

Status Report

Total Records: 687

Top 3 County Records		Top 3 Log Type Records		Top 3 Coal Records		Top 3 Member Records	
Livingston	687	Drillers Log	355	COLCHESTER	322	COLCHESTER COAL	322
		Electric Log	184	DANVILLE	261	DANVILLE COAL	261
		Survey Core Study	30	HOUCHIN CREEK	229	HOUCHIN CREEK COAL	229

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
CARTHAGE	LIMESTONE	144.0	36.2	228.0	17.5	17.5	17.5
CHAPEL	COAL	68.0	68.0	68.0	0.7	0.7	0.7
LONSDALE	LIMESTONE	165.9	78.0	214.5	5.7	1.5	13.0
DANVILLE	COAL	143.0	16.0	423.0	2.9	0.2	8.0
ANNA	SHALE	65.5	37.0	94.0	1.6	0.7	2.5
HERRIN	COAL	164.8	37.7	440.0	2.1	0.1	7.0
SPRING LAKE	COAL	68.2	38.0	112.0	1.5	0.8	2.0
TURNER MINE	SHALE	115.4	81.0	135.0	2.6	0.2	5.0
SPRINGFIELD	COAL	225.9	51.0	512.0	1.6	0.5	3.0
HANOVER	LIMESTONE	155.6	155.6	155.6	1.8	1.8	1.8
EXCELLO	SHALE	133.8	74.0	176.9	2.5	0.5	5.0
HOUCHIN CREEK	COAL	203.0	72.0	512.0	2.0	0.2	14.0
LOWELL	COAL	240.3	99.0	439.0	2.0	0.1	5.0
OAK GROVE	LIMESTONE	197.0	194.0	200.0	3.0	1.0	5.0
FRANCIS CREEK	SANDSTONE	204.5	204.0	205.0	16.2	14.8	17.5
CARDIFF	COAL	213.7	192.0	230.9	10.8	4.3	18.6
COLCHESTER	COAL	284.4	114.0	579.0	2.4	0.3	6.3
Net Coal					26.0		

Coal Logs

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

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

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

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

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

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

MAPID: 10521610000C VERSION: 1 PROJECT: NCRDS99
COUNTY: LIVINGSTON TWP/RNG: 25N 6E SECTION: 2 QUARTERS/FOOTAGES: 300' S line, 1400' W line
QUADRANGLE: FORREST SOUTH LONGITUDE: -88.492654 GEOLOGIST: MCCRACKEN
CONFIDENTIAL: N LATITUDE: 40.647263 DATE COLLECTED: 10 / 18 / 1977
SURFACE ELEVATION (FT.): 755.0 LOGGED (FT.): 336.0 LOG TYPE: Drillers Log
SOURCE: GULF OIL CORPORATION F-2-2C WELL TYPE: Coal Test
COMMENT: FOOTAGE IS APPROXIMATE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
755.0	PLEISTOCENE		UNCONSOLIDATED	82.5	0.0
672.5			LIMESTONE	6.5	82.5
666.0			SHALE	30.0	89.0
636.0			LIMESTONE	4.0	119.0
632.0			CLAYSTONE & SHALE	6.0	123.0
626.0			SHALE	15.0	129.0
611.0			SHALE	99.0	144.0
512.0			BLACK SHALE	2.0	243.0
510.0			SANDY SHALE	51.0	245.0
459.0			SHALE	13.3	296.0
445.7	CARBONDALE	DANVILLE	COAL	8.0	309.3
437.7	CARBONDALE		UNDERCLAY	2.7	317.3
435.0	CARBONDALE		SHALE	16.0	320.0

MAPID: 10521981000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 25N 6E SECTION: 2 QUARTERS/FOOTAGES: 20' S line, 40' E line of SE

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.478788 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.646571 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 740.0 LOGGED (FT.): 411.0 LOG TYPE: Electric Log

SOURCE: HYDROCARBON SURVEY K-37 WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521982000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 25N 6E SECTION: 3 QUARTERS/FOOTAGES: 25' S line, 1600' W line of SW

QUADRANGLE: FAIRBURY LONGITUDE: -88.510181 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.646394 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 759.0 LOGGED (FT.): 433.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-36 WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521983000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 25N 6E SECTION: 4 QUARTERS/FOOTAGES: SW

