000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 20 QUARTERS/FOOTAGES: 73' N line, 65' E line
 QUADRANGLE: OAKLAND LONGITUDE: -88.101088 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.739132 DATE COLLECTED: 9 / 15 / 1971
 SURFACE ELEVATION (FT.): 637.0 LOGGED (FT.): 271.7 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 109 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.0			UNCONSOLIDATED	9.0	0.0	
628.0			UNCONSOLIDATED	126.0	9.0	THICKNESS ADJ TO MATCH LOG DEPTHS
502.0	CARBONDALE		SHALE	10.3	135.0	MULTI
491.7	CARBONDALE	BANKSTON FORK	LIMESTONE	7.8	145.3	
484.0	CARBONDALE	ENERGY	SANDY SHALE	24.4	153.0	W/ST. SEAMS (?)
459.5	CARBONDALE	ENERGY	SHALE	9.8	177.5	
449.7	CARBONDALE	HERRIN	COAL	0.3	187.3	UPPER BENCH
449.4	CARBONDALE	ENERGY	SANDY SHALE	10.4	187.6	THICKNESS ADJ TO MATCH LOG DEPTHS
439.0	CARBONDALE	ENERGY	SANDY SHALE	8.5	198.0	W/SIDERITE BANDS
430.5	CARBONDALE	ENERGY	SANDSTONE	13.5	206.5	
417.0	CARBONDALE	ENERGY	SHALE	22.5	220.0	SDY SLTY
394.5	CARBONDALE	ENERGY	SILTY SHALE	3.6	242.5	W/SIDERITE BANDS
391.0	CARBONDALE	ENERGY	SHALE	1.0	246.0	W/1/2" SIDERITE
390.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	7.1	247.0	W/SIDERITE
382.8	CARBONDALE	ENERGY	SILTY SHALE	9.8	254.2	W/SIDERITE BANDS
373.0	CARBONDALE	ENERGY	SHALE	0.1	264.0	
373.0	CARBONDALE	HERRIN	COAL	4.3	264.0	
368.7	CARBONDALE		UNDERCLAY	0.7	268.3	
368.0	CARBONDALE		LIMESTONE W/ SHALE	2.7	269.0	LS IS CONGLOMERATE

MAPID: 04121822000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 20 **QUARTERS/FOOTAGES:** 36' N line, 48' W line
QUADRANGLE: OAKLAND **LONGITUDE:** -88.11974 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.739048 **DATE COLLECTED:** 9 / 22 / 1971
SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 266.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 111 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.0			UNCONSOLIDATED	11.0	0.0	
627.0			UNCONSOLIDATED	168.0	11.0	
459.0	CARBONDALE	ENERGY	SANDY SHALE	2.0	179.0	
457.0	CARBONDALE	ENERGY	SANDY SHALE	61.5	181.0	W/SS
395.5	CARBONDALE	ENERGY	SILTY SHALE	2.0	242.5	W/SIDERITE
393.4	CARBONDALE	ENERGY	SHALE	0.6	244.6	
392.8	CARBONDALE	ENERGY	SILTY SHALE	12.5	245.2	W/SIDERITE BANDS
380.3	CARBONDALE	HERRIN	COAL	4.2	257.7	
376.2	CARBONDALE		UNDERCLAY	1.8	261.8	
374.4	CARBONDALE		LIMESTONE W/ SHALE	2.4	263.6	LIME IS CONGLOMERATE

MAPID: 04100060000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 22 **QUARTERS/FOOTAGES:** 580' N line, 1800' E line of NE
QUADRANGLE: OAKLAND **LONGITUDE:** -88.070214 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.737971 **DATE COLLECTED:** 3 / 13 / 1952
SURFACE ELEVATION (FT.): 623.1 **LOGGED (FT.):** 260.0 **LOG TYPE:** Survey Core Study
SOURCE: PAUL WEIR COMPANY 1 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
387.6	SHELBURN	DANVILLE	COAL	-	235.5	THICKNESS GIVEN- BK SH HORIZON
387.6	CARBONDALE	HERRIN	COAL	-	235.5	NO THICKNESS GIVEN

MAPID: 04121882000C **VERSION:** 1 **PROJECT:** ISGS 90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 22 **QUARTERS/FOOTAGES:** NW NE
QUADRANGLE: OAKLAND **LONGITUDE:** -88.069996 **GEOLOGIST:** M VANKO
CONFIDENTIAL: N **LATITUDE:** 39.737586 **DATE COLLECTED:** 3 / 13 / 1952
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 260.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 169 **WELL TYPE:** Coal Test
COMMENT: MISSING COORDINATES, LOC FROM TOPO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
620.0	PLEISTOCENE		CLAY	2.0	10.0	YLW
618.0	PLEISTOCENE		SAND	11.0	12.0	GRY
607.0	PLEISTOCENE		UNCONSOLIDATED	31.2	23.0	SANDY GRY
575.9	SHELBURN		COAL	0.2	54.1	
575.7	SHELBURN		GRAY SHALE	11.7	54.3	
564.0	SHELBURN		SILTY SHALE	6.3	66.0	GRY
557.7	SHELBURN		SHALE	3.0	72.3	GRN GRY
554.7	SHELBURN		FOSSILIFEROUS SHALE	5.0	75.3	BRN GRY
549.7	SHELBURN		SHALE	2.5	80.3	SLICKENSIDED PRPL GRY
547.2	SHELBURN		GRAY SHALE	4.7	82.8	
542.6	SHELBURN		FOSSILIFEROUS SHALE	1.3	87.4	GRY, CALCAREOUS NODULES
541.3	SHELBURN		GRAY SHALE	0.3	88.7	
541.0	SHELBURN		COAL	0.1	89.0	PYRITIC
540.9	SHELBURN		UNDERCLAY	2.8	89.1	GRN GRY
538.1	SHELBURN		CLAYSTONE	2.0	91.9	GRN GRY CALC NODULES
536.1	SHELBURN		SHALY LIMESTONE	2.1	93.9	GRN GRY
534.0	SHELBURN		CLAYSTONE	0.6	96.0	
533.4	SHELBURN		SHALE	1.1	96.6	GRN GRY
532.3	SHELBURN		SHALE	1.6	97.7	GRN GRY RUST MOTTLED
530.7	SHELBURN		SHALE	0.8	99.3	GRN GRY
530.0	SHELBURN		SHALE	0.3	100.0	BRN W/ NODULES
529.7	SHELBURN		SHALE	0.3	100.3	GRN GRY
529.3	SHELBURN		SILTY SHALE	9.3	100.7	GRN GRY
520.0	SHELBURN		SILTY SHALE	17.8	110.0	GRN GRY MICACEOUS
502.2	SHELBURN		SHALE	2.4	127.8	GRY BRN
499.7	SHELBURN		SHALE	1.7	130.3	YLW MOTTLED W/ RED&GREEN
498.1	SHELBURN		SHALE	2.3	131.9	GRN MOTTLED W/ YLW&RED
495.7	SHELBURN		CALCAREOUS SHALE	0.3	134.3	GRY CARB LAMINATIONS
495.4	SHELBURN		UNDERCLAY	0.4	134.6	GRY COAL FRAGMENTS
495.0	SHELBURN		SHALE	3.0	135.0	PRPL GRY
492.0	SHELBURN		SHALE	1.1	138.0	GRN GRY
490.9	SHELBURN		GRAY SHALE	1.1	139.1	REDDISH FERRUGINOUS INCLUSIONS
489.8	SHELBURN		GRAY SHALE	0.5	140.2	
489.3	SHELBURN		SHALY LIMESTONE	2.9	140.7	BRN GRY
486.5	SHELBURN		SHALE	0.3	143.5	GRN GRY
486.2	SHELBURN		SILTY, SANDY SHALE	19.2	143.8	GRN GRY
467.0	SHELBURN		SILTY SHALE	14.0	163.0	W/ BROWN LENSES

453.0	SHELBURN	SHALY SANDSTONE	1.3	177.0	GRN GRY CARB/FOSSILS AND LENSES
451.7	SHELBURN	SILTY SHALE	2.3	178.3	W/ GRY LAMINATIONS
449.3	SHELBURN	SANDY SHALE	2.0	180.7	W/ GRY LAMINATIONS
447.3	SHELBURN	SHALY SANDSTONE	28.3	182.7	GRN GRY W/ BLK SHALEY LAMINATIONS
419.0	SHELBURN	SILTY SHALE	4.7	211.0	W/ GRY LAMINATIONS
414.3	SHELBURN	SHALY LIMESTONE	0.7	215.7	GRN GRY
413.6	SHELBURN	SILTY SHALE	19.1	216.4	GRY
394.5	SHELBURN	SHALE	0.8	235.5	BLK
393.7	SHELBURN	SANDY SHALE	16.8	236.3	GRN GRY BLACK SHALEY LAMINATIONS
377.0	SHELBURN	SILTY SHALE	7.0	253.0	GRY

MAPID: 04122435000C **VERSION:** 1 **PROJECT:** ISGS96
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 22 **QUARTERS/FOOTAGES:** SE SE SE
QUADRANGLE: OAKLAND **LONGITUDE:** -88.064831 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.726011 **DATE COLLECTED:** 0 / 0 / 1976
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 293.1 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY 77-C-2 **WELL TYPE:** Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCONSOLIDATED	114.0	0.0
-			ROCK	175.0	114.0
-	CARBONDALE	HERRIN	COAL	4.1	289.0

MAPID: 04121983000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 23 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.05424 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.73236 DATE COLLECTED: 8 / 14 / 1989

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 283.0 LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8926 WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1117430.40N-578407.96E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			CLAY	1.0	0.0	UNITS 1 THRU 15 FROM DRILLER'S LOG; BLAC
642.0			CLAY	13.0	1.0	TAN
629.0			CLAY	18.0	14.0	GRAY
611.0				6.0	32.0	
605.0			CLAY	21.0	38.0	GRAY
584.0	MODESTO		SHALE	3.0	59.0	
581.0	MODESTO		SHALE	8.0	62.0	
573.0	MODESTO		SHALE	13.0	70.0	
560.0	MODESTO	WEST FRANKLIN	LIMESTONE	3.0	83.0	
557.0	MODESTO		SHALE	12.0	86.0	MIX
545.0	MODESTO		SANDY SHALE	4.0	98.0	
541.0	MODESTO		CALCAREOUS SANDSTONE	1.0	102.0	
540.0			SHALE	26.0	103.0	
514.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	129.0	
509.0	CARBONDALE	ENERGY	SANDSTONE	20.0	134.0	
489.0	CARBONDALE	ENERGY	SHALE	23.0	154.0	UNITS 16 THRU 27 FROM CORE
466.0	CARBONDALE	ENERGY	SANDSTONE	3.0	177.0	
463.0	CARBONDALE	ENERGY	SHALE	32.0	180.0	
431.0	CARBONDALE	ENERGY	SANDSTONE	10.0	212.0	
421.0	CARBONDALE	ENERGY	SHALE	19.0	222.0	
402.0	CARBONDALE	ENERGY	SHALE	6.6	241.0	
395.4	CARBONDALE	ENERGY	SHALE	0.0	247.6	
395.4	CARBONDALE	HERRIN	COAL	3.3	247.6	W/RASHY BANDS PYRITE LENSES; MIX
392.1	CARBONDALE	HERRIN	SHALE	0.0	250.9	
392.0	CARBONDALE	HERRIN	COAL	0.8	251.0	MIX
391.3	CARBONDALE		SHALE	1.3	251.7	SLICKERSIDED
390.0	CARBONDALE		SHALE	2.5	253.0	W/LIMESTONE NODULES

MAPID: 04121620000C

VERSION: 1

PROJECT: ISGS96

COUNTY: DOUGLAS

TWP/RNG: 15N 10E

SECTION: 24

QUARTERS/FOOTAGES: 615' S line, 240' W line

QUADRANGLE: OAKLAND

LONGITUDE: -88.043769

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N

LATITUDE: 39.726779

DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 670.0

LOGGED (FT.): 230.2

LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY

PH-27

WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
670.0			UNCONSOLIDATED	50.0	0.0
620.0			ROCK	176.0	50.0
444.0	CARBONDALE	HERRIN	COAL	4.2	226.0

MAPID: 04121620000C

VERSION: 2

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 15N 10E

SECTION: 24

QUARTERS/FOOTAGES: 615' S line, 240' W line

QUADRANGLE: OAKLAND

LONGITUDE: -88.043769

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.726779

DATE COLLECTED: 10 / 0 / 1971

SURFACE ELEVATION (FT.): 670.0

LOGGED (FT.): 438.2

LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY

PH-27

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-				-	NO COAL PICKS
-				-	NO COAL PICKS

MAPID: 04121887000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 24 QUARTERS/FOOTAGES: 20' N line, 1' E line of NE

QUADRANGLE: OAKLAND LONGITUDE: -88.025904 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.739553 DATE COLLECTED: 4 / 2 / 1952

SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 214.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 174 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			UNCONSOLIDATED	4.0	0.0	
646.0			CLAY	8.0	4.0	
638.0			SAND & GRAVEL	68.0	12.0	
570.0			SHALE	43.7	80.0	
526.3	CARBONDALE		SHALY LIMESTONE	0.3	123.7	GRAY
526.1	CARBONDALE		SHALE	5.9	123.9	
520.2	CARBONDALE		LIMESTONE	0.2	129.8	NOTE SAYS "CONCRETION"; BRN/GRAY
520.0	CARBONDALE		SHALE	3.2	130.0	
516.8	CARBONDALE		CLAYSTONE	0.3	133.2	GRAY
516.5	CARBONDALE		LIMESTONE	0.1	133.5	NOTE SAYS "CONCRETION"
516.4	CARBONDALE		CLAYSTONE	0.3	133.6	
516.2	CARBONDALE		SHALE	0.3	133.8	
515.8	CARBONDALE		LIMESTONE	0.1	134.2	NOTE SAYS "CONCRETION"
515.7	CARBONDALE		SHALE	0.3	134.3	
515.4	CARBONDALE		CLAYSTONE	0.8	134.6	GRAY
514.6	CARBONDALE	ENERGY	SHALE	6.8	135.4	
507.8	CARBONDALE	ENERGY	SILTY SHALE	18.8	142.2	
489.0	CARBONDALE	ENERGY	SANDY SHALE	11.3	161.0	MICACEOUS/SHALEY LAMINATIONS
477.7	CARBONDALE	ENERGY	SILTY SHALE	14.2	172.3	THICKNESS ADJ TO MATCH LOG DEPTHS
463.5	CARBONDALE	ENERGY	SANDY SHALE	15.5	186.5	
448.0	CARBONDALE	ENERGY	SHALE	6.8	202.0	
441.2	CARBONDALE	HERRIN	COAL	3.8	208.8	THICKNESS ADJ TO MATCH LOG DEPTHS
437.4	CARBONDALE		UNDERCLAY	1.4	212.6	GRN/GRAY

MAPID: 04121982000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 25 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND

LONGITUDE: -88.035295

GEOLOGIST: M VANCO

CONFIDENTIAL: N

LATITUDE: 39.717777

DATE COLLECTED: 8 / 8 / 1989

SURFACE ELEVATION (FT.): 683.0

LOGGED (FT.): 419.0

LOG TYPE: Multiple log types

SOURCE: AMCO-IL AM-8919

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1108677.25N-581653.34E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
683.0			CLAY	1.5	0.0	UNITS 1 THRU 14 FROM DRILLER'S LOG; BROW
681.5			CLAY	12.5	1.5	TAN
669.0			CLAY	21.0	14.0	GRAY
648.0			SAND & GRAVEL	3.0	35.0	
645.0			CLAY	117.0	38.0	GRAY
528.0			CLAY	2.0	155.0	GRAY
526.0	CARBONDALE		SHALE	7.0	157.0	
519.0	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	164.0	
515.0	CARBONDALE	ENERGY	SANDY SHALE	32.0	168.0	
483.0	CARBONDALE	ENERGY	SHALE	30.5	200.0	
452.5	CARBONDALE	HERRIN	COAL	0.3	230.5	UPPER BENCH OF COAL
452.2	CARBONDALE	ENERGY	SHALE	7.2	230.8	
445.0	CARBONDALE	ENERGY	SHALY SANDSTONE	10.0	238.0	
435.0	CARBONDALE	ENERGY	SHALE	27.0	248.0	
408.0	CARBONDALE	ENERGY	SHALE	0.9	275.0	UNITS 15 THRU 28 FROM CORE
407.1	CARBONDALE	ENERGY	SILTY SHALE	0.5	275.9	CROSSBEDDED
406.6	CARBONDALE	ENERGY	SHALE	4.9	276.4	SIDERITE BANDS
401.8	CARBONDALE	ENERGY	SIDERITE	0.0	281.2	BRN
401.7	CARBONDALE	ENERGY	SHALE	0.4	281.3	
401.3	CARBONDALE	ENERGY	SIDERITE	0.0	281.7	BROWN
401.3	CARBONDALE	ENERGY	SHALE	1.0	281.7	ONE SIDERITE BAND
400.3	CARBONDALE	HERRIN	COAL	2.3	282.7	RASHY BANDS VERTICAL FRACTURE
398.0	CARBONDALE	HERRIN	BONE COAL	0.6	285.0	W/RASHY BANDS
397.4	CARBONDALE	HERRIN	SHALE	0.0	285.6	
397.4	CARBONDALE	HERRIN	COAL	1.0	285.6	RASHY BANDS
396.4	CARBONDALE		SHALE	1.4	286.6	SLICKENSIDED
394.9	CARBONDALE		CALCAREOUS SHALE	0.5	288.1	LS NODULES
394.5	CARBONDALE		CALCAREOUS SHALE	1.5	288.5	
393.0	CARBONDALE		CALCAREOUS SHALE	4.0	290.0	UNITS 29 THRU 39 FROM DRILLER'S LOG
389.0	CARBONDALE		SHALE	3.0	294.0	
386.0	CARBONDALE	TURNER MINE	BLACK SHALE	4.0	297.0	FROM GAMMA LOG
382.0	CARBONDALE		SANDY SHALE	12.0	301.0	
370.0	CARBONDALE		SHALE	14.0	313.0	
356.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	327.0	FROM GAMMA LOG
354.0	CARBONDALE	HOUCHIN CREEK	SHALY COAL	2.0	329.0	FROM DENSITY LOG
352.0	CARBONDALE		SHALE	8.0	331.0	
344.0	CARBONDALE		SANDSTONE	8.0	339.0	
336.0	CARBONDALE		SANDY SHALE	29.0	347.0	

307.0	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.8	376.0	FROM GAMMA LOG
304.2	CARBONDALE	COLCHESTER	COAL	1.2	378.8	FROM DENSITY LOG
303.0	SPOON		SANDY SHALE	39.0	380.0	THICKNESS ADJ TO MATCH LOG DEPTHS
264.0	SPOON		SANDSTONE	4.0	419.0	

MAPID: 04100088000C
VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS
TWP/RNG: 15N 10E
SECTION: 27
QUARTERS/FOOTAGES: NW NW SE

QUADRANGLE: OAKLAND
LONGITUDE: -88.071848
GEOLOGIST: C TREWORGY

CONFIDENTIAL: N
LATITUDE: 39.716711
DATE COLLECTED:

SURFACE ELEVATION (FT.): 649.0
LOGGED (FT.): 392.0
LOG TYPE: Electric Log

SOURCE:
WELL TYPE: Oil and Gas Test

COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	185.0	
391.0	CARBONDALE	HERRIN	COAL	-	258.0	UPPER PARTING OF HERRIN COAL?
341.0	CARBONDALE	HERRIN	COAL	3.0	308.0	
323.0	CARBONDALE	SPRINGFIELD	COAL	-	326.0	
295.0	CARBONDALE	HOUCHIN CREEK	COAL	-	354.0	
257.0	CARBONDALE	COLCHESTER	COAL	-	392.0	

MAPID: 04121621000C
VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS
TWP/RNG: 15N 10E
SECTION: 28
QUARTERS/FOOTAGES: 710' N line, 200' W line

QUADRANGLE: OAKLAND
LONGITUDE: -88.099864
GEOLOGIST: LOG BOOK

CONFIDENTIAL: N
LATITUDE: 39.722866
DATE COLLECTED: 9 / 0 / 1971

SURFACE ELEVATION (FT.): 640.0
LOGGED (FT.): 447.0
LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PH-22
WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04122460000C **VERSION:** 1 **PROJECT:** ISGS96
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: OAKLAND **LONGITUDE:** -88.099418 **GEOLOGIST:** C.TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.72391 **DATE COLLECTED:** 0 / 0 / 1976
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 294.9 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY PH-22 **WELL TYPE:** Coal Test
COMMENT: DATA FROM 1976 COMPANY MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	114.0	0.0	
-			ROCK	176.0	114.0	
-	CARBONDALE	HERRIN	COAL	4.9	290.0	MAP SAYS "5-" FEET OF COAL

MAPID: 04121787000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:** 67' N line, 330' W line of NE SW
QUADRANGLE: OAKLAND **LONGITUDE:** -88.113605 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.71727 **DATE COLLECTED:** 4 / 22 / 1971
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 495.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 77 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	5.0	0.0	
638.0			CLAY	169.2	5.0	
468.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.8	174.2	GRAY
464.0	CARBONDALE	ENERGY	SANDY SHALE	35.0	179.0	
429.0	CARBONDALE	ENERGY	SANDY SHALE	4.5	214.0	W/SIDERITE
424.5	CARBONDALE	ENERGY	SILTY SHALE	13.5	218.5	
411.0	CARBONDALE	ENERGY	SANDY SHALE	13.0	232.0	
398.0	CARBONDALE	ENERGY	SHALE	7.5	245.0	SILTY SANDY
390.5	CARBONDALE	ENERGY	SHALE	0.5	252.5	W/SLATY COAL
390.0	CARBONDALE	ENERGY	SILTY SHALE	43.5	253.0	
346.5	CARBONDALE	HERRIN	COAL	6.7	296.5	
339.8	CARBONDALE		UNDERCLAY/SHALE	5.8	303.2	
334.0	CARBONDALE		SHALE	4.0	309.0	
330.0	CARBONDALE	SPRINGFIELD	COAL	0.8	313.0	
329.2	CARBONDALE		UNDERCLAY/SHALE	2.2	313.8	
327.0	CARBONDALE		SANDY SHALE	52.5	316.0	
274.5	CARBONDALE		SHALE	5.0	368.5	
269.5	CARBONDALE	EXCELLO	BLACK SHALE	1.0	373.5	
268.5	CARBONDALE	HOUCHIN CREEK	COAL	0.5	374.5	
268.0	CARBONDALE		SANDSTONE/SHALE	35.5	375.0	THICKNESS ADJ TO MATCH LOG DEPTHS
232.5	CARBONDALE		SILTY SHALE	9.5	410.5	
223.0	CARBONDALE		SANDY SHALE	8.0	420.0	
215.0	CARBONDALE		SANDSTONE	67.0	428.0	

MAPID: 04121819000C

VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS

TWP/RNG: 15N 10E

SECTION: 29

QUARTERS/FOOTAGES: 77' N line, 413' W line of NW SE

QUADRANGLE: OAKLAND

LONGITUDE: -88.108608

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N

LATITUDE: 39.717258

DATE COLLECTED: 9 / 14 / 1971

SURFACE ELEVATION (FT.): 643.0

LOGGED (FT.): 301.2

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

108

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	14.0	0.0	
629.0			UNCONSOLIDATED	163.0	14.0	
466.0	CARBONDALE	BANKSTON FORK	LIMESTONE	1.7	177.0	
464.3	CARBONDALE	ENERGY	SANDY SHALE	41.3	178.7	THICKNESS ADJ TO MATCH LOG DEPTHS
423.0	CARBONDALE	ENERGY	SILTY SHALE	13.5	220.0	
409.5	CARBONDALE	ENERGY	SANDY SHALE	17.5	233.5	
392.0	CARBONDALE	HERRIN	SHALY COAL	0.2	251.0	UPPER BENCH
391.8	CARBONDALE	ENERGY	SILTY SHALE	38.7	251.2	
353.2	CARBONDALE	ENERGY	SHALE	5.0	289.8	W/SIDERITE BANDS
348.2	CARBONDALE	HERRIN	COAL	4.0	294.8	
344.1	CARBONDALE		UNDERCLAY	0.6	298.9	
343.5	CARBONDALE		LIMESTONE W/ SHALE	1.7	299.5	LS IS CONGLOMERATE

MAPID: 04121972000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 29 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.110081

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.717466

DATE COLLECTED: 8 / 1 / 1989

SURFACE ELEVATION (FT.): 636.0 LOGGED (FT.): 294.0

LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8911

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1108447.74N-560364.97E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
636.0			CLAY	12.0	0.0	UNITS 1-19 FROM DRILLERS LOG; TAN
624.0			CLAY	20.0	12.0	GRY
604.0				1.0	32.0	
603.0			CLAY	31.0	33.0	GRY
572.0			SANDY CLAY	4.0	64.0	GRY
568.0			CLAY	29.0	68.0	GRY
539.0			SAND & GRAVEL	3.0	97.0	
536.0			CLAY	28.0	100.0	GRY
508.0				2.0	128.0	
506.0			CLAY & GRAVEL	24.0	130.0	GRY
482.0				6.0	154.0	
476.0			CLAY	3.5	160.0	GRY
472.5	CARBONDALE		LIMESTONE	0.5	163.5	
472.0	CARBONDALE		SANDY SHALE	4.0	164.0	
468.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.5	168.0	
467.5	CARBONDALE	ENERGY	SANDY SHALE	17.5	168.5	
450.0	CARBONDALE	ENERGY	SHALE	40.0	186.0	GRY
410.0	CARBONDALE	ENERGY	SANDY SHALE	18.0	226.0	
392.0	CARBONDALE	ENERGY	SANDSTONE	18.0	244.0	
374.0	CARBONDALE	ENERGY	ARGILLACEOUS SANDSTONE	4.4	262.0	UNITS 20-30 FROM CORE; GRY
369.6	CARBONDALE	ENERGY	SILTSTONE	1.9	266.4	
367.7	CARBONDALE	ENERGY	SILTSTONE	3.8	268.3	GRY
363.9	CARBONDALE	ENERGY	SILTY SHALE	4.1	272.1	
359.8	CARBONDALE	ENERGY	SHALE	1.4	276.2	W/GRAY SILTY STREAKS; GRY
358.4	CARBONDALE	ENERGY	SHALE	1.4	277.6	GRY
357.0	CARBONDALE	ENERGY	SIDERITE	0.1	279.0	BRN
356.9	CARBONDALE	ENERGY	SHALE	1.6	279.1	GRY
355.3	CARBONDALE	ENERGY	SIDERITE	0.1	280.7	BRN
355.2	CARBONDALE	ENERGY	SHALE	0.5	280.8	GRY
354.7	CARBONDALE	ENERGY	SIDERITE	0.1	281.3	BRN
354.6	CARBONDALE	ENERGY	SHALE	0.6	281.4	GRY
354.1	CARBONDALE	ENERGY	SIDERITE	0.1	281.9	
354.0	CARBONDALE	ENERGY	SHALE	0.7	282.0	GRY
353.3	CARBONDALE	ENERGY	SIDERITE	0.1	282.7	BRN
353.2	CARBONDALE	ENERGY	SHALE	1.0	282.8	GRY
352.3	CARBONDALE	HERRIN	COAL	2.9	283.7	
349.4	CARBONDALE	HERRIN	SHALE	0.1	286.6	GRY
349.3	CARBONDALE	HERRIN	COAL	0.7	286.7	

348.6	CARBONDALE	SHALE	0.7	287.4	HIGHLY SLICKENSIDED; GRY
347.8	CARBONDALE	CALCAREOUS SHALE	3.1	288.2	HIGHLY SLICKENSIDED
344.7	CARBONDALE	CALCAREOUS SHALE	2.8	291.3	W/ABUNDANT LS NODULES

MAPID: 04121980000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 33 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.091493

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.702877

DATE COLLECTED: 8 / 7 / 1989

SURFACE ELEVATION (FT.): 612.0 LOGGED (FT.): 291.2

LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8917

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1108395.43N-570868.68E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
612.0			CLAY	2.0	0.0	UNITS 1 THRU 30 FROM DRILLERS LOG; BRN
610.0			CLAY	6.0	2.0	TAN
604.0			SAND & GRAVEL	26.0	8.0	W/CLAY
578.0	MODESTO		LIMESTONE	6.5	34.0	
571.5	MODESTO		SHALE	1.0	40.5	
570.5	MODESTO		SHALE	1.5	41.5	
569.0	MODESTO		SHALE	7.0	43.0	
562.0	MODESTO		CALCAREOUS SANDSTONE	2.0	50.0	
560.0	MODESTO		SHALE	24.0	52.0	
536.0	MODESTO		SHALE	3.0	76.0	
533.0	MODESTO		SHALE	39.0	79.0	
494.0	MODESTO	WEST FRANKLIN	LIMESTONE	3.0	118.0	
491.0	MODESTO		GREEN SHALE	1.0	121.0	
490.0	MODESTO		SHALE	2.0	122.0	GRY
488.0	MODESTO		SHALE	10.0	124.0	RED/YLW
478.0	MODESTO		SHALE	8.0	134.0	
470.0			SHALE	6.0	142.0	
464.0			CALCAREOUS SILTSTONE	3.0	148.0	
461.0			SHALE	6.0	151.0	RED/YLW
455.0	CARBONDALE		SHALE	8.5	157.0	
446.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.5	165.5	
441.0	CARBONDALE	ENERGY	SANDSTONE	13.0	171.0	
428.0	CARBONDALE	ENERGY	SHALE	6.0	184.0	
422.0	CARBONDALE	ENERGY	SHALE	9.0	190.0	
413.0	CARBONDALE	HERRIN	COAL	0.4	199.0	UPPER BENCH OF COAL
412.6	CARBONDALE	ENERGY	SHALE	29.6	199.4	
383.0	CARBONDALE	ENERGY	COAL	0.1	229.0	
382.9	CARBONDALE	ENERGY	SHALE	5.0	229.1	THICKNESS ADJ TO MATCH LOG DEPTHS
378.0	CARBONDALE	ENERGY	SANDSTONE	8.0	234.0	
370.0	CARBONDALE	ENERGY	SHALE	37.0	242.0	UNIT 3 THRU 42 FROM CORE; GRY
333.0	CARBONDALE	ENERGY	SHALE	0.6	279.0	ONE SIDERITE NODULE
332.4	CARBONDALE	ENERGY	SHALE	0.9	279.6	
331.5	CARBONDALE	HERRIN	COAL	3.0	280.5	RASHY BANDS
328.5	CARBONDALE	HERRIN	BONE COAL	0.2	283.5	
328.3	CARBONDALE	HERRIN	COAL	0.9	283.7	PYRITE BANDS
327.4	CARBONDALE		GREEN SHALE	0.2	284.6	
327.2	CARBONDALE		CALCAREOUS SHALE	0.3	284.8	LS NODULES
326.9	CARBONDALE		LIMESTONE	1.5	285.1	GRY

325.4	CARBONDALE	LIMESTONE	1.9	286.6	THICKNESS ADJ TO MATCH LOG DEPTHS
323.5	CARBONDALE	SHALY LIMESTONE	0.7	288.5	GRAY
322.9	CARBONDALE	CALCAREOUS SHALE	2.1	289.1	LS NODULES
320.8	CARBONDALE	SHALE	1.7	291.2	SLICKERSIDED; GRY

MAPID: 04100011000C VERSION: 1 PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 15N 10E SECTION: 35 QUARTERS/FOOTAGES: 990' W line, 1320' N line

QUADRANGLE: OAKLAND LONGITUDE: -88.061234 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.706671 DATE COLLECTED:

SURFACE ELEVATION (FT.): 665.0 LOGGED (FT.): 340.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
364.0	CARBONDALE	HERRIN	COAL	6.0	301.0	
349.0	CARBONDALE	SPRINGFIELD	COAL	3.0	316.0	
325.0	CARBONDALE	HOUCHIN CREEK	COAL	-	340.0	

MAPID: 04100065000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 11E SECTION: 19 QUARTERS/FOOTAGES: 3975' S line, 1800' E line

QUADRANGLE: OAKLAND LONGITUDE: -88.025903 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.739631 DATE COLLECTED: 4 / 2 / 1952

SURFACE ELEVATION (FT.): 647.1 LOGGED (FT.): 214.0 LOG TYPE: Survey Core Study

SOURCE: PAUL WEIR COMPANY 6 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	UNIT OVERBURDEN	COMMENT
438.3	CARBONDALE	HERRIN	COAL	3.8	208.8	

MAPID: 04121622000C VERSION: 1 PROJECT: ISGS96

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 4 QUARTERS/FOOTAGES: 30' S line, 46' E line of NE NE

QUADRANGLE: NEWMAN LONGITUDE: -87.968863 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.787637 DATE COLLECTED: 0 / 0 / 1976

SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 0.0 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY PC-15 WELL TYPE: Coal Test

COMMENT: DATA FROM 1976 COMPANY MAP

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

MAPID: 04121622000C **VERSION:** 2 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 4 **QUARTERS/FOOTAGES:** 30' S line, 46' E line of NE NE
QUADRANGLE: NEWMAN **LONGITUDE:** -87.968863 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.787637 **DATE COLLECTED:** 5 / 0 / 1971
SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 329.0 **LOG TYPE:** Electric Log
SOURCE: HYDROCARBON SURVEY PC-15 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121769000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 4 **QUARTERS/FOOTAGES:** 47' S line, 62' E line of NE NE
QUADRANGLE: NEWMAN **LONGITUDE:** -87.968923 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.787682 **DATE COLLECTED:** 3 / 22 / 1971
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 165.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 59 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0			CLAY	7.0	0.0	
637.0			SANDY CLAY	32.0	7.0	
605.0			SAND & GRAVEL	6.0	39.0	
599.0			SANDY CLAY	103.0	45.0	
496.0			SHALE	1.0	148.0	
495.0			SHALE	2.4	149.0	CONG W/NODULES
492.6			LIMESTONE	3.8	151.4	THICKNESS ADJ TO MATCH LOG DEPTHS
488.8			SHALE	0.7	155.2	
488.2			COAL	1.3	155.8	
486.8			UNDERCLAY	0.2	157.2	
486.7			CLAYSTONE & SHALE	5.6	157.3	THICKNESS ADJ TO MATCH LOG DEPTHS
481.1			SANDSTONE	2.1	162.9	

MAPID: 04121872000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 4 QUARTERS/FOOTAGES: 45' N line, 44' E line of SW SW
QUADRANGLE: NEWMAN LONGITUDE: -87.982962 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.777978 DATE COLLECTED: 8 / 8 / 1973
SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 200.1 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 160 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0			UNCONSOLIDATED	8.0	0.0	
636.0			UNCONSOLIDATED	151.1	8.0	
484.9			WOOD/CLAY	2.3	159.1	
482.6			UNCONSOLIDATED	1.7	161.4	HERRIN COAL ERODED
480.9			CLAY	33.3	163.1	W/BLACK SLATE
447.6			UNCONSOLIDATED	1.3	196.4	
446.2			SHALE	2.3	197.8	GR

MAPID: 04190002000C VERSION: 1 PROJECT: AVAIL
COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 4 QUARTERS/FOOTAGES: SE SW SE SE
QUADRANGLE: NEWMAN LONGITUDE: -87.971291 GEOLOGIST: LAWSON
CONFIDENTIAL: N LATITUDE: 39.774231 DATE COLLECTED: 8 / 7 / 1973
SURFACE ELEVATION (FT.): 651.0 LOGGED (FT.): 208.0 LOG TYPE: Drillers Log
SOURCE: AMAX 41 WELL TYPE: Coal Test
COMMENT: NEWMAN BOX33

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
651.0	PLEISTOCENE		UNCONSOLIDATED	189.0	0.0	
462.0	CARBONDALE	HERRIN	COAL	1.0	189.0	TOP ERODED
461.0	CARBONDALE		ROCK	18.0	190.0	

MAPID: 04100015000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 5 QUARTERS/FOOTAGES: 1420' S line, 300' W line of NW NE
QUADRANGLE: NEWMAN LONGITUDE: -87.996421 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.791327 DATE COLLECTED:
SURFACE ELEVATION (FT.): 638.0 LOGGED (FT.): 264.5 LOG TYPE: Survey Core Study
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
475.0	CARBONDALE	HERRIN	COAL	7.0	163.0	
450.0	CARBONDALE	SPRINGFIELD	COAL	2.3	188.0	
410.0	CARBONDALE	HOUCHIN CREEK	COAL	3.2	228.0	
376.0	CARBONDALE	COLCHESTER	COAL	2.5	262.0	

MAPID: 04122931000C **VERSION:** 1 **PROJECT:** NCRDS
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 5 **QUARTERS/FOOTAGES:** NW NW NW NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.006272 **GEOLOGIST:** LOUCHIOS
CONFIDENTIAL: N **LATITUDE:** 39.789316 **DATE COLLECTED:** 4 / 15 / 1974
SURFACE ELEVATION (FT.): 636.7 **LOGGED (FT.):** 178.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 188 **WELL TYPE:** Coal Test
COMMENT: NO LOC GIVEN; EST FROM '72 PLAT MAP

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
636.7			UNCONSOLIDATED	12.5	0.0
624.2			CLAY & GRAVEL	33.5	12.5
590.7			SAND & GRAVEL	71.4	46.0
519.3			SILTY SHALE	2.6	117.4
516.7			SANDY SHALE	12.3	120.0
504.4			SILTY SHALE	36.3	132.3
468.1	CARBONDALE	HERRIN	COAL	7.3	168.6
460.8	CARBONDALE		CLAYSTONE	1.3	175.9
459.5	CARBONDALE		CORE LOSS	0.8	177.2