QUADRANGLE: FAIRBURY LONGITUDE: -88.53068 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.652478 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 740.0 LOGGED (FT.): 430.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-34 WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521611000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: LIVINGSTON **TWP/RNG:** 25N 6E **SECTION:** 5 **QUARTERS/FOOTAGES:** 48' S line, 1387' E line
QUADRANGLE: FAIRBURY **LONGITUDE:** -88.54056 **GEOLOGIST:** MCCracken
CONFIDENTIAL: N **LATITUDE:** 40.646162 **DATE COLLECTED:** 11 / 9 / 1977
SURFACE ELEVATION (FT.): 740.0 **LOGGED (FT.):** 394.0 **LOG TYPE:**
SOURCE: GULF OIL CORPORATION F-5-2C **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
740.0	PLEISTOCENE		UNCONSOLIDATED	126.0	0.0	
614.0			SANDY SHALE	14.5	126.0	
599.5			LIMESTONE	19.0	140.5	
580.5			SHALE	10.5	159.5	
570.0			SHALE	10.5	170.0	MULTI-COLORED SHALE
559.5			SHALE	16.5	180.5	
543.0			SHALE	3.5	197.0	MULTI-COLORED SHALE
539.5			SHALE	5.5	200.5	
534.0			SHALE	5.0	206.0	MULTI-COLORED SHALE
529.0			SHALE	20.0	211.0	
509.0			SHALE	2.5	231.0	MULTI-COLORED SHALE
506.5			SHALE	9.0	233.5	
497.5			BLACK SHALE	2.5	242.5	
495.0			SHALE	5.5	245.0	
489.5			SANDY SHALE	47.0	250.5	
442.5			SHALE	4.5	297.5	MULTI-COLORED SHALE
438.0			SHALE	80.6	302.0	
357.4	CARBONDALE	DANVILLE	COAL	4.0	382.6	
353.4	CARBONDALE		SHALE	7.4	386.6	

MAPID: 10521985000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 25N 6E **SECTION:** 5 **QUARTERS/FOOTAGES:** 20' S line, 100' W line of SW
QUADRANGLE: FAIRBURY **LONGITUDE:** -88.554282 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.645828 **DATE COLLECTED:** 0 / 0 / 1967
SURFACE ELEVATION (FT.): 744.0 **LOGGED (FT.):** 460.0 **LOG TYPE:**
SOURCE: HYDROCARBON SURVEY L-37 **WELL TYPE:** Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
554.0	BOND	CARTHAGE	LIMESTONE	-	190.0	
376.0	CARBONDALE	DANVILLE	COAL	-	368.0	
347.0	CARBONDALE	HERRIN	COAL	-	397.0	
297.0	CARBONDALE	SPRINGFIELD	COAL	-	447.0	

MAPID: 10521987000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 25N 6E SECTION: 15 QUARTERS/FOOTAGES: 20' S line, 40' W line of SW
QUADRANGLE: COLFAX LONGITUDE: -88.515962 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.617075 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 782.0 LOGGED (FT.): 494.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-33 WELL TYPE: Structure Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500847000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 25N 6E SECTION: 17 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: COLFAX LONGITUDE: -88.553463 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.617483 DATE COLLECTED:
SURFACE ELEVATION (FT.): 776.0 LOGGED (FT.): 582.0 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	
390.0	CARBONDALE	DANVILLE	COAL	5.0	386.0	
385.0	CARBONDALE		UNCLASSIFIED	34.0	391.0	
351.0	CARBONDALE	HERRIN	COAL	2.5	425.0	
348.5	CARBONDALE		UNCLASSIFIED	52.5	427.5	
296.0	CARBONDALE	SPRINGFIELD	COAL	-	480.0	
296.0	CARBONDALE		UNCLASSIFIED	32.0	480.0	
264.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	512.0	
262.0	CARBONDALE		UNCLASSIFIED	65.0	514.0	
197.0	CARBONDALE	COLCHESTER	COAL	3.0	579.0	

MAPID: 10521988000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 25N 6E SECTION: 18 QUARTERS/FOOTAGES: 30' S line, 35' E line of SE
QUADRANGLE: COLFAX LONGITUDE: -88.5548 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.616647 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 776.0 LOGGED (FT.): 524.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-36 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
548.0	BOND	CARTHAGE	LIMESTONE	-	228.0	
353.0	CARBONDALE	DANVILLE	COAL	-	423.0	
336.0	CARBONDALE	HERRIN	COAL	-	440.0	
264.0	CARBONDALE	SPRINGFIELD	COAL	-	512.0	