MAPID: 041HCSO0002Z **VERSION:** 1 **PROJECT:** CGT-MISC
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 5 **QUARTERS/FOOTAGES:** 1450' N line, 1300' E line
QUADRANGLE: NEWMAN **LONGITUDE:** -87.992427 **GEOLOGIST:** C.TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.78819 **DATE COLLECTED:** 2 / 0 / 1974
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 170.0 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY, NO COMPANY NUMBER **WELL TYPE:** Coal Test
COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCONSOLIDATED	105.0	0.0
-			ROCK	58.0	105.0
-	CARBONDALE	HERRIN	COAL	7.0	163.0

MAPID: 04121875000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 6 **QUARTERS/FOOTAGES:** 199' S line, 648' W line of SW SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.014016 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.773455 **DATE COLLECTED:** 8 / 14 / 1973
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 128.3 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 163 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	9.0	0.0	
630.0			UNCONSOLIDATED	60.0	9.0	
570.0	CARBONDALE	ENERGY	SANDY SHALE	43.5	69.0	
526.5	CARBONDALE	ENERGY	SILTY SHALE	7.9	112.5	
518.6	CARBONDALE	HERRIN	COAL	7.1	120.4	
511.5	CARBONDALE		UNDERCLAY	0.8	127.5	

MAPID: 04121876000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 6 **QUARTERS/FOOTAGES:** 152' N line, 574' E line of SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.018514 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.782036 **DATE COLLECTED:** 8 / 20 / 1973
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 164.1 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 164 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	15.0	0.0	
624.0			CLAY	48.0	15.0	
576.0			SHALE	34.5	63.0	MULTI
541.5	CARBONDALE	ENERGY	SHALE	32.5	97.5	W/SS; GR
509.0	CARBONDALE	ENERGY	SILTY SHALE	25.2	130.0	
483.8	CARBONDALE	HERRIN	COAL	7.0	155.2	
476.8	CARBONDALE		UNDERCLAY	1.8	162.2	

MAPID: 04100062000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 8 **QUARTERS/FOOTAGES:** 40' N line, 1' W line of NW NW NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.006875 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.772802 **DATE COLLECTED:** 3 / 25 / 1952
SURFACE ELEVATION (FT.): 646.5 **LOGGED (FT.):** 300.0 **LOG TYPE:** Survey Core Study
SOURCE: PAUL WEIR COMPANY 3 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
512.7	CARBONDALE	HERRIN	COAL	8.3	133.8	

MAPID: 04121873000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 8 QUARTERS/FOOTAGES: 34' S line, 21' W line of SW SE

QUADRANGLE: NEWMAN LONGITUDE: -87.996642 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.758532 DATE COLLECTED: 8 / 9 / 1973

SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 115.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 161 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0			UNCONSOLIDATED	7.0	0.0	
648.0			UNCONSOLIDATED	100.1	7.0	
547.9	CARBONDALE	HERRIN	COAL	6.6	107.1	
541.3	CARBONDALE		UNDERCLAY	1.3	113.7	

MAPID: 04121874000C VERSION: 1 PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 8 QUARTERS/FOOTAGES: 166' N line, 55' E line of SE SE

QUADRANGLE: NEWMAN LONGITUDE: -87.987406 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.761889 DATE COLLECTED: 8 / 14 / 1973

SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 106.6 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 162 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0			UNCONSOLIDATED	79.4	0.0	
575.6			UNCONSOLIDATED	4.6	79.4	
571.0	CARBONDALE	ENERGY	SHALE	14.5	84.0	W/SIDERITE; GRY
556.5	CARBONDALE	HERRIN	COAL	6.7	98.5	
549.8	CARBONDALE		UNDERCLAY	1.8	105.2	

MAPID: 04121884000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 8 QUARTERS/FOOTAGES: 40' N line, 1' W line of NW

QUADRANGLE: MURDOCK LONGITUDE: -88.006875 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.772802 DATE COLLECTED: 3 / 21 / 1952

SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 300.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 171 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			CLAY	5.0	0.0	
645.0			SAND & GRAVEL	45.0	5.0	
600.0			UNCONSOLIDATED	5.0	50.0	
595.0	CARBONDALE	ENERGY	SHALE	5.0	55.0	
590.0	CARBONDALE	ENERGY	SHALE	2.0	60.0	SANDY CALC; GRN/GRAY
588.0	CARBONDALE	ENERGY	SANDY SHALE	18.0	62.0	
570.0	CARBONDALE	ENERGY	SANDY SHALE	26.0	80.0	MICACEOUS
544.0	CARBONDALE	ENERGY	SHALE	26.4	106.0	
517.6	CARBONDALE	HERRIN	COAL	7.2	132.4	
510.4	CARBONDALE		UNDERCLAY	3.5	139.6	GRAY
506.9	CARBONDALE		SHALE	5.3	143.1	GRN/GRAY
501.7	CARBONDALE		CALCAREOUS SHALE	0.4	148.3	
501.2	CARBONDALE		SHALE	5.4	148.8	THICKNESS ADJ TO MATCH LOG DEPTHS
495.8	CARBONDALE		SHALE	1.7	154.2	
494.2	CARBONDALE	TURNER MINE	SHALE	0.3	155.8	PYRITIC
493.8	CARBONDALE	SPRINGFIELD	COAL	2.3	156.2	DIRTY PYRITIC VERTICAL CALCITE
491.6	CARBONDALE		UNDERCLAY	3.6	158.4	GRAY
488.0	CARBONDALE		SANDY SHALE	6.8	162.0	CALC NODULES
481.2	CARBONDALE		SHALY LIMESTONE	1.7	168.8	GRAY
479.5	CARBONDALE		SHALE	9.1	170.5	GRN/GRAY
470.4	CARBONDALE		SHALE	11.5	179.6	
458.9	CARBONDALE		CALCAREOUS SHALE	1.3	191.1	
457.7	CARBONDALE		CARBONACEOUS SHALE	2.6	192.3	COAL LAMINATIONS
455.1	CARBONDALE		SHALE	2.3	194.9	
452.8	CARBONDALE	HOUCHIN CREEK	COAL	2.4	197.2	
450.4	CARBONDALE		UNDERCLAY	4.0	199.6	GRAY
446.3	CARBONDALE		SHALE	1.5	203.7	GRN/GRAY
444.8	CARBONDALE		SHALE	3.2	205.2	
441.7	CARBONDALE		SANDY SHALE	2.9	208.3	
438.7	CARBONDALE		SHALE	0.3	211.3	CARBONACEOUS STREAKS
438.6	CARBONDALE		SHALE	14.8	211.4	THICKNESS ADJ TO MATCH LOG DEPTHS
423.8	CARBONDALE		UNKNOWN	0.1	226.2	'CONCRETION"
423.7	CARBONDALE		SHALE	1.6	226.3	
422.2	CARBONDALE		CARBONACEOUS SHALE	1.8	227.8	
420.4	CARBONDALE	SURVANT	COAL	0.6	229.6	
419.8	CARBONDALE	SURVANT	SHALE	0.1	230.2	
419.7	CARBONDALE	SURVANT	COAL	0.3	230.3	
419.4	CARBONDALE		SANDY SHALE	3.3	230.6	CARBONACEOUS LENSES

416.1	CARBONDALE	SHALY SANDSTONE	3.3	233.9	MICACEOUS; GRN/GRAY
412.8	CARBONDALE	SHALE	1.3	237.2	
411.6	CARBONDALE	COAL	0.3	238.4	
411.3	CARBONDALE	CARBONACEOUS SHALE	0.3	238.7	
411.0	CARBONDALE	SANDY SHALE	0.4	239.0	CARBONACEOUS PARTINGS
410.6	CARBONDALE	SHALE	2.0	239.4	
408.6	CARBONDALE	SILTY SHALE	8.1	241.4	LAMINATIONS
400.5	CARBONDALE	SHALE	8.0	249.5	
392.5	CARBONDALE	SHALE	1.1	257.5	GRY/BLK
391.4	CARBONDALE	BONE COAL	0.8	258.6	PYRITIC
390.7		UNDERCLAY	1.8	259.3	PYRITIC, SLICKENSIDED; GRAY
388.9		SHALE	2.5	261.1	GRN/GRY
377.2		NO RECORD	9.3	272.8	GRN/GRAY
376.6		CARBONACEOUS SHALE	0.8	273.4	
375.7		SHALE	1.7	274.3	
374.1		SHALE	3.5	275.9	GRN/GRAY
370.6		SILTY SHALE	20.6	279.4	

MAPID: 04121253000C

VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 15N 14W

SECTION: 16

QUARTERS/FOOTAGES: NE SE SW SW

QUADRANGLE: BROCTON

LONGITUDE: -87.982589

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.745642

DATE COLLECTED: 0 / 0 / 1973

SURFACE ELEVATION (FT.): 655.0

LOGGED (FT.): 105.0

LOG TYPE: Survey Core Study

SOURCE: AMAX C.C. 8

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN		COMMENT
556.2	SHELBURN	DANVILLE	COAL	3.3	98.8	

MAPID: 04121773000C

VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS

TWP/RNG: 15N 14W

SECTION: 16

QUARTERS/FOOTAGES: 853' S line, 233' E line of SE

QUADRANGLE: BROCTON

LONGITUDE: -87.968361

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N

LATITUDE: 39.746747

DATE COLLECTED:

SURFACE ELEVATION (FT.): 662.0

LOGGED (FT.): 600.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

63

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
662.0			UNCONSOLIDATED	5.0	0.0	
657.0			SANDY CLAY	4.0	5.0	
653.0			CLAY	6.0	9.0	GRAY
647.0			SAND & GRAVEL	11.0	15.0	
636.0			CLAY	2.0	26.0	BROWN
634.0			CLAY & GRAVEL	147.0	28.0	
487.0			SILTY SHALE	21.0	175.0	
466.0			SHALE	1.0	196.0	
465.0			SHALY COAL	1.5	197.0	
463.5			UNDERCLAY	10.5	198.5	THICKNESS ADJ TO MATCH LOG DEPTHS
453.0			SANDY SHALE	18.0	209.0	
435.0			SHALE	3.0	227.0	
432.0			COAL	0.5	230.0	
431.5			UNDERCLAY	7.5	230.5	
424.0			SANDY SHALE	17.0	238.0	
407.0			SILTY SHALE	11.0	255.0	W/SIDERITE
396.0			SILTSTONE	59.0	266.0	
337.0			SANDY SHALE	55.0	325.0	
282.0			SILTY SHALE	25.0	380.0	W/HD SEAMS
257.0			SILTSTONE	27.0	405.0	
230.0			CALCAREOUS SANDSTONE	6.0	432.0	
224.0			SANDY SHALE	9.0	438.0	
215.0			SANDSTONE	27.0	447.0	THICKNESS ADJ TO MATCH LOG DEPTHS
188.0			SHALE & SANDSTONE	59.0	474.0	
129.0			SANDSTONE	42.0	533.0	
87.0			SANDY SHALE	25.0	575.0	

MAPID: 04100064000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 17 QUARTERS/FOOTAGES: 220' N line, 10' W line of NW NW NW
QUADRANGLE: MURDOCK LONGITUDE: -88.006276 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.757559 DATE COLLECTED: 3 / 27 / 1952
SURFACE ELEVATION (FT.): 642.1 LOGGED (FT.): 120.0 LOG TYPE: Survey Core Study
SOURCE: PAUL WEIR COMPANY 5 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
531.1	CARBONDALE	HERRIN	COAL	5.6	111.0	

MAPID: 04121886000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 17 QUARTERS/FOOTAGES: 200' N line, 1' W line
QUADRANGLE: MURDOCK LONGITUDE: -88.006311 GEOLOGIST: C TREWORYG
CONFIDENTIAL: N LATITUDE: 39.757614 DATE COLLECTED: 3 / 26 / 1952
SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 120.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 173 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
648.0			UNCONSOLIDATED	4.0	0.0	
644.0			CLAY	8.0	4.0	
636.0			SAND & GRAVEL	43.0	12.0	
593.0	CARBONDALE	ENERGY	SANDSTONE	13.5	55.0	MICACEOUS BLK SHALEY LAMINATIONS; GRN/GR
579.5	CARBONDALE	ENERGY	SANDSTONE	14.3	68.5	MICACEOUS; GRN/GRY
565.2	CARBONDALE	ENERGY	SANDY SHALE	18.8	82.8	W/INTEBEDDED GREENISH SS
546.3	CARBONDALE	ENERGY	SILTY SHALE	4.2	101.7	
542.2	CARBONDALE	ENERGY	SHALE	5.2	105.8	GRY
537.0	CARBONDALE	HERRIN	COAL	6.0	111.0	
531.0	CARBONDALE		UNDERCLAY	1.5	117.0	GRY
529.5	CARBONDALE		CLAYSTONE	1.5	118.5	GRN/GRY

MAPID: 04121984000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 17 **QUARTERS/FOOTAGES:**
QUADRANGLE: NEWMAN **LONGITUDE:** -87.99666 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.751156 **DATE COLLECTED:** 8 / 14 / 1989
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 114.8 **LOG TYPE:** Multiple log types
SOURCE: AMCO-IL #AM-8927 **WELL TYPE:** Coal Test
COMMENT: DRILLERS LOG&CORE 1123438.18N-592099.17E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
653.0			CLAY	9.0	0.0	UNITS 1 THRU 12 FROM DRILLER'S LOG; TAN
644.0			SANDY CLAY	15.0	9.0	GRAY
629.0			GRAVEL	3.0	24.0	
626.0			SANDY CLAY	13.0	27.0	GRAY
613.0			CLAY & GRAVEL	10.0	40.0	GRAY
603.0			GRAVEL	12.0	50.0	
591.0			CLAY	3.0	62.0	
588.0			COAL	0.3	65.0	
587.7	CARBONDALE	ENERGY	SHALE	2.7	65.3	
585.0	CARBONDALE	ENERGY	SHALE & SANDSTONE	5.0	68.0	INTERBEDDED
580.0	CARBONDALE	ENERGY	SANDSTONE	8.0	73.0	
572.0	CARBONDALE	ENERGY	SANDY SHALE	15.0	81.0	
557.0	CARBONDALE	ENERGY	SHALE	4.0	96.0	UNIT 13 THRU 20 FROM CORE
553.0	CARBONDALE	ENERGY	SHALE	1.4	100.0	
551.6	CARBONDALE	ENERGY	SIDERITE	0.1	101.4	BRN
551.5	CARBONDALE	ENERGY	SHALE	7.9	101.5	W/SEVERAL SIDERITIC ZONE
543.6	CARBONDALE	HERRIN	COAL	3.9	109.4	W/NUMEROUS RASHY BANDS
539.7	CARBONDALE	HERRIN	SILTY SHALE	0.0	113.3	
539.7	CARBONDALE	HERRIN	COAL	0.7	113.3	
539.0	CARBONDALE		SHALE	0.8	114.0	GRY/GRN

MAPID: 04100066000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 15N 14W **SECTION:** 20 **QUARTERS/FOOTAGES:** 2680' S line, 3470' E line
QUADRANGLE: BROCTON **LONGITUDE:** -87.999065 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.736567 **DATE COLLECTED:** 4 / 5 / 1952
SURFACE ELEVATION (FT.): 662.7 **LOGGED (FT.):** 147.8 **LOG TYPE:** Drillers Log
SOURCE: PAUL WEIR COMPANY 7 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.0	CARBONDALE	HERRIN	COAL	4.2	139.7	

MAPID: 04121888000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 20 QUARTERS/FOOTAGES: 1' S line, 500' W line of SE NW
 QUADRANGLE: BROCTON LONGITUDE: -87.999428 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.73647 DATE COLLECTED: 4 / 5 / 1952
 SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 147.8 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 175 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.0			UNCONSOLIDATED	4.0	0.0	
656.0			CLAY	8.0	4.0	
648.0			SAND & GRAVEL	28.0	12.0	
620.0			SAND	30.0	40.0	
590.0			SAND & GRAVEL	22.0	70.0	
568.0			BOULDER	0.3	92.0	
567.7			GLACIAL DRIFT	30.7	92.3	GRY
537.0			SAND	4.0	123.0	
533.0			GLACIAL DRIFT	5.0	127.0	GRN/GRY
528.0	CARBONDALE	ENERGY	SHALE	7.7	132.0	GRY
520.3	CARBONDALE	HERRIN	COAL	4.2	139.7	
516.2	CARBONDALE		UNDERCLAY	1.4	143.8	GRN/GRY
514.7	CARBONDALE		UNDERCLAY	2.6	145.3	GRY

MAPID: 04121971000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 21 QUARTERS/FOOTAGES:
 QUADRANGLE: BROCTON LONGITUDE: -87.977078 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.736922 DATE COLLECTED: 8 / 15 / 1989
 SURFACE ELEVATION (FT.): 668.0 LOGGED (FT.): 143.0 LOG TYPE: Multiple log types
 SOURCE: AMCO-IL NO. AM8929 WELL TYPE: Coal Test
 COMMENT: DRILLERS LOG 1118272.25N-598833.62E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
668.0			CLAY	2.0	0.0	ALL UNITS FROM DRILLERS LOG; BRN
666.0			CLAY	12.0	2.0	TAN
654.0			CLAY	6.0	14.0	GRAY
648.0			CLAY	34.0	20.0	GRAY
614.0			SAND & GRAVEL	6.0	54.0	
608.0			CLAY	19.0	60.0	GRAY
589.0			SILT	3.0	79.0	HERRIN COAL ERODED; BRN
586.0			CLAY	36.0	82.0	GRY
550.0			SILT	4.0	118.0	BRN
546.0			SAND & GRAVEL	21.0	122.0	

MAPID: 04121981000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 31 QUARTERS/FOOTAGES:

QUADRANGLE: OAKLAND LONGITUDE: -88.011384

GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.706993

DATE COLLECTED: 8 / 8 / 1989

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 170.1

LOG TYPE: Multiple log types

SOURCE: AMCO-IL #AM-8918

WELL TYPE: Coal Test

COMMENT: DRILLERS LOG&CORE 1110102.83N-592278.18E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.0			CLAY	2.0	0.0	UNITS 1 THRU 12 FROM DRILLER'S LOG; BLK
658.0			CLAY	5.0	2.0	TAN
653.0				2.0	7.0	W/WOOD
651.0			SANDY CLAY	15.0	9.0	GRY
636.0			CLAY & GRAVEL	20.0	24.0	
616.0			CLAY	14.0	44.0	GRAY
602.0			SAND & GRAVEL	9.0	58.0	
593.0			CLAY & GRAVEL	11.0	67.0	
582.0	CARBONDALE	ENERGY	SANDY SHALE	5.0	78.0	
577.0	CARBONDALE	ENERGY	SANDY SHALE	29.0	83.0	
548.0	CARBONDALE	ENERGY	SANDSTONE	22.0	112.0	
526.0	CARBONDALE	ENERGY	SANDY SHALE	21.0	134.0	UNITS 12 THRU 24 FROM CORE
505.0	CARBONDALE	ENERGY	SHALE	2.8	155.0	
502.2	CARBONDALE	ENERGY	CARBONACEOUS SHALE	0.0	157.8	
502.1	CARBONDALE	HERRIN	COAL	3.0	157.9	W/RASHY BANDS
499.1	CARBONDALE	HERRIN	SHALE	0.1	160.9	BONY
499.1	CARBONDALE	HERRIN	COAL	0.9	160.9	
498.2	CARBONDALE		SHALE	0.8	161.8	GRAY/GRN
497.4	CARBONDALE		CALCAREOUS SHALE	0.8	162.6	LS NODULES
496.6	CARBONDALE		LIMESTONE	2.1	163.4	GRY
494.5	CARBONDALE		LIMESTONE	1.0	165.5	GREEN
493.6	CARBONDALE		CALCAREOUS SHALE	0.6	166.4	
493.0	CARBONDALE		LIMESTONE	0.4	167.0	GRY
492.6	CARBONDALE		SHALE	2.7	167.4	LS NODULES; GRY

MAPID: 04100470000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 33 QUARTERS/FOOTAGES: SW SE NW
QUADRANGLE: BROCTON LONGITUDE: -87.979925 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.708357 DATE COLLECTED:
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 203.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
531.0	CARBONDALE	HERRIN	COAL	-	127.0
498.0	CARBONDALE	HOUCHIN CREEK	COAL	-	160.0
455.0	CARBONDALE	COLCHESTER	COAL	-	203.0

MAPID: 04100560000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 15N 14W SECTION: 33 QUARTERS/FOOTAGES: 32' S line, 50' W line of NE
QUADRANGLE: BROCTON LONGITUDE: -87.976164 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.707552 DATE COLLECTED:
SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 227.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
532.0	CARBONDALE	HERRIN	COAL	4.5	123.0
492.0	CARBONDALE	HOUCHIN CREEK	COAL	-	163.0
428.0	CARBONDALE	COLCHESTER	COAL	-	227.0

MAPID: 04100194000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 1 QUARTERS/FOOTAGES: NW NE SW
QUADRANGLE: TUSCOLA LONGITUDE: -88.362166 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.871013 DATE COLLECTED:
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 866.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
232.0	BOND	CARTHAGE	LIMESTONE	8.0	431.0
136.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	527.0
-3.0	CARBONDALE	DANVILLE	COAL	3.0	666.0
-24.0	CARBONDALE	HERRIN	COAL	3.0	687.0
-49.0	CARBONDALE	SPRINGFIELD	COAL	4.0	712.0
-117.0	CARBONDALE	HOUCHIN CREEK	COAL	-	780.0
-203.0	CARBONDALE	COLCHESTER	COAL	-	866.0

MAPID: 04100339000C VERSION: 1

PROJECT: JRH-PIATT

COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 5 QUARTERS/FOOTAGES: NW SE SW
QUADRANGLE: ATWOOD LONGITUDE: -88.43753 GEOLOGIST: HAMILTON
CONFIDENTIAL: N LATITUDE: 39.867143 DATE COLLECTED:
SURFACE ELEVATION (FT.): LOGGED (FT.): 2417.0 LOG TYPE: Electric Log
SOURCE: WARREN WALLACE WELL TYPE: Dry Hole
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	BOND	CARTHAGE	LIMESTONE	9.0	566.0
-	MODESTO	WEST FRANKLIN	LIMESTONE	15.0	677.0
-	CARBONDALE	DANVILLE	COAL	3.5	820.0
-	CARBONDALE	HERRIN	COAL	2.0	838.0
-	CARBONDALE	SPRINGFIELD	COAL	3.5	866.0
-	CARBONDALE	HOUCHIN CREEK	COAL	-	953.0

MAPID: 04100339000C VERSION: 2

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 5 QUARTERS/FOOTAGES: NW SE SW
QUADRANGLE: ATWOOD LONGITUDE: -88.43753 GEOLOGIST: C TREWORYG
CONFIDENTIAL: N LATITUDE: 39.867143 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 1058.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
102.0	BOND	CARTHAGE	LIMESTONE	7.0	568.0
-5.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	675.0
-150.0	CARBONDALE	DANVILLE	COAL	3.0	820.0
-175.0	CARBONDALE	HERRIN	COAL	-	845.0
-197.0	CARBONDALE	SPRINGFIELD	COAL	3.0	867.0
-280.0	CARBONDALE	HOUCHIN CREEK	COAL	-	950.0
-388.0	CARBONDALE	COLCHESTER	COAL	-	1058.0

MAPID: 04100322000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 8 QUARTERS/FOOTAGES: NE SE SW
QUADRANGLE: ATWOOD LONGITUDE: -88.435104 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.852544 DATE COLLECTED:
SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 1078.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
87.0	BOND	CARTHAGE	LIMESTONE	8.0	573.0
-26.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	686.0
-178.0	CARBONDALE	DANVILLE	COAL	-	838.0
-197.0	CARBONDALE	HERRIN	COAL	3.0	857.0
-228.0	CARBONDALE	SPRINGFIELD	COAL	-	888.0
-328.0	CARBONDALE	HOUCHIN CREEK	COAL	-	988.0
-418.0	CARBONDALE	COLCHESTER	COAL	-	1078.0

MAPID: 04100260000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 10 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: ATWOOD LONGITUDE: -88.404889 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.850735 DATE COLLECTED:
SURFACE ELEVATION (FT.): 685.0 LOGGED (FT.): 1036.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
135.0	BOND	CARTHAGE	LIMESTONE	7.0	550.0
18.0	MODESTO	WEST FRANKLIN	LIMESTONE	10.0	667.0
-111.0	CARBONDALE	DANVILLE	COAL	2.5	796.0
-132.0	CARBONDALE	HERRIN	COAL	3.0	817.0
-159.0	CARBONDALE	SPRINGFIELD	COAL	2.0	844.0
-245.0	CARBONDALE	HOUCHIN CREEK	COAL	-	930.0
-351.0	CARBONDALE	COLCHESTER	COAL	-	1036.0

MAPID: 04100918000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 13 QUARTERS/FOOTAGES: NE SW SW
QUADRANGLE: TUSCOLA LONGITUDE: -88.364353 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.837944 DATE COLLECTED:
SURFACE ELEVATION (FT.): 674.0 LOGGED (FT.): 794.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
179.0	BOND	CARTHAGE	LIMESTONE	6.0	495.0
78.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	596.0
-32.0	CARBONDALE	DANVILLE	COAL	-	706.0
-101.0	CARBONDALE	HERRIN	COAL	-	775.0
-120.0	CARBONDALE	SPRINGFIELD	COAL	-	794.0

MAPID: 04100692000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 16 QUARTERS/FOOTAGES: NE NE SW
QUADRANGLE: ATWOOD LONGITUDE: -88.416257 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.841627 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 1079.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
97.0	BOND	CARTHAGE	LIMESTONE	6.0	578.0
-12.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	687.0
-157.0	CARBONDALE	DANVILLE	COAL	2.0	832.0
-180.0	CARBONDALE	HERRIN	COAL	3.0	855.0
-206.0	CARBONDALE	SPRINGFIELD	COAL	2.0	881.0
-295.0	CARBONDALE	HOUCHIN CREEK	COAL	-	970.0
-404.0	CARBONDALE	COLCHESTER	COAL	-	1079.0

MAPID: 04100582000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 19 QUARTERS/FOOTAGES: SE SE NE
QUADRANGLE: ATWOOD LONGITUDE: -88.444186 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.829031 DATE COLLECTED:
SURFACE ELEVATION (FT.): 673.0 LOGGED (FT.): 1119.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
71.0	BOND	CARTHAGE	LIMESTONE	8.0	602.0
-45.0	MODESTO	WEST FRANKLIN	LIMESTONE	8.0	718.0
-199.0	CARBONDALE	DANVILLE	COAL	3.0	872.0
-221.0	CARBONDALE	HERRIN	COAL	2.0	894.0
-252.0	CARBONDALE	SPRINGFIELD	COAL	4.5	925.0
-338.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1011.0
-446.0	CARBONDALE	COLCHESTER	COAL	-	1119.0

MAPID: 04100323000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 21 QUARTERS/FOOTAGES: SW NW NW
QUADRANGLE: ATWOOD LONGITUDE: -88.423099 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.832567 DATE COLLECTED:
SURFACE ELEVATION (FT.): 678.0 LOGGED (FT.): 1087.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
101.0	BOND	CARTHAGE	LIMESTONE	8.0	577.0
-21.0	MODESTO	WEST FRANKLIN	LIMESTONE	9.0	699.0
-163.0	CARBONDALE	DANVILLE	COAL	3.0	841.0
-197.0	CARBONDALE	HERRIN	COAL	4.0	875.0
-221.0	CARBONDALE	SPRINGFIELD	COAL	-	899.0
-302.0	CARBONDALE	HOUCHIN CREEK	COAL	-	980.0
-409.0	CARBONDALE	COLCHESTER	COAL	-	1087.0

MAPID: 04100151000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 16N 7E **SECTION:** 23 **QUARTERS/FOOTAGES:** SW SE SE
QUADRANGLE: TUSCOLA **LONGITUDE:** -88.371531 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.821526 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 679.0 **LOGGED (FT.):** 996.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: #6,#5 OUT, POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
163.0	BOND	CARTHAGE	LIMESTONE	4.0	516.0
53.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	626.0
-61.0	CARBONDALE	DANVILLE	COAL	-	740.0
-247.0	CARBONDALE	HOUCHIN CREEK	COAL	-	926.0
-317.0	CARBONDALE	COLCHESTER	COAL	-	996.0

MAPID: 04100691000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 16N 7E **SECTION:** 25 **QUARTERS/FOOTAGES:** 440' S line, 360' E line of SW NW
QUADRANGLE: TUSCOLA **LONGITUDE:** -88.364438 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.814585 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 663.0 **LOGGED (FT.):** 982.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: #5,#6 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
185.0	BOND	CARTHAGE	LIMESTONE	7.0	478.0
82.0	MODESTO	WEST FRANKLIN	LIMESTONE	4.0	581.0
-10.0	CARBONDALE	DANVILLE	COAL	-	673.0
-279.0	CARBONDALE	HOUCHIN CREEK	COAL	-	942.0
-319.0	CARBONDALE	COLCHESTER	COAL	-	982.0

MAPID: 04100285000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 27 QUARTERS/FOOTAGES: SE SE NW
QUADRANGLE: ATWOOD LONGITUDE: -88.397351 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.814274 DATE COLLECTED:
SURFACE ELEVATION (FT.): 667.0 LOGGED (FT.): 1080.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
92.0	BOND	CARTHAGE	LIMESTONE	8.0	575.0
-25.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	692.0
-168.0	CARBONDALE	DANVILLE	COAL	3.0	835.0
-196.0	CARBONDALE	HERRIN	COAL	4.5	863.0
-218.0	CARBONDALE	SPRINGFIELD	COAL	-	885.0
-306.0	CARBONDALE	HOUCHIN CREEK	COAL	-	973.0
-413.0	CARBONDALE	COLCHESTER	COAL	-	1080.0

MAPID: 04100317000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 28 QUARTERS/FOOTAGES: SE NW NE
QUADRANGLE: ATWOOD LONGITUDE: -88.411629 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.817967 DATE COLLECTED:
SURFACE ELEVATION (FT.): 669.0 LOGGED (FT.): 1089.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
79.0	BOND	CARTHAGE	LIMESTONE	8.0	590.0
-55.0	MODESTO	WEST FRANKLIN	LIMESTONE	9.0	724.0
-185.0	CARBONDALE	DANVILLE	COAL	2.5	854.0
-205.0	CARBONDALE	HERRIN	COAL	-	874.0
-231.0	CARBONDALE	SPRINGFIELD	COAL	4.0	900.0
-316.0	CARBONDALE	HOUCHIN CREEK	COAL	-	985.0
-420.0	CARBONDALE	COLCHESTER	COAL	-	1089.0

MAPID: 04100146000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 29 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: ATWOOD LONGITUDE: -88.4254 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.807163 DATE COLLECTED:
SURFACE ELEVATION (FT.): 669.0 LOGGED (FT.): 1129.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
60.0	BOND	CARTHAGE	LIMESTONE	8.0	609.0
-59.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	728.0
-221.0	CARBONDALE	DANVILLE	COAL	2.5	890.0
-245.0	CARBONDALE	HERRIN	COAL	3.5	914.0
-274.0	CARBONDALE	SPRINGFIELD	COAL	4.0	943.0
-371.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1040.0
-460.0	CARBONDALE	COLCHESTER	COAL	-	1129.0

MAPID: 04100585000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 29 QUARTERS/FOOTAGES: SE SE NW
QUADRANGLE: ATWOOD LONGITUDE: -88.435052 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.814474 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 1111.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
72.0	BOND	CARTHAGE	LIMESTONE	6.0	603.0
-41.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	716.0
-195.0	CARBONDALE	DANVILLE	COAL	2.5	870.0
-221.0	CARBONDALE	HERRIN	COAL	2.0	896.0
-250.0	CARBONDALE	SPRINGFIELD	COAL	4.5	925.0
-331.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1006.0
-436.0	CARBONDALE	COLCHESTER	COAL	-	1111.0

MAPID: 04100141000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 35 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: ATWOOD LONGITUDE: -88.385094 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.792493 DATE COLLECTED:
SURFACE ELEVATION (FT.): 672.0 LOGGED (FT.): 1050.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: #6 OUT, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
106.0	BOND	CARTHAGE	LIMESTONE	7.0	566.0
-133.0	CARBONDALE	DANVILLE	COAL	-	805.0
-215.0	CARBONDALE	SPRINGFIELD	COAL	4.0	887.0
-323.0	CARBONDALE	HOUCHIN CREEK	COAL	-	995.0
-378.0	CARBONDALE	COLCHESTER	COAL	-	1050.0

MAPID: 04100439000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 35 QUARTERS/FOOTAGES: SE NW SE
QUADRANGLE: TUSCOLA LONGITUDE: -88.373461 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.796125 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 1014.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
152.0	BOND	CARTHAGE	LIMESTONE	7.0	523.0
38.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	637.0
-62.0	CARBONDALE	DANVILLE	COAL	-	737.0
-207.0	CARBONDALE	SPRINGFIELD	COAL	3.5	882.0
-283.0	CARBONDALE	HOUCHIN CREEK	COAL	-	958.0
-339.0	CARBONDALE	COLCHESTER	COAL	-	1014.0

MAPID: 04100471000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 36 QUARTERS/FOOTAGES: NE SE NE

QUADRANGLE: TUSCOLA LONGITUDE: -88.35006 GEOLOGIST: R. SMITH

CONFIDENTIAL: N LATITUDE: 39.801635 DATE COLLECTED: 0 / 0 / 1952

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 983.0 LOG TYPE: Drillers Log

SOURCE: JOY DRILL. CO. & NAT'L PETRO-CHEM CORP#1 WELL TYPE: Structure Test

COMMENT: MAY BE INACCURATE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.0			UNCONSOLIDATED	110.0	0.0	
550.0	MATTOON		SHALE	65.0	110.0	TOP OF PENN.
485.0	MATTOON		SANDSTONE	10.0	175.0	
475.0	MATTOON		SHALE	111.0	185.0	
364.0	BOND	MILLERSVILLE	LIMESTONE	4.0	296.0	
360.0	BOND	MILLERSVILLE	SHALE	3.5	300.0	
356.5	BOND	MILLERSVILLE	LIMESTONE	20.5	303.5	
336.0	BOND		SANDSTONE	6.0	324.0	
330.0	BOND		SHALE	18.5	330.0	
311.5	BOND		UNDERCLAY	1.5	348.5	
310.0	BOND		SANDSTONE	35.0	350.0	7' OF CORE LOST
275.0	BOND		SILTSTONE	16.5	385.0	
258.5	BOND		SHALE	2.5	401.5	
256.0	BOND		SANDSTONE	2.0	404.0	
254.0	BOND		SHALE	24.0	406.0	
230.0	BOND		UNDERCLAY	3.0	430.0	
227.0	BOND		SHALE	12.0	433.0	
215.0	BOND		SANDSTONE	30.0	445.0	
185.0	BOND		DARK SHALE	1.5	475.0	
183.5	BOND		COAL	0.2	476.5	
183.3	BOND		UNDERCLAY	1.3	476.7	
182.0	BOND		SHALE	14.0	478.0	
168.0	BOND	CARTHAGE	LIMESTONE	8.0	492.0	UNCERTAIN CORRELATION
160.0	MODESTO		BLACK SHALE	2.0	500.0	
158.0	MODESTO		UNDERCLAY	3.0	502.0	
155.0	MODESTO		SHALE	5.0	505.0	
150.0	MODESTO		LIMESTONE	7.5	510.0	
142.5	MODESTO		SANDSTONE	11.5	517.5	
131.0	MODESTO		SHALE	5.0	529.0	
126.0	MODESTO		DARK SHALE	2.5	534.0	
123.5	MODESTO		LIMESTONE	2.3	536.5	
121.2	MODESTO		COAL	0.6	538.8	MAYBE THE #8 COAL
120.6	MODESTO		UNDERCLAY	1.6	539.4	
119.0	MODESTO		SHALE	14.0	541.0	
105.0	MODESTO		SANDSTONE	32.3	555.0	
72.7	MODESTO		BLACK SHALE	0.7	587.3	
72.0	MODESTO		UNDERCLAY	6.0	588.0	
66.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	594.0	
59.0	MODESTO	WEST FRANKLIN	SHALE	0.5	601.0	

58.5	MODESTO	WEST FRANKLIN	LIMESTONE	2.0	601.5	
56.5	MODESTO		SANDSTONE	1.0	603.5	
55.5	MODESTO		SHALE	20.5	604.5	
35.0	MODESTO		LIMESTONE	0.5	625.0	
34.5	MODESTO		SHALE	1.0	625.5	
33.5	MODESTO		SILTSTONE	25.5	626.5	
8.0	MODESTO		SHALE	36.5	652.0	
-28.5	CARBONDALE	DANVILLE	COAL	0.5	688.5	
-29.0	CARBONDALE		UNDERCLAY	4.0	689.0	
-33.0	CARBONDALE		SANDSTONE	3.0	693.0	
-36.0	CARBONDALE		SANDSTONE	240.5	696.0	HERRIN, SPRINGFIELD CUTOUT BY WALSHVILLE
-276.5	CARBONDALE		CONGLOMERATE	1.5	936.5	
-278.0	CARBONDALE		BLACK SHALE	1.0	938.0	
-279.0	CARBONDALE		SANDSTONE	2.0	939.0	
-281.0	CARBONDALE		SILTSTONE	6.0	941.0	
-287.0	CARBONDALE		SILTY SHALE	16.0	947.0	SILTY SHALE
-303.0	CARBONDALE		SANDSTONE	4.0	963.0	
-307.0	CARBONDALE	SURVANT	COAL	4.0	967.0	
-311.0	CARBONDALE		SHALE	1.0	971.0	
-312.0	CARBONDALE		SANDSTONE	11.0	972.0	

MAPID: 04100727000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 36 QUARTERS/FOOTAGES: 420' N line, 693' E line of NW SE SE

QUADRANGLE: TUSCOLA

LONGITUDE: -88.353715

GEOLOGIST: SROKA

CONFIDENTIAL: N

LATITUDE: 39.794162

DATE COLLECTED: 3 / 0 / 1963

SURFACE ELEVATION (FT.): 682.2

LOGGED (FT.): 431.0

LOG TYPE: Multiple log types

SOURCE: FENIX AND SCISSON INC

WELL TYPE: Structure Test

COMMENT: DRILLERS LOG AND CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
682.2			UNCONSOLIDATED	219.0	0.0	
463.2			CLAYSTONE & SHALE	2.6	219.0	CALCAREOUS
460.6			SILTSTONE	1.0	221.6	
459.6			SANDSTONE	9.2	222.6	
450.4			SHALE	1.1	231.8	
449.3			SHALE	0.8	232.9	
448.5			CLAYSTONE & SHALE	1.9	233.7	WITH SIDERITE NODULES
446.6			SILTSTONE	8.6	235.6	
438.0			SHALE	4.2	244.2	
433.8			SHALE	8.3	248.4	WITH SIDERITE NODULES
425.5			SHALE	3.2	256.7	PERHAPS A BKSH
422.3			COAL	0.2	259.9	
422.1			UNDERCLAY	0.5	260.1	PLANT FRAGS; CALCAREOUS NODULES
421.6			SHALE	19.9	260.6	PYRITE NODULES
401.7			SHALE	4.8	280.5	MARINE FOSSIL NEAR BASE
396.9			COAL	1.3	285.3	
395.6			CLAYSTONE & SHALE	10.4	286.6	PLANT FRAGS; SIDERITE AND PYR. NODULES
385.2			SHALE	25.1	297.0	WITH FEW SIDERITE NODULES
360.1			COAL	1.4	322.1	
358.7			UNDERCLAY	4.8	323.5	PLANT FRAGS; CALCAREOUS NODULES
353.9			SHALE	6.7	328.3	CALC; SID NOD; X-BDD & SLUMPING AT 333.9
347.2			SHALE	3.9	335.0	M. FOSSILS IN LOWER PART
343.3			COAL	0.1	338.9	
343.2			UNDERCLAY	0.7	339.0	PLANT FRAGS
342.5			SHALE	1.8	339.7	
340.7			COAL	0.5	341.5	
340.2			SHALE	4.3	342.0	
335.9			COAL	0.9	346.3	
335.0			UNDERCLAY	3.8	347.2	PLANT FRAGS
331.2			LIMESTONE	28.8	351.0	
302.4			SILTSTONE	8.2	379.8	SANDY
294.2			SILTSTONE	18.2	388.0	FOSSILS NEAR BASE
276.0			COAL	1.2	406.2	
274.8			UNDERCLAY	5.6	407.4	PLANT FRAGS
269.2			SANDSTONE	18.0	413.0	W/CLAY SEAMS; SLUMING AND X-BDD STRUCTS

MAPID: 04100728000C VERSION: 1

PROJECT: ISGS88

COUNTY: DOUGLAS TWP/RNG: 16N 7E SECTION: 36 QUARTERS/FOOTAGES: 285' S line, 45' E line
 QUADRANGLE: TUSCOLA LONGITUDE: -88.349064 GEOLOGIST: SROKA
 CONFIDENTIAL: N LATITUDE: 39.792549 DATE COLLECTED: 0 / 0 / 1964
 SURFACE ELEVATION (FT.): 680.3 LOGGED (FT.): 423.5 LOG TYPE: Drillers Log
 SOURCE: FENIX AND SCISSON, INC. WELL TYPE: Structure Test
 COMMENT: CORE DESCRIPTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
680.3			UNCONSOLIDATED	212.0	0.0	
468.3			CLAYSTONE & SILTSTONE	7.7	212.0	
460.6			CLAYSTONE & SILTSTONE	3.4	219.7	CALCAREOUS
457.2			CORE LOSS	2.0	223.1	
455.2			SANDSTONE	4.4	225.1	SIDERITE BANDS
450.8			SILTSTONE	15.0	229.5	SIDERITE NODULES
435.8			SHALE	4.1	244.5	
431.7			SHALE	0.3	248.6	CARBONACEOUS
431.4			COAL	0.1	248.9	
431.3			SILTSTONE	13.0	249.0	CUT AND FILL, SLUMP STRUCTURES NEAR BASE
418.3			SANDSTONE	0.6	262.0	CALCAREOUS
417.7			SILTSTONE	5.4	262.6	CUT AND FILL, SLUMP STRUCTURES NEAR BASE
412.3			SHALE	5.3	268.0	
407.0			SHALE	0.4	273.3	
406.6			COAL	1.0	273.7	
405.6			CLAYSTONE & SILTSTONE	8.1	274.7	CALCAREOUS LOWER PART, LS LENSES
397.5			CLAYSTONE & SILTSTONE	5.2	282.8	IRREGULAR CALCAREOUS BRN. MASSES
392.3			CLAYSTONE & SILTSTONE	17.2	288.0	
375.1			COAL	1.8	305.2	
373.3			SHALE	0.7	307.0	
372.6			UNCONSOLIDATED	5.6	307.7	
367.0			SHALE	12.6	313.3	
354.4			BLACK SHALE	7.2	325.9	INCLUDES SOME DARK GRAY SH
347.2			COAL	0.7	333.1	
346.5			UNCONSOLIDATED	3.5	333.8	CALC. NODULES
343.0			SHALE	27.5	337.3	SIDERITE NODULES
315.5			SILTSTONE	8.7	364.8	LS BAND 367.7-367.9
306.8			SILTSTONE	15.5	373.5	PLANT FOSSILS
291.3			COAL	1.1	389.0	
290.2			UNCONSOLIDATED	4.9	390.1	PLANT FOSSILS, CALC. LOWER PART
285.3			SANDSTONE	14.0	395.0	X-BDD; A FEW SH AND SLTST BANDS
271.3			SANDSTONE	14.5	409.0	X-BDD AND SLUMP STRUCTURES

MAPID: 04100472000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 16N 8E SECTION: 31 QUARTERS/FOOTAGES: 2368' N line, 3853' W line

QUADRANGLE: TUSCOLA LONGITUDE: -88.335106 GEOLOGIST: R. SMITH

CONFIDENTIAL: N LATITUDE: 39.799437 DATE COLLECTED: 0 / 0 / 1952

SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 781.0 LOG TYPE: Drillers Log

SOURCE: JOY DRILLING CO. WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0			UNCONSOLIDATED	242.0	0.0	
387.0	MATTOON		BLACK SHALE	1.0	242.0	UPPER PENN.
386.0	MATTOON		UNDERCLAY	2.0	243.0	
384.0	MATTOON		SHALE	20.0	245.0	
364.0	MATTOON		SILTSTONE	5.0	265.0	
359.0	MATTOON		SANDSTONE	20.0	270.0	
339.0	MATTOON		SILTSTONE	32.0	290.0	
307.0	MATTOON		COAL	1.5	322.0	
305.5	MATTOON		UNDERCLAY	1.5	323.5	
304.0	MATTOON		SHALE	25.0	325.0	
279.0	MATTOON		BLACK SHALE	8.5	350.0	
270.5	MATTOON		COAL	1.0	358.5	
269.5	MATTOON		SHALE	13.5	359.5	
256.0	MATTOON		LIMESTONE	0.6	373.0	
255.4	MATTOON		SHALE	0.9	373.6	
254.5	MATTOON		BLACK SHALE	1.0	374.5	
253.5	MATTOON		COAL	1.0	375.5	
252.5	MATTOON		BLACK SHALE	7.5	376.5	
245.0	MATTOON		UNDERCLAY	5.0	384.0	
240.0	BOND	MILLERSVILLE	LIMESTONE	27.3	389.0	
212.7	BOND		SILTSTONE	13.7	416.3	
199.0	BOND		SHALE	13.0	430.0	
186.0	BOND		COAL	1.9	443.0	
184.1	BOND		UNDERCLAY	4.1	444.9	
180.0	BOND		SANDSTONE	28.0	449.0	
152.0	BOND		SILTSTONE	8.0	477.0	
144.0	BOND		SHALE	41.0	485.0	
103.0	BOND		BLACK SHALE	2.0	526.0	
101.0	BOND		COAL	0.6	528.0	
100.4	BOND		UNDERCLAY	4.4	528.6	
96.0	BOND		SHALE	3.0	533.0	
93.0	BOND		SILTSTONE	10.0	536.0	
83.0	BOND		SHALE	9.0	546.0	
74.0	BOND		SANDSTONE	19.0	555.0	
55.0	BOND		COAL	1.0	574.0	
54.0	BOND		SHALE	8.0	575.0	
46.0	BOND		LIMESTONE	1.5	583.0	
44.5	BOND	CARTHAGE	SHALE	7.5	584.5	
37.0	BOND		LIMESTONE	6.0	592.0	

31.0	MODESTO		SHALE	1.5	598.0
29.5	MODESTO		BLACK SHALE	2.5	599.5
27.0	MODESTO		UNDERCLAY	2.0	602.0
25.0	MODESTO		SHALE	14.0	604.0
11.0	MODESTO		SANDSTONE	18.0	618.0
-7.0	MODESTO		SILTSTONE	12.6	636.0
-19.6	MODESTO		COAL	0.9	648.6
-20.5	MODESTO		CLAYSTONE & SHALE	4.5	649.5
-25.0	MODESTO		SHALE	6.0	654.0
-31.0	MODESTO		SILTSTONE	4.0	660.0
-35.0	MODESTO		SANDSTONE	9.0	664.0
-44.0	MODESTO		SILTSTONE	14.0	673.0
-58.0	MODESTO		SHALE	14.5	687.0
-72.5	MODESTO		COAL	1.0	701.5
-73.5	MODESTO		UNDERCLAY	3.5	702.5
-77.0	MODESTO		SILTSTONE	9.0	706.0
-86.0	MODESTO		SHALE	8.0	715.0
-94.0	MODESTO	WEST FRANKLIN	LIMESTONE	7.0	723.0
-101.0	MODESTO		SHALE	5.0	730.0
-106.0	MODESTO		CORE LOSS	5.0	735.0
-111.0	MODESTO		GRAY SHALE	6.0	740.0
-117.0	MODESTO		COAL	1.0	746.0
-118.0	MODESTO		UNDERCLAY	12.5	747.0
-130.5	MODESTO		SILTSTONE	21.5	759.5

MAPID: 04100920000C **VERSION:** 1 **PROJECT:** CGT-ECILL
COUNTY: DOUGLAS **TWP/RNG:** 16N 8E **SECTION:** 31 **QUARTERS/FOOTAGES:** SE SW NE
QUADRANGLE: TUSCOLA **LONGITUDE:** -88.33592 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.799762 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 697.0 **LOGGED (FT.):** 1025.0 **LOG TYPE:** Electric Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
111.0	BOND	CARTHAGE	LIMESTONE	4.0	586.0
-11.0	MODESTO	WEST FRANKLIN	LIMESTONE	5.0	708.0
-121.0	CARBONDALE	DANVILLE	COAL	2.0	818.0
-161.0	CARBONDALE	HERRIN	COAL	-	858.0
-183.0	CARBONDALE	SPRINGFIELD	COAL	-	880.0
-255.0	CARBONDALE	HOUCHIN CREEK	COAL	-	952.0
-328.0	CARBONDALE	COLCHESTER	COAL	-	1025.0

MAPID: 04121220000C VERSION: 1

PROJECT: NCRDS87

COUNTY: DOUGLAS TWP/RNG: 16N 8E SECTION: 31 QUARTERS/FOOTAGES: 1235' S line, 571' E line of SW SE

QUADRANGLE: TUSCOLA LONGITUDE: -88.336815 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 39.795175 DATE COLLECTED: 12 / 1 / 1975

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 1453.0 LOG TYPE: Multiple log types

SOURCE: CABOT CORPORATION WELL TYPE: Waste Disposal

COMMENT: 19, 21, 21 (LOG-TYPES)

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
406.0	MATTOON		BLACK SHALE	4.0	284.0	
402.0	MATTOON		UNCLASSIFIED	97.5	288.0	
304.5	MATTOON		COAL WITH SHALE PARTINGS	4.0	385.5	PROBABLE COAL WITH 1.5 FT. PARTING
300.5	MATTOON		UNCLASSIFIED	3.5	389.5	
297.0	BOND	MILLERSVILLE	LIMESTONE	31.0	393.0	
266.0	BOND		UNCLASSIFIED	111.0	424.0	
155.0	BOND		BLACK SHALE	5.0	535.0	
150.0	BOND		UNCLASSIFIED	28.0	540.0	
122.0	BOND		COAL WITH SHALE PARTINGS	8.5	568.0	PROBABLE COAL WITH 2.5 FT. PARTING
113.5	BOND		UNCLASSIFIED	25.5	576.5	
88.0	BOND	CARTHAGE	LIMESTONE	6.0	602.0	
82.0	MODESTO		BLACK SHALE	4.5	608.0	
77.5	MODESTO		UNCLASSIFIED	94.5	612.5	
-17.0	MODESTO		BLACK SHALE	3.0	707.0	
-20.0	MODESTO	WEST FRANKLIN	LIMESTONE	0.0	710.0	
-20.0	MODESTO		UNCLASSIFIED	122.0	710.0	
-142.0	CARBONDALE	DANVILLE	COAL	3.0	832.0	
-145.0	CARBONDALE		UNCLASSIFIED	40.0	835.0	
-185.0	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	8.5	875.0	WITH 3 FT PARTING
-193.5	CARBONDALE		UNCLASSIFIED	17.0	883.5	
-210.5	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	900.5	
-215.5	CARBONDALE	SPRINGFIELD	COAL	0.0	905.5	
-215.5	CARBONDALE		UNCLASSIFIED	69.0	905.5	
-284.5	CARBONDALE	EXCELLO	BLACK SHALE	6.5	974.5	
-291.0	CARBONDALE	HOUCHIN CREEK	COAL	0.0	981.0	
-291.0	CARBONDALE		UNCLASSIFIED	36.0	981.0	
-327.0	CARBONDALE	SURVANT	COAL	7.0	1017.0	
-334.0	CARBONDALE		UNCLASSIFIED	33.0	1024.0	
-367.0	CARBONDALE	MECCA QUARRY	BLACK SHALE	5.0	1057.0	
-372.0	CARBONDALE	COLCHESTER	COAL	0.5	1062.0	PROBABLE
-372.5			UNCLASSIFIED	390.5	1062.5	
-763.0			UNCLASSIFIED	0.0	1453.0	TOP OF MISSISSIPPIAN ??

MAPID: 04100922000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 8E SECTION: 32 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: TUSCOLA LONGITUDE: -88.32885 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.797956 DATE COLLECTED:
SURFACE ELEVATION (FT.): 680.0 LOGGED (FT.): 1036.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
85.0	BOND	CARTHAGE	LIMESTONE	7.0	595.0
-10.0	MODESTO	WEST FRANKLIN	LIMESTONE	4.0	690.0
-127.0	CARBONDALE	DANVILLE	COAL	-	807.0
-170.0	CARBONDALE	HERRIN	COAL	-	850.0
-194.0	CARBONDALE	SPRINGFIELD	COAL	-	874.0
-260.0	CARBONDALE	HOUCHIN CREEK	COAL	-	940.0
-356.0	CARBONDALE	COLCHESTER	COAL	-	1036.0

MAPID: 04100145000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 8E SECTION: 33 QUARTERS/FOOTAGES: NE SW NE
QUADRANGLE: TUSCOLA LONGITUDE: -88.41127 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.80162 DATE COLLECTED:
SURFACE ELEVATION (FT.): 666.0 LOGGED (FT.): 1112.0 LOG TYPE: Electric Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
66.0	BOND	CARTHAGE	LIMESTONE	6.0	600.0
-73.0	MODESTO	WEST FRANKLIN	LIMESTONE	11.0	739.0
-204.0	CARBONDALE	DANVILLE	COAL	3.0	870.0
-225.0	CARBONDALE	HERRIN	COAL	3.0	891.0
-254.0	CARBONDALE	SPRINGFIELD	COAL	4.5	920.0
-344.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1010.0
-446.0	CARBONDALE	COLCHESTER	COAL	-	1112.0

MAPID: 04100086000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 16N 8E SECTION: 34 QUARTERS/FOOTAGES: 990' S line, 330' E line of SW SW
 QUADRANGLE: TUSCOLA LONGITUDE: -88.401731 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.794438 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 667.0 LOGGED (FT.): 1120.0 LOG TYPE: Electric Log
 SOURCE: WELL TYPE: Oil and Gas Test
 COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
64.0	BOND	CARTHAGE	LIMESTONE	6.0	603.0
-65.0	MODESTO	WEST FRANKLIN	LIMESTONE	6.0	732.0
-208.0	CARBONDALE	DANVILLE	COAL	3.0	875.0
-233.0	CARBONDALE	HERRIN	COAL	4.0	900.0
-268.0	CARBONDALE	SPRINGFIELD	COAL	4.0	935.0
-358.0	CARBONDALE	HOUCHIN CREEK	COAL	-	1025.0
-453.0	CARBONDALE	COLCHESTER	COAL	-	1120.0

MAPID: 04121755000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 11 QUARTERS/FOOTAGES: 91' S line, 120' E line
 QUADRANGLE: VILLA GROVE LONGITUDE: -88.142046 GEOLOGIST: BARGH
 CONFIDENTIAL: N LATITUDE: 39.850604 DATE COLLECTED: 3 / 16 / 1971
 SURFACE ELEVATION (FT.): 646.6 LOGGED (FT.): 600.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 45 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
646.6			UNCONSOLIDATED	214.0	0.0
432.6			SILTY SHALE	22.3	214.0
410.3			SHALE	1.4	236.3 DK
408.8			COAL	1.3	237.8
407.6			UNDERCLAY	4.0	239.0 W/LIME NODULES
403.6			SANDSTONE	2.0	243.0 W/LIME NODULES
401.6			SANDY SHALE	25.0	245.0 W/SS SMS
376.6			SILTY, SANDY SHALE	134.0	270.0
242.6			SHALE	26.0	404.0 W/SIDERITE
216.6			CALCAREOUS SANDSTONE	1.0	430.0
215.6			SILTY SHALE	19.0	431.0
196.6			SHALE	30.0	450.0 W/SIDERITE
166.6			SANDY SHALE	70.0	480.0 W/SS SMS
96.6			SHALE	50.0	550.0 GRN/GRAY

MAPID: 04121750000C VERSION: 1 PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' E line

QUADRANGLE: MURDOCK LONGITUDE: -88.122606 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.850627 DATE COLLECTED:

SURFACE ELEVATION (FT.): 664.0 LOGGED (FT.): 173.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 40 WELL TYPE: Coal Test

COMMENT: LOC.: SE CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
664.0			UNCONSOLIDATED	123.3	0.0	
540.7	CARBONDALE	ENERGY	SOFT SHALE	2.2	123.3	
538.5	CARBONDALE	ENERGY	SHALE	21.5	125.5	OILY;W/ SDY BNDS/PTGS; DK GRAY
517.0	CARBONDALE	ENERGY	SHALE	6.0	147.0	HD; OILY; 15 DEGREE PITCH; DK
511.0	CARBONDALE	ENERGY	SHALE	9.0	153.0	15 DEGREE PITCH
502.0	CARBONDALE	ENERGY	SHALE	3.0	162.0	V OILY; BASE 1' CONTAINS MUD PTGS; DK
499.0	CARBONDALE	HERRIN	COAL	6.9	165.0	BELOW AVERAGE QUALITY
492.1	CARBONDALE		UNDERCLAY	1.1	171.9	

MAPID: 04121782000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 12 QUARTERS/FOOTAGES: 312' N line, 2722' E line of NE

QUADRANGLE: VILLA GROVE LONGITUDE: -88.132402 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.864664 DATE COLLECTED: 4 / 19 / 1971

SURFACE ELEVATION (FT.): 659.0 LOGGED (FT.): 310.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 72 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
659.0			UNCONSOLIDATED	11.0	0.0	
648.0			CLAY	230.5	11.0	
417.5			SHALE	17.0	241.5	
400.5			COAL	0.8	258.5	
399.7			UNDERCLAY	3.8	259.3	
395.8			SANDSTONE	12.8	263.2	
383.0			SANDSTONE/SHALE	4.5	276.0	
378.5			SILTY SHALE	4.5	280.5	
374.0			SANDSTONE/SHALE	25.0	285.0	

MAPID: 04121802000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 12 QUARTERS/FOOTAGES: 30' S line, 29' E line of SE
 QUADRANGLE: MURDOCK LONGITUDE: -88.122704 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.850708 DATE COLLECTED: 7 / 20 / 1971
 SURFACE ELEVATION (FT.): 665.0 LOGGED (FT.): 170.6 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 91 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
665.0			UNCONSOLIDATED	111.0	0.0	
554.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	19.0	111.0	
535.0	CARBONDALE	ENERGY	UNKNOWN	5.0	130.0	DRILLERS LOG SAYS "C.P."
530.0	CARBONDALE	ENERGY	SANDY SHALE	8.0	135.0	
522.0	CARBONDALE	ENERGY	SILTY SHALE	20.3	143.0	
501.7	CARBONDALE	ENERGY	SHALE	0.8	163.3	STRIPPED
501.0	CARBONDALE	HERRIN	COAL	6.6	164.0	
494.4	CARBONDALE		UNDERCLAY	0.2	170.6	

MAPID: 04121772000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 13 QUARTERS/FOOTAGES: 28' S line, 1173' E line of NE SW
 QUADRANGLE: VILLA GROVE LONGITUDE: -88.136285 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.839496 DATE COLLECTED: 4 / 7 / 1971
 SURFACE ELEVATION (FT.): 668.0 LOGGED (FT.): 216.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 62 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
668.0			UNCONSOLIDATED	4.0	0.0	
664.0			SANDY CLAY	8.0	4.0	BROWN
656.0			SANDY CLAY	40.0	12.0	GRAY
616.0			SAND & GRAVEL	4.0	52.0	
612.0			SANDY CLAY	133.0	56.0	
479.0			COAL	1.0	189.0	W/BLACK SMUTLY SHALE
478.0			SHALE	5.0	190.0	
473.0			SANDSTONE	0.8	195.0	
472.2			SANDY SHALE	1.3	195.8	
471.0			SHALE	7.4	197.0	
463.6			LIMESTONE	1.2	204.4	
462.4			SHALE	1.3	205.6	GRN/GRAY
461.2			SHALE	3.7	206.8	
457.5			LIMESTONE	0.2	210.5	FOSSIL
457.3			SHALE	0.2	210.7	
457.2			COAL	1.6	210.8	
455.6			UNDERCLAY	3.6	212.4	

MAPID: 04121889000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 9E **SECTION:** 19 **QUARTERS/FOOTAGES:** 1431' N line, 78' E line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.216985 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.831598 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 696.0 **LOGGED (FT.):** 385.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 176 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
696.0			CLAY	8.3	0.0	
687.7			SANDY CLAY	89.2	8.3	BOULDERS
598.5			CLAY	9.0	97.5	BOULDERS; BRN
589.5			UNCONSOLIDATED	73.5	106.5	W/GRAVEL; GRY/GRN
516.0			SANDSTONE	2.3	180.0	
513.7			SANDSTONE	3.3	182.3	GRN/GRY
510.4			SANDY SHALE	1.0	185.6	
509.4			CALCAREOUS SHALE	3.4	186.6	
506.0			SHALE	103.0	190.0	W/SS; GRY
403.0			SANDY SHALE	1.0	293.0	
402.0			CALCAREOUS SHALE	0.7	294.0	
401.3			BLACK SHALE	5.7	294.7	
395.7			SHALE	2.5	300.3	GRY
393.2			SLATY SHALE	18.2	302.8	
375.0			SHALE	2.3	321.0	GRY
372.7			SLATY SHALE	8.8	323.3	
364.0			SHALE	49.0	332.0	GRY
315.0			SANDY LIMESTONE	4.0	381.0	

MAPID: 04121749000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 9E **SECTION:** 23 **QUARTERS/FOOTAGES:** 315' N line, 2255' E line
QUADRANGLE: VILLA GROVE **LONGITUDE:** -88.149494 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.834861 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 233.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 39 **WELL TYPE:** Coal Test
COMMENT: LOC.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0			UNCONSOLIDATED	221.3	0.0	
433.7			SANDSTONE	0.3	221.3	
433.5			COAL	0.3	221.5	
433.2			UNDERCLAY	11.3	221.8	

MAPID: 04121748000C VERSION: 1

PROJECT: VILLAGROVE

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 25 QUARTERS/FOOTAGES: 35' S line, 14' W line

QUADRANGLE: VILLA GROVE LONGITUDE: -88.141218 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.806693 DATE COLLECTED:

SURFACE ELEVATION (FT.): 670.9 LOGGED (FT.): 232.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 38 WELL TYPE: Coal Test

COMMENT: HERRIN COAL ERODED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
670.9			SANDY CLAY	61.0	0.0	BOULDERS
609.9			UNCONSOLIDATED	87.0	61.0	GRAVEL/BOULDERS
522.9			SHALE	2.0	148.0	
520.9			COAL	0.5	150.0	
520.4			CLAY & GRAVEL	2.5	150.5	
517.9			SAND & GRAVEL	56.0	153.0	
461.9			CLAY	2.0	209.0	
459.9			SAND	15.0	211.0	
444.9			CLAY	2.0	226.0	
442.9			SHALE/COAL	1.0	228.0	OILY
441.9			SAND & GRAVEL	1.5	229.0	
440.4			CLAYSTONE	1.5	230.5	

MAPID: 04121783000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 25 QUARTERS/FOOTAGES: 61' N line, 137' W line of NW NE

QUADRANGLE: VILLA GROVE LONGITUDE: -88.131502 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.82109 DATE COLLECTED: 4 / 12 / 1971

SURFACE ELEVATION (FT.): 691.0 LOGGED (FT.): 252.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 73 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
691.0			UNCONSOLIDATED	10.0	0.0	
681.0			UNCONSOLIDATED	242.0	10.0	

MAPID: 04121833000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 34 QUARTERS/FOOTAGES: 58' S line, 88' W line of SW SE

QUADRANGLE: VILLA GROVE LONGITUDE: -88.169073 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.791804 DATE COLLECTED: 10 / 25 / 1971

SURFACE ELEVATION (FT.): 665.0 LOGGED (FT.): 170.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 122 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
665.0			UNCONSOLIDATED	14.0	0.0	
651.0			UNCONSOLIDATED	93.0	14.0	
558.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	55.5	107.0	
502.5	CARBONDALE	HERRIN	COAL	6.1	162.5	
496.4	CARBONDALE		UNDERCLAY	1.4	168.6	

MAPID: 04121852000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 35 QUARTERS/FOOTAGES: 691' N line, 164' W line

QUADRANGLE: VILLA GROVE LONGITUDE: -88.1594 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.804406 DATE COLLECTED: 12 / 22 / 1971

SURFACE ELEVATION (FT.): 657.0 LOGGED (FT.): 201.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 141 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
657.0			UNCONSOLIDATED	11.0	0.0	
646.0			UNCONSOLIDATED	185.0	11.0	HERRIN COAL ERODED
461.0			SANDY SHALE	5.0	196.0	W/SS SEAMS

MAPID: 04100019000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 16N 9E SECTION: 36 QUARTERS/FOOTAGES: SW SE NW

QUADRANGLE: VILLA GROVE LONGITUDE: -88.135386 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.80012 DATE COLLECTED:

SURFACE ELEVATION (FT.): 672.0 LOGGED (FT.): 818.8 LOG TYPE: Multiple log types

SOURCE: C.H. LEWIS WELL TYPE: Oil and Gas Test

COMMENT: DRILLERS LOG, CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
672.0			UNCONSOLIDATED	220.0	0.0	
452.0			SHALE	15.0	220.0	
437.0			SHALE	7.7	235.0	SLIGHTLY SANDY
429.3			SHALE	8.4	242.7	WITH COAL STREAKS AND PLANT FRAGS
420.9			SHALE	12.9	251.1	SANDY
408.0			COAL	1.8	264.0	
406.2			BLACK SHALE	1.8	265.8	WITH THIN COAL STREAK AT BASE
404.5			SHALE	4.5	267.5	PYRITIC
400.0			SHALE	2.7	272.0	GRADES TO BKSH WITH COAL FRAGS
397.3			SHALE	17.3	274.7	SANDY; LS BANDS AND NODULES
380.0			BLACK SHALE	1.5	292.0	
378.5			COAL	1.1	293.5	
377.4			CLAYSTONE & SHALE	8.9	294.6	
368.5			SHALE	13.8	303.5	FOSSILIF; CARBONACEOUS FRAGS
354.7			SANDSTONE	12.7	317.3	CONTAINS .5-1 INCH COAL STREAKS
342.0			COAL	2.0	330.0	
340.0			BLACK SHALE	0.7	332.0	
339.3			SHALE	328.3	332.7	TOP OF MISSISSIPPIAN (ACCORDING TO LOG)
11.0			SANDSTONE	3.3	661.0	
7.7			SHALE	0.1	664.3	
7.7			SANDSTONE	18.7	664.3	
-11.0			SHALE	35.3	683.0	SLIGHTLY CALCAREOUS; DRK GREENISH & BRWN
-46.3			SHALE	83.8	718.3	D. BRN. AND GRN. SH; FOSSILIF
-130.0			LIMESTONE	16.8	802.0	CHERTY; LESS DOLOMITIC AT BASE; FOSSILIF

MAPID: 04121921000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.089387 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.828565 DATE COLLECTED: 10 / 22 / 1974

SURFACE ELEVATION (FT.): 707.0 LOGGED (FT.): 261.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 209 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
707.0	PLEISTOCENE		UNCONSOLIDATED	8.5	0.0	
698.5	PLEISTOCENE		CLAY	65.5	8.5	W/ O.C. SAND & GRAVEL
633.0	PLEISTOCENE		UNKNOWN	25.5	74.0	NOT LOGGED
607.5	PLEISTOCENE		BOULDER	1.5	99.5	
606.0	PLEISTOCENE		CLAY	22.0	101.0	BRN
584.0	PLEISTOCENE		CLAY	18.5	123.0	O.C. GRAVEL
565.5	SHELBURN		SILTY, SANDY SHALE	9.5	141.5	
556.0	SHELBURN		SHALE	3.5	151.0	GRN GRY
552.5	SHELBURN	BANKSTON FORK	LIMESTONE	8.0	154.5	
544.5	CARBONDALE	ENERGY	SANDSTONE	8.0	162.5	W/ SANDY SH SEAMS
536.5	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.5	170.5	
535.0	CARBONDALE	ENERGY	SANDSTONE	16.5	172.0	W/ SANDY SH
518.5	CARBONDALE	ENERGY	SHALE	24.5	188.5	W/ SS SEAMS
494.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	32.2	213.0	
461.9	CARBONDALE	HERRIN	COAL	6.7	245.1	CORE BEGINS @ 226.0
455.2	CARBONDALE		SHALE	1.4	251.8	GRY
453.7	CARBONDALE		SHALE & CONGLOMERATE	3.1	253.3	W/ NODULES, SH SEAMS
450.7	CARBONDALE		SILTSTONE	4.0	256.3	
446.7	CARBONDALE		LIMESTONE	0.3	260.3	
446.3	CARBONDALE		SHALE	0.3	260.7	GRY

MAPID: 04121922000C VERSION: 1 PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: QUARTERS/FOOTAGES: NW SW

QUADRANGLE: MURDOCK LONGITUDE: -88.099226 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.825361 DATE COLLECTED: 10 / 28 / 1974

SURFACE ELEVATION (FT.): 702.0 LOGGED (FT.): 246.8 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 210 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
702.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
691.0	PLEISTOCENE		CLAY	72.5	11.0	O.C. GRAVEL
618.5	PLEISTOCENE		CLAY	40.5	83.5	GRN
578.0	PLEISTOCENE		CLAY	7.5	124.0	W/ GRAVEL & BOULDERS
570.5	SHELBURN		SILTY SHALE	5.5	131.5	GRY W/ SANDY SEAMS
565.0	SHELBURN	BANKSTON FORK	LIMESTONE	11.5	137.0	
553.5	CARBONDALE	ENERGY	SANDSTONE	20.5	148.5	W/ SHALE SEAMS
533.0	CARBONDALE	ENERGY	SANDY SHALE	61.0	169.0	W/ SS SEAMS
472.0	CARBONDALE	ENERGY	CARBONACEOUS SHALE	1.0	230.0	BLK CORE BEGINS @ 206.0 W/ SANDY SEAMS
471.0	CARBONDALE	HERRIN	COAL	6.6	231.0	
464.5	CARBONDALE		CLAYSTONE	0.2	237.5	GRY W/ COAL SEAMS
464.5	CARBONDALE		CLAYSTONE	1.0	237.5	
463.2	CARBONDALE		SHALE & CONGLOMERATE	7.0	238.8	
456.5	CARBONDALE		SHALE	1.3	245.5	GRN GRY

MAPID: 04121879000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.049316

GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.791607

DATE COLLECTED: 4 / 12 / 1971

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 197.5

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 167

WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
636.0	PLEISTOCENE		GLACIAL DRIFT	38.0	4.0	
598.0	SHELBURN		SANDSTONE	16.0	42.0	
582.0	SHELBURN		SILTY, SANDY SHALE	14.4	58.0	W/SS
567.6	SHELBURN	PIASA	LIMESTONE	0.6	72.4	
567.0	SHELBURN	FARMINGTON	SILTY SHALE	27.0	73.0	GRY
539.5	SHELBURN	DANVILLE	BONE COAL	0.5	100.5	
539.0	SHELBURN		SILTY SHALE	8.5	101.0	GRY
530.5	SHELBURN	BANKSTON FORK	LIMESTONE	2.0	109.5	
528.5	CARBONDALE	ENERGY	SILTY SHALE	38.5	111.5	GRY
490.0	CARBONDALE	ENERGY	CALCARIOUS SANDY SHALE	48.0	150.0	STRIPPED
442.0	CARBONDALE	HERRIN	COAL	-	198.0	

MAPID: 041HCSOPC11Z VERSION: 1

PROJECT: CGT-MISC

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 2 QUARTERS/FOOTAGES: 200' S line, 150' E line

QUADRANGLE: MURDOCK LONGITUDE: -88.028627

GEOLOGIST: C.TREWORGY

CONFIDENTIAL: N LATITUDE: 39.865489

DATE COLLECTED: 2 / 0 / 1974

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0

LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY NO. PC-11

WELL TYPE: Coal Test

COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

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

MAPID: 041HCSOPD12Z VERSION: 1

PROJECT: CGT-MISC

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 3 QUARTERS/FOOTAGES: 800' N line, 150' E line

QUADRANGLE: LONGVIEW LONGITUDE: -88.047746

GEOLOGIST: C.TREWORGY

CONFIDENTIAL: N LATITUDE: 39.877363

DATE COLLECTED: 2 / 0 / 1974

SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0

LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY NO. PD-12

WELL TYPE: Coal Test

COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

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

MAPID: 041HCSOPC12Z **VERSION:** 1 **PROJECT:** CGT-MISC
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 3 **QUARTERS/FOOTAGES:** 200' S line, 200' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.065197 **GEOLOGIST:** C.TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.86584 **DATE COLLECTED:** 2 / 0 / 1974
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 0.0 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY NO. PC-12 **WELL TYPE:** Coal Test
COMMENT: IGS MAP LIBRARY 4103 i5, 1-27&28

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

MAPID: 04121758000C **VERSION:** 1 **PROJECT:** IGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 4 **QUARTERS/FOOTAGES:** 102' S line, 104' W line of SW NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.084435 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.872976 **DATE COLLECTED:** 3 / 29 / 1971
SURFACE ELEVATION (FT.): 659.1 **LOGGED (FT.):** 577.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 48 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
659.1			UNCONSOLIDATED	255.0	0.0
404.1			SILTY SHALE	9.0	255.0
395.1			SANDY SHALE	6.0	264.0
389.1			SILTY SHALE	46.5	270.0
342.6			BLACK SHALE	2.0	316.5
340.6			COAL	0.7	318.5
339.9			SILTY SHALE	19.8	319.2
320.1			SANDY SHALE	15.5	339.0 W/SS
304.6			SILTY SHALE	13.5	354.5
291.1			SANDY SHALE	32.0	368.0 "STRIPPED"
259.1			SANDY SHALE	160.0	400.0
99.1			SANDY SHALE	17.0	560.0 W/SS

MAPID: 04121779000C

VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 5

QUARTERS/FOOTAGES: 66' S line, 80' W line of SW NW

QUADRANGLE: MURDOCK

LONGITUDE: -88.103318

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N

LATITUDE: 39.872856

DATE COLLECTED: 4 / 8 / 1971

SURFACE ELEVATION (FT.): 652.0

LOGGED (FT.): 233.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

69

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
652.0			UNCONSOLIDATED	4.0	0.0	
648.0			SANDY CLAY	8.0	4.0	BROWN
640.0			SANDY CLAY	166.0	12.0	GRAY
474.0			SAND & GRAVEL	3.0	178.0	COAL WASHING
471.0			CLAY	39.5	181.0	
431.5			SANDY CLAY	12.5	220.5	COAL PARTINGS

MAPID: 04121780000C

VERSION: 1

PROJECT: ISGS

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 5

QUARTERS/FOOTAGES: 218' S line, 50' E line of SE

QUADRANGLE: MURDOCK

LONGITUDE: -88.084936

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N

LATITUDE: 39.865915

DATE COLLECTED: 4 / 15 / 1971

SURFACE ELEVATION (FT.): 665.0

LOGGED (FT.): 250.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

70

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
665.0			UNCONSOLIDATED	12.0	0.0	
653.0			UNCONSOLIDATED	234.0	12.0	
419.0			SANDSTONE	4.0	246.0	

MAPID: 04121778000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 6 QUARTERS/FOOTAGES: 62' S line, 88' E line of SE

QUADRANGLE: MURDOCK LONGITUDE: -88.103885 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.865396 DATE COLLECTED: 3 / 31 / 1971