MAPID: 10500495000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 3 QUARTERS/FOOTAGES: NW/c

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.395221 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.659774 DATE COLLECTED:

SURFACE ELEVATION (FT.): 765.0 LOGGED (FT.): 114.5 LOG TYPE: Drillers Log

SOURCE: H. CLARK WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
765.0	PLEISTOCENE		SOIL	3.0	0.0	
762.0	PLEISTOCENE		GRAVEL	1.0	3.0	
761.0	PLEISTOCENE		CLAY	3.0	4.0	YELLOW
758.0	PLEISTOCENE		CLAY	17.0	7.0	BLUE
741.0	PLEISTOCENE		SAND & GRAVEL	10.0	24.0	
731.0	PLEISTOCENE		CLAY	20.0	34.0	BROWN
711.0	PLEISTOCENE		HARD PAN	2.0	54.0	
709.0	PLEISTOCENE		GRAVEL	8.0	56.0	
701.0	PLEISTOCENE		CLAY	14.0	64.0	BROWN
687.0	PLEISTOCENE		CLAY	9.5	78.0	BLUE
677.5			SANDSTONE	8.0	87.5	
669.5			SHALE	13.0	95.5	
656.5			COAL	2.5	108.5	
654.0			UNDERCLAY	3.5	111.0	

MAPID: 10500569000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 25N 7E

SECTION: 3

QUARTERS/FOOTAGES:

QUADRANGLE: FORREST SOUTH

LONGITUDE: -88.395181

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.659773

DATE COLLECTED:

SURFACE ELEVATION (FT.): 765.0

LOGGED (FT.): 129.3

LOG TYPE: Drillers Log

SOURCE: H. CLARKE

WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
765.0	PLEISTOCENE		SOIL	3.0	0.0	
762.0	PLEISTOCENE		GRAVEL	2.0	3.0	
760.0	PLEISTOCENE		CLAY	7.0	5.0	YELLOW
753.0	PLEISTOCENE		GRAVEL	2.0	12.0	
751.0	PLEISTOCENE		CLAY	7.5	14.0	BLUE
743.5	PLEISTOCENE		CLAY	17.0	21.5	BROWN
726.5	PLEISTOCENE		SAND	3.5	38.5	
723.0	PLEISTOCENE		CLAY	8.0	42.0	BROWN
715.0	PLEISTOCENE		GRAVEL	2.0	50.0	
713.0	PLEISTOCENE		SAND/CLAY	8.0	52.0	BROWN
705.0			ARGILLACEOUS SANDSTONE	4.0	60.0	
701.0			LIMESTONE	0.3	64.0	
700.7			CLAYSTONE & SILTSTONE	12.0	64.3	BROWN
688.7			CLAYSTONE & SILTSTONE	2.0	76.3	BLUE
686.7			SHALE	25.0	78.3	BLUE
661.7			SHALY SANDSTONE	11.0	103.3	
650.7			SHALE	8.0	114.3	
642.7			COAL	2.8	122.3	
640.0			UNDERCLAY	2.3	125.0	
637.7			SHALE	2.0	127.3	

MAPID: 10500569000C VERSION: 2 PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 3 QUARTERS/FOOTAGES:

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.395181 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 40.659773 DATE COLLECTED:

SURFACE ELEVATION (FT.): 765.0 LOGGED (FT.): 129.3 LOG TYPE: Drillers Log

SOURCE: H. CLARKE WELL TYPE: Coal Test

COMMENT: LOCATION IMPRECISE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
765.0			UNCONSOLIDATED	78.3	0.0	
686.7	MODESTO		SHALE	25.0	78.3	
661.7	MODESTO		UNCLASSIFIED	11.0	103.3	
650.7	MODESTO		DARK SHALE	8.5	114.3	
642.2	CARBONDALE	DANVILLE	COAL	2.3	122.8	UNCERTAIN CORRELATION
640.0	CARBONDALE		UNDERCLAY	2.3	125.0	
637.7	CARBONDALE		SHALE	2.0	127.3	