SURFACE ELEVATION (FT.): 657.0 LOGGED (FT.): 184.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 68 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
657.0			UNCONSOLIDATED	4.0	0.0	
653.0			SANDY CLAY	31.0	4.0	
622.0			SAND & GRAVEL	21.0	35.0	
601.0			CLAY	98.0	56.0	GRAY
503.0	CARBONDALE	ENERGY	SILTY SHALE	6.0	154.0	
497.0	CARBONDALE	ENERGY	SHALE	15.8	160.0	
481.2	CARBONDALE	HERRIN	COAL	6.7	175.8	
474.6	CARBONDALE		UNDERCLAY	1.6	182.4	

MAPID: 04121756000C VERSION: 1 PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 7 QUARTERS/FOOTAGES: 53' N line, 41' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.122512 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.865239 DATE COLLECTED: 12 / 11 / 1968

SURFACE ELEVATION (FT.): 661.0 LOGGED (FT.): 270.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 46K WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
661.0			UNCONSOLIDATED	191.0	0.0	
470.0			CLAYSTONE & SHALE	51.0	191.0	GRAY
419.0			SHALE	28.0	242.0	

MAPID: 04121771000C

VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 7

QUARTERS/FOOTAGES: 225' N line, 284' E line of NE

QUADRANGLE: MURDOCK

LONGITUDE: -88.104589

GEOLOGIST: C TREWORY

CONFIDENTIAL: N

LATITUDE: 39.864609

DATE COLLECTED: 3 / 24 / 1971

SURFACE ELEVATION (FT.): 659.0

LOGGED (FT.): 197.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

61

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
659.0			UNCONSOLIDATED	4.0	0.0	
655.0			CLAY	4.0	4.0	BROWN
651.0			CLAY & GRAVEL	31.0	8.0	GRAY
620.0			SAND & GRAVEL	3.0	39.0	
617.0			CLAY & GRAVEL	13.5	42.0	BRWN/GRY
603.5			SAND & GRAVEL	1.5	55.5	
602.0			CLAY	108.0	57.0	GRAY
494.0	CARBONDALE	ENERGY	SHALE	4.0	165.0	
490.0	CARBONDALE	ENERGY	SILTY SHALE	4.5	169.0	STRIPPED
485.5	CARBONDALE	ENERGY	SHALE	11.1	173.5	W/SIDERITE & NAUD. SMS.
474.4	CARBONDALE	ENERGY	SHALE	3.1	184.6	
471.3	CARBONDALE	ENERGY	SHALE	0.2	187.7	
471.2	CARBONDALE	HERRIN	COAL	6.7	187.8	
464.5	CARBONDALE		UNDERCLAY	1.1	194.5	W/COAL & BLACK SHALE PARTINGS
463.4	CARBONDALE		UNDERCLAY	1.4	195.6	

MAPID: 04121826000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 7 **QUARTERS/FOOTAGES:** 87' S line, 30' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.103737 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.850761 **DATE COLLECTED:** 9 / 30 / 1971
SURFACE ELEVATION (FT.): 668.0 **LOGGED (FT.):** 194.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 114 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
668.0			UNCONSOLIDATED	9.0	0.0	
659.0			UNCONSOLIDATED	99.0	9.0	
560.0	CARBONDALE	ENERGY	SANDY SHALE	3.4	108.0	
556.6	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.8	111.4	
555.7	CARBONDALE	ENERGY	SANDY SHALE	4.7	112.3	W/SS SEAMS
551.2	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.8	116.8	
549.2	CARBONDALE	ENERGY	SANDY SHALE	1.9	118.8	
547.3	CARBONDALE	ENERGY	SANDSTONE	3.9	120.7	POROUS
543.4	CARBONDALE	ENERGY	SANDY SHALE	10.8	124.6	
532.6	CARBONDALE	ENERGY	SANDY SHALE	47.6	135.4	W/SS SEAMS
485.0	CARBONDALE	ENERGY	SHALE	2.0	183.0	SILTY SANDY; GRY
483.0	CARBONDALE	HERRIN	COAL	7.0	185.0	
476.0	CARBONDALE		UNDERCLAY	1.4	192.0	
474.6	CARBONDALE		CALCAREOUS SHALE	0.6	193.4	

MAPID: 04121757000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 8 **QUARTERS/FOOTAGES:** 78' N line, 62' W line of NE SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.098674 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.857655 **DATE COLLECTED:** 3 / 16 / 1971
SURFACE ELEVATION (FT.): 663.1 **LOGGED (FT.):** 188.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 47 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
663.1			UNCONSOLIDATED	112.0	0.0	
551.1	CARBONDALE	ENERGY	SANDSTONE	6.0	112.0	W/SH SMS
545.1	CARBONDALE	ENERGY	SHALE	17.0	118.0	W/SS
528.1	CARBONDALE	ENERGY	SANDY SHALE	30.0	135.0	W/SS SMS
498.1	CARBONDALE	ENERGY	SHALE	15.8	165.0	W/HD SMS
482.3	CARBONDALE	HERRIN	COAL	6.0	180.8	
476.3	CARBONDALE		UNDERCLAY	1.3	186.8	

MAPID: 04121864000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 8 QUARTERS/FOOTAGES: 1198' N line, 40' E line of SE NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.084926 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.858286 DATE COLLECTED: 2 / 24 / 1972
 SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 201.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 153 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
670.0			UNCONSOLIDATED	11.0	0.0	
659.0			UNCONSOLIDATED	133.0	11.0	
526.0	CARBONDALE	ENERGY	SANDY SHALE	39.7	144.0	W/SS SEAMS
486.3	CARBONDALE	ENERGY	SILTY SHALE	2.3	183.7	
484.1	CARBONDALE	ENERGY	SILTY SHALE	8.0	185.9	W/SIDERITE
476.1	CARBONDALE	HERRIN	COAL	5.9	193.9	
470.2	CARBONDALE		UNDERCLAY	1.2	199.8	

MAPID: 04121751000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 9 QUARTERS/FOOTAGES: 1' S line, 1' W line
 QUADRANGLE: MURDOCK LONGITUDE: -88.084816 GEOLOGIST: BARGH
 CONFIDENTIAL: N LATITUDE: 39.85042 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 677.0 LOGGED (FT.): 217.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 41 WELL TYPE: Coal Test
 COMMENT: LOC. SW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
677.0			UNCONSOLIDATED	118.0	0.0	
559.0			SOFT SHALE	4.0	118.0	
555.0	CARBONDALE		SANDY SHALE	8.0	122.0	W/BUE CLAY PTGS
547.0	CARBONDALE		SANDSTONE	8.0	130.0	.33 LS 2.17'W/SFT CL PTGS; BRN
539.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.0	138.0	
531.0	CARBONDALE		SHALE	2.0	146.0	LIME SHOWING
529.0	CARBONDALE	ENERGY	SANDSTONE	2.0	148.0	BRN
527.0	CARBONDALE	ENERGY	SHALE	10.0	150.0	TOP 2.5 LT SDY LAYERS, BASE 7.5 SFT PTGS
517.0	CARBONDALE	ENERGY	SHALE	7.0	160.0	W/ SFT PTGS; DK GRY
510.0	CARBONDALE	ENERGY	SHALE	11.0	167.0	SFT PTGS & SS LAYERS
499.0	CARBONDALE	ENERGY	SHALE	3.0	178.0	
496.0	CARBONDALE	ENERGY	SHALE	5.5	181.0	OILY; SANDY LAYERS
490.5	CARBONDALE	ENERGY	SHALE	12.5	186.5	OILY DK SH; SFT CL PTGS; HD SDY
478.0	CARBONDALE	ENERGY	SHALE	10.5	199.0	HD OILY; LT SDY LAYERS; DK
467.5	CARBONDALE	ENERGY	SHALE	0.5	209.5	OILY BRN SH & BONE COAL
467.0	CARBONDALE	HERRIN	COAL	6.3	210.0	
460.7	CARBONDALE		UNDERCLAY	0.7	216.3	

MAPID: 04121781000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 12 **QUARTERS/FOOTAGES:** 43' S line, 388' W line of SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.026665 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.85042 **DATE COLLECTED:** 3 / 31 / 1971
SURFACE ELEVATION (FT.): 708.0 **LOGGED (FT.):** 560.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 71 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
708.0			UNCONSOLIDATED	4.0	0.0	
704.0			CLAY	241.0	4.0	
463.0			SANDY CLAY	13.5	245.0	W/COAL & GRAVEL
449.5			SANDSTONE	1.5	258.5	
448.0			SANDY SHALE	30.5	260.0	
417.5			BONE COAL	2.5	290.5	
415.0			SILTY SHALE	267.0	293.0	

MAPID: 04122834000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 12 **QUARTERS/FOOTAGES:** 1' S line, 1' W line of SW SW NW SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.028063 **GEOLOGIST:** STRAAYER
CONFIDENTIAL: N **LATITUDE:** 39.853966 **DATE COLLECTED:** 8 / 10 / 1973
SURFACE ELEVATION (FT.): 690.0 **LOGGED (FT.):** 290.0 **LOG TYPE:** Drillers Log
SOURCE: AMAX 45 **WELL TYPE:** Coal Test
COMMENT: NEWMAN BOX 33

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0	PLEISTOCENE		CLAY	69.0	0.0	
621.0	PLEISTOCENE		GRAVEL	3.0	69.0	
618.0	PLEISTOCENE		CLAY	27.0	72.0	
591.0	PLEISTOCENE		BOULDER	2.0	99.0	
589.0	PLEISTOCENE		CLAY	25.0	101.0	
564.0	PLEISTOCENE		CLAY	14.0	126.0	DARK
550.0	PLEISTOCENE		SANDY CLAY	36.0	140.0	
514.0	PLEISTOCENE		CLAY & GRAVEL	34.0	176.0	
480.0	PLEISTOCENE		SANDY CLAY	15.0	210.0	
465.0	PLEISTOCENE		CLAY	16.0	225.0	
449.0	CARBONDALE		SANDSTONE	12.0	241.0	WHITE
437.0	CARBONDALE		SANDY SHALE	24.0	253.0	
413.0	CARBONDALE		GRAY SHALE	2.0	277.0	
411.0	CARBONDALE		SHALE/COAL	2.0	279.0	
400.0	CARBONDALE		UNDERCLAY	11.0	290.0	SANDY

MAPID: 04121828000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 14 **QUARTERS/FOOTAGES:** 498' S line, 543' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.045019 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.837197 **DATE COLLECTED:** 10 / 6 / 1971
SURFACE ELEVATION (FT.): 718.0 **LOGGED (FT.):** 220.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 116 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
718.0			UNCONSOLIDATED	16.0	0.0	
702.0			UNCONSOLIDATED	146.0	16.0	
556.0	CARBONDALE	ENERGY	SANDSTONE	5.5	162.0	
550.5	CARBONDALE	ENERGY	SANDSTONE	6.5	167.5	W/SANDY SH SEAMS
544.0	CARBONDALE	ENERGY	SHALY SANDSTONE	37.4	174.0	
506.6	CARBONDALE	ENERGY	SANDSTONE	0.3	211.4	W/HAIRLINE COAL SEAMS
506.3	CARBONDALE	HERRIN	COAL	7.0	211.7	
499.3	CARBONDALE		UNDERCLAY	1.3	218.7	

MAPID: 04121735000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 15 **QUARTERS/FOOTAGES:**
QUADRANGLE: MURDOCK **LONGITUDE:** -88.056492 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.843074 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 699.1 **LOGGED (FT.):** 206.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 25 **WELL TYPE:** Coal Test
COMMENT: LOC.: E CENTER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
699.1			UNCONSOLIDATED	186.0	0.0	
513.1	CARBONDALE	ENERGY	SANDY SHALE	15.0	186.0	
498.1	CARBONDALE	HERRIN	COAL	3.0	201.0	.58' SULPHUR BALL
495.1	CARBONDALE		UNDERCLAY	2.0	204.0	

MAPID: 04121759000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 16 QUARTERS/FOOTAGES: 50' N line, 40' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.066185 GEOLOGIST: BARGH
 CONFIDENTIAL: N LATITUDE: 39.850267 DATE COLLECTED: 12 / 9 / 1968
 SURFACE ELEVATION (FT.): 685.0 LOGGED (FT.): 229.1 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 49K WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
685.0			UNCONSOLIDATED	80.0	0.0	
605.0	CARBONDALE	ENERGY	SOFT SHALE	56.0	80.0	
549.0	CARBONDALE	ENERGY	SANDSTONE	53.0	136.0	GRAY
496.0	CARBONDALE	HERRIN	COAL	1.0	189.0	UPPER BENCH OF SEAM
495.0	CARBONDALE	ENERGY	SANDSTONE	12.5	190.0	
482.5	CARBONDALE	HERRIN	COAL	4.2	202.5	
478.3	CARBONDALE		UNDERCLAY	2.3	206.7	
476.0	CARBONDALE		SHALE	13.5	209.0	LIME NODULES; LT GRAY
462.5	CARBONDALE	SPRINGFIELD	COAL	0.6	222.5	"COAL SEAM"
461.9	CARBONDALE		UNDERCLAY	6.0	223.1	LIME NODULES

MAPID: 04121827000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 16 QUARTERS/FOOTAGES: 68' S line, 43' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.065937 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.835791 DATE COLLECTED: 10 / 5 / 1971
 SURFACE ELEVATION (FT.): 711.0 LOGGED (FT.): 248.8 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 115 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
711.0			UNCONSOLIDATED	11.0	0.0	
700.0			UNCONSOLIDATED	144.0	11.0	
556.0	CARBONDALE	ENERGY	SANDSTONE/SHALE	13.5	155.0	
542.5	CARBONDALE	ENERGY	SANDY SHALE	15.2	168.5	
527.3	CARBONDALE	ENERGY	SANDY SHALE	17.1	183.7	W/SS SEAMS
510.2	CARBONDALE	ENERGY	SANDSTONE	0.8	200.8	
509.5	CARBONDALE	ENERGY	SANDY SHALE	2.3	201.5	W/SS SEAMS
507.2	CARBONDALE	ENERGY	SANDY SHALE	4.3	203.8	
503.0	CARBONDALE	ENERGY	SHALY SANDSTONE	34.5	208.0	
468.5	CARBONDALE	HERRIN	COAL	5.8	242.5	BROKEN
462.7	CARBONDALE		UNDERCLAY	0.6	248.3	

MAPID: 04121844000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 16 **QUARTERS/FOOTAGES:** 8' S line, 78' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.066062 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.835627 **DATE COLLECTED:** 12 / 2 / 1971
SURFACE ELEVATION (FT.): 694.0 **LOGGED (FT.):** 228.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 133 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
694.0			UNCONSOLIDATED	9.0	0.0	
685.0			UNCONSOLIDATED	163.0	9.0	
522.0	CARBONDALE	ENERGY	SANDSTONE	50.5	172.0	
471.5	CARBONDALE	HERRIN	COAL	4.7	222.5	
466.8	CARBONDALE		UNDERCLAY	0.7	227.2	

MAPID: 04121845000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 16 **QUARTERS/FOOTAGES:** 90' N line, 10' E line of NE NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.075463 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.850161 **DATE COLLECTED:** 12 / 6 / 1971
SURFACE ELEVATION (FT.): 678.0 **LOGGED (FT.):** 215.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 134 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
678.0			UNCONSOLIDATED	13.0	0.0	
665.0			UNCONSOLIDATED	105.0	13.0	
560.0	CARBONDALE	ENERGY	SANDSTONE	12.0	118.0	
548.0	CARBONDALE	ENERGY	SANDSTONE	0.5	130.0	W/SANDY SHALE SEAMS
547.5	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.3	130.5	
547.2	CARBONDALE	ENERGY	SANDSTONE	76.0	130.8	
471.2	CARBONDALE	HERRIN	COAL	6.4	206.8	
464.7	CARBONDALE		UNDERCLAY	1.8	213.3	

MAPID: 04121848000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 16 QUARTERS/FOOTAGES: 743' S line, 32' E line of SE SE
 QUADRANGLE: MURDOCK LONGITUDE: -88.065931 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.837654 DATE COLLECTED: 12 / 13 / 1971
 SURFACE ELEVATION (FT.): 705.0 LOGGED (FT.): 243.8 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 137 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
705.0			UNCONSOLIDATED	13.0	0.0	
692.0			UNCONSOLIDATED	138.6	13.0	
553.4	CARBONDALE	ENERGY	SANDY SHALE	8.8	151.6	W/SS
544.7	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	0.5	160.3	
544.2	CARBONDALE	ENERGY	SANDSTONE	7.2	160.8	
537.0	CARBONDALE	ENERGY	SANDY SHALE	37.5	168.0	W/BROWN SANDY HARD SEAMS
499.5	CARBONDALE	ENERGY	SANDSTONE	31.3	205.5	STRIPPED
468.2	CARBONDALE	HERRIN	COAL	5.9	236.8	
462.3	CARBONDALE		BLACK SHALE	0.3	242.7	
462.0	CARBONDALE		UNDERCLAY	0.8	243.0	

MAPID: 04121824000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 17 QUARTERS/FOOTAGES: 64' N line, 74' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.085081 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.850241 DATE COLLECTED: 9 / 28 / 1971
 SURFACE ELEVATION (FT.): 678.0 LOGGED (FT.): 214.3 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 113 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
678.0			UNCONSOLIDATED	10.0	0.0	
668.0			UNCONSOLIDATED	113.0	10.0	
555.0	CARBONDALE		SANDSTONE	3.0	123.0	W/SANDY SH SEAMS
552.0	CARBONDALE	BANKSTON FORK	SANDY LIMESTONE	1.7	126.0	
550.3	CARBONDALE	ENERGY	SANDY SHALE	5.4	127.7	W/SS SEAMS
545.0	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.7	133.0	
543.3	CARBONDALE	ENERGY	SANDSTONE	11.3	134.7	THICKNESS ADJ TO MATCH LOG DEPTHS
532.0	CARBONDALE	ENERGY	SANDY SHALE	34.0	146.0	W/SS
498.0	CARBONDALE	ENERGY	SANDSTONE	8.0	180.0	W/SANDY SH SEAMS
490.0	CARBONDALE	ENERGY	SHALE	22.3	188.0	SILTY SANDY
467.7	CARBONDALE	ENERGY	BLACK SHALE	0.9	210.3	
466.8	CARBONDALE	HERRIN	COAL	3.1	211.2	HOLE MAY NOT HAVE PENETRATED ENTIRE SEAM

MAPID: 04121825000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 17 **QUARTERS/FOOTAGES:** 59' N line, 71' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.08507 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.850255 **DATE COLLECTED:** 9 / 29 / 1971
SURFACE ELEVATION (FT.): 678.0 **LOGGED (FT.):** 218.8 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 113-A **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
678.0			UNCONSOLIDATED	10.0	0.0	
668.0			UNCONSOLIDATED	113.0	10.0	
555.0	CARBONDALE	ENERGY	SANDSTONE	3.0	123.0	W/SH SEAMS
552.0	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	2.0	126.0	
550.0	CARBONDALE	ENERGY	SANDY SHALE	5.5	128.0	W/SS
544.5	CARBONDALE	ENERGY	SANDSTONE	12.5	133.5	
532.0	CARBONDALE	ENERGY	SANDY SHALE	34.0	146.0	W/SS
498.0	CARBONDALE	ENERGY	SANDSTONE	29.0	180.0	W/SANDY SH SEAMS
469.0	CARBONDALE	ENERGY	SHALE	1.3	209.0	OK (?)
467.7	CARBONDALE	ENERGY	BLACK SHALE	0.8	210.3	
466.9	CARBONDALE	HERRIN	COAL	6.5	211.1	
460.4	CARBONDALE		UNDERCLAY	1.2	217.6	

MAPID: 04121747000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 18 **QUARTERS/FOOTAGES:** 1' S line, 1' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.122749 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.835667 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 196.8 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 37 **WELL TYPE:** Coal Test
COMMENT: LOC.: SW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
677.0			UNCONSOLIDATED	137.0	0.0	
540.0	CARBONDALE	ENERGY	SHALE	17.0	137.0	SDY FRLY HD
523.0	CARBONDALE	ENERGY	SHALE	16.0	154.0	OIL SHOWING; FRLY HD SDY
507.0	CARBONDALE	ENERGY	SHALE	11.0	170.0	LT SHOWING OF OIL; HRD
496.0	CARBONDALE	ENERGY	SHALE	6.0	181.0	DK GRAY
490.0	CARBONDALE	ENERGY	SHALE	1.7	187.0	OILY; DK GRAY
488.3	CARBONDALE	HERRIN	COAL	6.6	188.7	#6 COAL SEAM
481.7	CARBONDALE		UNDERCLAY	1.5	195.3	

MAPID: 04121186000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 19 **QUARTERS/FOOTAGES:** 531' S line, 300' E line of SW SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.109306 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.822776 **DATE COLLECTED:** 10 / 29 / 1974
SURFACE ELEVATION (FT.): 702.0 **LOGGED (FT.):** 234.9 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 211 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
486.8	CARBONDALE	HERRIN	COAL	6.5	215.2	

MAPID: 04121746000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 19 **QUARTERS/FOOTAGES:** 1' S line, 1' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.12236 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.821257 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 697.0 **LOGGED (FT.):** 211.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 36 **WELL TYPE:** Coal Test
COMMENT: LOC.: SW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
697.0			UNCONSOLIDATED	178.0	0.0	
519.0			CLAYSTONE & SHALE	19.0	178.0	BLUE CLAY & SDY SH
500.0	CARBONDALE	ENERGY	SANDY SHALE	3.0	197.0	
497.0	CARBONDALE	ENERGY	SHALE	2.9	200.0	OILY; DK GRAY
494.1	CARBONDALE	HERRIN	COAL	6.1	202.9	CONTINS IMPURE BANDS
488.0	CARBONDALE		UNDERCLAY	2.0	209.0	

MAPID: 04121831000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 19 **QUARTERS/FOOTAGES:** 8' N line, 61' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.122531 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.835643 **DATE COLLECTED:** 10 / 13 / 1971
SURFACE ELEVATION (FT.): 679.0 **LOGGED (FT.):** 199.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 119 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
679.0			UNCONSOLIDATED	9.0	0.0	
670.0			UNCONSOLIDATED	145.0	9.0	
525.0	CARBONDALE	ENERGY	SILTY SHALE	36.9	154.0	
488.1	CARBONDALE	HERRIN	COAL	7.3	190.9	
480.7	CARBONDALE		UNDERCLAY	1.3	198.3	

MAPID: 04121837000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 19 QUARTERS/FOOTAGES: 47' S line, 202' E line of SW SW
 QUADRANGLE: MURDOCK LONGITUDE: -88.118376 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.8214 DATE COLLECTED: 11 / 11 / 1971
 SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 213.5 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 126 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.0			UNCONSOLIDATED	11.0	0.0	
689.0			UNCONSOLIDATED	134.0	11.0	
555.0	CARBONDALE	ENERGY	SILTY SHALE	60.8	145.0	W/SS
494.2	CARBONDALE	HERRIN	COAL	6.8	205.8	
487.4	CARBONDALE		UNDERCLAY	0.9	212.6	

MAPID: 04121923000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 19 QUARTERS/FOOTAGES: SW SE
 QUADRANGLE: MURDOCK LONGITUDE: -88.109217 GEOLOGIST: M VANKO
 CONFIDENTIAL: N LATITUDE: 39.822711 DATE COLLECTED: 10 / 29 / 1974
 SURFACE ELEVATION (FT.): 699.0 LOGGED (FT.): 234.9 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 211 WELL TYPE: Coal Test
 COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
699.0	PLEISTOCENE		UNCONSOLIDATED	8.5	0.0	
690.5	PLEISTOCENE		CLAY	67.5	8.5	O.C. GRAVEL
623.0	PLEISTOCENE		CLAY	11.5	76.0	BRN
611.5	PLEISTOCENE		CLAY	61.0	87.5	O.C. GRAVEL + BOULDERS
550.5	CARBONDALE	ENERGY	SANDY SHALE	20.5	148.5	W/ SS SEAMS
530.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	24.5	169.0	W/ SS SEAMS
505.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	21.7	193.5	
483.8	CARBONDALE	HERRIN	COAL	6.6	215.2	COAL STARTS @ 206.75
477.2	CARBONDALE		CLAYSTONE	1.8	221.8	GRY
475.4	CARBONDALE		SHALE & CONGLOMERATE	2.3	223.6	W/ NODULES
473.0	CARBONDALE		SHALE	4.9	226.0	GRY W/ NODULES
468.1	CARBONDALE		SHALE	4.0	230.9	GRN GRY

MAPID: 04121187000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: 40' S line, 124' E line of SW SE
QUADRANGLE: MURDOCK LONGITUDE: -88.089908 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.821453 DATE COLLECTED: 9 / 30 / 1974
SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 253.9 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 199 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.0	CARBONDALE	HERRIN	COAL	6.7	235.0	

MAPID: 04121188000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: 1235' N line, 23' W line of NE NW
QUADRANGLE: MURDOCK LONGITUDE: -88.098669 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.832323 DATE COLLECTED: 10 / 8 / 1974
SURFACE ELEVATION (FT.): 692.0 LOGGED (FT.): 248.8 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 202 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
461.0	CARBONDALE	HERRIN	COAL	6.4	231.0	

MAPID: 04121189000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: 1800' S line, 1300' W line
QUADRANGLE: MURDOCK LONGITUDE: -88.098821 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.826304 DATE COLLECTED: 10 / 22 / 1974
SURFACE ELEVATION (FT.): 702.0 LOGGED (FT.): 261.0 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 209 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.2	CARBONDALE	HERRIN	COAL	6.7	251.8	

MAPID: 04121190000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: 206' S line, 1220' W line of NW SW
QUADRANGLE: MURDOCK LONGITUDE: -88.099117 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.825504 DATE COLLECTED: 10 / 22 / 1974
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 246.8 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 210 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
464.0	CARBONDALE	HERRIN	COAL	6.5	231.0	

MAPID: 04121745000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: 1' N line, 1' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.103381 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.835705 DATE COLLECTED:

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 227.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 35 WELL TYPE: Coal Test

COMMENT: LOC.: NW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0			UNCONSOLIDATED	129.0	0.0	
561.0	CARBONDALE	ENERGY	SANDSTONE	9.0	129.0	BLUE SH BANDS
552.0	CARBONDALE	ENERGY	SANDY SHALE	1.0	138.0	W/SOFT BLUE SH BANDS
551.0	CARBONDALE	ENERGY	SOFT SHALE	3.0	139.0	
548.0	CARBONDALE	ENERGY	SANDSTONE	10.0	142.0	SOFT BLUE GRAY BANDS; BRN
538.0	CARBONDALE	ENERGY	SANDY SHALE	2.9	152.0	BROWN SS & SOFT BLUE SH
535.1	CARBONDALE	ENERGY	SANDY SHALE	2.0	154.9	
533.1	CARBONDALE	ENERGY	SHALE	62.0	156.9	OILY; DK GRAY
471.1	CARBONDALE	HERRIN	COAL	6.7	218.9	#6 COAL SEAM
464.4	CARBONDALE		UNDERCLAY	1.4	225.6	

MAPID: 04121823000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: 48' N line, 44' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.10323 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.835573 DATE COLLECTED: 2 / 27 / 1971

SURFACE ELEVATION (FT.): 687.0 LOGGED (FT.): 224.3 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 112 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
687.0			UNCONSOLIDATED	12.0	0.0	
675.0			UNCONSOLIDATED	104.5	12.0	
570.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	116.5	
561.0	CARBONDALE	ENERGY	SANDSTONE	3.8	126.0	
557.2	CARBONDALE	ENERGY	SANDY SHALE	18.7	129.8	W/SS SEAMS
538.5	CARBONDALE	ENERGY	SHALE	40.5	148.5	SILTY SANDY; GRY
498.0	CARBONDALE	ENERGY	SANDY SHALE	26.3	189.0	W/COAL SEAMS
471.7	CARBONDALE	HERRIN	COAL	6.6	215.3	
465.0	CARBONDALE		UNDERCLAY	2.3	222.0	

MAPID: 04121911000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: SW SE

QUADRANGLE: OAKLAND LONGITUDE: -88.090176 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.726776 DATE COLLECTED: 9 / 30 / 1974

SURFACE ELEVATION (FT.): 686.0 LOGGED (FT.): 253.8 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 199 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
686.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
675.0	PLEISTOCENE		CLAY	37.5	11.0	O.C. GRAVEL
637.5	PLEISTOCENE		SAND & GRAVEL	6.5	48.5	W/ BOULDERS
631.0	PLEISTOCENE		CLAY	41.5	55.0	
589.5	SHELBURN		SHALE	11.5	96.5	
578.0	SHELBURN		SANDSTONE	12.5	108.0	W/ SH
565.5	SHELBURN		SILTY, SANDY SHALE	19.0	120.5	
546.5	SHELBURN	BANKSTON FORK	LIMESTONE	11.0	139.5	
535.5	CARBONDALE	ENERGY	SANDSTONE	38.5	150.5	W/ SANDY SH
497.0	CARBONDALE	ENERGY	SHALE	8.5	189.0	GRY W/ SIDERITE
488.5	CARBONDALE	ENERGY	SANDSTONE	2.7	197.5	CORE STARTS @ 200'
485.8	CARBONDALE	ENERGY	SANDSTONE	12.3	200.2	W/ SANDY SH
473.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	18.6	212.5	
454.9	CARBONDALE	ENERGY	SHALE	4.0	231.1	GRY, STRIPPED
451.0	CARBONDALE	HERRIN	COAL	6.9	235.0	
444.1	CARBONDALE		UNDERCLAY	1.3	241.9	
442.8	CARBONDALE		SHALE	2.6	243.2	W/ NODULES
440.2	CARBONDALE		UNKNOWN	2.0	245.8	CORE LOSS
438.2	CARBONDALE		SILTSTONE	6.1	247.8	W/ NODULES

MAPID: 04121914000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 20 QUARTERS/FOOTAGES: NE NW

QUADRANGLE: MURDOCK LONGITUDE: -88.098809 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.832439 DATE COLLECTED: 10 / 8 / 1974

SURFACE ELEVATION (FT.): 696.0 LOGGED (FT.): 248.7 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 202 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
696.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
685.0	PLEISTOCENE		CLAY	102.0	11.0	
583.0	SHELBURN		SANDSTONE	5.5	113.0	
577.5	SHELBURN		SILTY, SANDY SHALE	16.5	118.5	W/SS
561.0	SHELBURN		SHALE	4.5	135.0	GRN GRY W/ NODULES
556.5	SHELBURN	BANKSTON FORK	LIMESTONE	8.5	139.5	
548.0	CARBONDALE	ENERGY	SANDSTONE	11.5	148.0	
536.5	CARBONDALE	ENERGY	SANDY SHALE	31.5	159.5	
505.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	35.0	191.0	W/SS SEAMS
470.0	CARBONDALE	ENERGY	SILTY SHALE	5.4	226.0	W/ CARB & SAND SEAMS CORE STARTS@205'
464.6	CARBONDALE	HERRIN	COAL	6.3	231.4	
458.2	CARBONDALE		SHALE	0.2	237.8	GRY
458.1	CARBONDALE		SHALE	1.6	237.9	GRN GRY
456.5	CARBONDALE		SHALE	1.5	239.5	GRN GRY W/ NODULES
455.0	CARBONDALE		LIMESTONE	0.8	241.0	W/ SH SEAMS
454.2	CARBONDALE		SHALE	0.4	241.8	GRN GRY W/ NODULES
453.7	CARBONDALE		SILTSTONE	4.0	242.3	W/ GRN GRY NODULES
449.7	CARBONDALE		SHALE	2.4	246.3	W/ NODULES

MAPID: 04100695000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 21 QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: MURDOCK LONGITUDE: -88.06935 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.834748 DATE COLLECTED:

SURFACE ELEVATION (FT.): 706.0 LOGGED (FT.): 365.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
566.0	CARBONDALE	DANVILLE	COAL	-	140.0	
452.0	CARBONDALE	HERRIN	COAL	6.0	254.0	
428.0	CARBONDALE	SPRINGFIELD	COAL	-	278.0	
406.0	CARBONDALE	HOUCHIN CREEK	COAL	-	300.0	
341.0	CARBONDALE	COLCHESTER	COAL	-	365.0	

MAPID: 04121480000C VERSION: 1 PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 21 QUARTERS/FOOTAGES: 98' N line, 68' E line of NW

QUADRANGLE: MURDOCK LONGITUDE: -88.075505 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.835432 DATE COLLECTED: 7 / 19 / 1983

SURFACE ELEVATION (FT.): 704.3 LOGGED (FT.): 253.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 263 WELL TYPE: Coal Test

COMMENT: WATER OBSERVATION WELL IN HERRIN COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
704.3			CLAY	4.5	0.0	
699.8			UNCONSOLIDATED	147.0	4.5	
552.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	151.5	
548.8	CARBONDALE	ENERGY	SANDSTONE	4.5	155.5	
544.3	CARBONDALE	ENERGY	SILTY SHALE	12.5	160.0	WITH SANDSTONE
531.8	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.5	172.5	
530.3	CARBONDALE	ENERGY	SANDSTONE	11.0	174.0	WITH SILTY SANDY SHALE SEAMS
519.3	CARBONDALE	ENERGY	SANDY SHALE	23.5	185.0	WITH SANDSTONE SEAMS
495.8	CARBONDALE	ENERGY	SILTY SHALE	30.9	208.5	
464.9	CARBONDALE	ENERGY	CORE LOSS	0.4	239.4	
464.5	CARBONDALE	ENERGY	SANDY SHALE	6.6	239.8	
457.9	CARBONDALE	HERRIN	COAL	6.3	246.4	
451.5	CARBONDALE		UNDERCLAY	0.9	252.8	

MAPID: 04121480000C VERSION: 2 PROJECT: NCRDS89

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 21 QUARTERS/FOOTAGES: 98' N line, 68' E line of NW

QUADRANGLE: MURDOCK LONGITUDE: -88.075505 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.835432 DATE COLLECTED: 7 / 19 / 1983

SURFACE ELEVATION (FT.): 704.3 LOGGED (FT.): 254.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 263 WELL TYPE: Coal Test

COMMENT: DRILLERS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
704.3			UNCONSOLIDATED	151.5	0.0	
552.8	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	151.5	
548.8	CARBONDALE	ENERGY	SANDSTONE	4.5	155.5	
544.3	CARBONDALE	ENERGY	SHALE	12.5	160.0	SILTY SANDY SH W/SS
531.8	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.5	172.5	
530.3	CARBONDALE	ENERGY	SANDSTONE	11.0	174.0	W/SILTY SANDY SH
519.3	CARBONDALE	ENERGY	SANDY SHALE	23.0	185.0	W/SS, GRAY
496.3	CARBONDALE	ENERGY	SILTY SHALE	31.4	208.0	GRAY
464.9	CARBONDALE	ENERGY	CORE LOSS	0.4	239.4	
464.5	CARBONDALE	ENERGY	SANDY SHALE	6.6	239.8	DRK-GRAY
457.9	CARBONDALE	HERRIN	COAL	6.4	246.4	
451.5	CARBONDALE		UNDERCLAY	0.9	252.8	
450.7	CARBONDALE		UNCLASSIFIED	0.4	253.6	

MAPID: 04121744000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 21 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW

QUADRANGLE: MURDOCK LONGITUDE: -88.084728 GEOLOGIST: C TREWORGY

CONFIDENTIAL: N LATITUDE: 39.835797 DATE COLLECTED:

SURFACE ELEVATION (FT.): 701.0 LOGGED (FT.): 258.1 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 34 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
701.0			SOIL	2.0	0.0	
699.0			CLAY	23.0	2.0	
676.0			SANDY CLAY	15.0	25.0	
661.0			CLAY	10.0	40.0	PEBBLES
651.0			CLAY	27.0	50.0	PEBBLES & BOULDERS
624.0			BOULDER	1.5	77.0	
622.5			CLAY	52.5	78.5	
570.0			CLAY	15.0	131.0	SMALL BOULDERS
555.0			CLAY	7.0	146.0	
548.0			CLAY	2.0	153.0	SMALL BOULDERS
546.0			CLAY	5.0	155.0	MAYBE BOULDER OR BANKSTON FORK LS
541.0			CLAY & GRAVEL	9.0	160.0	GRAY
532.0			SANDY CLAY	1.0	169.0	BLUE
531.0	CARBONDALE	ENERGY	SANDSTONE	1.0	170.0	BROWN
530.0	CARBONDALE	ENERGY	SANDY SHALE	2.0	171.0	
528.0	CARBONDALE	ENERGY	SHALE	0.3	173.0	SDY W/ LS
527.7	CARBONDALE	ENERGY	SANDSTONE/SHALE	3.2	173.3	BLUE
524.5	CARBONDALE	ENERGY	SHALE	0.2	176.5	SDY W/ LS
524.3	CARBONDALE	ENERGY	SANDY SHALE	5.9	176.7	
518.5	CARBONDALE	ENERGY	SHALE	0.2	182.5	
518.3	CARBONDALE	ENERGY	SANDY SHALE	4.2	182.7	
514.2	CARBONDALE	ENERGY	SHALE	4.3	186.8	OILY
509.8	CARBONDALE	ENERGY	SANDY SHALE	1.2	191.2	
508.7	CARBONDALE	ENERGY	SHALE	0.3	192.3	SH W/ GVL
508.4	CARBONDALE	ENERGY	SANDSTONE	1.8	192.6	
506.7	CARBONDALE	ENERGY	SANDY SHALE	6.0	194.3	
500.7	CARBONDALE	ENERGY	SANDSTONE	0.3	200.3	BROWN
500.3	CARBONDALE	ENERGY	SANDY SHALE	0.4	200.7	OILY
499.9	CARBONDALE	ENERGY	SHALE	8.9	201.1	OILY; GRY
491.0	CARBONDALE	ENERGY	SHALE	41.3	210.0	OILY
449.7	CARBONDALE	HERRIN	COAL	6.0	251.3	
443.7	CARBONDALE		UNDERCLAY	0.7	257.3	