MAPID: 10500570000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 3 QUARTERS/FOOTAGES: 2200' S line, 2800' E line

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.395749 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.652583 DATE COLLECTED:

SURFACE ELEVATION (FT.): 760.0 LOGGED (FT.): 302.0 LOG TYPE: Drillers Log

SOURCE: BENNETT REEDER WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
760.0	PLEISTOCENE		SOIL	2.0	0.0	
758.0	PLEISTOCENE		SAND/CLAY	6.0	2.0	
752.0	PLEISTOCENE		HARD PAN	2.0	8.0	
750.0	PLEISTOCENE		HARD PAN	9.0	10.0	BLUE
741.0	PLEISTOCENE		SAND	0.7	19.0	
740.3	PLEISTOCENE		HARD PAN	17.8	19.7	
722.5	PLEISTOCENE		SAND & GRAVEL	7.5	37.5	
715.0	PLEISTOCENE		HARD PAN	17.0	45.0	BLUE
698.0	PLEISTOCENE		HARD PAN	16.0	62.0	BROWN
682.0	PLEISTOCENE		SAND & GRAVEL	1.0	78.0	
681.0	PLEISTOCENE		HARD PAN	3.0	79.0	BROWN
678.0			SHALE	23.0	82.0	
655.0			SHALE	12.0	105.0	
643.0			SANDY SHALE	6.0	117.0	
637.0			SHALE	29.0	123.0	PK
608.0			SHALE	10.0	152.0	BLUE
598.0			SANDSTONE	17.0	162.0	
581.0			SHALE	8.0	179.0	WITH PYRITE
573.0			SANDY SHALE	20.0	187.0	
553.0			SHALE	44.6	207.0	
508.4			COAL	1.2	251.6	
507.2			SHALE	7.0	252.8	BLUE
500.2			SHALE	5.0	259.8	
495.2			SANDSTONE	23.3	264.8	
472.0			SANDY SHALE	12.0	288.0	
460.0			SHALE	2.0	300.0	BLUE

MAPID: 10500853000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 3 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.386935 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.671492 DATE COLLECTED:

SURFACE ELEVATION (FT.): 740.0 LOGGED (FT.): 408.0 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
512.0	CARBONDALE	HERRIN	COAL	-	228.0
512.0	CARBONDALE		UNCLASSIFIED	68.0	228.0
444.0	CARBONDALE	SPRINGFIELD	COAL	-	296.0
444.0	CARBONDALE		UNCLASSIFIED	15.0	296.0
429.0	CARBONDALE	HOUCHIN CREEK	COAL	-	311.0
429.0	CARBONDALE		UNCLASSIFIED	93.0	311.0
336.0	CARBONDALE	COLCHESTER	COAL	4.0	404.0

MAPID: 10521989000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 7 QUARTERS/FOOTAGES: 100' N line, 20' E line of NE

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.442717 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.646359 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 744.0 LOGGED (FT.): 386.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-73 WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521979000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 9 QUARTERS/FOOTAGES: 145' N line, 20' E line of NE

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.40461 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.646159 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 759.0 LOGGED (FT.): 440.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-65 WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500850000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 14 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: MELVIN WEST LONGITUDE: -88.372335 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.61822 DATE COLLECTED:

SURFACE ELEVATION (FT.): 800.0 LOGGED (FT.): 329.0 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	
474.0	CARBONDALE	COLCHESTER	COAL	3.0	326.0	

MAPID: 10500851000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 25N 7E SECTION: 15 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.400947 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.625506 DATE COLLECTED:

SURFACE ELEVATION (FT.): 762.0 LOGGED (FT.): 447.0 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	
424.0	CARBONDALE	SPRINGFIELD	COAL	-	338.0	
424.0	CARBONDALE		UNCLASSIFIED	16.0	338.0	
408.0	CARBONDALE	HOUCHIN CREEK	COAL	-	354.0	
408.0	CARBONDALE		UNCLASSIFIED	90.0	354.0	
318.0	CARBONDALE	COLCHESTER	COAL	3.0	444.0	

MAPID: 10500848000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 25N 7E

SECTION: 18

QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: FORREST SOUTH

LONGITUDE: -88.443902

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.625704

DATE COLLECTED:

SURFACE ELEVATION (FT.): 772.0

LOGGED (FT.): 480.0

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
489.0	CARBONDALE	DANVILLE	COAL	4.0	283.0
485.0	CARBONDALE		UNCLASSIFIED	10.0	287.0
475.0	CARBONDALE	HERRIN	COAL	-	297.0
475.0	CARBONDALE		UNCLASSIFIED	75.0	297.0
400.0	CARBONDALE	SPRINGFIELD	COAL	-	372.0
400.0	CARBONDALE		UNCLASSIFIED	15.0	372.0
385.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	387.0
383.0	CARBONDALE		UNCLASSIFIED	17.0	389.0
366.0	CARBONDALE	LOWELL	COAL	1.5	406.0
364.5	CARBONDALE		UNCLASSIFIED	72.5	407.5
292.0	CARBONDALE	COLCHESTER	COAL	-	480.0

MAPID: 10500121000C VERSION: 1

PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 2 QUARTERS/FOOTAGES: SW

QUADRANGLE: FAIRBURY LONGITUDE: -88.502 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 40.747682 DATE COLLECTED:

SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 309.1 LOG TYPE: Drillers Log

SOURCE: AMSBURY AND JONES WELL TYPE: Mine Shaft

COMMENT: LOCATION & ELEVATION IMPRECISE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
670.0			UNCONSOLIDATED	90.3	0.0
579.7			UNCLASSIFIED	43.0	90.3
536.7			SANDSTONE	14.0	133.3
522.7			SHALE	4.0	147.3
518.7	CARBONDALE	DANVILLE	COAL	4.2	151.3
514.5	CARBONDALE		UNDERCLAY	8.0	155.5
506.5	CARBONDALE		SHALE	7.0	163.5
499.5	CARBONDALE		SANDSTONE	4.0	170.5
495.5	CARBONDALE		LIMESTONE	0.6	174.5
494.9	CARBONDALE		SHALE	6.0	175.1
488.9	CARBONDALE		LIMESTONE	1.5	181.1
487.4	CARBONDALE		SHALE	21.0	182.6
466.4	CARBONDALE		COAL	0.2	203.6
466.2	CARBONDALE		SANDSTONE	3.0	203.8
463.2	CARBONDALE		SHALE	2.0	206.8
461.2	CARBONDALE	HERRIN	COAL	0.2	208.8
461.1	CARBONDALE		SHALE	7.0	208.9
454.1	CARBONDALE		DARK SHALE	10.0	215.9
444.1	CARBONDALE		BLACK SHALE	2.0	225.9
442.1	CARBONDALE		COAL	0.0	227.9
442.1	CARBONDALE		UNDERCLAY	1.5	227.9
440.6	CARBONDALE		SANDSTONE	5.0	229.4
435.6	CARBONDALE		UNDERCLAY	7.0	234.4
428.6	CARBONDALE		LIMESTONE	1.7	241.4
426.9	CARBONDALE		UNDERCLAY	3.5	243.1
423.4	CARBONDALE		SANDSTONE	11.0	246.6
412.4	CARBONDALE		SHALE	45.0	257.6
367.4	CARBONDALE	COLCHESTER	COAL	3.5	302.6
363.9	SPOON		UNDERCLAY	1.0	306.1
362.9	SPOON		SANDSTONE	2.0	307.1

MAPID: 10500121000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 2

QUARTERS/FOOTAGES: SW

QUADRANGLE: FAIRBURY

LONGITUDE: -88.502

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.747682

DATE COLLECTED:

SURFACE ELEVATION (FT.): 670.0

LOGGED (FT.): 305.5

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
519.0	CARBONDALE	DANVILLE	COAL	4.1	151.0	
514.9	CARBONDALE		UNCLASSIFIED	47.9	155.1	
467.0	CARBONDALE	HERRIN	COAL	0.1	203.0	
466.9	CARBONDALE		UNCLASSIFIED	98.9	203.1	
368.0	CARBONDALE	COLCHESTER	COAL	3.5	302.0	

MAPID: 10500121000C VERSION: 3

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 2 QUARTERS/FOOTAGES: SW

QUADRANGLE: FAIRBURY LONGITUDE: -88.502 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.747682 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 309.1 LOG TYPE: Survey Core Study