MAPID: 04121805000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 21 QUARTERS/FOOTAGES: 27' N line, 45' W line of NW SW
 QUADRANGLE: MURDOCK LONGITUDE: -88.084596 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.828494 DATE COLLECTED: 7 / 28 / 1971
 SURFACE ELEVATION (FT.): 705.0 LOGGED (FT.): 259.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 94 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
705.0			UNCONSOLIDATED	14.0	0.0	
691.0			UNCONSOLIDATED	110.0	14.0	
581.0			SHALE	7.0	124.0	W/LS NODULES; MULTI
574.0			SHALE	18.5	131.0	
555.5	CARBONDALE		SHALE	7.5	149.5	SANDY
548.0	CARBONDALE	BANKSTON FORK	LIMESTONE	8.5	157.0	
539.5	CARBONDALE	ENERGY	SANDY SHALE	52.5	165.5	
487.0	CARBONDALE	ENERGY	UNKNOWN	7.0	218.0	DRILLER'S LOG SAY SS "C.P."
480.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	24.2	225.0	
455.8	CARBONDALE	HERRIN	COAL	6.8	249.2	
449.0	CARBONDALE		UNDERCLAY	1.5	256.0	

MAPID: 04121912000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 21 QUARTERS/FOOTAGES: 1307' S line, 13' E line of SE SW
 QUADRANGLE: MURDOCK LONGITUDE: -88.075431 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.824975 DATE COLLECTED: 10 / 2 / 1974
 SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 264.2 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 200 WELL TYPE: Coal Test
 COMMENT: ALSO SEE OLD COUNTY#21192 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0			SANDY CLAY	10.5	0.0	
679.5			CLAY	114.0	10.5	
565.5			SILTY, SANDY SHALE	16.5	124.5	OC GRAVEL & BOULDERS
549.0			SHALE	15.5	141.0	MULTI
533.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	156.5	
528.5	CARBONDALE	ENERGY	SANDSTONE	21.5	161.5	W/SH SEAMS
507.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	20.0	183.0	
487.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	16.5	203.0	W/SANDY SEAMS
470.5	CARBONDALE	ENERGY		16.1	219.5	W/SANDY NODULES
454.4	CARBONDALE	ENERGY	SILTY, SANDY SHALE	12.8	235.6	CORE STARTS @ 226.0'
441.7	CARBONDALE	HERRIN	COAL	7.1	248.3	
434.6	CARBONDALE		SHALE	0.2	255.4	
434.4	CARBONDALE		CLAYSTONE	1.7	255.6	GRN/GRY
432.7	CARBONDALE		SILTSTONE	6.9	257.3	W/LS NODULES

MAPID: 04121913000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 21 QUARTERS/FOOTAGES: 115' S line, 10' E line of NE NW

QUADRANGLE: MURDOCK LONGITUDE: -88.075333 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.832435 DATE COLLECTED: 10 / 7 / 1974

SURFACE ELEVATION (FT.): 710.0 LOGGED (FT.): 272.1 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 201 WELL TYPE: Coal Test

COMMENT: ALSO SEE OLD COUNTY#21181 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
710.0			SANDY CLAY	12.0	0.0	
698.0			CLAY	142.0	12.0	OC GRAVEL & BOULDERS
556.0			SHALE	5.5	154.0	MULTI
550.5	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	159.5	
545.5	CARBONDALE	ENERGY	SANDSTONE	4.5	164.5	
541.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	18.5	169.0	
522.5	CARBONDALE	ENERGY	SANDY SHALE	17.5	187.5	W/SS SEAMS
505.0	CARBONDALE	ENERGY	SILTY SHALE	49.1	205.0	W/SANDY SEAMS
455.9	CARBONDALE	HERRIN	COAL	6.2	254.1	COAL STARTS @ 231.0'
449.6	CARBONDALE		SHALE	0.5	260.4	W/COAL SEAMS
449.2	CARBONDALE		SHALE	2.8	260.8	
446.3	CARBONDALE		LIMESTONE	1.8	263.7	W/SHALE PARTINGS
444.6	CARBONDALE		SHALE	0.3	265.4	GRN/GRY
444.2	CARBONDALE		UNKNOWN	3.3	265.8	CORE LOSS
441.0	CARBONDALE		SHALE	3.1	269.0	W/NODULES/SANDY SEAMS

MAPID: 04121193000C **VERSION:** 1 **PROJECT:** NCRDS
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 22 **QUARTERS/FOOTAGES:** 868' N, 67' E, SW/c
QUADRANGLE: MURDOCK **LONGITUDE:** -88.065782 **GEOLOGIST:** LOUCHIOS
CONFIDENTIAL: N **LATITUDE:** 39.823787 **DATE COLLECTED:** 10 / 21 / 1974
SURFACE ELEVATION (FT.): 673.9 **LOGGED (FT.):** 257.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 207 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
673.9			UNCONSOLIDATED	9.0	0.0	
664.9			CLAY & GRAVEL	92.0	9.0	
572.9			SILTY SHALE	32.5	101.0	
540.4			SHALE	5.5	133.5	
534.9			LIMESTONE	10.5	139.0	
524.4			SANDY SHALE	26.5	149.5	W/ SS
497.9			SILTY SHALE	21.5	176.0	W/ SANDY SMS
476.4			SANDSTONE/SHALE	39.1	197.5	
437.3	CARBONDALE	HERRIN	COAL	6.9	236.6	
430.4	CARBONDALE		GRAY SHALE	1.4	243.5	
429.0	CARBONDALE		GREEN SHALE	2.3	244.9	
426.6	CARBONDALE		SHALE WITH LIMESTONE	0.9	247.3	
425.7	CARBONDALE		DARK SHALE	1.8	248.2	
423.9	CARBONDALE		CORE LOSS	1.3	250.0	
422.6	CARBONDALE		DARK SHALE	5.0	251.3	
417.6	CARBONDALE		CORE LOSS	0.7	256.3	

MAPID: 04121741000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 22 **QUARTERS/FOOTAGES:** 1' N line, 1' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.065777 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.835601 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 711.0 **LOGGED (FT.):** 251.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 31 **WELL TYPE:** Coal Test
COMMENT: LOC.: NW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
711.0			UNCONSOLIDATED	155.0	0.0	
556.0	CARBONDALE	ENERGY	SOFT SHALE	7.0	155.0	
549.0	CARBONDALE	ENERGY	SANDSTONE	7.0	162.0	
542.0	CARBONDALE	ENERGY	SANDY SHALE	25.0	169.0	
517.0	CARBONDALE	ENERGY	SANDSTONE	50.3	194.0	W/SH PTGS
466.7	CARBONDALE	HERRIN	COAL	6.0	244.3	#6 COAL SEAM
460.7	CARBONDALE		UNDERCLAY	0.7	250.3	

MAPID: 04121910000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 22 QUARTERS/FOOTAGES: 354' N line, 33' W line of NW SW
 QUADRANGLE: MURDOCK LONGITUDE: -88.065831 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.827522 DATE COLLECTED: 2 / 25 / 1974
 SURFACE ELEVATION (FT.): 697.0 LOGGED (FT.): 265.5 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 198 WELL TYPE: Coal Test
 COMMENT: ALSO SEE OLD COUNTY#21191 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
697.0			CLAY	8.0	0.0	
689.0			CLAY	8.0	8.0	BRN
681.0			CLAY	63.5	16.0	OC SAND & GRAVEL
617.5			CLAY	16.5	79.5	BRN
601.0			CLAY	38.0	96.0	OC GRAVEL
563.0			SILTY, SANDY SHALE	9.0	134.0	
554.0			SHALE	4.5	143.0	MULTI
549.5	CARBONDALE		SHALE	7.5	147.5	GRY
542.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	155.0	
539.0	CARBONDALE	ENERGY	SANDSTONE	13.5	158.0	W/SHALE SEAMS
525.5	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	1.5	171.5	
524.0	CARBONDALE	ENERGY	SANDSTONE	7.0	173.0	
517.0	CARBONDALE	ENERGY	SANDY SHALE	21.5	180.0	
495.5	CARBONDALE	ENERGY	SHALE	13.5	201.5	
482.0	CARBONDALE	ENERGY	SANDSTONE	40.0	215.0	W/SHALE SEAMS OC CARBONDALE
442.0	CARBONDALE	HERRIN	COAL	6.1	255.0	CORES STARTS @220.0'
435.9	CARBONDALE		UNDERCLAY	2.3	261.1	
433.5	CARBONDALE		SHALE	2.0	263.5	W/NODULES; GRY
431.5	CARBONDALE		SILTSTONE	0.0	265.5	

MAPID: 04100860000C VERSION: 1

PROJECT: CGT-ECILL

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 23 QUARTERS/FOOTAGES: SW SW SW
 QUADRANGLE: MURDOCK LONGITUDE: -88.045824 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.822218 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 293.0 LOG TYPE: Electric Log
 SOURCE: WELL TYPE: Oil and Gas Test
 COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
472.0	CARBONDALE	HERRIN	COAL	7.0	188.0	
447.0	CARBONDALE	SPRINGFIELD	COAL	-	213.0	
420.0	CARBONDALE	HOUCHIN CREEK	COAL	-	240.0	
367.0	CARBONDALE	COLCHESTER	COAL	-	293.0	

MAPID: 04121666000C

VERSION: 1

PROJECT: NCRDS

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 23

QUARTERS/FOOTAGES: 2638' N, 2035' E, SW/c

QUADRANGLE: MURDOCK

LONGITUDE: -88.039687

GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N

LATITUDE: 39.828596

DATE COLLECTED: 6 / 12 / 1984

SURFACE ELEVATION (FT.): 670.9

LOGGED (FT.): 200.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

289

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
670.9			CLAY	6.0	0.0	
664.9			SAND	19.0	6.0	
645.9			SAND & GRAVEL	8.0	25.0	
637.9			CLAY & GRAVEL	13.0	33.0	
624.9			SAND & GRAVEL	9.0	46.0	
615.9			CLAY & GRAVEL	33.0	55.0	
582.9			GLACIAL DRIFT	13.0	88.0	DARK BROWN
569.9			CLAY & GRAVEL	5.5	101.0	
564.4			SILTY SHALE	4.5	106.5	
559.9			CLAY & GRAVEL	9.0	111.0	
550.9			SHALY SANDSTONE	4.0	120.0	
546.9			SHALE & SANDSTONE	18.8	124.0	
528.1			SILTY SHALE	16.3	142.8	
511.5			CORE LOSS	1.6	159.4	
509.9			SILTY SHALE	15.0	161.0	
494.9			SANDSTONE/SHALE	3.7	176.0	
491.2	CARBONDALE	HERRIN	COAL	6.9	179.7	
484.3	CARBONDALE	HERRIN	DARK SHALE	0.1	186.6	
484.2	CARBONDALE	HERRIN	COAL	0.1	186.7	
484.1	CARBONDALE		UNDERCLAY	1.2	186.8	
482.9	CARBONDALE		UNDERCLAY & LIMESTONE	2.0	188.0	
480.9	CARBONDALE		CORE LOSS	20.0	190.0	

MAPID: 04121717000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 23 **QUARTERS/FOOTAGES:** 1' S line, 1' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.047006 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.821313 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 642.0 **LOGGED (FT.):** 195.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 8 **WELL TYPE:** Coal Test
COMMENT: LOCATED IN SW CORNER OF SECTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.0			UNCONSOLIDATED	5.0	0.0	
637.0			SAND & GRAVEL	31.0	5.0	
606.0			GRAVEL	10.0	36.0	
596.0			SAND & GRAVEL	14.0	46.0	
582.0			SANDY CLAY	10.0	60.0	
572.0			SANDY CLAY	32.0	70.0	
540.0			SANDY CLAY	1.0	102.0	
539.0	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	103.0	
530.0	CARBONDALE	BANKSTON FORK	SANDY LIMESTONE	10.0	112.0	
520.0	CARBONDALE		SANDY SHALE	66.5	122.0	
453.5	CARBONDALE	HERRIN	COAL	7.0	188.5	#6 COAL SEAM

MAPID: 04121737000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 23 **QUARTERS/FOOTAGES:** 1' N line, 1' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.046934 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.835835 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 720.0 **LOGGED (FT.):** 259.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 27 **WELL TYPE:** Coal Test
COMMENT: LOC.: NW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
720.0			UNCONSOLIDATED	160.0	0.0	
560.0	CARBONDALE	ENERGY	SHALY SANDSTONE	52.2	160.0	THICKNESS ADJ TO MATCH LOG DEPTHS
507.8	CARBONDALE	HERRIN	COAL	6.5	212.2	#6 COAL SEAM
501.3	CARBONDALE		UNDERCLAY	10.3	218.7	THICKNESS ADJ TO MATCH LOG DEPTHS
491.0	CARBONDALE		SHALE	5.0	229.0	
486.0	CARBONDALE	TURNER MINE	SHALE	1.5	234.0	
484.5	CARBONDALE	SPRINGFIELD	COAL	1.8	235.5	
482.7	CARBONDALE		UNDERCLAY	5.8	237.3	
477.0	CARBONDALE		SHALE	14.0	243.0	
463.0	CARBONDALE		SHALE	2.0	257.0	

MAPID: 04121740000C VERSION: 1 PROJECT: ISGS95
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 23 QUARTERS/FOOTAGES: 1' N line, 1' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.028003 GEOLOGIST: BARGH
CONFIDENTIAL: N LATITUDE: 39.835702 DATE COLLECTED:
SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 221.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 30 WELL TYPE: Coal Test
COMMENT: LOC.: NE CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.0			CLAY	13.0	0.0	
687.0			SAND & GRAVEL	32.0	13.0	
655.0			GRAVEL	27.0	45.0	& BLDRS
628.0			HARD PAN	31.0	72.0	
597.0			CLAY	92.0	103.0	
505.0			SAND & GRAVEL	20.0	195.0	
485.0			UNCONSOLIDATED	4.0	215.0	GRAY
481.0			COAL	0.3	219.0	COAL SHOWING
480.7			UNDERCLAY	1.8	219.3	GRAY

MAPID: 04121838000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 23 QUARTERS/FOOTAGES: 1' S line, 1219' E line of NE NE
QUADRANGLE: MURDOCK LONGITUDE: -88.032392 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.832135 DATE COLLECTED: 11 / 10 / 1971
SURFACE ELEVATION (FT.): 697.0 LOGGED (FT.): 208.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 127 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
697.0			UNCONSOLIDATED	11.0	0.0	
686.0			UNCONSOLIDATED	155.0	11.0	
531.0	CARBONDALE	ENERGY	SILTY SHALE	34.4	166.0	W/SS SEAMS
496.6	CARBONDALE	HERRIN	COAL	5.9	200.4	
490.7	CARBONDALE		UNDERCLAY	1.6	206.3	

MAPID: 04121839000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 23 QUARTERS/FOOTAGES: 99' N line, 67' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.028245 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.835435 DATE COLLECTED: 11 / 11 / 1971
SURFACE ELEVATION (FT.): 699.0 LOGGED (FT.): 236.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 128 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
699.0			UNCONSOLIDATED	9.0	0.0	
690.0			UNCONSOLIDATED	226.5	9.0	HERRIN COAL ERODED
463.5			SANDSTONE	1.0	235.5	

MAPID: 04121840000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 23 QUARTERS/FOOTAGES: 71' S line, 50' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.028293 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.82152 DATE COLLECTED: 11 / 16 / 1971
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 192.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 129 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
675.0			UNCONSOLIDATED	9.0	0.0	
666.0			UNCONSOLIDATED	120.0	9.0	
546.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	54.9	129.0	W/SS SEAMS
491.1	CARBONDALE	HERRIN	COAL	6.5	183.9	
484.6	CARBONDALE		UNDERCLAY	1.6	190.4	

MAPID: 04100021000C VERSION: 1 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: MURDOCK LONGITUDE: -88.026852 GEOLOGIST: C TREWORGY
CONFIDENTIAL: N LATITUDE: 39.807504 DATE COLLECTED:
SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 286.1 LOG TYPE: Survey Core Study
SOURCE: LOUILLO OIL COMPANY WELL TYPE: Coal Test
COMMENT: CHEM ANALYSIS, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.0	CARBONDALE	HERRIN	COAL	6.8	189.0	
430.0	CARBONDALE	SPRINGFIELD	COAL	2.0	214.0	
395.0	CARBONDALE	HOUCHIN CREEK	COAL	1.1	249.0	
358.0	CARBONDALE	COLCHESTER	COAL	0.1	286.0	

MAPID: 04100021000C VERSION: 2

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: MURDOCK LONGITUDE: -88.026852 GEOLOGIST: SROKA

CONFIDENTIAL: N LATITUDE: 39.807504 DATE COLLECTED:

SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 928.0 LOG TYPE: Multiple log types

SOURCE: LOUILLO OIL COMPANY WELL TYPE: Coal Test

COMMENT: DRILLERS LOG; CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0			UNCONSOLIDATED	100.3	0.0	
543.7	CARBONDALE	BANKSTON FORK	LIMESTONE	3.8	100.3	CHERT NODULES
539.9	CARBONDALE	ENERGY	SANDSTONE	18.9	104.1	CALCAREOUS
521.0	CARBONDALE	ENERGY	SHALE	65.5	123.0	
455.5	CARBONDALE	HERRIN	COAL	6.8	188.5	
448.7	CARBONDALE		SHALE	15.8	195.3	
433.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.9	211.0	
430.1	CARBONDALE	SPRINGFIELD	COAL	1.9	213.9	
428.2	CARBONDALE		SHALE	27.8	215.8	SLIGHTLY SANDY; WITH BKSH STREAKS
400.3	CARBONDALE	EXCELLO	BLACK SHALE	5.2	243.7	
395.2	CARBONDALE	HOUCHIN CREEK	COAL	1.2	248.8	
394.0	CARBONDALE		SHALE	6.0	250.0	
388.0	CARBONDALE		SHALE	30.4	256.0	WITH FEW CARBONATE NODULES
357.6	CARBONDALE	COLCHESTER	COAL	0.1	286.4	
357.5	SPOON		SANDSTONE	37.8	286.5	
319.7	SPOON		SHALE	7.2	324.3	SLIGHTLY SANDY
312.5	SPOON		BLACK SHALE	4.5	331.5	
308.0	SPOON		COAL	0.8	336.0	
307.2	SPOON		SHALE	1.8	336.8	
305.5	SPOON		SHALE	3.0	338.5	
302.5			UNCLASSIFIED	13.5	341.5	TOP OF MISSISSIPPIAN (ACCORDING TO LOG)
167.0			SHALE	255.7	477.0	
-88.7			SANDSTONE	51.3	732.7	
-139.9			SHALE	53.6	783.9	
-193.5			SHALE	75.9	837.5	D.GRN./BRWN. SH; LINGULA & SPORE EXINES
-269.4			LIMESTONE	14.6	913.4	SHALEY, PYRITIC

MAPID: 04121664000C VERSION: 1 PROJECT: NCRDS

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: 1342' S, 143' E, NW/c

QUADRANGLE: MURDOCK LONGITUDE: -88.027581 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 39.817619 DATE COLLECTED: 5 / 21 / 1984

SURFACE ELEVATION (FT.): 650.6 LOGGED (FT.): 203.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 275 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.6			CLAY	10.5	0.0	
640.1			CLAY & GRAVEL	14.5	10.5	
625.6			SAND & GRAVEL	2.0	25.0	
623.6			CLAY & GRAVEL	33.0	27.0	GRAY
590.6			CLAY & GRAVEL	30.0	60.0	BROWN
560.6			SHALE	19.3	90.0	
541.3			SANDSTONE	2.7	109.3	
538.6	CARBONDALE	ENERGY	SILTY SHALE	50.1	112.0	SS SEAMS
488.5	CARBONDALE	ENERGY	SILTY SHALE	18.6	162.1	
469.9	CARBONDALE	ENERGY	SILTY SHALE	0.3	180.7	COAL PARTINGS
469.6	CARBONDALE	ENERGY	SANDSTONE WITH COAL	0.2	181.0	
469.4	CARBONDALE	HERRIN	COAL	6.9	181.2	
462.6	CARBONDALE		GREEN SHALE	1.9	188.0	
460.7	CARBONDALE		UNDERCLAY & LIMESTONE	1.7	189.9	
459.0	CARBONDALE		SHALE WITH LIMESTONE	7.2	191.6	
451.8	CARBONDALE		DARK SHALE	1.6	198.8	
450.2	CARBONDALE		LIMESTONE	0.2	200.4	
450.0	CARBONDALE		GRAY SHALE	0.9	200.6	
449.1	CARBONDALE		CORE LOSS	1.5	201.5	

MAPID: 04121665000C

VERSION: 1

PROJECT: NCRDS

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 25

QUARTERS/FOOTAGES: 2641' N, 1907' W, SE/c

QUADRANGLE: MURDOCK

LONGITUDE: -88.015982

GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N

LATITUDE: 39.813901

DATE COLLECTED: 6 / 11 / 1984

SURFACE ELEVATION (FT.): 652.8

LOGGED (FT.): 220.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

287

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
652.8			CLAY	14.0	0.0	
638.8			SAND & GRAVEL	4.0	14.0	
634.8			CLAY & GRAVEL	10.0	18.0	
624.8			SAND & GRAVEL	20.0	28.0	
604.8			CLAY & GRAVEL	71.0	48.0	
533.8			SANDY SHALE	3.0	119.0	
530.8			SANDSTONE	16.5	122.0	
514.3			SHALE & SANDSTONE	25.0	138.5	
489.3			SILTY SHALE	5.5	163.5	
483.8			CORE LOSS	1.0	169.0	
482.8			SILTY SHALE	0.9	170.0	
481.9			SILTY SHALE	16.2	170.9	MASSIVE
465.8			SILTY SHALE	11.6	187.0	W/ SIDERITE
454.2	CARBONDALE	HERRIN	COAL	6.9	198.6	
447.3	CARBONDALE		DARK SHALE	1.5	205.5	
445.8	CARBONDALE		UNDERCLAY & LIMESTONE	2.7	207.0	
443.1	CARBONDALE		GRAY SHALE	5.4	209.7	
437.7	CARBONDALE		GRAY SHALE	4.3	215.1	
433.5	CARBONDALE		CORE LOSS	0.7	219.3	

MAPID: 04121738000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 25 **QUARTERS/FOOTAGES:** 1' N line, 1' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.028111 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.821322 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** 184.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 28 **WELL TYPE:** Coal Test
COMMENT: LOC.: NW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
652.0			UNCONSOLIDATED	109.0	0.0
543.0	CARBONDALE		SOFT SHALE	2.0	109.0
541.0	CARBONDALE	ENERGY	SANDSTONE	6.0	111.0
535.0	CARBONDALE	ENERGY	SHALY SANDSTONE	20.0	117.0
515.0	CARBONDALE	ENERGY	SANDY SHALE	19.0	137.0
496.0	CARBONDALE	ENERGY	SANDY SHALE	20.0	156.0
476.0	CARBONDALE	HERRIN	COAL	5.9	176.0 #6 COAL SEAM
470.1	CARBONDALE		UNDERCLAY	2.1	181.9

MAPID: 04121796000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 25 **QUARTERS/FOOTAGES:** 49' N line, 69' E line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.018878 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.821192 **DATE COLLECTED:** 7 / 2 / 1971
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 183.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 85 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
650.0			UNCONSOLIDATED	5.0	0.0
645.0			UNCONSOLIDATED	2.0	5.0
643.0			SAND & GRAVEL	51.0	7.0
592.0			UNCONSOLIDATED	40.5	58.0
551.5	CARBONDALE	ENERGY	SANDY SHALE	76.0	98.5
475.5	CARBONDALE	HERRIN	COAL	6.6	174.5
468.9	CARBONDALE		UNDERCLAY	1.4	181.1
467.5	CARBONDALE		LIMESTONE W/ SHALE	1.0	182.5

MAPID: 04121797000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: 52' S line, 62' E line of SE NE
QUADRANGLE: MURDOCK LONGITUDE: -88.00938 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.814127 DATE COLLECTED: 7 / 7 / 1971
SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 199.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 86 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
648.0			UNCONSOLIDATED	9.0	0.0	
639.0			UNCONSOLIDATED	166.0	9.0	
473.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	14.0	175.0	
459.0	CARBONDALE	HERRIN	COAL	6.6	189.0	
452.4	CARBONDALE	HERRIN	COAL	1.2	195.6	W/COAL SEAMS
451.2	CARBONDALE		UNDERCLAY	0.4	196.8	
450.8	CARBONDALE		LIMESTONE W/ SHALE	1.8	197.2	

MAPID: 04121841000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: 59' N line, 41' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.009295 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.821171 DATE COLLECTED: 11 / 17 / 1971
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 200.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 130 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			UNCONSOLIDATED	13.0	0.0	
637.0			UNCONSOLIDATED	180.8	13.0	
456.2	CARBONDALE	HERRIN	COAL	5.2	193.8	TOP OF COAL ERODED
451.1	CARBONDALE		UNDERCLAY	1.1	198.9	

MAPID: 04121842000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: 45' N line, 520' E line of NW NE
QUADRANGLE: MURDOCK LONGITUDE: -88.015749 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.821205 DATE COLLECTED: 11 / 17 / 1971
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 207.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 131 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
658.0			UNCONSOLIDATED	14.0	0.0	
644.0			UNCONSOLIDATED	110.0	14.0	
534.0	CARBONDALE	ENERGY	SANDSTONE	21.5	124.0	W/SANDY SH SEAMS
512.5	CARBONDALE	ENERGY	SILTY SHALE	36.8	145.5	W/SS STREAKS
475.7	CARBONDALE	ENERGY	SANDSTONE	16.8	182.3	W/SILTY SH SEAMS
458.8	CARBONDALE	HERRIN	COAL	6.8	199.2	
452.0			UNDERCLAY	1.0	206.0	

MAPID: 04121968000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: 1' N line, 1' W line
QUADRANGLE: MURDOCK LONGITUDE: -88.028111 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.821322 DATE COLLECTED:
SURFACE ELEVATION (FT.): 652.0 LOGGED (FT.): 184.1 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 28 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
652.0			CLAY	10.0	0.0	
642.0			GRAVEL	28.0	10.0	AND BOULDERS
614.0			SAND	5.0	38.0	
609.0			SAND & GRAVEL	52.0	43.0	
557.0			SANDY SHALE	6.0	95.0	
551.0			SANDSTONE	8.0	101.0	AND BOULDERS
543.0	CARBONDALE	ENERGY	SHALE	2.0	109.0	
541.0	CARBONDALE	ENERGY	SANDSTONE	6.0	111.0	
535.0	CARBONDALE	ENERGY	SHALY SANDSTONE	20.0	117.0	
515.0	CARBONDALE	ENERGY	SANDY SHALE	19.0	137.0	
496.0	CARBONDALE	ENERGY	SANDY SHALE	20.0	156.0	
476.0	CARBONDALE	HERRIN	COAL	5.9	176.0	
470.1	CARBONDALE		UNDERCLAY	2.1	181.9	FIRECLAY

MAPID: 04121969000C VERSION: 1 PROJECT: ISGS90
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 25 QUARTERS/FOOTAGES: 49' N line, 69' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.009395 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.821197 DATE COLLECTED: 7 / 2 / 1971
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 183.6 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 85 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			UNCONSOLIDATED	5.0	0.0	
645.0			UNCONSOLIDATED	2.0	5.0	
643.0			SAND & GRAVEL	51.0	7.0	
592.0			UNCONSOLIDATED	40.5	58.0	
551.5	CARBONDALE	ENERGY	SANDY SHALE	76.0	98.5	W/SS
475.5	CARBONDALE	HERRIN	COAL	6.6	174.5	
468.9	CARBONDALE		UNDERCLAY	1.4	181.1	
467.5	CARBONDALE		LIMESTONE	1.0	182.5	AND SHALE

MAPID: 04121165000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 26 QUARTERS/FOOTAGES: 80' S line, 86' W line of SW NW
QUADRANGLE: MURDOCK LONGITUDE: -88.046609 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.81423 DATE COLLECTED: 8 / 14 / 1974
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 222.0 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 194 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
458.2	CARBONDALE	HERRIN	COAL	5.8	191.8	
434.0	CARBONDALE	SPRINGFIELD	COAL	2.4	216.0	

MAPID: 04121662000C VERSION: 1 PROJECT: NCRDS

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 26 QUARTERS/FOOTAGES: 38' S, 1535' E, NW/c

QUADRANGLE: MURDOCK LONGITUDE: -88.041513 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 39.821209 DATE COLLECTED: 8 / 1 / 1983

SURFACE ELEVATION (FT.): 652.9 LOGGED (FT.): 186.3 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 258 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
652.9			CLAY	5.5	0.0	
570.9			SAND & GRAVEL	4.7	82.0	
565.4			SANDSTONE	4.5	87.5	
560.9			SANDY SHALE	12.0	92.0	
548.9			SILTY SHALE	13.0	104.0	
535.9			SHALY SANDSTONE	8.5	117.0	
527.4	CARBONDALE	ENERGY	SANDY SHALE	30.5	125.5	
496.9	CARBONDALE	ENERGY	GRAY SHALE	14.3	156.0	
482.6	CARBONDALE	ENERGY	DARK GRAY SHALE	1.5	170.3	
481.1	CARBONDALE		CORE LOSS	1.6	171.8	
479.5	CARBONDALE	HERRIN	COAL	4.8	173.4	
474.7	CARBONDALE		DARK SHALE	0.5	178.2	
474.3	CARBONDALE		UNDERCLAY	1.7	178.6	
472.6	CARBONDALE		CORE LOSS	1.3	180.3	
471.3	CARBONDALE		UNDERCLAY	4.7	181.6	GREEN-GRAY W/ NODULES

MAPID: 04121663000C VERSION: 1

PROJECT: NCRDS

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 26 QUARTERS/FOOTAGES: 59' S, 2650' E, NW/c
 QUADRANGLE: MURDOCK LONGITUDE: -88.037523 GEOLOGIST: LOUCHIOS
 CONFIDENTIAL: N LATITUDE: 39.821154 DATE COLLECTED: 5 / 16 / 1984
 SURFACE ELEVATION (FT.): 652.8 LOGGED (FT.): 192.8 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 274 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
652.8			CLAY	12.0	0.0	
640.8			CLAY & GRAVEL	17.0	12.0	
623.8			SAND & GRAVEL	20.0	29.0	
603.8			CLAY & GRAVEL	37.0	49.0	
566.8			GRAY SHALE	11.0	86.0	
555.8			GREEN SHALE	7.0	97.0	
548.8			SANDSTONE	5.0	104.0	
543.8	CARBONDALE	ENERGY	SANDY SHALE	16.0	109.0	
527.8	CARBONDALE	ENERGY	SILTY SHALE	43.9	125.0	
483.9	CARBONDALE	HERRIN	COAL	7.0	168.9	
476.9	CARBONDALE		UNDERCLAY	1.8	175.9	
475.1	CARBONDALE		UNDERCLAY	14.0	177.7	GREEN-GRAY, W/ NODULES
461.1	CARBONDALE		DARK SHALE	0.3	191.7	
460.8	CARBONDALE		BLACK SHALE & COAL	0.8	192.0	

MAPID: 04121843000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 26 QUARTERS/FOOTAGES: 55' S line, 187' W line of SW NW
 QUADRANGLE: MURDOCK LONGITUDE: -88.046245 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.81416 DATE COLLECTED: 11 / 18 / 1971
 SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 198.8 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 132 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			UNCONSOLIDATED	9.0	0.0	
641.0			UNCONSOLIDATED	69.5	9.0	
571.5			SHALE	9.0	78.5	
562.5	CARBONDALE		SHALE	6.5	87.5	
556.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.3	94.0	GRAY
545.7	CARBONDALE	ENERGY	SANDY SHALE	36.7	104.3	W/SS SEAMS
509.0	CARBONDALE	ENERGY	SHALE	49.7	141.0	SILTY SANDY W/ SS STREAKS
459.3	CARBONDALE	HERRIN	COAL	7.1	190.7	
452.2	CARBONDALE		UNDERCLAY	1.0	197.8	

MAPID: 04121907000C
VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS
TWP/RNG: 16N 10E
SECTION: 26

QUADRANGLE: MURDOCK
LONGITUDE: -88.046582
GEOLOGIST: M VANKO

CONFIDENTIAL: N
LATITUDE: 39.814203
DATE COLLECTED: 8 / 15 / 1974

SURFACE ELEVATION (FT.): 649.0
LOGGED (FT.): 220.7
LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 94
WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
649.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
640.0	PLEISTOCENE		SAND	6.5	9.0	
633.5	PLEISTOCENE		CLAY	21.5	15.5	O.C. GRAVEL
612.0	PLEISTOCENE		CLAY	24.5	37.0	BRN W/ GRAVEL
587.5	PLEISTOCENE		CLAY	19.5	61.5	
568.0	SHELBURN		VARRIGATED SHALE	13.0	81.0	
555.0	SHELBURN	BANKSTON FORK	LIMESTONE	10.5	94.0	
544.5	CARBONDALE	ENERGY	SHALE	1.5	104.5	GRY
543.0	CARBONDALE	ENERGY	SANDY SHALE	79.5	106.0	W/ SS
463.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	6.3	185.5	W/ SANDY SEAMS
457.2	CARBONDALE	HERRIN	COAL	5.8	191.8	CORE STARTS @ 179'
451.4	CARBONDALE		CLAY	1.3	197.6	
450.1	CARBONDALE		SHALE & CONGLOMERATE	8.5	198.9	W/ NODULES
441.6	CARBONDALE		SHALE	6.8	207.4	GRN GRY SAND NODULES SH SEAMS
434.7	CARBONDALE		SHALE	0.3	214.3	W/ NODULES
434.4	CARBONDALE		SHALE	1.1	214.6	BLK W/ NODULES AND SANDY SEAMS
433.3	CARBONDALE	TURNER MINE	SHALE	0.3	215.7	BLK
433.0	CARBONDALE	SPRINGFIELD	COAL	2.4	216.0	
430.6	CARBONDALE		CLAYSTONE	1.6	218.4	GRN GRY
429.0	CARBONDALE		SHALE	0.7	220.0	GRN GRY W/ NODULES

MAPID: 04121920000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 26 **QUARTERS/FOOTAGES:** 44' S line, 43' E line of SE NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.028224 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.814071 **DATE COLLECTED:** 10 / 21 / 1974
SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 201.1 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 208 **WELL TYPE:** Coal Test
COMMENT: ALSO SEE OLD COUNTY#21194 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
647.0			UNCONSOLIDATED	9.5	0.0	
637.5			CLAY	87.5	9.5	OC SAND, GRAVEL
550.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	97.0	
548.0	CARBONDALE	ENERGY	SANDSTONE	50.0	99.0	W/SANDY SH SEAMS
498.0	CARBONDALE	ENERGY	SANDY SHALE	11.8	149.0	W/SS SEAMS
486.2	CARBONDALE	ENERGY	SANDY SHALE	26.8	160.8	CORE STARTS AT 150'
459.5	CARBONDALE	HERRIN	COAL	6.8	187.5	
452.7	CARBONDALE		SHALE	0.5	194.3	W/CARBONATION SEAMS
452.2	CARBONDALE		SHALE	6.3	194.8	W/NODULES; GRN/GRY

MAPID: 04100037000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 27 **QUARTERS/FOOTAGES:** NE NE SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.048093 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.813097 **DATE COLLECTED:** 1 / 0 / 1945
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 212.2 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER COAL CO. 21 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
444.9	CARBONDALE	HERRIN	COAL	7.1	205.1	

MAPID: 04121182000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 27 **QUARTERS/FOOTAGES:** 41' N line, 30' E line of SW NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.061366 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.81758 **DATE COLLECTED:** 10 / 9 / 1974
SURFACE ELEVATION (FT.): 652.0 **LOGGED (FT.):** 239.4 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 203 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
428.8	CARBONDALE	HERRIN	COAL	6.2	223.2	

MAPID: 04121195000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 25' N line, 1318' W line of SW SW
QUADRANGLE: MURDOCK LONGITUDE: -88.061223 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.810263 DATE COLLECTED: 10 / 14 / 1974
SURFACE ELEVATION (FT.): 649.0 LOGGED (FT.): 229.6 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 204 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
434.7	CARBONDALE	HERRIN	COAL	6.7	214.3	

MAPID: 04121263000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 200' S line, 550' W line of SW NW
QUADRANGLE: MURDOCK LONGITUDE: -88.064023 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.814565 DATE COLLECTED: 12 / 6 / 1976
SURFACE ELEVATION (FT.): LOGGED (FT.): 247.0 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 215 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	5.9	223.1	

MAPID: 04121264000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 200' S line, 950' W line of SW NW
QUADRANGLE: MURDOCK LONGITUDE: -88.062592 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.814564 DATE COLLECTED: 12 / 14 / 1976
SURFACE ELEVATION (FT.): LOGGED (FT.): 231.5 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 216 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	6.4	218.0	

MAPID: 04121265000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 200' S line, 1450' W line of NW
QUADRANGLE: MURDOCK LONGITUDE: -88.060802 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.814564 DATE COLLECTED: 12 / 15 / 1976
SURFACE ELEVATION (FT.): LOGGED (FT.): 229.0 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 217 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	5.8	217.9	

MAPID: 04121266000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 27 **QUARTERS/FOOTAGES:** 2540' S line, 750' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.063298 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.813654 **DATE COLLECTED:** 1 / 0 / 1977
SURFACE ELEVATION (FT.): 650.9 **LOGGED (FT.):** 239.0 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 218 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
426.6	CARBONDALE	HERRIN	COAL	-	224.3	NO THICKNESS GIVEN

MAPID: 04121267000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 27 **QUARTERS/FOOTAGES:** 1890' S line, 750' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.063274 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.811859 **DATE COLLECTED:** 12 / 0 / 1976
SURFACE ELEVATION (FT.): 649.6 **LOGGED (FT.):** 232.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 219 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
427.6	CARBONDALE	HERRIN	COAL	7.3	222.0	