SOURCE: AMSBURY AND JONES WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE	DANVILLE	SOIL	2.5	0.0	
-	PLEISTOCENE		CLAY	8.7	2.5	YELLOW
-	PLEISTOCENE		SANDY CLAY	9.6	11.2	
-	PLEISTOCENE		GRAVEL	1.1	20.8	
-	PLEISTOCENE		HARD PAN	39.2	21.8	WITH CLAY
-	PLEISTOCENE		CLAY	29.3	61.0	BLUE
-	MODESTO		SHALE	43.0	90.3	FOSSIL PLANTS COVERED WITH COAL CRUST
-	MODESTO		SANDSTONE	14.0	133.3	
-	MODESTO		CLAYSTONE & SILTSTONE	4.0	147.3	
-	CARBONDALE		COAL	4.2	151.3	
-	CARBONDALE		UNDERCLAY	8.0	155.5	
-	CARBONDALE		SHALE	7.0	163.5	
-	CARBONDALE		SANDSTONE	4.0	170.5	
-	CARBONDALE		LIMESTONE	0.6	174.5	
-	CARBONDALE		SHALE	6.0	175.1	
-	CARBONDALE		LIMESTONE	1.5	181.1	
-	CARBONDALE		SHALE	21.0	182.6	BLUE
-	CARBONDALE		COAL	0.2	203.6	
-	CARBONDALE		SANDSTONE	3.0	203.8	
-	CARBONDALE		SHALE	2.0	206.8	BLUE
-	CARBONDALE		COAL	0.2	208.8	
-	CARBONDALE		SHALE	7.0	208.9	
-	CARBONDALE		SHALE	10.0	215.9	
-	CARBONDALE		SHALE	2.0	225.9	
-	CARBONDALE		UNDERCLAY	1.5	227.9	
-	CARBONDALE		SANDSTONE	5.0	229.4	
-	CARBONDALE		CLAYSTONE	7.0	234.4	
-	CARBONDALE		LIMESTONE	1.7	241.4	
-	CARBONDALE		CLAYSTONE	3.5	243.1	
-	CARBONDALE		SANDSTONE	11.0	246.6	
-	CARBONDALE	COLCHESTER	SHALE	45.0	257.6	BLUE
-	CARBONDALE		COAL	3.5	302.6	
-	TRADEWATER		UNDERCLAY	1.0	306.1	
-	TRADEWATER		SANDSTONE	2.0	307.1	

MAPID: 10500497000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 3

QUARTERS/FOOTAGES: SE NW NW

QUADRANGLE: PONTIAC SOUTHEAST

LONGITUDE: -88.522623

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.755594

DATE COLLECTED:

SURFACE ELEVATION (FT.): 680.0

LOGGED (FT.): 180.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
505.0	CARBONDALE	DANVILLE	COAL	5.0	175.0	

MAPID: 10500122000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 4

QUARTERS/FOOTAGES: SW

QUADRANGLE: FAIRBURY

LONGITUDE: -88.540308

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.747311

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 571.0

LOG TYPE: Drillers Log

SOURCE: H.L. MARSH

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	2.0	0.0	
-	PLEISTOCENE		CLAY	14.0	2.0	YELLOW
-	PLEISTOCENE		CLAY	8.0	16.0	BLUE
-	PLEISTOCENE		CLAY	4.0	24.0	BLUE
-	PLEISTOCENE		SAND	5.0	28.0	
-			LIMESTONE	3.5	33.0	
-			CLAYSTONE & SILTSTONE	5.8	36.5	BLUE
-			CLAYSTONE & SILTSTONE	5.0	42.3	BROWN
-			LIMESTONE	10.2	47.3	
-			SHALY LIMESTONE	7.0	57.5	
-			CLAYSTONE & SILTSTONE	5.4	64.5	BLUE
-			CLAYSTONE & SILTSTONE	5.5	69.9	RED
-			LIMESTONE	0.3	75.4	
-			COAL	2.3	75.8	3 INCHES COAL, 2 INCHES SHALE
-			CLAYSTONE & SILTSTONE	5.1	78.0	BLUE
-			CLAYSTONE & SILTSTONE	5.0	83.1	RED
-			CLAYSTONE & SILTSTONE	7.3	88.1	RED
-			LIMESTONE	1.2	95.3	BLUE
-			CLAYSTONE & SILTSTONE	8.8	96.5	RED
-			SANDSTONE	70.0	105.3	
-			ARGILLACEOUS SANDSTONE	9.0	175.3	
-			SHALE	31.7	184.3	
-	CARBONDALE	DANVILLE	COAL	4.8	216.0	
-	CARBONDALE		UNDERCLAY	26.7	220.8	
-	CARBONDALE		LIMESTONE	1.2	247.5	
-	CARBONDALE		SHALE	2.0	248.7	
-	CARBONDALE		SHALE	15.5	250.7	
-	CARBONDALE		SHALE	10.7	266.2	
-	CARBONDALE		SHALE	1.4	276.8	
-	CARBONDALE		SHALE	0.2	278.3	
-	CARBONDALE		SHALE	1.9	278.4	
-	CARBONDALE		CLAYSTONE & SILTSTONE	1.9	280.3	
-	CARBONDALE		LIMESTONE	6.0	282.3	
-	CARBONDALE		SANDY SHALE	3.2	288.3	
-	CARBONDALE		SHALE	0.6	291.4	
-	CARBONDALE		SANDY SHALE	1.4	292.0	
-	CARBONDALE		SANDY SHALE	38.6	293.4	
-	CARBONDALE		SANDSTONE	40.6	332.0	

-	CARBONDALE		SHALE	8.9	372.6
-	CARBONDALE	COLCHESTER	COAL	2.4	381.5
-			UNDERCLAY	20.5	383.9
-			SANDSTONE/SHALE	166.6	404.4

MAPID: 10500122000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 4 QUARTERS/FOOTAGES: SW

QUADRANGLE: FAIRBURY LONGITUDE: -88.540308 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.747311 DATE COLLECTED:

SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 220.8 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
479.0	CARBONDALE	DANVILLE	COAL	4.8	216.0

MAPID: 10522594000C VERSION: 1 PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 4 QUARTERS/FOOTAGES: 80' N line, 1980' E line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.533539 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.757967 DATE COLLECTED: 10 / 20 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 182.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-11-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		CLAY	33.0	0.0 SANDY
-			LIMESTONE	2.0	33.0 SHALEY
-			SHALE	8.0	35.0 GRAY
-			SHALE	7.0	43.0 RED
-			LIMESTONE	0.5	50.0
-			SHALE	1.0	50.5 SANDY; GRAY
-			SHALE	3.5	51.5 RED
-			SHALE	70.0	55.0 SANDY; GRAY
-			SANDSTONE	7.0	125.0 GRAY
-			SHALE	20.0	132.0 SANDY, GRAY, WITH IRON BANDS
-			SHALE	24.0	152.0 SAME START CORE HERE
-	CARBONDALE	DANVILLE	COAL	4.4	176.0
-	CARBONDALE		SHALE	1.0	180.4 GRAY
-	CARBONDALE		SHALE	0.6	181.4 SANDY

MAPID: 10522595000C

VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 6

QUARTERS/FOOTAGES: 75' N line, 75' W line of NW

QUADRANGLE: PONTIAC SOUTHEAST

LONGITUDE: -88.583724

GEOLOGIST: C KOROSE

CONFIDENTIAL: N

LATITUDE: 40.757043

DATE COLLECTED: 6 / 25 / 1975

SURFACE ELEVATION (FT.):

LOGGED (FT.): 233.8

LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY

F-10-75

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	17.0	0.0	SANDY
-			LIMESTONE	10.0	17.0	
-			SHALE	3.0	27.0	SOFT; BLACK
-			SHALE	7.0	30.0	GRAY
-			LIMESTONE	14.0	37.0	SHALEY, SOFT
-			SHALE	7.0	51.0	LIGHT GRAY
-			SHALE	4.0	58.0	SOFT; RED
-			SHALE	9.0	62.0	LIMEY AT BASE
-			LIMESTONE	4.0	71.0	
-			SHALE	10.0	75.0	
-			LIMESTONE	5.0	85.0	BROKEN
-			SHALE	110.0	90.0	WITH LIMESTONE
-			SHALE	25.0	200.0	GRAY
-			SHALE	1.0	225.0	WITH PYRITE BALLS; GRAY
-	CARBONDALE	DANVILLE	COAL	5.0	226.0	
-	CARBONDALE		SHALE	2.7	231.1	

MAPID: 10522596000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 6 QUARTERS/FOOTAGES: 100' S line, 100' E line of SE