MAPID: 04121481000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 27 **QUARTERS/FOOTAGES:** 72' N line, 70' E line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.05679 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.821154 **DATE COLLECTED:** 9 / 28 / 1983
SURFACE ELEVATION (FT.): 662.9 **LOGGED (FT.):** 236.8 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 255 **WELL TYPE:** Coal Test
COMMENT: WATER OBSERVAITON WELL OF ROOF SHALE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
662.9			CLAY	8.5	0.0	
654.4			UNCONSOLIDATED	133.5	8.5	
520.9			CLAY	1.5	142.0	
519.4	CARBONDALE	ENERGY	SHALY SANDSTONE	7.5	143.5	WITH SANDY SHALE SEAMS
511.9	CARBONDALE	ENERGY	SANDY SHALE	63.5	151.0	WITH SANDSTONE SEAMS
448.4	CARBONDALE	ENERGY	CORE LOSS	1.5	214.5	
446.9	CARBONDALE	ENERGY	SANDY SHALE	13.4	216.0	WITH SANDSTONE LENSES
433.5	CARBONDALE	HERRIN	COAL	6.6	229.4	
426.9	CARBONDALE		SHALE	0.3	236.0	DARK GRAY TO BLACK
426.6	CARBONDALE		UNDERCLAY	0.5	236.3	

MAPID: 04121481000C VERSION: 2

PROJECT: NCRDS89

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 72' N line, 70' E line of NW
 QUADRANGLE: MURDOCK LONGITUDE: -88.05679 GEOLOGIST: SROKA
 CONFIDENTIAL: N LATITUDE: 39.821154 DATE COLLECTED: 7 / 19 / 1983
 SURFACE ELEVATION (FT.): 662.9 LOGGED (FT.): 237.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 255 WELL TYPE: Coal Test
 COMMENT: DRILLERS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
662.9			UNCONSOLIDATED	142.0	0.0	
520.9	CARBONDALE		CLAYSTONE	1.5	142.0	GRN GRAY
519.4	CARBONDALE	ENERGY	SANDSTONE	7.5	143.5	W/SANDY SH
511.9	CARBONDALE	ENERGY	SANDY SHALE	63.5	151.0	W/SS, GRAY
448.4	CARBONDALE	ENERGY	CORE LOSS	1.5	214.5	
446.9	CARBONDALE	ENERGY	SANDY SHALE	13.4	216.0	W/SS LENSES, GRAY
433.5	CARBONDALE	HERRIN	COAL	6.6	229.4	
426.9	CARBONDALE		SHALE	0.3	236.0	DARK GRAY TO BLACK
426.6	CARBONDALE		UNDERCLAY	0.5	236.3	
426.1	CARBONDALE		CORE LOSS	0.3	236.8	

MAPID: 04121731000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 1320' S line, 1' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.046872 GEOLOGIST: BARGH
 CONFIDENTIAL: N LATITUDE: 39.810352 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 646.1 LOGGED (FT.): 212.2 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 21 WELL TYPE: Coal Test
 COMMENT: LOC.: 1/4 MILE N OF SE CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
646.1			UNCONSOLIDATED	65.0	0.0	
581.1	MODESTO		SHALE	25.0	65.0	
556.1	MODESTO	PIASA	LIMESTONE	1.0	90.0	
555.1			SHALE	5.0	91.0	RD&GRY
550.1	CARBONDALE		SHALE	12.0	96.0	RD&GRY
538.1	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	108.0	
533.1	CARBONDALE	ENERGY	SANDY SHALE	14.0	113.0	
519.1	CARBONDALE	ENERGY	SHALE	60.0	127.0	PTLY SDY
459.1	CARBONDALE	ENERGY	SHALE	18.1	187.0	
441.0	CARBONDALE	HERRIN	COAL	7.1	205.1	#6 COAL SEAM

MAPID: 04121829000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 66' N line, 77' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.047282 GEOLOGIST: C TREWORYG
 CONFIDENTIAL: N LATITUDE: 39.821129 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 197.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 117 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0			UNCONSOLIDATED	12.0	0.0	
643.0			UNCONSOLIDATED	78.5	12.0	
564.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.6	90.5	
554.9	CARBONDALE	ENERGY	SANDSTONE	2.3	100.1	THICKNESS ADJ TO MATCH LOG DEPTHS
552.7	CARBONDALE	ENERGY	SANDY SHALE	7.7	102.3	THICKNESS ADJ TO MATCH LOG DEPTHS
545.0	CARBONDALE	ENERGY	SANDSTONE	16.0	110.0	THICKNESS ADJ TO MATCH LOG DEPTHS
529.0	CARBONDALE	ENERGY	SANDSTONE	31.0	126.0	W/SANDY SH SEAMS
498.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	18.4	157.0	THICKNESS ADJ TO MATCH LOG DEPTHS
479.6	CARBONDALE	ENERGY	SHALY SANDSTONE	11.8	175.4	THICKNESS ADJ TO MATCH LOG DEPTHS
467.7	CARBONDALE	HERRIN	COAL	6.9	187.3	
460.8	CARBONDALE		UNDERCLAY	2.6	194.2	
458.2	CARBONDALE		CALCAREOUS SHALE	0.3	196.8	

MAPID: 04121830000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 80' N line, 58' W line
 QUADRANGLE: MURDOCK LONGITUDE: -88.065864 GEOLOGIST: C TREWORYG
 CONFIDENTIAL: N LATITUDE: 39.821171 DATE COLLECTED: 10 / 12 / 1971
 SURFACE ELEVATION (FT.): 669.0 LOGGED (FT.): 246.6 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 118 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
669.0			UNCONSOLIDATED	12.0	0.0	
657.0			UNCONSOLIDATED	92.0	12.0	
565.0			SHALE	18.5	104.0	W/BRN SANDY SEAMS
546.5			SILTY SHALE	12.5	122.5	
534.0	CARBONDALE		SHALE	2.0	135.0	MULTI
532.0	CARBONDALE		SILTY SHALE	2.3	137.0	
529.7	CARBONDALE	BANKSTON FORK	LIMESTONE	8.1	139.3	
521.6	CARBONDALE	ENERGY	SANDSTONE	7.6	147.4	W/SANDY SHALE SEAMS
514.0	CARBONDALE	ENERGY	SHALY SANDSTONE	83.8	155.0	
430.2	CARBONDALE	HERRIN	COAL	6.8	238.8	

MAPID: 04121846000C

VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 27

QUARTERS/FOOTAGES: 8' S line, 131' W line of SW NW

QUADRANGLE: MURDOCK

LONGITUDE: -88.065516

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N

LATITUDE: 39.814037

DATE COLLECTED: 12 / 7 / 1971

SURFACE ELEVATION (FT.): 650.0

LOGGED (FT.): 233.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

135

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			UNCONSOLIDATED	10.0	0.0	
640.0			UNCONSOLIDATED	66.3	10.0	
573.7			CALCAREOUS SANDSTONE	2.3	76.3	
571.5			SANDY SHALE	11.3	78.5	
560.2			SHALE	13.2	89.8	MULTI/RD
547.0			SHALE	11.5	103.0	
535.5			SHALE	2.0	114.5	W/NODULES
533.5			SANDSTONE	2.0	116.5	W/SANDY SHALE SEAMS
531.5	CARBONDALE		SHALE	5.3	118.5	MULTI
526.2	CARBONDALE	BANKSTON FORK	LIMESTONE	12.8	123.8	
513.3	CARBONDALE	ENERGY	SILTY, SANDY SHALE	5.8	136.7	
507.4	CARBONDALE	ENERGY	SANDY SHALE	46.5	142.6	W/SS SEAMS
461.0	CARBONDALE	ENERGY	SANDSTONE	35.6	189.0	STRIPPED
425.4	CARBONDALE	HERRIN	COAL	6.9	224.6	
418.5	CARBONDALE		UNDERCLAY	1.5	231.5	

MAPID: 04121847000C VERSION: 1

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: 12' S line, 2541' W line of SW NW

QUADRANGLE: MURDOCK LONGITUDE: -88.056893 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.814045 DATE COLLECTED: 12 / 8 / 1971

SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 223.8 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 136 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			UNCONSOLIDATED	6.0	0.0	
644.0			UNCONSOLIDATED	80.5	6.0	
563.5			SILTY SHALE	12.0	86.5	
551.5			SHALE	2.5	98.5	
549.0			SILTY SHALE	10.0	101.0	
539.0	CARBONDALE		SHALE	4.5	111.0	
534.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	115.5	
525.0	CARBONDALE	ENERGY	SANDSTONE	60.5	125.0	
464.5	CARBONDALE	ENERGY	SANDY SHALE	29.8	185.5	STRIPPED
434.7	CARBONDALE	HERRIN	COAL	6.7	215.3	
428.1	CARBONDALE		UNDERCLAY	1.4	221.9	
426.7	CARBONDALE		CALCAREOUS SHALE	0.5	223.3	

MAPID: 04121915000C VERSION: 1 PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 27 QUARTERS/FOOTAGES: SW NW

QUADRANGLE: MURDOCK LONGITUDE: -88.06125 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.817471 DATE COLLECTED: 10 / 9 / 1974

SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 239.3 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 203 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
654.0	PLEISTOCENE		UNCONSOLIDATED	8.5	0.0	
645.5	PLEISTOCENE		SAND & GRAVEL	4.5	8.5	
641.0	PLEISTOCENE		CLAY	19.0	13.0	O.C. SAND & GRAVEL
622.0	PLEISTOCENE		SAND & GRAVEL	5.5	32.0	W/ BOUDLERS
616.5	PLEISTOCENE		CLAY	52.5	37.5	O.C. GRAVEL
564.0	SHELBURN		SHALE	12.5	90.0	W/ SANDY SEAMS
551.5	SHELBURN		VARRIGATED SHALE	15.5	102.5	
536.0	SHELBURN	BANKSTON FORK	LIMESTONE	11.0	118.0	
525.0	CARBONDALE	ENERGY	SANDSTONE	7.5	129.0	W/ SH SEAMS
517.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	40.5	136.5	W/ SS
477.0	CARBONDALE	ENERGY	CALCAREOUS SANDSTONE	2.5	177.0	
474.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	43.7	179.5	W/ SS SEAMS
430.8	CARBONDALE	HERRIN	COAL	6.2	223.2	CORE STARTS @195'
424.7	CARBONDALE		SHALE	1.4	229.3	GRN GRY
423.2	CARBONDALE		SHALE	8.6	230.8	GRN GRY W/ NODULES

MAPID: 04121916000C **VERSION:** 1 **PROJECT:** ISGS 90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 27 **QUARTERS/FOOTAGES:** SW SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.061215 **GEOLOGIST:** M VANKO
CONFIDENTIAL: N **LATITUDE:** 39.810385 **DATE COLLECTED:** 10 / 14 / 1974
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 229.6 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 204 **WELL TYPE:** Coal Test
COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.0	PLEISTOCENE		UNCONSOLIDATED	7.5	0.0	
637.5	PLEISTOCENE		SAND & GRAVEL	7.5	7.5	
630.0	PLEISTOCENE		CLAY	37.5	15.0	W/ GRAVEL POCKETS
592.5	PLEISTOCENE		CLAY	20.0	52.5	W/ O.C. GRAVEL
572.5	SHELBURN		VARRIGATED SHALE	5.5	72.5	
567.0	SHELBURN		SHALE	16.5	78.0	GRN GRY
550.5	SHELBURN		SANDY SHALE	7.0	94.5	
543.5	SHELBURN		SHALE	6.5	101.5	GRY
537.0	SHELBURN	BANKSTON FORK	LIMESTONE	11.5	108.0	W/ SH SEAMS
525.5	CARBONDALE	ENERGY	SANDSTONE	16.5	119.5	W/ SH SEAMS
509.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	78.3	136.0	CORE BEGINS @ 190' W/ SS SEAMS
430.7	CARBONDALE	HERRIN	COAL	6.7	214.3	
424.0	CARBONDALE		CLAYSTONE	1.5	221.0	GRY
422.5	CARBONDALE		SHALE	2.9	222.5	GRN GRY W/ NODULES
419.6	CARBONDALE		LIMESTONE	0.2	225.4	
419.3	CARBONDALE		SILTSTONE	3.9	225.7	W/ LS NODULES

MAPID: 04100034000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NE NE SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.065986 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.814009 **DATE COLLECTED:** 1 / 0 / 1945
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 247.0 **LOG TYPE:** Survey Core Study
SOURCE: BELL & ZOLLER COAL CO. 22 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	6.8	224.6	

MAPID: 04100035000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE
QUADRANGLE: MURDOCK LONGITUDE: -88.066075 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.821389 DATE COLLECTED: 1 / 0 / 1945
SURFACE ELEVATION (FT.): LOGGED (FT.): 237.1 LOG TYPE: Survey Core Study
SOURCE: BELL & ZOLLER COAL CO. 23 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	-	237.1	NO THICKNESS GIVEN
-	CARBONDALE	HERRIN	COAL	-	237.1	NO THICKNESS GIVEN

MAPID: 04100036000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 130' N line, 40' W line of NW NW
QUADRANGLE: MURDOCK LONGITUDE: -88.08463 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.820984 DATE COLLECTED: 1 / 0 / 1945
SURFACE ELEVATION (FT.): LOGGED (FT.): 251.0 LOG TYPE: Survey Core Study
SOURCE: BELL & ZOLLER COAL CO. 24 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
-	CARBONDALE	HERRIN	COAL	6.8	244.2	

MAPID: 04101068000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 1' N line, 1' W line of SE NW
QUADRANGLE: MURDOCK LONGITUDE: -88.080051 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.817658 DATE COLLECTED: 4 / 9 / 1971
SURFACE ELEVATION (FT.): 670.5 LOGGED (FT.): 244.0 LOG TYPE: Survey Core Study
SOURCE: BELL & ZOLLER COAL CO. 50 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
439.9	CARBONDALE	HERRIN	COAL	11.4	230.6	REMOVED BY CO.

MAPID: 04101109000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 725' S line, 114' W line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.084299 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.81595 **DATE COLLECTED:** 2 / 7 / 1972
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 230.5 **LOG TYPE:** Survey Core Study
SOURCE: ISGS 148 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
441.6	CARBONDALE	HERRIN	COAL	7.3	218.4	

MAPID: 04101109000C **VERSION:** 2 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 725' S line, 114' W line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.084299 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.81595 **DATE COLLECTED:** 2 / 9 / 1972
SURFACE ELEVATION (FT.): 661.0 **LOGGED (FT.):** 230.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 148 **WELL TYPE:** Coal Test
COMMENT: ALSO SEE OLD COUNTY#01109 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
661.0			UNCONSOLIDATED	7.0	0.0	
654.0			GLACIAL DRIFT	74.0	7.0	
580.0			SANDSTONE	6.5	81.0	
573.5			SILTY, SANDY SHALE	16.8	87.5	
556.7			UNCLASSIFIED	10.2	104.3	CORE LOSS
546.5			SHALE	4.8	114.5	MULTI
541.7	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	119.3	
528.7	CARBONDALE	ENERGY	SANDSTONE	12.8	132.3	
516.0	CARBONDALE	ENERGY	SHALY SANDSTONE	25.0	145.0	W/SANDY SHALE SEAMS
491.0	CARBONDALE	ENERGY	SILTY SHALE	48.4	170.0	
442.6	CARBONDALE	HERRIN	COAL	7.3	218.4	
435.2	CARBONDALE		UNDERCLAY	2.0	225.8	
433.2	CARBONDALE		LIMESTONE	2.8	227.8	AND SHALE

MAPID: 04101113000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 170' S line, 75' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.06617 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.807102 **DATE COLLECTED:** 12 / 22 / 1971
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 214.0 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 142 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
438.2	CARBONDALE	HERRIN	COAL	7.5	205.8	

MAPID: 04101114000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 725' S line, 264' W line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.083762 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.815952 **DATE COLLECTED:** 2 / 10 / 1972
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 225.0 **LOG TYPE:** Survey Core Study
SOURCE: ISGS 149 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
444.7	CARBONDALE	HERRIN	COAL	7.2	215.3	

MAPID: 04101114000C **VERSION:** 2 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 725' S line, 264' W line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.083762 **GEOLOGIST:** C TREWORYG
CONFIDENTIAL: N **LATITUDE:** 39.815952 **DATE COLLECTED:** 2 / 17 / 1972
SURFACE ELEVATION (FT.): 660.0 **LOGGED (FT.):** 225.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 149 **WELL TYPE:** Coal Test
COMMENT: ALSO SEE OLD COUNTY#01114 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
660.0			UNCONSOLIDATED	7.0	0.0	
653.0			UNCONSOLIDATED	69.0	7.0	
584.0			SANDY SHALE	9.0	76.0	
575.0			SILTY SHALE	17.6	85.0	
557.4			SHALE	19.3	102.6	MULTI
538.1	CARBONDALE	BANKSTON FORK	LIMESTONE	8.7	121.9	
529.4	CARBONDALE	ENERGY	SHALY SANDSTONE	33.6	130.6	THICKNESS ADJ TO MATCH LOG DEPTHS
495.8	CARBONDALE	ENERGY	SANDY SHALE	9.9	164.2	W/SS SEAMS
485.9	CARBONDALE	ENERGY	SILTY, SANDY SHALE	41.2	174.1	
444.7	CARBONDALE	HERRIN	COAL	7.2	215.3	
437.6	CARBONDALE		UNDERCLAY	1.0	222.4	
436.6	CARBONDALE		LIMESTONE	1.6	223.4	AND SHALE

MAPID: 04121180000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 36' N line, 38' E line of NE SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.06612 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.813914 **DATE COLLECTED:** 8 / 20 / 1974
SURFACE ELEVATION (FT.): 646.7 **LOGGED (FT.):** 250.5 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 195 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		
				UNIT	OVERBURDEN	COMMENT
421.7	CARBONDALE	HERRIN	COAL	6.9	225.0	
397.7	CARBONDALE	SPRINGFIELD	COAL	0.8	249.0	

MAPID: 04121207000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 1657' N line, 2597' W line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.075425 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.816796 **DATE COLLECTED:** 7 / 29 / 1971
SURFACE ELEVATION (FT.): 655.3 **LOGGED (FT.):** 241.0 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 95 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
423.5	CARBONDALE	HERRIN	COAL	7.1	231.8	

MAPID: 04121208000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 1625' N line, 1698' E line of NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.072094 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.816893 **DATE COLLECTED:** 8 / 3 / 1971
SURFACE ELEVATION (FT.): 653.3 **LOGGED (FT.):** 238.5 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 96 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
425.0	CARBONDALE	HERRIN	COAL	6.8	228.3	

MAPID: 04121732000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 3960' N line, 1' E line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.065944 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.810464 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 645.3 **LOGGED (FT.):** 247.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 22 **WELL TYPE:** Coal Test
COMMENT: LOC.: 3/4 S OF NE CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.3			UNCONSOLIDATED	80.0	0.0	
565.3	MODESTO		SHALE	29.0	80.0	
536.3	MODESTO		LIMESTONE	0.5	109.0	
535.8	MODESTO		SHALE	13.0	109.5	
522.8	MODESTO	PIASA	LIMESTONE	7.5	122.5	
515.3			SANDY SHALE	17.0	130.0	
498.3	CARBONDALE	BANKSTON FORK	LIMESTONE	4.0	147.0	
494.3	CARBONDALE	ENERGY	SANDY SHALE	49.0	151.0	
445.3	CARBONDALE	ENERGY	SHALE	24.6	200.0	
420.7	CARBONDALE	HERRIN	COAL	6.8	224.6	#6 COAL SEAM
414.0	CARBONDALE		SHALE	15.7	231.3	

MAPID: 04121733000C VERSION: 1 PROJECT: ISGS95
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 1' N line, 1' E line
QUADRANGLE: MURDOCK LONGITUDE: -88.066075 GEOLOGIST: BARGH
CONFIDENTIAL: N LATITUDE: 39.821389 DATE COLLECTED:
SURFACE ELEVATION (FT.): 663.8 LOGGED (FT.): 244.3 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 23 WELL TYPE: Coal Test
COMMENT: LOC.: NE CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
663.8			UNCONSOLIDATED	101.0	0.0	
562.8			SHALE	13.0	101.0	BRN
549.8			CLAYSTONE & SHALE	23.0	114.0	
526.8	CARBONDALE	BANKSTON FORK	LIMESTONE	9.0	137.0	
517.8	CARBONDALE	ENERGY	SANDY SHALE	31.0	146.0	
486.8	CARBONDALE	ENERGY	SANDY SHALE	60.5	177.0	W/C PTGS
426.3	CARBONDALE	HERRIN	COAL	6.8	237.5	#6 COAL SEAM

MAPID: 04121734000C VERSION: 1 PROJECT: ISGS95
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 1' N line, 1' W line
QUADRANGLE: MURDOCK LONGITUDE: -88.084773 GEOLOGIST: BARGH
CONFIDENTIAL: N LATITUDE: 39.821342 DATE COLLECTED:
SURFACE ELEVATION (FT.): 683.4 LOGGED (FT.): 251.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 24 WELL TYPE: Coal Test
COMMENT: LOC.: NW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
683.4			UNCONSOLIDATED	105.0	0.0	
578.4			SANDSTONE	12.0	105.0	BRN
566.4			SHALE	31.5	117.0	PTLY SDY
534.9	CARBONDALE	BANKSTON FORK	LIMESTONE	11.5	148.5	
523.4	CARBONDALE	ENERGY	SANDY SHALE	52.0	160.0	
471.4	CARBONDALE	ENERGY	SHALE	32.3	212.0	
439.1	CARBONDALE	HERRIN	COAL	6.8	244.3	#6 COAL SEAM

MAPID: 04121760000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 1180' N line, 1280' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.080156 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.818101 DATE COLLECTED: 3 / 25 / 1971

SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 230.6 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 50 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
662.0			UNCONSOLIDATED	4.0	0.0	
658.0			CLAY, SAND & GRAVEL	6.0	4.0	
652.0			CLAY & GRAVEL	65.0	10.0	
587.0			CLAY	8.0	75.0	GRN/GRY
579.0			SILTY, SANDY SHALE	7.0	83.0	
572.0			SANDSTONE	21.0	90.0	
551.0			CLAYSTONE & SHALE	6.0	111.0	GRN/GRY
545.0	CARBONDALE		SILTY SHALE	4.8	117.0	SIDERITE
540.2	CARBONDALE		CLAYSTONE & SHALE	1.9	121.8	
538.3	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	9.4	123.7	THICKNESS ADJ TO MATCH LOG DEPTHS
528.9	CARBONDALE	ENERGY	SANDY SHALE	39.9	133.1	
489.0	CARBONDALE	ENERGY	SILTY SHALE	46.3	173.0	
442.7	CARBONDALE	HERRIN	COAL	7.2	219.3	
435.6	CARBONDALE		CLAYSTONE & SHALE	4.2	226.4	
431.4	CARBONDALE		CALCAREOUS SHALE	2.4	230.6	
429.0	CARBONDALE		SHALE	3.5	233.0	GRN/GRAY
425.5	CARBONDALE		LIMESTONE	0.3	236.5	
425.2	CARBONDALE		CALCAREOUS SHALE	5.1	236.8	
420.2	CARBONDALE		SHALE	2.2	241.8	PYRITE

MAPID: 04121804000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 45' N line, 59' W line of NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.084564 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.82122 **DATE COLLECTED:** 7 / 22 / 1971
SURFACE ELEVATION (FT.): 686.0 **LOGGED (FT.):** 253.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 93 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
686.0			UNCONSOLIDATED	12.0	0.0	
674.0			CLAY	84.0	12.0	
590.0			SANDSTONE	24.0	96.0	MAY BE DRIFT
566.0			SANDSTONE	5.0	120.0	GRAY
561.0	CARBONDALE		SANDY SHALE	24.1	125.0	
536.9	CARBONDALE	BANKSTON FORK	LIMESTONE	11.5	149.1	
525.4	CARBONDALE	ENERGY	SANDSTONE/SHALE	35.4	160.6	
490.0	CARBONDALE	ENERGY	SANDSTONE/SHALE	18.5	196.0	
471.5	CARBONDALE	ENERGY	UNKNOWN	5.5	214.5	DRILLER'S LOG SAYS "C.P."
466.0	CARBONDALE	ENERGY	SILTY SHALE	16.3	220.0	
449.7	CARBONDALE	ENERGY	SILTY SHALE	7.7	236.3	W/SIDERITE NODULES
442.0	CARBONDALE	HERRIN	COAL	6.1	244.0	
435.9	CARBONDALE		UNDERCLAY	0.6	250.1	
435.2	CARBONDALE		LIMESTONE W/ SHALE	1.3	250.8	

MAPID: 04121806000C **VERSION:** 1 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 28 **QUARTERS/FOOTAGES:** 1657' N line, 43' E line of NE NW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.075522 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.816794 **DATE COLLECTED:** 7 / 29 / 1971
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 241.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 95 **WELL TYPE:** Coal Test
COMMENT: ALSO HAS OLD COUNTY #21207 IN CONF DRAWE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0			UNCONSOLIDATED	9.0	0.0	
646.0			UNCONSOLIDATED	116.5	9.0	
529.5	CARBONDALE		SANDY SHALE	6.0	125.5	
523.5	CARBONDALE	BANKSTON FORK	LIMESTONE	13.2	131.5	
510.3	CARBONDALE	ENERGY	SANDY SHALE	20.3	144.7	THICKNESS ADJ TO MATCH LOG DEPTHS
490.0	CARBONDALE	ENERGY	SANDY SHALE	29.0	165.0	
461.0	CARBONDALE	ENERGY	UNKNOWN	11.0	194.0	DRILLER'S LOG SAYS "C.P."
450.0	CARBONDALE	ENERGY	SILTY SHALE	26.8	205.0	
423.2	CARBONDALE	HERRIN	COAL	7.1	231.8	
416.2	CARBONDALE		UNDERCLAY	1.7	238.8	
414.5	CARBONDALE		LIMESTONE W/ SHALE	0.5	240.5	

MAPID: 04121807000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 1625' N line, 942' W line of NW NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.071998 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.816892 DATE COLLECTED: 8 / 3 / 1971
 SURFACE ELEVATION (FT.): 653.0 LOGGED (FT.): 238.5 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 96 WELL TYPE: Coal Test
 COMMENT: ALSO OLD COUNTY #21208 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
653.0			UNCONSOLIDATED	3.0	0.0	
650.0			SANDY CLAY	88.0	3.0	GRAY
562.0			SILTY SHALE	18.0	91.0	
544.0			SANDSTONE	4.5	109.0	
539.5	CARBONDALE		SILTY SHALE	18.0	113.5	
521.5	CARBONDALE	BANKSTON FORK	LIMESTONE	9.5	131.5	
512.0	CARBONDALE	ENERGY	SHALE	59.0	141.0	SANDY SILTY
453.0	CARBONDALE	ENERGY	SILTY SHALE	26.0	200.0	
427.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	2.3	226.0	STRIPPED
424.7	CARBONDALE	HERRIN	COAL	6.8	228.3	
417.8	CARBONDALE		BONE COAL	0.5	235.2	
417.3	CARBONDALE		UNDERCLAY	1.3	235.7	
416.0	CARBONDALE		LIMESTONE	1.5	237.0	

MAPID: 04121853000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 170' S line, 75' E line
 QUADRANGLE: MURDOCK LONGITUDE: -88.06617 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.807102 DATE COLLECTED: 12 / 22 / 1971
 SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 213.3 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 142 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0			UNCONSOLIDATED	11.0	0.0	
633.0			UNCONSOLIDATED	34.7	11.0	
598.3			SANDSTONE	8.3	45.7	
590.0			SANDSTONE	27.5	54.0	PORSE GRAIN
562.5			SILTY SHALE	21.5	81.5	THICKNESS ADJ TO MATCH LOG DEPTHS
541.0	CARBONDALE		SHALE	4.4	103.0	
536.6	CARBONDALE	BANKSTON FORK	LIMESTONE	11.5	107.4	
525.1	CARBONDALE	ENERGY	SANDY SHALE	12.1	118.9	
513.0	CARBONDALE	ENERGY	SANDY SHALE	67.0	131.0	W/SS SEAMS
446.0	CARBONDALE	ENERGY	SILTY SHALE	7.9	198.0	
438.1	CARBONDALE	HERRIN	COAL	7.0	205.9	
431.1	CARBONDALE		UNDERCLAY	0.4	212.9	

MAPID: 04121862000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 1095' N line, 58' E line of SE SW

QUADRANGLE: MURDOCK LONGITUDE: -88.075454 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.807267 DATE COLLECTED: 2 / 21 / 1972

SURFACE ELEVATION (FT.): 646.0 LOGGED (FT.): 212.3 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 151 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
646.0			UNCONSOLIDATED	5.0	0.0	
641.0			UNCONSOLIDATED	68.5	5.0	
572.5			SANDSTONE	11.5	73.5	
561.0			SANDY SHALE	22.7	85.0	
538.3	CARBONDALE	BANKSTON FORK	LIMESTONE	13.2	107.7	
525.2	CARBONDALE	ENERGY	SANDY SHALE	49.2	120.8	W/SS SEAMS
476.0	CARBONDALE	ENERGY	SILTY SHALE	32.5	170.0	
443.5	CARBONDALE	HERRIN	COAL	6.3	202.5	
437.2	CARBONDALE		UNDERCLAY	3.4	208.8	

MAPID: 04121891000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.084222 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.814233 DATE COLLECTED: 6 / 29 / 1972

SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 85.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 178 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
649.0	PLEISTOCENE		SAND	1.0	6.0	
648.0	PLEISTOCENE		CLAY & GRAVEL	11.0	7.0	
637.0	PLEISTOCENE		SAND & GRAVEL	5.0	18.0	
632.0	PLEISTOCENE		CLAY & GRAVEL	7.0	23.0	
625.0	PLEISTOCENE		SAND	2.0	30.0	
623.0	PLEISTOCENE		CLAY & GRAVEL	26.0	32.0	
597.0	PLEISTOCENE		SAND & GRAVEL	2.0	58.0	
595.0	PLEISTOCENE		CLAY & GRAVEL	25.0	60.0	

MAPID: 04121892000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES:

QUADRANGLE: VILLA GROVE LONGITUDE: -88.146817 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.814877 DATE COLLECTED: 9 / 5 / 1973

SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 96.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 179 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
655.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
649.0	PLEISTOCENE		SAND & GRAVEL	7.3	6.0	
641.7	PLEISTOCENE		CLAY	18.7	13.3	
623.0	PLEISTOCENE		SAND	3.0	32.0	LOG REPORT "SOFT AND SANDY"
620.0	PLEISTOCENE		CLAY	45.0	35.0	
575.0	PLEISTOCENE		CLAY	16.0	80.0	DRILLER DESCRIBES IT AS "CLAY SH"

MAPID: 04121893000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.084109 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.815848 DATE COLLECTED: 9 / 6 / 1973

SURFACE ELEVATION (FT.): 0.0 LOGGED (FT.): 94.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 180 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
0.0	PLEISTOCENE		CLAY	20.0	0.0	BLU GRY W/ BOULDERS
-20.0	PLEISTOCENE		CLAY	14.0	20.0	GRY
-34.0	PLEISTOCENE		CLAY, SAND & GRAVEL	3.5	34.0	
-37.5	PLEISTOCENE		CLAY	24.5	37.5	
-62.0	PLEISTOCENE		SANDY CLAY	20.0	62.0	BRN W/WATER
-82.0	PLEISTOCENE		CLAY	12.0	82.0	GRY

MAPID: 04121904000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 850' S line, 57' E line of SE NW

QUADRANGLE: MURDOCK LONGITUDE: -88.075567 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.816325 DATE COLLECTED: 8 / 7 / 1974

SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 251.5 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 191 WELL TYPE: Coal Test

COMMENT: ALSO SEE OLD COUNTY#21166 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
654.0			SANDY CLAY	12.5	0.0	
641.5			CLAY	71.5	12.5	OC GRAVEL
570.0			SHALE	31.0	84.0	
539.0			SILTY, SANDY SHALE	3.5	115.0	W/SS
535.5			SHALE	3.5	118.5	MULTI
532.0	CARBONDALE		SHALE	3.0	122.0	GRN/GRAY
529.0	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	125.0	
516.0	CARBONDALE	ENERGY	SANDSTONE	9.0	138.0	
507.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	45.0	147.0	W/SS
462.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	32.0	192.0	CORE BEGINS @ 221.6
430.0	CARBONDALE	HERRIN	COAL	7.4	224.0	
422.6	CARBONDALE		CLAYSTONE	1.3	231.4	
421.3	CARBONDALE		SHALE & CONGLOMERATE	1.8	232.7	
419.6	CARBONDALE		CALCAREOUS SHALE	2.1	234.4	
417.4	CARBONDALE		SHALE	3.4	236.6	W/LS NODULES; GRN/GRAY
414.0	CARBONDALE		UNKNOWN	1.0	240.0	CORE LOSS
413.0	CARBONDALE		SHALE	3.6	241.0	W/NODULES; GRN/GRY
409.4	CARBONDALE		SHALE	2.5	244.6	
406.9	CARBONDALE	TURNER MINE	SHALE	1.3	247.1	GRY/BLK
405.7	CARBONDALE	SPRINGFIELD	COAL	2.8	248.3	
402.9	CARBONDALE		UNDERCLAY	2.5	251.1	

MAPID: 04121908000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 28 QUARTERS/FOOTAGES: 10' S line, 1094' E line of SE SE
 QUADRANGLE: MURDOCK LONGITUDE: -88.069809 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.806644 DATE COLLECTED: 8 / 21 / 1974
 SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 240.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 196 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0			SANDY CLAY	8.0	0.0	
636.0			SAND & GRAVEL	3.5	8.0	
632.5			CLAY	8.0	11.5	
624.5			SAND & GRAVEL	11.5	19.5	
613.0			CLAY	30.5	31.0	OC GRAVEL, BOULDERS
582.5			COAL	1.0	61.5	AND SMUT
581.5			SHALE	11.0	62.5	
570.5			SANDY SHALE	32.5	73.5	W/SS
538.0	CARBONDALE		SHALE	5.0	106.0	GRN/GRY
533.0	CARBONDALE	BANKSTON FORK	LIMESTONE	14.5	111.0	
518.5	CARBONDALE	ENERGY	SANDSTONE	26.5	125.5	W/SANDY SHALE
492.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	56.2	152.0	CORING STARTS @ 194'
435.8	CARBONDALE	ENERGY	SILTY, SANDY SHALE	1.3	208.2	W/CARBONATION SEAMS
434.5	CARBONDALE	HERRIN	COAL	6.7	209.5	
427.8	CARBONDALE		UNDERCLAY	2.1	216.2	
425.8	CARBONDALE		SHALE	2.5	218.2	W/NODULES
423.2	CARBONDALE		UNKNOWN	0.7	220.8	CORE LOSS
422.6	CARBONDALE		LIMESTONE	0.3	221.4	
422.3	CARBONDALE		SHALE	8.5	221.7	W/NODULES; GRN/GRY
413.8	CARBONDALE		LIMESTONE	0.5	230.2	
413.3	CARBONDALE	TURNER MINE	BLACK SHALE	2.5	230.7	
410.8	CARBONDALE	TURNER MINE	SHALE	0.5	233.2	W/PYRITE; BLK
410.3	CARBONDALE	TURNER MINE	CARBONACEOUS SHALE	0.3	233.7	W/PYRITE
410.0	CARBONDALE	SPRINGFIELD	COAL	3.5	234.0	
406.5	CARBONDALE		CLAYSTONE	2.4	237.5	GRY

MAPID: 04101099000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: SW NE SE NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.086472 GEOLOGIST: LOG BOOK
 CONFIDENTIAL: N LATITUDE: 39.816258 DATE COLLECTED: 1 / 17 / 1972
 SURFACE ELEVATION (FT.): 688.0 LOGGED (FT.): 237.3 LOG TYPE: Survey Core Study
 SOURCE: ZEIGLER COAL CO. 145 WELL TYPE: Coal Test
 COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
465.2	CARBONDALE	HERRIN	COAL	6.8	222.8	

MAPID: 04101102000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 500' S line, 561' E line of NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.086706 GEOLOGIST: LOG BOOK
 CONFIDENTIAL: N LATITUDE: 39.815328 DATE COLLECTED: 1 / 26 / 1972
 SURFACE ELEVATION (FT.): LOGGED (FT.): 239.5 LOG TYPE: Survey Core Study
 SOURCE: ISGS 147 WELL TYPE: Coal Test
 COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	7.3	216.3	

MAPID: 04101102000C VERSION: 2

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 500' S line, 561' E line of NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.086706 GEOLOGIST: C TREWORYG
 CONFIDENTIAL: N LATITUDE: 39.815328 DATE COLLECTED: 1 / 26 / 1972
 SURFACE ELEVATION (FT.): 661.0 LOGGED (FT.): 223.6 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 147 WELL TYPE: Coal Test
 COMMENT: ALSO SEE OLD COUNTY#01102 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
661.0			UNCONSOLIDATED	5.0	0.0	
656.0			SANDY CLAY	10.0	5.0	BRN
646.0			SANDY CLAY	10.0	15.0	GR
636.0			CLAY	20.0	25.0	W/GRAVEL; GR
616.0			BOULDER	12.0	45.0	W/GRAVEL
604.0			CLAY	3.0	57.0	W/GRAVEL; GRY/BRN
601.0			CLAY	20.0	60.0	W/GRAVEL; BRN
581.0			CLAY	5.0	80.0	W/GRAVEL; GRAY
576.0			SANDY CLAY	10.0	85.0	BRN/GRY
566.0			BOULDER	9.8	95.0	W/GRAVEL
556.2			CLAY	4.3	104.8	W/GRAVEL; GRAY
552.0			UNCONSOLIDATED	2.1	109.0	LOG REPORTS "WEATHERED SHALE"
549.9			UNCONSOLIDATED	4.9	111.1	GRAY
545.0			SANDY CLAY	6.0	116.0	GRAY
539.0			CLAY & GRAVEL	3.7	122.0	
535.3			UNCONSOLIDATED	2.3	125.7	LOG REPORTS "WEATHERED SHALE"
533.0	CARBONDALE	BANKSTON FORK	LIMESTONE	0.8	128.0	PROBABLY PARTIALLY ERODED
532.2	CARBONDALE	ENERGY	SANDSTONE	1.8	128.8	
530.4	CARBONDALE	ENERGY	SHALY SANDSTONE	42.8	130.6	
487.7	CARBONDALE	ENERGY	SILTY SHALE	25.2	173.3	W/FINE SAND
462.5	CARBONDALE	ENERGY	SILTY SHALE	17.8	198.5	
444.7	CARBONDALE	HERRIN	COAL	7.3	216.3	

MAPID: 04101110000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 725' S line, 36' E line of NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.084835 GEOLOGIST: LOG BOOK
 CONFIDENTIAL: N LATITUDE: 39.815951 DATE COLLECTED: 1 / 24 / 1972
 SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 228.7 LOG TYPE: Survey Core Study
 SOURCE: ISGS 146 WELL TYPE: Coal Test
 COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
442.6	CARBONDALE	HERRIN	COAL	6.9	219.4	

MAPID: 04101110000C VERSION: 2

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 725' S line, 36' E line of NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.084835 GEOLOGIST: C TREWORGY
 CONFIDENTIAL: N LATITUDE: 39.815951 DATE COLLECTED: 1 / 26 / 1972
 SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 228.7 LOG TYPE: Drillers Log
 SOURCE: ISGS 146 WELL TYPE: Coal Test
 COMMENT: ALSO SEE OLD COUNTY#01110 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
662.0			UNCONSOLIDATED	9.0	0.0	
653.0			UNCONSOLIDATED	91.8	9.0	
561.2			SILTY, SANDY SHALE	7.4	100.8	
553.8			SHALE	3.1	108.2	GRN/GRAY
550.7			SHALE	1.3	111.3	MULTI
549.5	CARBONDALE		SHALE	3.7	112.5	GRN/GR
545.8	CARBONDALE	BANKSTON FORK	LIMESTONE	18.4	116.2	
527.4	CARBONDALE	ENERGY	SANDSTONE	29.9	134.6	W/SS SEAMS
497.5	CARBONDALE	ENERGY	SANDY SHALE	19.7	164.5	W/SS SEAMS
477.8	CARBONDALE	ENERGY	SILTY, SANDY SHALE	16.8	184.2	
461.0	CARBONDALE	ENERGY	SILTY SHALE	16.5	201.0	
444.5	CARBONDALE	ENERGY	SANDY SHALE	1.9	217.5	
442.6	CARBONDALE	HERRIN	COAL	6.9	219.4	
435.7	CARBONDALE		UNDERCLAY	1.2	226.3	
434.5	CARBONDALE		CALCAREOUS SHALE	0.8	227.5	

MAPID: 04101110000C VERSION: 3

PROJECT: NCRDS99

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 725' S line, 36' E line of NE
QUADRANGLE: MURDOCK LONGITUDE: -88.084835 GEOLOGIST: J MCBETH
CONFIDENTIAL: N LATITUDE: 39.815951 DATE COLLECTED: 1 / 24 / 1972
SURFACE ELEVATION (FT.): 661.9 LOGGED (FT.): 228.4 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 146 WELL TYPE: Coal Test
COMMENT: PERMIT 20;

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
661.9	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
652.9	PLEISTOCENE		UNCONSOLIDATED	91.9	9.0	
561.0			SILTY SHALE	7.3	100.9	
553.7			SHALE	3.1	108.2	GREEN GRAY
550.6			SHALE	1.3	111.3	
549.3			CORE LOSS	1.3	112.6	
548.0			SHALE	2.3	113.9	SOFT GREEN GRAY
545.7			CORE LOSS	7.7	116.2	
538.0	CARBONDALE	BANKSTON FORK	LIMESTONE	10.8	123.9	
527.2	CARBONDALE	ENERGY	SANDSTONE	29.9	134.7	WITH SANDY SHALE
497.3	CARBONDALE	ENERGY	SANDY SHALE	19.6	164.6	WITH SANDSTONE
477.7	CARBONDALE	ENERGY	SILTY SHALE	33.4	184.2	
444.3	CARBONDALE	ENERGY	SANDY SHALE	1.9	217.6	
442.4	CARBONDALE	HERRIN	COAL	6.9	219.5	
435.5	CARBONDALE		UNDERCLAY	1.2	226.4	
434.3	CARBONDALE		LIMESTONE W/ SHALE	0.8	227.6	CONGLOMERATE

MAPID: 04121164000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 442' N line, 1007' E line of SE NE
QUADRANGLE: MURDOCK LONGITUDE: -88.088316 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.816426 DATE COLLECTED: 8 / 8 / 1974
SURFACE ELEVATION (FT.): 672.0 LOGGED (FT.): 256.9 LOG TYPE: Survey Core Study
SOURCE: ZEIGLER COAL CO. 192 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
448.8	CARBONDALE	HERRIN	COAL	6.9	223.2	
422.8	CARBONDALE	SPRINGFIELD	COAL	2.1	249.2	

MAPID: 04121167000C VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 320' N line, 56' E line of SE SE
 QUADRANGLE: MURDOCK LONGITUDE: -88.084822 GEOLOGIST:
 CONFIDENTIAL: N LATITUDE: 39.80937 DATE COLLECTED: 8 / 13 / 1974
 SURFACE ELEVATION (FT.): 651.0 LOGGED (FT.): 226.6 LOG TYPE: Survey Core Study
 SOURCE: ISGS 193 WELL TYPE: Coal Test
 COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.2	CARBONDALE	HERRIN	COAL	8.2	200.8	
425.2	CARBONDALE	SPRINGFIELD	COAL	0.8	225.8	

MAPID: 04121167000C VERSION: 2

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 320' N line, 56' E line of SE SE
 QUADRANGLE: MURDOCK LONGITUDE: -88.084822 GEOLOGIST: C TREWORYG
 CONFIDENTIAL: N LATITUDE: 39.80937 DATE COLLECTED: 8 / 13 / 1974
 SURFACE ELEVATION (FT.): 653.0 LOGGED (FT.): 225.8 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 193 WELL TYPE: Coal Test
 COMMENT: ALSO SEE OLD COUNTY#21167 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
653.0			SANDY CLAY	11.5	0.0	
641.5			CLAY	106.0	11.5	OC GRAVEL
535.4	CARBONDALE	BANKSTON FORK	LIMESTONE	1.0	117.6	
534.4	CARBONDALE	ENERGY	SHALE	6.5	118.6	GRN/GR
528.0	CARBONDALE	ENERGY	SANDY SHALE	47.0	125.0	W/SANDY SEAMS
481.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	19.5	172.0	
461.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	9.4	191.5	THICKNESS ADJ TO MATCH LOG DEPTHS
452.1	CARBONDALE	HERRIN	COAL	7.3	200.9	CORE STARTS @200.0'
444.9	CARBONDALE		UNDERCLAY	1.0	208.1	GRAY
444.0	CARBONDALE		SHALE	2.1	209.0	GRY
441.8	CARBONDALE		SHALE & CONGLOMERATE	1.1	211.2	
440.7	CARBONDALE		LIMESTONE	0.8	212.3	W/SHALE BREAKS
440.0	CARBONDALE		SHALE	3.6	213.0	W/CONG LS NODULES; GRN/GRY
436.4	CARBONDALE		SHALE	4.3	216.6	GRY
432.2	CARBONDALE		SHALE	1.5	220.8	W/NODULES; GRN/GRY
430.7	CARBONDALE		LIMESTONE	0.4	222.3	
430.2	CARBONDALE		SHALE	1.3	222.8	
428.9	CARBONDALE		CALCAREOUS SHALE	0.9	224.1	
428.0	CARBONDALE	SPRINGFIELD	COAL	0.8	225.0	

MAPID: 04121168000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of SW SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.098752 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.810243 **DATE COLLECTED:** 4 / 30 / 1974
SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 197.5 **LOG TYPE:** Survey Core Study
SOURCE: ZEIGLER COAL CO. 182 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
467.5	CARBONDALE	HERRIN	COAL	6.5	190.5	

MAPID: 04121291000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:** SE SE SW SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.099314 **GEOLOGIST:**
CONFIDENTIAL: N **LATITUDE:** 39.807009 **DATE COLLECTED:** 5 / 2 / 1974
SURFACE ELEVATION (FT.): 651.4 **LOGGED (FT.):** 206.5 **LOG TYPE:** Survey Core Study
SOURCE: ISGS 184 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
455.3	CARBONDALE	HERRIN	COAL	6.9	196.1	REMOVED BY CO.

MAPID: 04121291000C **VERSION:** 2 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:** SE SE SW SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.099314 **GEOLOGIST:** C TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.807009 **DATE COLLECTED:** 5 / 2 / 1974
SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 206.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 184 **WELL TYPE:** Coal Test
COMMENT: ALSO SEE OLD COUNTY#21291 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
651.0			UNCONSOLIDATED	11.0	0.0	
640.0			CLAY	26.0	11.0	W/GRAVEL
614.0			SAND/CLAY	15.0	37.0	W/BOULDERS
599.0			CLAY	112.0	52.0	OC GRAVEL
487.0	CARBONDALE	ENERGY	SHALE	29.9	164.0	W/SS SEAMS CORED FROM 166' TO 206.5'
457.1	CARBONDALE	ENERGY	SHALE	1.8	193.9	
455.2	CARBONDALE	ENERGY	SHALE	0.2	195.8	CARBONATED
455.0	CARBONDALE	ENERGY	PYRITE	0.1	196.0	
454.9	CARBONDALE	HERRIN	COAL	6.9	196.1	
448.0	CARBONDALE		UNDERCLAY	1.5	203.0	GR
446.5	CARBONDALE		SHALE	0.0	204.5	W/LS NODULES

MAPID: 04121743000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 1' N line, 1' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.103517 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.821333 DATE COLLECTED:

SURFACE ELEVATION (FT.): 693.0 LOGGED (FT.): 216.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 33 WELL TYPE: Coal Test

COMMENT: LOC.: NW CORNER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
693.0			UNCONSOLIDATED	158.0	0.0	
535.0	CARBONDALE	ENERGY	SHALE	13.0	158.0	
522.0	CARBONDALE	ENERGY	SHALE	19.0	171.0	OILY
503.0	CARBONDALE	ENERGY	SHALE	18.9	190.0	OILY
484.1	CARBONDALE	HERRIN	COAL	5.9	208.9	#6 COAL SEAM
478.2	CARBONDALE		UNDERCLAY	1.2	214.8	

MAPID: 04121761000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 26' S line, 97' E line of SE

QUADRANGLE: MURDOCK LONGITUDE: -88.084931 GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.806628 DATE COLLECTED: 3 / 17 / 1971

SURFACE ELEVATION (FT.): 646.0 LOGGED (FT.): 207.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 51 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
646.0			CLAY	28.0	0.0	
618.0			SAND & GRAVEL	2.0	28.0	
616.0			CLAY & GRAVEL	79.0	30.0	
537.0	CARBONDALE	BANKSTON FORK	LIMESTONE	2.3	109.0	
534.7	CARBONDALE	ENERGY	SHALE & SANDSTONE	66.7	111.3	
468.0	CARBONDALE	ENERGY	SHALE	2.0	178.0	
466.0	CARBONDALE	ENERGY	SILTY SHALE	18.1	180.0	
447.9	CARBONDALE	ENERGY	BLACK SHALE	0.1	198.1	
447.8	CARBONDALE	HERRIN	COAL	7.3	198.2	
440.6	CARBONDALE		UNDERCLAY	1.6	205.4	

MAPID: 04121798000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 308' S line, 36' W line of SE SE
QUADRANGLE: MURDOCK LONGITUDE: -88.089178 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.807405 DATE COLLECTED: 7 / 8 / 1971
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 217.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 87 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
663.0			UNCONSOLIDATED	12.0	0.0	
651.0			UNCONSOLIDATED	189.2	12.0	
461.8	CARBONDALE	ENERGY	SHALE	3.8	201.2	SILTY SANDY
458.0	CARBONDALE	ENERGY	SHALE	2.5	205.0	STRIPPED
455.5	CARBONDALE	HERRIN	COAL	7.2	207.5	
448.3	CARBONDALE		UNDERCLAY	1.5	214.7	
446.8	CARBONDALE		LIMESTONE W/ SHALE	0.8	216.2	

MAPID: 04121799000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 1649' N line, 37' E line of NE
QUADRANGLE: MURDOCK LONGITUDE: -88.084851 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.816793 DATE COLLECTED: 7 / 12 / 1971
SURFACE ELEVATION (FT.): 667.0 LOGGED (FT.): 233.4 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 88 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
667.0			UNCONSOLIDATED	10.0	0.0	
657.0			UNCONSOLIDATED	101.0	10.0	
556.0	CARBONDALE		SHALE	20.5	111.0	MULTI
535.5	CARBONDALE	BANKSTON FORK	LIMESTONE	8.3	131.5	
527.2	CARBONDALE	ENERGY	SANDY SHALE	45.2	139.8	THICKNESS ADJ TO MATCH LOG DEPTHS
482.0	CARBONDALE	ENERGY	SHALE	39.6	185.0	THICKNESS ADJ TO MATCH LOG DEPTHS
442.4	CARBONDALE	HERRIN	COAL	6.8	224.6	
435.5	CARBONDALE		UNDERCLAY	2.0	231.5	

MAPID: 0412180000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 190' N line, 43' W line of SW NW
QUADRANGLE: MURDOCK LONGITUDE: -88.103344 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.817113 DATE COLLECTED: 7 / 14 / 1971
SURFACE ELEVATION (FT.): 681.0 LOGGED (FT.): 209.3 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 89 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
681.0			UNCONSOLIDATED	9.0	0.0
672.0			UNCONSOLIDATED	157.6	9.0
514.4	CARBONDALE	ENERGY	SILTY SHALE	34.1	166.6
480.3	CARBONDALE	ENERGY	SHALE	0.3	200.7
480.0	CARBONDALE	HERRIN	COAL	6.7	201.0
473.3	CARBONDALE		UNDERCLAY	1.1	207.7
472.2	CARBONDALE		LIMESTONE W/ SHALE	0.5	208.8

MAPID: 04121801000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: 188' N line, 336' E line of SE NW
QUADRANGLE: MURDOCK LONGITUDE: -88.095311 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.817123 DATE COLLECTED: 7 / 15 / 1971
SURFACE ELEVATION (FT.): 676.0 LOGGED (FT.): 222.0 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 90 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
676.0			UNCONSOLIDATED	9.0	0.0
667.0			UNCONSOLIDATED	113.5	9.0
553.5	CARBONDALE	BANKSTON FORK	LIMESTONE	7.0	122.5
546.5	CARBONDALE	ENERGY	SANDY SHALE	27.5	129.5
519.0	CARBONDALE	ENERGY	SANDY SHALE	48.1	157.0
470.9	CARBONDALE	ENERGY	SHALE	5.6	205.1
465.3	CARBONDALE	ENERGY	SHALE	2.8	210.7
462.5	CARBONDALE	HERRIN	COAL	6.6	213.5
455.9	CARBONDALE		UNDERCLAY	1.4	220.1
454.5	CARBONDALE		LIMESTONE W/ SHALE	0.5	221.5

MAPID: 04121856000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: SW NE SE NE

QUADRANGLE: MURDOCK LONGITUDE: -88.085328 GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.816547 DATE COLLECTED: 1 / 20 / 1972

SURFACE ELEVATION (FT.): 668.0 LOGGED (FT.): 237.3 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 145 WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
668.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
663.0	PLEISTOCENE		CLAY & GRAVEL	5.0	5.0	BRN
658.0	PLEISTOCENE		CLAY & GRAVEL	20.0	10.0	GR
638.0	PLEISTOCENE		SAND & GRAVEL	5.0	30.0	
633.0	PLEISTOCENE		CLAY & GRAVEL	20.0	35.0	
613.0	PLEISTOCENE		CLAY	5.0	55.0	GRN GRY
608.0	PLEISTOCENE		CLAY	5.0	60.0	BRN
603.0	PLEISTOCENE		CLAY	25.0	65.0	BRN W/ GRAVEL
578.0	PLEISTOCENE		SILTY CLAY	5.0	90.0	BRN
573.0	PLEISTOCENE		SANDY CLAY	10.0	95.0	BRN
563.0	PLEISTOCENE		SILTY CLAY	3.0	105.0	BRN
560.0	SHELBURN		SILTY SHALE	5.2	108.0	
554.9	SHELBURN		SHALE	14.4	113.1	MULTICOLORED
540.4	SHELBURN	BANKSTON FORK	LIMESTONE	9.5	127.6	
530.9	CARBONDALE	ENERGY	SANDSTONE	12.4	137.1	
518.5	CARBONDALE	ENERGY	SANDSTONE	3.5	149.5	STRIPPED
515.0	CARBONDALE	ENERGY	SANDY SHALE	28.3	153.0	STRIPPED
486.7	CARBONDALE	ENERGY	SANDY SHALE	13.9	181.3	GRY
472.8	CARBONDALE	ENERGY	SILTY, SANDY SHALE	27.7	195.2	GRY
445.2	CARBONDALE	HERRIN	COAL	6.8	222.8	
438.4	CARBONDALE		UNDERCLAY	0.9	229.6	
437.4	CARBONDALE		LIMESTONE & CONGLOMERATE	4.0	230.6	AND SHALE
433.4	CARBONDALE		SHALE	2.8	234.6	GRN GRY STRIPPED

MAPID: 04121865000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:**
QUADRANGLE: MURDOCK **LONGITUDE:** -88.094079 **GEOLOGIST:** B BARGH
CONFIDENTIAL: N **LATITUDE:** 39.813945 **DATE COLLECTED:** 7 / 17 / 1973
SURFACE ELEVATION (FT.): 658.7 **LOGGED (FT.):** 211.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 154 **WELL TYPE:**
COMMENT: LOC COORDINATES: N35835.04, E18922.71

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
658.7			UNCONSOLIDATED	122.5	0.0	
536.2	CARBONDALE	ENERGY	SHALE	16.5	122.5	MULTI
519.7	CARBONDALE	ENERGY	SHALE	72.5	139.0	SH & SS; GR
447.2	CARBONDALE	HERRIN	COAL	0.0	211.5	TOP OF COAL

MAPID: 04121866000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:** SW NW NW SW
QUADRANGLE: MURDOCK **LONGITUDE:** -88.102883 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.812553 **DATE COLLECTED:** 7 / 12 / 1973
SURFACE ELEVATION (FT.): 658.7 **LOGGED (FT.):** 211.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 155 **WELL TYPE:** Coal Test
COMMENT: LOC.-COORDINATES, DRILLED TO TOP OF COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
658.7			UNCONSOLIDATED	122.3	0.0	
536.4	CARBONDALE		SHALE	16.7	122.3	MULTI
519.7	CARBONDALE	ENERGY	SHALE	72.0	139.0	W/SS; GR
447.7	CARBONDALE	HERRIN	COAL	-	211.0	TOP OF COAL

MAPID: 04121867000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:**
QUADRANGLE: MURDOCK **LONGITUDE:** -88.094079 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.813945 **DATE COLLECTED:** 7 / 25 / 1973
SURFACE ELEVATION (FT.): 663.1 **LOGGED (FT.):** 215.6 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 156 **WELL TYPE:** Mine Shaft
COMMENT: DRILLED TO MINE OPENING

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
663.1			UNCONSOLIDATED	129.3	0.0	
533.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	129.3	
532.1	CARBONDALE	ENERGY	SANDSTONE	14.5	131.0	
517.6	CARBONDALE	ENERGY	SANDSTONE	70.1	145.5	W/SH

MAPID: 04121868000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.094079

GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.813945

DATE COLLECTED: 8 / 22 / 1973

SURFACE ELEVATION (FT.): 663.1 LOGGED (FT.): 216.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 156-A

WELL TYPE: Mine Shaft

COMMENT: ROCK DUST HOLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
663.1			UNCONSOLIDATED	129.3	0.0	
533.8	CARBONDALE	BANKSTON FORK	LIMESTONE	1.8	129.3	
532.1	CARBONDALE	ENERGY	SANDY SHALE	14.5	131.0	
517.6	CARBONDALE	ENERGY	SHALE	64.5	145.5	W/SS
453.1	CARBONDALE	ENERGY	SHALE	6.0	210.0	
447.1	CARBONDALE	HERRIN	COAL	-	216.0	TOP OF COAL

MAPID: 04121880000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.086001

GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.815105

DATE COLLECTED: 6 / 20 / 1972

SURFACE ELEVATION (FT.): 661.0 LOGGED (FT.): 228.3

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 168

WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	5.0		
656.0	PLEISTOCENE		CLAY & GRAVEL	30.0	5.0	
626.0	PLEISTOCENE		BOULDER	43.0	35.0	W/ GRAVEL
583.0	PLEISTOCENE		CLAY	24.0	78.0	BRN W/ GRAVEL&SAND
559.0	SHELBURN		VARRIGATED SHALE	3.0	102.0	
556.0	SHELBURN		CLAY & GRAVEL	7.0	105.0	
549.0	SHELBURN	BANKSTON FORK	LIMESTONE	4.8	112.0	MULTI COLORED LS NODULES
544.2	SHELBURN	BANKSTON FORK	LIMESTONE	8.8	116.8	
535.5	CARBONDALE	ENERGY	SANDY SHALE	88.7	125.5	GR W/SS SEAMS
446.8	CARBONDALE	HERRIN	COAL	7.2	214.2	
439.7	CARBONDALE		CLAYSTONE & SILTSTONE	1.0	221.3	
438.7	CARBONDALE		SANDY SHALE	3.0	222.3	
435.7	CARBONDALE		CALCAREOUS SHALE	3.0	225.3	

MAPID: 04121890000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.085033

GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.81743

DATE COLLECTED: 6 / 28 / 1972

SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 112.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 177

WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
670.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
664.0	PLEISTOCENE		SAND & GRAVEL	85.0	6.0	
579.0	PLEISTOCENE		SILTY CLAY	13.0	91.0	GRY AND TIGHT
566.0	PLEISTOCENE		CLAY	6.0	104.0	GRN
560.0	SHELBURN		VARRIGATED SHALE	2.0	110.0	

MAPID: 04121895000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 29 QUARTERS/FOOTAGES: NW SE

QUADRANGLE: MURDOCK LONGITUDE: -88.09911

GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.810325

DATE COLLECTED: 4 / 25 / 1974

SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 198.5

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 182

WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
654.0	PLEISTOCENE		UNCONSOLIDATED	8.5	0.0	
645.5	PLEISTOCENE		CLAY	30.5	8.5	
615.0	PLEISTOCENE		SAND & GRAVEL	4.0	39.0	
611.0	PLEISTOCENE		CLAY	84.5	43.0	W/ OC GRAVEL
526.5	SHELBURN		SHALE	5.5	127.5	
521.0	SHELBURN		SILTY, SANDY SHALE	1.0	133.0	
520.0	SHELBURN		SILTY, SANDY SHALE	33.0	134.0	W/ SS CORED FROM 134' TO 198.5'
487.0	SHELBURN		UNKNOWN	4.8	167.0	CORE LOSS
482.2	SHELBURN		SILTY SHALE	18.7	171.8	CORE LOSS 190 TO 195.5
463.5	CARBONDALE	HERRIN	COAL	7.4	190.5	
456.1	CARBONDALE		CLAYSTONE & SILTSTONE	0.6	197.9	

MAPID: 04121905000C **VERSION:** 1 **PROJECT:** ISGS 90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 29 **QUARTERS/FOOTAGES:** SE NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.088265 **GEOLOGIST:** M VANKO
CONFIDENTIAL: N **LATITUDE:** 39.816444 **DATE COLLECTED:** 8 / 8 / 1974
SURFACE ELEVATION (FT.): 672.0 **LOGGED (FT.):** 255.6 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 192 **WELL TYPE:** Coal Test
COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	8.0		
664.0	PLEISTOCENE		UNCONSOLIDATED	5.5	8.0	
657.5	PLEISTOCENE		CLAY	101.5	14.5	O.C. GRAVEL
556.0	SHELBURN		VARRIGATED SHALE	12.0	116.0	
544.0	SHELBURN	BANKSTON FORK	LIMESTONE	9.5	128.0	
534.5	CARBONDALE	ENERGY	SANDSTONE	19.5	137.5	W/ SANDY SHALE SEAMS
515.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	31.5	157.0	
483.5	CARBONDALE	ENERGY	SILTY SHALE	11.0	188.5	W/ SIDERITE
472.5	CARBONDALE	ENERGY	SILTY SHALE	21.5	199.5	GRY CORE STARTS @ 205'
451.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	2.3	221.0	W/ SS; SH SEAMS
448.7	CARBONDALE	HERRIN	COAL	6.8	223.3	
441.8	CARBONDALE		CLAYSTONE	2.1	230.2	
439.7	CARBONDALE		SHALE	4.6	232.3	GRY
435.2	CARBONDALE		SHALE & CONGLOMERATE	2.5	236.8	W/ NODULES
432.7	CARBONDALE		SHALE	7.3	239.3	GRN GRY W/ NODULES
425.3	CARBONDALE		CALCAREOUS SHALE	1.6	246.7	GRN GRY
423.7	CARBONDALE		SHALE	0.6	248.3	
423.2	CARBONDALE		SHALE	0.5	248.8	
422.7	CARBONDALE	SPRINGFIELD	COAL	1.9	249.3	
420.8	CARBONDALE		CLAY	2.5	251.2	FIRECLAY
418.3	CARBONDALE		SHALE & CONGLOMERATE	2.9	253.7	

MAPID: 04121169000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 30 **QUARTERS/FOOTAGES:** 433' N line, 45' W line of NE NE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.108066 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.82012 **DATE COLLECTED:** 5 / 0 / 1974
SURFACE ELEVATION (FT.): 694.0 **LOGGED (FT.):** 228.0 **LOG TYPE:** Survey Core Study
SOURCE: ISGS 183 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
474.6	CARBONDALE	HERRIN	COAL	6.7	219.4	

MAPID: 04121169000C VERSION: 2

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 30 QUARTERS/FOOTAGES: 433' N line, 45' W line of NE NE
QUADRANGLE: MURDOCK LONGITUDE: -88.108066 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.82012 DATE COLLECTED: 4 / 30 / 1974
SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 227.8 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 183 WELL TYPE: Coal Test
COMMENT: ALSO SEE OLD COUNTY#21169 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0			UNCONSOLIDATED	12.0	0.0	
678.0			CLAY	125.0	12.0	W/OC GRAVEL
553.0	CARBONDALE	ENERGY	SHALE	3.0	137.0	
550.0	CARBONDALE	ENERGY	SANDSTONE/SHALE	7.8	140.0	CORED FROM 141' TO 228'
542.2	CARBONDALE	ENERGY	SILTY, SANDY SHALE	46.8	147.8	W/SS
495.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	24.7	194.5	
470.8	CARBONDALE	ENERGY	SHALE	0.2	219.2	W/COAL BANDS
470.6	CARBONDALE	HERRIN	COAL	6.5	219.4	
464.2	CARBONDALE		CLAYSTONE	0.4	225.8	GR
463.7	CARBONDALE		CLAYSTONE	1.6	226.3	W/NODULES

MAPID: 04121172000C VERSION: 1

PROJECT: NCRDS

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 30 QUARTERS/FOOTAGES: 20' S, 74' E, NW/c NE SE
QUADRANGLE: MURDOCK LONGITUDE: -88.108186 GEOLOGIST: LOUCHIOS
CONFIDENTIAL: N LATITUDE: 39.812122 DATE COLLECTED: 5 / 14 / 1974
SURFACE ELEVATION (FT.): 673.0 LOGGED (FT.): 217.6 LOG TYPE: Drillers Log
SOURCE: ZEIGLER COAL CO. 187 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
673.0			UNCONSOLIDATED	13.0	0.0	
660.0			CLAY	25.0	13.0	
635.0			SAND & GRAVEL	8.5	38.0	
626.5			UNCONSOLIDATED	144.5	46.5	
482.0			GRAY SHALE	2.5	191.0	
479.5			SILTY SHALE	6.3	193.5	
473.2			CORE LOSS	7.0	199.8	
466.2			DARK SHALE	0.5	206.8	
465.8	CARBONDALE	HERRIN	COAL	7.0	207.2	
458.8	CARBONDALE		DARK SHALE	0.8	214.2	
458.0	CARBONDALE		SILTY SHALE	1.6	215.0	W/ NODULES

MAPID: 04121762000C

VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 30

QUARTERS/FOOTAGES: 125' S line, 127' E line of SE

QUADRANGLE: MURDOCK

LONGITUDE: -88.103891

GEOLOGIST: C TREWORGY

CONFIDENTIAL: N

LATITUDE: 39.806892

DATE COLLECTED: 3 / 16 / 1971

SURFACE ELEVATION (FT.): 654.0

LOGGED (FT.): 220.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

52

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
654.0			UNCONSOLIDATED	4.0	0.0	
650.0			SANDY CLAY	8.0	4.0	
642.0			CLAY	3.0	12.0	BROWN
639.0			SANDY CLAY	163.5	15.0	
475.5			SANDY SHALE	6.5	178.5	
469.0	CARBONDALE	ENERGY	SILTY SHALE	26.3	185.0	
442.7	CARBONDALE	HERRIN	COAL	7.2	211.3	
435.6	CARBONDALE		UNDERCLAY	1.6	218.4	

MAPID: 04121763000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 30 QUARTERS/FOOTAGES: 171' S line, 50' W line
 QUADRANGLE: MURDOCK LONGITUDE: -88.122165 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.80711 DATE COLLECTED: 3 / 17 / 1971
 SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 600.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 53 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
662.0			UNCONSOLIDATED	4.0	0.0	
658.0			CLAY & GRAVEL	154.0	4.0	
504.0			SANDY CLAY	2.0	158.0	COAL, WOOD DRIFT
502.0			CLAY	44.5	160.0	
457.5			SHALE	2.3	204.5	
455.2	CARBONDALE	HERRIN	COAL	1.6	206.8	TOP OF SEAM MAY BE ERODED
453.7	CARBONDALE		UNDERCLAY	3.6	208.3	
450.2	CARBONDALE		SILTY SHALE	3.2	211.8	NODULES
447.0	CARBONDALE		SILTY SHALE	2.0	215.0	
445.0	CARBONDALE		UNDERCLAY	0.7	217.0	
444.3	CARBONDALE		SHALE	12.0	217.7	NODULES
432.3	CARBONDALE		SHALE	1.9	229.7	
430.4	CARBONDALE	TURNER MINE	SHALE	1.9	231.6	
428.5	CARBONDALE		SHALE	1.1	233.5	
427.4	CARBONDALE		SHALE	6.2	234.6	
421.2	CARBONDALE		SANDY SHALE	14.3	240.8	
407.0	CARBONDALE		SHALE	5.5	255.0	
401.5	CARBONDALE	HOUCHIN CREEK	BONE COAL	0.5	260.5	
401.0	CARBONDALE		SHALE	17.0	261.0	SIDERITE
384.0	CARBONDALE	SURVANT	BONE COAL	1.2	278.0	
382.8	CARBONDALE		SANDY SHALE	31.3	279.2	
351.5			SANDSTONE	22.5	310.5	W/COAL PARTINGS
329.0			SILTY SHALE	25.0	333.0	
304.0			SANDY SHALE	72.0	358.0	
232.0			SILTY SHALE	84.0	430.0	
148.0			SANDY SHALE	86.0	514.0	

MAPID: 04121770000C

VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 30

QUARTERS/FOOTAGES: 30' S line, 993' E line of SE SW

QUADRANGLE: MURDOCK

LONGITUDE: -88.116443

GEOLOGIST: C TREWORY

CONFIDENTIAL: N

LATITUDE: 39.806692

DATE COLLECTED: 3 / 23 / 1971

SURFACE ELEVATION (FT.): 664.0

LOGGED (FT.): 204.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

60

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
664.0			UNCONSOLIDATED	4.0	0.0	
660.0			CLAY	4.0	4.0	BROWN
656.0			SANDY CLAY	7.0	8.0	
649.0			CLAY & GRAVEL	133.0	15.0	GRAY
516.0	CARBONDALE	ENERGY	SANDY SHALE	32.0	148.0	
484.0	CARBONDALE	ENERGY	SILTY SHALE	14.0	180.0	
470.0	CARBONDALE	HERRIN	COAL	6.1	194.0	
463.9	CARBONDALE		UNDERCLAY	1.5	200.1	
462.4	CARBONDALE		LIMESTONE	2.4	201.6	

MAPID: 04121162000C

VERSION: 1

PROJECT: CONF

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 31

QUARTERS/FOOTAGES: 43' S line, 45' W line of NE NE

QUADRANGLE: MURDOCK

LONGITUDE: -88.107959

GEOLOGIST: LOG BOOK

CONFIDENTIAL: N

LATITUDE: 39.803012

DATE COLLECTED: 4 / 24 / 1974

SURFACE ELEVATION (FT.): 650.0

LOGGED (FT.): 214.0

LOG TYPE: Electric Log

SOURCE: ISGS

181

WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
444.1	CARBONDALE	HERRIN	COAL	7.0	205.9	

MAPID: 04121162000C VERSION: 2

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 31 QUARTERS/FOOTAGES: 43' S line, 45' W line of NE NE
 QUADRANGLE: MURDOCK LONGITUDE: -88.107959 GEOLOGIST: C TREWORY
 CONFIDENTIAL: N LATITUDE: 39.803012 DATE COLLECTED: 4 / 23 / 1974
 SURFACE ELEVATION (FT.): 651.0 LOGGED (FT.): 215.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 181 WELL TYPE: Coal Test
 COMMENT: ALSO SEE OLD COUNTY#21162 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
651.0			UNCONSOLIDATED	10.0	0.0	
641.0			CLAY	22.0	10.0	
619.0			SAND & GRAVEL	6.0	32.0	
613.0			CLAY	25.0	38.0	W/BOULDERS
588.0			CLAY	63.4	63.0	
524.6	CARBONDALE	ENERGY	SHALE	6.0	126.4	
518.6	CARBONDALE	ENERGY	SILTY SHALE	5.3	132.4	W/SANDY SEAMS- W/SIDERITE
513.2	CARBONDALE	ENERGY	SILTY, SANDY SHALE	54.2	137.8	W/SS SEAMS
459.1	CARBONDALE	ENERGY	SILTY, SANDY SHALE	13.9	191.9	W/NODULES
445.2	CARBONDALE	HERRIN	COAL	7.0	205.8	
438.1	CARBONDALE		UNDERCLAY	1.4	212.9	
436.7	CARBONDALE		CLAYSTONE	0.8	214.3	W/NODULES

MAPID: 04121742000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 31 QUARTERS/FOOTAGES:
 QUADRANGLE: MURDOCK LONGITUDE: -88.112869 GEOLOGIST: BARGH
 CONFIDENTIAL: N LATITUDE: 39.799219 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 204.0 LOG TYPE: Drillers Log
 SOURCE: ZEIGLER COAL CO. 32 WELL TYPE: Coal Test
 COMMENT: LOC.: W CENTER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0			UNCONSOLIDATED	105.0	0.0	
545.0			SANDY SHALE	27.0	105.0	
518.0	CARBONDALE	ENERGY	SHALE	64.0	132.0	
454.0	CARBONDALE	HERRIN	COAL	6.8	196.0	#6 COAL SEAM
447.2	CARBONDALE		UNDERCLAY	1.3	202.8	

MAPID: 04121803000C VERSION: 1

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 31 QUARTERS/FOOTAGES: 74' N line, 69' W line of NW SW

QUADRANGLE: MURDOCK LONGITUDE: -88.12222 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.799017 DATE COLLECTED: 7 / 21 / 1971

SURFACE ELEVATION (FT.): 649.0 LOGGED (FT.): 202.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 92 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
649.0			UNCONSOLIDATED	14.0	0.0	
635.0			UNCONSOLIDATED	100.0	14.0	
535.0	CARBONDALE	ENERGY	SANDY SHALE	48.0	114.0	THICKNESS ADJ TO MATCH LOG DEPTHS
487.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	28.3	162.0	C.P.=?
458.7	CARBONDALE	ENERGY	SHALE	2.8	190.3	THICKNESS ADJ TO MATCH LOG DEPTHS
455.9	CARBONDALE	HERRIN	COAL	6.4	193.1	
449.5	CARBONDALE		UNDERCLAY	1.4	199.5	
448.1	CARBONDALE		LIMESTONE W/ SHALE	1.1	200.9	

MAPID: 04100050000C VERSION: 1

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 32 QUARTERS/FOOTAGES: NW SW

QUADRANGLE: MURDOCK LONGITUDE: -88.100892 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.797391 DATE COLLECTED: 11 / 29 / 1944

SURFACE ELEVATION (FT.): LOGGED (FT.): 206.0 LOG TYPE: Drillers Log

SOURCE: BELL & ZOLLER COAL CO. 13 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	6.7	199.8	

MAPID: 04121170000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 32 QUARTERS/FOOTAGES: 1' N line, 1' W line of NE NE

QUADRANGLE: MURDOCK LONGITUDE: -88.089291 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.80655 DATE COLLECTED: 5 / 7 / 1974

SURFACE ELEVATION (FT.): 649.0 LOGGED (FT.): 206.0 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 185 WELL TYPE: Coal Test

COMMENT: ALSO SEE OLD COUNTY#21170 IN CONF DRAWER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
649.0			UNCONSOLIDATED	8.5	0.0	
640.5			SAND & GRAVEL	5.5	8.5	
635.0			CLAY	22.0	14.0	OC GRAVEL
613.0			SAND & GRAVEL	8.0	36.0	W/BOULDERS
605.0			CLAY	43.0	44.0	W/OC GRAVEL
562.0			CLAY	11.0	87.0	BROWN
551.0			CLAY	6.0	98.0	
545.0	CARBONDALE		SHALE	2.0	104.0	GRN/GRAY
543.0	CARBONDALE	BANKSTON FORK	LIMESTONE W/ SHALE	3.0	106.0	
540.0	CARBONDALE	ENERGY	SHALE	3.0	109.0	
537.0	CARBONDALE	ENERGY	SHALE	2.7	112.0	SANDY SILTY W/SS
534.3	CARBONDALE	ENERGY	SILTY SHALE	64.2	114.7	CORED FROM 114.67 TO 206' W/SS
470.2	CARBONDALE	ENERGY	SILTY, SANDY SHALE	15.8	178.8	
454.3	CARBONDALE	ENERGY	SILTY, SANDY SHALE	1.3	194.7	W/SS SEAMS
453.1	CARBONDALE	ENERGY	SHALE	0.3	195.9	CARBONATED
452.8	CARBONDALE	HERRIN	COAL	7.4	196.2	
445.4	CARBONDALE		UNDERCLAY	1.3	203.6	GRAY
444.2	CARBONDALE		SHALE & CONGLOMERATE	1.2	204.8	W/LS NODULES

MAPID: 04121171000C **VERSION:** 1 **PROJECT:** NCRDS
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 32 **QUARTERS/FOOTAGES:** 157' N, 185' W, C /c
QUADRANGLE: MURDOCK **LONGITUDE:** -88.094562 **GEOLOGIST:** LOUCHIOS
CONFIDENTIAL: N **LATITUDE:** 39.799682 **DATE COLLECTED:** 5 / 9 / 1974
SURFACE ELEVATION (FT.): 644.2 **LOGGED (FT.):** 212.2 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 186 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.2			UNCONSOLIDATED	13.0	0.0	
631.2			CLAY & GRAVEL	8.0	13.0	
623.2			SAND & GRAVEL	7.5	21.0	
615.7			SANDY CLAY	13.5	28.5	
602.2			SAND & GRAVEL	6.0	42.0	BOULDERS
596.2			UNCONSOLIDATED	62.5	48.0	
533.7			GREEN SHALE	1.5	110.5	
532.2			LIMESTONE	2.5	112.0	
529.7			SHALY SANDSTONE	1.5	114.5	
528.2			SHALY SANDSTONE	8.0	116.0	GREEN SHALE
520.2			SILTY SHALE	51.4	124.0	
468.8			SILTY SHALE	24.1	175.4	W/ SS SEAMS
444.7			SILTY SHALE	4.7	199.5	W/ SIDERITE
440.0	CARBONDALE	HERRIN	COAL	6.9	204.2	
433.1	CARBONDALE		GRAY SHALE	1.0	211.1	

MAPID: 04121722000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 32 **QUARTERS/FOOTAGES:**
QUADRANGLE: MURDOCK **LONGITUDE:** -88.093894 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.799251 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.9 **LOGGED (FT.):** 208.0 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 13 **WELL TYPE:** Coal Test
COMMENT: WEST CENTER OF SECTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.9			UNCONSOLIDATED	103.0	0.0	
537.9			SHALE	4.0	103.0	SH & GRVL
533.9	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	107.0	
528.9	CARBONDALE	ENERGY	SANDY SHALE	58.0	112.0	
470.9	CARBONDALE	ENERGY	DARK SHALE	5.0	170.0	
465.9	CARBONDALE	ENERGY	SHALE	24.0	175.0	DK SDY
441.9	CARBONDALE	ENERGY	DARK SHALE	0.8	199.0	
441.1	CARBONDALE	HERRIN	COAL	6.7	199.8	#6
434.4	CARBONDALE		UNDERCLAY	1.5	206.5	

MAPID: 04121899000C VERSION: 1

PROJECT: ISGS 90

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 32 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.094817

GEOLOGIST: M VANKO

CONFIDENTIAL: N LATITUDE: 39.799751

DATE COLLECTED: 5 / 9 / 1974

SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 212.1

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 186

WELL TYPE: Coal Test

COMMENT: COORDINATES FROM COMPANY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
631.0	PLEISTOCENE		CLAY & GRAVEL	8.0	13.0	
623.0	PLEISTOCENE		SAND & GRAVEL	7.5	21.0	
615.5	PLEISTOCENE		SAND/CLAY	13.5	28.5	
602.0	PLEISTOCENE		SAND	6.0	42.0	W/BOULDER
596.0	PLEISTOCENE		CLAY	62.5	48.0	OC GRAVEL
533.5	SHELBURN		SHALE	1.5	110.5	GRN GRY
532.0	SHELBURN	BANKSTON FORK	LIMESTONE	2.5	112.0	
529.5	CARBONDALE	ENERGY	SANDSTONE	1.5	114.5	W/ SH SEAMS
528.0	CARBONDALE	ENERGY	SANDSTONE	8.0	116.0	W/ GRY SH SEAMS CORE STARTS @ 116'
520.0	CARBONDALE	ENERGY	SILTY, SANDY SHALE	51.4	124.0	W/ SS OC SIDERITE
468.6	CARBONDALE	ENERGY	SILTY, SANDY SHALE	24.1	175.4	W/ SS SEAMS
444.5	CARBONDALE	ENERGY	SILTY, SANDY SHALE	4.7	199.5	W/ SIDERITE
439.8	CARBONDALE	HERRIN	COAL	6.9	204.2	
432.9	CARBONDALE		SILTY CLAYSTONE	1.0	211.1	GRY

MAPID: 04100025000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 33 QUARTERS/FOOTAGES: SE NE NW

QUADRANGLE: MURDOCK LONGITUDE: -88.076361

GEOLOGIST: R. SMITH

CONFIDENTIAL: N LATITUDE: 39.803861

DATE COLLECTED: 0 / 0 / 1899

SURFACE ELEVATION (FT.): LOGGED (FT.): 262.0

LOG TYPE: Drillers Log

SOURCE: W. THOMPSON

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	152.0	0.0	
-	CARBONDALE		ROCK	56.0	152.0	
-	CARBONDALE	HERRIN	COAL	8.0	208.0	
-	CARBONDALE		ROCK	18.0	216.0	
-	CARBONDALE	SPRINGFIELD	COAL	2.5	234.0	
-	CARBONDALE		ROCK	25.5	236.5	

MAPID: 04121715000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 33 QUARTERS/FOOTAGES: SE NE NE SE

QUADRANGLE: MURDOCK LONGITUDE: -88.066249 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.797972 DATE COLLECTED:

SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 208.5 LOG TYPE: Drillers Log

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

COMMENT: SOUTH OF RR. NE COR SE 1/4

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
641.0			CLAY	14.0	0.0
627.0			SAND & GRAVEL	30.0	14.0
597.0	CARBONDALE		SHALE	16.0	44.0
581.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	60.0
578.0	CARBONDALE	ENERGY	SHALE	17.0	63.0
561.0	CARBONDALE	ENERGY	SANDY SHALE	24.0	80.0
537.0	CARBONDALE	ENERGY	COAL	2.0	104.0
535.0	CARBONDALE	ENERGY	DARK SHALE	12.0	106.0
523.0	CARBONDALE	ENERGY	SHALE	69.0	118.0
454.0	CARBONDALE	ENERGY	DARK SHALE	14.5	187.0
439.5	CARBONDALE	HERRIN	COAL	7.0	201.5 #6 COAL SEAM

MAPID: 04121716000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 33 QUARTERS/FOOTAGES: SW NW NW SW

QUADRANGLE: MURDOCK LONGITUDE: -88.083911 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.797923 DATE COLLECTED:

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 204.8 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 7 WELL TYPE: Coal Test

COMMENT: SOUTH OF B&O RR. NW COR. SW 1/4

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
640.0			CLAY	14.0	0.0
626.0			SAND & GRAVEL	21.0	14.0
605.0			SOFT SHALE	72.0	35.0
533.0	CARBONDALE	BANKSTON FORK	LIMESTONE	5.0	107.0
528.0	CARBONDALE	ENERGY	SANDY SHALE	65.0	112.0
463.0	CARBONDALE	ENERGY	DARK SHALE	21.0	177.0
442.0	CARBONDALE	HERRIN	COAL	6.8	198.0 #6 COAL SEAM

MAPID: 04121713000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 34 QUARTERS/FOOTAGES: SE NE NE SE

QUADRANGLE: MURDOCK LONGITUDE: -88.047361 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.797967 DATE COLLECTED:

SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 213.8 LOG TYPE: Drillers Log

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

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
642.0			SAND & GRAVEL	43.0	0.0
599.0	MODESTO		SHALE	17.0	43.0
582.0	MODESTO	PIASA	LIMESTONE	2.5	60.0
579.5	MODESTO		SHALE	4.5	62.5
575.0			SHALE	34.0	67.0
541.0	CARBONDALE		SHALE	11.0	101.0
530.0	CARBONDALE	BANKSTON FORK	LIMESTONE	6.0	112.0
524.0	CARBONDALE	ENERGY	SANDY SHALE	70.0	118.0
454.0	CARBONDALE	ENERGY	DARK SHALE	19.5	188.0
434.5	CARBONDALE	HERRIN	COAL	6.3	207.5 #6 COAL SEAM

MAPID: 04121593000C VERSION: 1

PROJECT: ISGS

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 35 QUARTERS/FOOTAGES: 330' N line, 330' W line

QUADRANGLE: MURDOCK LONGITUDE: -88.045635 GEOLOGIST: C TREWORY

CONFIDENTIAL: N LATITUDE: 39.805791 DATE COLLECTED: 9 / 1 / 1987

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 420.0 LOG TYPE: Nuclear Log

SOURCE: PAWNEE OIL CORP ZIEGLER #1 WELL TYPE: Oil and Gas Test

COMMENT: LOG RECEIVED FROM WOODDELL LOGGING

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
639.0	PLEISTOCENE		UNCONSOLIDATED	45.0	0.0
526.0	CARBONDALE	BANKSTON FORK	LIMESTONE	11.0	113.0
429.5	CARBONDALE	HERRIN	COAL	7.0	209.5
404.5	CARBONDALE	SPRINGFIELD	COAL	3.0	234.5
374.0	CARBONDALE	EXCELLO	BLACK SHALE	4.0	265.0
370.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	269.0
335.0	CARBONDALE	MECCA QUARRY		1.5	304.0

MAPID: 04121593000C **VERSION:** 2 **PROJECT:** ISGS90
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 35 **QUARTERS/FOOTAGES:** 330' N line, 330' W line
QUADRANGLE: MURDOCK **LONGITUDE:** -88.045635 **GEOLOGIST:** C TREWORY
CONFIDENTIAL: N **LATITUDE:** 39.805791 **DATE COLLECTED:** 2 / 18 / 1987
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 425.0 **LOG TYPE:** Porosity Log
SOURCE: PAWNEE OIL CORP. ZEIGLER #1 **WELL TYPE:** Dry Hole
COMMENT: LOG SCALE: 1"=20'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0			UNCONSOLIDATED	45.0	0.0	ESTIMATED FROM GAMMALOG
594.0			SHALE	14.0	45.0	
580.0			LIMESTONE	5.0	59.0	
575.0			SHALE	50.0	64.0	
525.0	CARBONDALE	BANKSTON FORK	LIMESTONE	13.0	114.0	
512.0	CARBONDALE	ENERGY	SHALE	82.0	127.0	
430.0	CARBONDALE	HERRIN	COAL	8.0	209.0	
422.0	CARBONDALE		UNCLASSIFIED	14.5	217.0	UNDERCLAY, SHALE
407.5	CARBONDALE	TURNER MINE	BLACK SHALE	2.5	231.5	
405.0	CARBONDALE	SPRINGFIELD	COAL	4.0	234.0	
401.0	CARBONDALE		UNCLASSIFIED	27.0	238.0	
374.0	CARBONDALE	EXCELLO	BLACK SHALE	4.0	265.0	
370.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	269.0	
368.0	CARBONDALE		SHALE & SILTSTONE	32.5	271.0	
335.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	2.0	303.5	
333.5	SPOON		SHALE & SILTSTONE	50.5	305.5	
283.0	SPOON		BLACK SHALE	8.5	356.0	
274.5			UNCLASSIFIED	60.5	364.5	MISSISSIPPIAN?

MAPID: 04121712000C **VERSION:** 1 **PROJECT:** ISGS95
COUNTY: DOUGLAS **TWP/RNG:** 16N 10E **SECTION:** 35 **QUARTERS/FOOTAGES:** NE SE SE SE
QUADRANGLE: MURDOCK **LONGITUDE:** -88.028574 **GEOLOGIST:** BARGH
CONFIDENTIAL: N **LATITUDE:** 39.793323 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 644.0 **LOGGED (FT.):** 196.5 **LOG TYPE:** Drillers Log
SOURCE: ZEIGLER COAL CO. 3 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0			CLAY	15.0	0.0	
629.0			SAND & GRAVEL	62.0	15.0	
567.0	CARBONDALE		SHALE	25.0	77.0	
542.0	CARBONDALE	BANKSTON FORK	LIMESTONE	3.0	102.0	
539.0	CARBONDALE	ENERGY	SHALE	80.0	105.0	
459.0	CARBONDALE	ENERGY	DARK SHALE	5.5	185.0	
453.5	CARBONDALE	HERRIN	COAL	6.0	190.5	#6 COAL SEAM

MAPID: 04121719000C

VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS

TWP/RNG: 16N 10E

SECTION: 35

QUARTERS/FOOTAGES: 50' S line, 375' W line of SE SW

QUADRANGLE: MURDOCK

LONGITUDE: -88.040709

GEOLOGIST: BARGH

CONFIDENTIAL: N

LATITUDE: 39.792113

DATE COLLECTED:

SURFACE ELEVATION (FT.): 644.6

LOGGED (FT.): 200.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO.

10

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.6			UNCONSOLIDATED	56.0	0.0	
588.6			SANDY SHALE	31.0	56.0	
557.6			SHALE	5.0	87.0	
552.6	CARBONDALE		SHALE	14.0	92.0	
538.6	CARBONDALE	BANKSTON FORK	LIMESTONE	2.0	106.0	
536.6	CARBONDALE	ENERGY	SHALY SANDSTONE	82.0	108.0	
454.6	CARBONDALE	ENERGY	SHALE	2.5	190.0	
452.1	CARBONDALE	HERRIN	COAL	6.8	192.5	#6
445.3	CARBONDALE		UNDERCLAY	0.7	199.3	

MAPID: 04100023000C VERSION: 1

PROJECT: NCRDS87

COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 88 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: MURDOCK LONGITUDE: -88.076489 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 39.813054 DATE COLLECTED:

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 355.5 LOG TYPE: Survey Core Study

SOURCE: LOUILLE OIL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0			UNCONSOLIDATED	113.0	0.0	
530.0	CARBONDALE	DANVILLE	COAL	0.0	113.0	
530.0	CARBONDALE	BANKSTON FORK	LIMESTONE	12.5	113.0	
517.5	CARBONDALE	ENERGY	SHALE	82.0	125.5	
435.5	CARBONDALE	ENERGY	BLACK SHALE	3.1	207.5	
432.4	CARBONDALE	HERRIN	COAL	7.0	210.6	
425.4	CARBONDALE		UNDERCLAY	2.4	217.6	
423.0	CARBONDALE		SHALE	14.5	220.0	
408.5	CARBONDALE	TURNER MINE	BLACK SHALE	1.5	234.5	
407.0	CARBONDALE	SPRINGFIELD	COAL	2.2	236.0	
404.8	CARBONDALE		UNDERCLAY	5.9	238.2	
398.9	CARBONDALE		SHALE	24.7	244.1	
374.2	CARBONDALE	EXCELLO	BLACK SHALE	2.8	268.8	
371.4	CARBONDALE	HOUCHIN CREEK	COAL	3.4	271.6	
368.0	CARBONDALE		UNDERCLAY	3.4	275.0	
364.6	CARBONDALE		SHALE	22.1	278.4	
342.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	0.9	300.5	
340.5	CARBONDALE	COLCHESTER	COAL	0.0	302.5	
340.5			SHALE	22.4	302.5	
318.1			COAL	0.9	324.9	POSSIBLE #2 COAL
317.2			UNDERCLAY	0.3	325.8	
316.9			SHALE	29.5	326.1	
287.4			UNCLASSIFIED	0.0	355.6	TOP OF MISSISSIPPIAN

MAPID: 04100023000C VERSION: 2 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 10E SECTION: 88 QUARTERS/FOOTAGES: NE NE SW
QUADRANGLE: MURDOCK LONGITUDE: -88.076489 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.813054 DATE COLLECTED:
SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 303.1 LOG TYPE: Survey Core Study
SOURCE: WELL TYPE: Coal Test
COMMENT: CHEM ANALYSIS, GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
432.0	CARBONDALE	HERRIN	COAL	7.0	211.0	
407.0	CARBONDALE	SPRINGFIELD	COAL	2.3	236.0	
371.0	CARBONDALE	HOUCHIN CREEK	COAL	3.4	272.0	
341.0	CARBONDALE	COLCHESTER	COAL	1.1	302.0	

MAPID: 041HCSOPC14Z VERSION: 1 PROJECT: CGT-MISC
COUNTY: DOUGLAS TWP/RNG: 16N 11E SECTION: 6 QUARTERS/FOOTAGES: 300' S line, 150' E line
QUADRANGLE: NEWMAN LONGITUDE: -87.994818 GEOLOGIST: C.TREWORY
CONFIDENTIAL: N LATITUDE: 39.865689 DATE COLLECTED: 2 / 0 / 1974
SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY NO.PC-14 WELL TYPE: Coal Test
COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

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

MAPID: 04100726000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 11E SECTION: 18 QUARTERS/FOOTAGES: SE SE SW
QUADRANGLE: MURDOCK LONGITUDE: -88.004537 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.836621 DATE COLLECTED: 5 / 18 / 1950
SURFACE ELEVATION (FT.): LOGGED (FT.): 0.0 LOG TYPE: Drillers Log
SOURCE: PEABODY COAL CO. 1 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	4.0	162.3	THICKNESS UNCERTAIN - SEE LOG
-	CARBONDALE	SPRINGFIELD	COAL	3.7	198.3	THICKNESS UNCERTAIN - SEE LOG

MAPID: 04121739000C VERSION: 1

PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 11E SECTION: 30 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.001494

GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.814013

DATE COLLECTED:

SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 198.0

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 29

WELL TYPE: Coal Test

COMMENT: LOC.: WEST CENTER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
648.0			UNCONSOLIDATED	128.0	0.0	
520.0			UNCLASSIFIED	13.0	128.0	NOT DESCRIBED
507.0	CARBONDALE	ENERGY	SANDSTONE	3.0	141.0	
504.0	CARBONDALE	ENERGY	SANDY SHALE	45.8	144.0	
458.2	CARBONDALE	HERRIN	COAL	7.1	189.8	#6 COAL SEAM
451.1	CARBONDALE		UNDERCLAY	1.1	196.9	

MAPID: 04121970000C VERSION: 1

PROJECT: ISGS90

COUNTY: DOUGLAS TWP/RNG: 16N 11E SECTION: 30 QUARTERS/FOOTAGES:

QUADRANGLE: MURDOCK LONGITUDE: -88.001494

GEOLOGIST: C TREWORYG

CONFIDENTIAL: N LATITUDE: 39.814013

DATE COLLECTED:

SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 198.1

LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 29

WELL TYPE: Coal Test

COMMENT: WEST CENTER OF SECTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
648.0			CLAY	10.0	0.0	
638.0			SAND & GRAVEL	38.0	10.0	AND BOULDERS
600.0			CLAY	39.0	48.0	
561.0			GRAVEL	6.0	87.0	AND BOULDERS
555.0			CLAY	4.0	93.0	
551.0			GRAVEL	15.0	97.0	
536.0			SAND & GRAVEL	16.0	112.0	
520.0			NO RECORD	13.0	128.0	NO RECORD IN LOG
507.0	CARBONDALE	ENERGY	SANDSTONE	3.0	141.0	
504.0	CARBONDALE	ENERGY	SANDY SHALE	45.8	144.0	
458.2	CARBONDALE	HERRIN	COAL	7.1	189.8	
451.1	CARBONDALE		UNDERCLAY	1.1	196.9	FIRECLAY

MAPID: 04121710000C VERSION: 1 PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 11E SECTION: 31 QUARTERS/FOOTAGES: 2300' S line, 1780' E line

QUADRANGLE: MURDOCK LONGITUDE: -88.00035 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.798521 DATE COLLECTED:

SURFACE ELEVATION (FT.): 649.5 LOGGED (FT.): 206.7 LOG TYPE: Drillers Log

SOURCE: ZEIGLER COAL CO. 1 WELL TYPE: Coal Test

COMMENT: LOC. EST. FROM TOPO.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
649.5			CLAYSTONE & SHALE	55.0	0.0	
594.5	CARBONDALE	ENERGY	SHALE	139.3	55.0	
455.2	CARBONDALE	ENERGY	SHALE	5.2	194.3	
450.0	CARBONDALE	HERRIN	COAL	7.2	199.5	#6 COAL SEAM

MAPID: 04121711000C VERSION: 1 PROJECT: ISGS95

COUNTY: DOUGLAS TWP/RNG: 16N 11E SECTION: 31 QUARTERS/FOOTAGES: 2300' S line, 4030' E line

QUADRANGLE: MURDOCK LONGITUDE: -88.008404 GEOLOGIST: BARGH

CONFIDENTIAL: N LATITUDE: 39.798441 DATE COLLECTED:

SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 213.5 LOG TYPE: Drillers Log

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

COMMENT: LOC. EST. FROM TOPO.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
647.0			SAND & GRAVEL	117.0	0.0	
530.0	CARBONDALE		SHALE	18.0	117.0	
512.0	CARBONDALE		SHALE	10.0	135.0	
502.0	CARBONDALE	ENERGY	SHALE	30.0	145.0	
472.0	CARBONDALE	ENERGY	SHALE	24.0	175.0	
448.0	CARBONDALE	ENERGY	SHALE	8.0	199.0	
440.0	CARBONDALE	HERRIN	COAL	6.5	207.0	#6 COAL SEAM

MAPID: 04121623000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 6 QUARTERS/FOOTAGES: 54' N line, 8' E line

QUADRANGLE: ALLERTON LONGITUDE: -87.975437 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.879554 DATE COLLECTED: 4 / 0 / 1971

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 470.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PD-4 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121624000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 8 QUARTERS/FOOTAGES: 48' S line, 18' E line of NE NE

QUADRANGLE: NEWMAN LONGITUDE: -87.956449 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.861643 DATE COLLECTED: 4 / 0 / 1971

SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 498.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PC-4 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 041HCSOPC04Z VERSION: 1 PROJECT: CGT-MISC

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 8 QUARTERS/FOOTAGES: 1000' N line, 250' E line

QUADRANGLE: NEWMAN LONGITUDE: -87.957288 GEOLOGIST: C.TREWORY

CONFIDENTIAL: N LATITUDE: 39.862405 DATE COLLECTED: 2 / 0 / 1974

SURFACE ELEVATION (FT.): LOGGED (FT.): 214.0 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY NO.PC-4 WELL TYPE: Coal Test

COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	178.0	0.0	
-	CARBONDALE		ROCK	30.0	178.0	
-	CARBONDALE	HERRIN	COAL	6.0	208.0	COAL EXCEEDS 6' IN THICKNESS

MAPID: 04121625000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 16 QUARTERS/FOOTAGES: 12' N line, 75' E line

QUADRANGLE: NEWMAN LONGITUDE: -87.937473 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.850658 DATE COLLECTED: 4 / 0 / 1971

SURFACE ELEVATION (FT.): 681.0 LOGGED (FT.): 238.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PD-6 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 041HCSOPD06Z VERSION: 1 PROJECT: CGT-MISC

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 16 QUARTERS/FOOTAGES: 150' N line, 150' E line

QUADRANGLE: NEWMAN LONGITUDE: -87.93774 GEOLOGIST: C.TREWORY

CONFIDENTIAL: N LATITUDE: 39.850275 DATE COLLECTED: 2 / 0 / 1974

SURFACE ELEVATION (FT.): LOGGED (FT.): 184.0 LOG TYPE: Company map

SOURCE: HYDROCARBON SURVEY NO.PD-6 WELL TYPE: Coal Test

COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	154.0	0.0	
-	CARBONDALE		ROCK	23.0	154.0	
-	CARBONDALE	HERRIN	COAL	7.0	177.0	EXCEEDS 7' IN THICKNESS

MAPID: 04121626000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 17 QUARTERS/FOOTAGES: 25' N line, 20' W line

QUADRANGLE: NEWMAN LONGITUDE: -87.975158 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.850431 DATE COLLECTED: 4 / 0 / 1971

SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 292.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PD-8 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 04121627000C VERSION: 1 PROJECT: CONF

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 17 QUARTERS/FOOTAGES: 48' S line, 38' E line

QUADRANGLE: NEWMAN LONGITUDE: -87.956206 GEOLOGIST: LOG BOOK

CONFIDENTIAL: N LATITUDE: 39.836106 DATE COLLECTED: 5 / 0 / 1971

SURFACE ELEVATION (FT.): 657.0 LOGGED (FT.): 408.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY PC-13 WELL TYPE: Coal Test

COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 041HCSOPC13Z VERSION: 1 PROJECT: CGT-MISC
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 17 QUARTERS/FOOTAGES: 200' S line, 150' E line
QUADRANGLE: NEWMAN LONGITUDE: -87.956612 GEOLOGIST: C.TREWORY
CONFIDENTIAL: N LATITUDE: 39.836523 DATE COLLECTED: 2 / 0 / 1974
SURFACE ELEVATION (FT.): LOGGED (FT.): 183.0 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY NO. PC-13 WELL TYPE: Coal Test
COMMENT: IGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	177.0	0.0	
-	CARBONDALE	HERRIN	COAL	6.0	177.0	

MAPID: 041HCSOPD08Z VERSION: 1 PROJECT: CGT-MISC
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 17 QUARTERS/FOOTAGES: 150' N line, 250' W line
QUADRANGLE: NEWMAN LONGITUDE: -87.974331 GEOLOGIST: C.TREWORY
CONFIDENTIAL: N LATITUDE: 39.850089 DATE COLLECTED: 2 / 0 / 1974
SURFACE ELEVATION (FT.): LOGGED (FT.): 190.0 LOG TYPE: Company map
SOURCE: HYDROCARBON SURVEY NO. PD-8 WELL TYPE: Coal Test
COMMENT: IGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	110.0	0.0	
-			ROCK	74.0	110.0	
-	CARBONDALE	HERRIN	COAL	6.0	184.0	COAL EXCEEDS 6' IN THICKNESS

MAPID: 04101143000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 20 QUARTERS/FOOTAGES: NE NE SW SE
QUADRANGLE: NEWMAN LONGITUDE: -87.961317 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.824637 DATE COLLECTED: 7 / 0 / 1973
SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 172.0 LOG TYPE: Survey Core Study
SOURCE: AMAX C.C. 15 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
483.2	CARBONDALE	HERRIN	COAL	5.8	163.8	

MAPID: 04190003000C **VERSION:** 1 **PROJECT:** AVAIL
COUNTY: DOUGLAS **TWP/RNG:** 16N 14W **SECTION:** 20 **QUARTERS/FOOTAGES:** NE NE SW SE
QUADRANGLE: NEWMAN **LONGITUDE:** -87.961317 **GEOLOGIST:** LAWSON
CONFIDENTIAL: N **LATITUDE:** 39.824637 **DATE COLLECTED:** 7 / 10 / 1973
SURFACE ELEVATION (FT.): 647.0 **LOGGED (FT.):** 169.6 **LOG TYPE:** Drillers Log
SOURCE: AMAX 15 **WELL TYPE:** Coal Test
COMMENT: NEWMANBOX #33 CORE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
647.0	PLEISTOCENE		UNCONSOLIDATED	85.0	0.0	
562.0	MODESTO		ROCK	15.0	85.0	
547.0	CARBONDALE	DANVILLE	COAL	3.0	100.0	
544.0	CARBONDALE		ROCK	60.8	103.0	
483.2	CARBONDALE	HERRIN	COAL	5.8	163.8	

MAPID: 04121628000C **VERSION:** 1 **PROJECT:** CONF
COUNTY: DOUGLAS **TWP/RNG:** 16N 14W **SECTION:** 28 **QUARTERS/FOOTAGES:** 40' N line, 35' E line
QUADRANGLE: NEWMAN **LONGITUDE:** -87.937113 **GEOLOGIST:** LOG BOOK
CONFIDENTIAL: N **LATITUDE:** 39.821362 **DATE COLLECTED:** 4 / 0 / 1971
SURFACE ELEVATION (FT.): 648.0 **LOGGED (FT.):** 388.0 **LOG TYPE:** Electric Log
SOURCE: HYDROCARBON SURVEY PD-7 **WELL TYPE:** Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		NO COAL PICKS
-				-		NO COAL PICKS

MAPID: 041HCSOPD07Z **VERSION:** 1 **PROJECT:** CGT-MISC
COUNTY: DOUGLAS **TWP/RNG:** 16N 14W **SECTION:** 28 **QUARTERS/FOOTAGES:** 150' N line, 450' E line
QUADRANGLE: NEWMAN **LONGITUDE:** -87.938599 **GEOLOGIST:** C.TREWORGY
CONFIDENTIAL: N **LATITUDE:** 39.821059 **DATE COLLECTED:** 2 / 0 / 1974
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 117.0 **LOG TYPE:** Company map
SOURCE: HYDROCARBON SURVEY NO.PD-7 **WELL TYPE:** Coal Test
COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	82.0	0.0	
-	CARBONDALE		ROCK	30.0	82.0	
-	CARBONDALE	HERRIN	COAL	5.0	112.0	EXCEEDS 5' IN THICKNESS

MAPID: 04122835000C VERSION: 1 PROJECT: NCRDS02
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 30 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NW NW
QUADRANGLE: NEWMAN LONGITUDE: -87.993837 GEOLOGIST: STRAAYER
CONFIDENTIAL: N LATITUDE: 39.821366 DATE COLLECTED: 8 / 9 / 1973
SURFACE ELEVATION (FT.): 646.0 LOGGED (FT.): 239.0 LOG TYPE: Drillers Log
SOURCE: AMAX 44 WELL TYPE: Coal Test
COMMENT: NEWMAN BOX 33

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
646.0	PLEISTOCENE		CLAY	12.0	0.0
634.0	PLEISTOCENE		GRAVEL	15.0	12.0
619.0	PLEISTOCENE		CLAY	62.0	27.0
557.0	PLEISTOCENE		GRAVEL	13.0	89.0
544.0	PLEISTOCENE		CLAY	32.0	102.0
512.0	PLEISTOCENE		GRAVEL	5.0	134.0
507.0	PLEISTOCENE		SAND	5.0	139.0
502.0	PLEISTOCENE		SAND & GRAVEL	46.0	144.0
456.0	CARBONDALE		GRAY SHALE	12.0	190.0
444.0	CARBONDALE		SANDSTONE	4.0	202.0
440.0	CARBONDALE		SHALE	22.0	206.0
418.0	CARBONDALE		SHALE/COAL	3.0	228.0
415.0	CARBONDALE		UNDERCLAY	8.0	231.0

MAPID: 04190005000C VERSION: 1 PROJECT: AVAIL
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 32 QUARTERS/FOOTAGES: NE NE SE NW
QUADRANGLE: NEWMAN LONGITUDE: -87.965912 GEOLOGIST: LAWSON
CONFIDENTIAL: N LATITUDE: 39.802779 DATE COLLECTED: 7 / 12 / 1973
SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 200.0 LOG TYPE: Drillers Log
SOURCE: AMAX 19 WELL TYPE: Coal Test
COMMENT: NEWMANBOX #33

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	175.0	0.0
465.0			ROCK	25.0	175.0

MAPID: 04100040000C VERSION: 1

PROJECT: NCRDS88

COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 33 QUARTERS/FOOTAGES: 520' N line, 2550' E line

QUADRANGLE: NEWMAN LONGITUDE: -87.946129 GEOLOGIST: R. SMITH

CONFIDENTIAL: N LATITUDE: 39.805468 DATE COLLECTED: 2 / 15 / 1947

SURFACE ELEVATION (FT.): 641.2 LOGGED (FT.): 245.3 LOG TYPE: Multiple log types

SOURCE: BELL AND ZOLLER COAL COMPANY WELL TYPE: Coal Test

COMMENT: CORE DESCRIPTION, DRILLERS LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.2			UNCONSOLIDATED	120.5	0.0	
520.7	CARBONDALE		GRAY SHALE	2.4	120.5	
518.3	CARBONDALE	HERRIN	COAL	5.9	122.9	
512.4	CARBONDALE		UNDERCLAY	0.9	128.8	
511.4	CARBONDALE		CLAYSTONE & SHALE	3.7	129.8	
507.8	CARBONDALE		GRAY SHALE	11.3	133.4	
496.4	CARBONDALE		BLACK SHALE	0.1	144.8	
496.4	CARBONDALE	SPRINGFIELD	COAL	2.3	144.8	
494.0	CARBONDALE		UNDERCLAY	1.3	147.2	
492.8	CARBONDALE		CLAYSTONE & SHALE	3.5	148.4	
489.3	CARBONDALE		SILTSTONE	8.6	151.9	
480.6	CARBONDALE		SHALE	26.4	160.6	
454.3	CARBONDALE		BLACK SHALE	2.8	186.9	
451.4	CARBONDALE	HOUCHIN CREEK	COAL	1.0	189.8	2.5 IN. CONSISTS OF CLAY AND CALCITE
450.4	CARBONDALE		UNDERCLAY	2.5	190.8	
447.9	CARBONDALE		CLAYSTONE & SHALE	2.2	193.3	
445.8	CARBONDALE		SHALE	5.5	195.4	
440.3	CARBONDALE		SILTSTONE	4.1	200.9	
436.2	CARBONDALE		SHALE	1.6	205.0	
434.6	CARBONDALE		SILTSTONE	2.4	206.6	
432.2	CARBONDALE		GRAY SHALE	4.9	209.0	
427.3	CARBONDALE		SILTSTONE	1.2	213.9	
426.1	CARBONDALE		GRAY SHALE	1.3	215.1	
424.8	CARBONDALE		SILTSTONE	0.9	216.4	
423.8	CARBONDALE		GRAY SHALE	21.0	217.4	
402.9	CARBONDALE		BLACK SHALE	2.0	238.3	
400.9	CARBONDALE	COLCHESTER	COAL	0.8	240.3	
400.0	SPOON		UNDERCLAY	1.0	241.2	
399.0	SPOON		CLAYSTONE & SHALE	1.2	242.2	
397.9	SPOON		SHALE	1.9	243.3	

MAPID: 04100040000C VERSION: 2 PROJECT: CGT-ECILL
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 33 QUARTERS/FOOTAGES: 520' N line, 2550' E line
QUADRANGLE: NEWMAN LONGITUDE: -87.946129 GEOLOGIST: C TREWORY
CONFIDENTIAL: N LATITUDE: 39.805468 DATE COLLECTED:
SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 240.9 LOG TYPE: Survey Core Study
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
518.0	CARBONDALE	HERRIN	COAL	6.0	123.0	
496.0	CARBONDALE	SPRINGFIELD	COAL	2.2	145.0	
451.0	CARBONDALE	HOUCHIN CREEK	COAL	0.8	190.0	
401.0	CARBONDALE	COLCHESTER	COAL	0.9	240.0	

MAPID: 04101144000C VERSION: 1 PROJECT: CONF
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 33 QUARTERS/FOOTAGES: NW NW NW SE
QUADRANGLE: NEWMAN LONGITUDE: -87.945763 GEOLOGIST: LOG BOOK
CONFIDENTIAL: N LATITUDE: 39.799235 DATE COLLECTED: 7 / 0 / 1973
SURFACE ELEVATION (FT.): 645.0 LOGGED (FT.): 160.0 LOG TYPE: Drillers Log
SOURCE: AMAX C.C. 20 WELL TYPE: Coal Test
COMMENT: TOPS & THICK. FROM COAL SEC. LOG BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-				-		DID NOT HIT BEDROCK/ABANDONED AT
-				-		HOLE ABANDONED AT 160'

MAPID: 04190004000C VERSION: 1 PROJECT: AVAIL
COUNTY: DOUGLAS TWP/RNG: 16N 14W SECTION: 33 QUARTERS/FOOTAGES: NW NW
QUADRANGLE: NEWMAN LONGITUDE: -87.953453 GEOLOGIST: LAWSON
CONFIDENTIAL: N LATITUDE: 39.805084 DATE COLLECTED: 7 / 13 / 1973
SURFACE ELEVATION (FT.): LOGGED (FT.): 160.0 LOG TYPE: Drillers Log
SOURCE: AMAX 20 WELL TYPE: Coal Test
COMMENT: NEWMANBOX #33

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	130.0	0.0	
-			ROCK	30.0	130.0	

MAPID: 041HCSO0001Z

VERSION: 1

COUNTY: DOUGLAS

QUADRANGLE: NEWMAN

CONFIDENTIAL: N

SURFACE ELEVATION (FT.):

SOURCE: HYDROCARBON SURVEY, NO COMPANY NUMBER

COMMENT: ISGS MAP LIBRARY 4103 i5, 1-27&28

TWP/RNG: 16N 14W

LONGITUDE: -87.945962

LATITUDE: 39.806214

LOGGED (FT.): 128.9

SECTION: 33

GEOLOGIST: C.TREWORY

DATE COLLECTED: 2 / 0 / 1974

LOG TYPE: Company map

WELL TYPE: Coal Test

QUARTERS/FOOTAGES: 250' N line, 2500' E line

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCONSOLIDATED	120.0	0.0	
-	CARBONDALE		ROCK	3.0	120.0	
-	CARBONDALE	HERRIN	COAL	5.9	123.0	