QUADRANGLE: FAIRBURY LONGITUDE: -88.564432 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.743483 DATE COLLECTED: 6 / 20 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 264.5 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-12-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	22.0	0.0	SANDY
-			LIMESTONE	21.0	22.0	
-			SHALE	2.0	43.0	SOFT; BLACK
-			SHALE	5.0	45.0	GRAY
-			LIMESTONE	4.0	50.0	
-			LIMESTONE	13.0	54.0	SHALEY
-			SHALE	5.0	67.0	DARK
-			SHALE	6.0	72.0	SOFT; RED
-			LIMESTONE	8.0	78.0	SHALEY
-			LIMESTONE	2.0	86.0	
-			SHALE	12.0	88.0	
-			LIMESTONE	3.0	100.0	
-			LIMESTONE	7.0	103.0	SHALEY
-			SHALE	11.0	110.0	GRAY
-			CALCAREOUS SHALE	59.0	121.0	
-			SANDSTONE/SHALE	35.0	180.0	
-			SANDSTONE	6.5	215.0	WITH COAL
-			SHALE	4.5	221.5	SANDY; LIGHT GRAY
-			SHALE	9.0	226.0	SANDY
-			SHALE	22.5	235.0	WITH IRON BALLS
-	CARBONDALE	DANVILLE	COAL	5.7	257.5	WITH SULFUR/SHALE BANDS
-	CARBONDALE		SHALE	0.3	263.2	HARD; DARK
-	CARBONDALE		UNDERCLAY	0.5	263.5	
-	CARBONDALE		BLACK SHALE	0.5	264.0	HARD

MAPID: 10521612000C VERSION: 1 PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 8 QUARTERS/FOOTAGES: 41' S line, 87' E line

QUADRANGLE: FAIRBURY LONGITUDE: -88.544969 GEOLOGIST: MCCracken

CONFIDENTIAL: N LATITUDE: 40.729278 DATE COLLECTED: 10 / 30 / 1977

SURFACE ELEVATION (FT.): 712.0 LOGGED (FT.): 257.0 LOG TYPE: Drillers Log

SOURCE: GULF OIL CORPORATION C-8-2C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
712.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0	
682.0			LIMESTONE	11.0	30.0	
671.0			COAL	6.1	41.0	WITH SHALE
664.9			LIMESTONE	4.9	47.1	
660.0			SHALE	23.0	52.0	MULTI-COLORED SHALE
637.0			SHALE	37.0	75.0	
600.0			SHALE	7.0	112.0	MULTI-COLORED SHALE
593.0			SHALE	1.5	119.0	
591.5			SHALE	4.5	120.5	MULTI-COLORED SHALE
587.0			SHALE	10.0	125.0	
577.0			SANDSTONE	12.0	135.0	
565.0			SANDY SHALE	43.0	147.0	
522.0			SANDSTONE	38.0	190.0	
484.0			SANDY SHALE	11.0	228.0	
473.0			SANDSTONE	1.0	239.0	
472.0			SHALE	2.0	240.0	
470.0	CARBONDALE	DANVILLE	COAL	4.0	242.0	
466.0	CARBONDALE		UNDERCLAY	1.0	246.0	
465.0	CARBONDALE		SHALE	10.0	247.0	TOP OF GEOPHYSICAL LOG

MAPID: 10521992000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 8 QUARTERS/FOOTAGES: 20' S line, 145' W line of SW

QUADRANGLE: FAIRBURY LONGITUDE: -88.56337 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.728988 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 713.0 LOGGED (FT.): 331.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-31 WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521993000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 14

QUARTERS/FOOTAGES: 20' N line, 110' E line of NE

QUADRANGLE: FORREST SOUTH

LONGITUDE: -88.488005

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.730122

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 696.0

LOGGED (FT.): 307.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

K-34

WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION FORMATION		MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
TOP (FT.)	UNIT			OVERBURDEN		
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10522597000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 14 QUARTERS/FOOTAGES: 110' S line, 1230' E line of SE

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.49176 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.715857 DATE COLLECTED: 0 / 0 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 279.6 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-13-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	52.0	0.0	SANDY, GRAVELLY
-			LIMESTONE	14.0	52.0	
-			CALCAREOUS SHALE	1.0	66.0	
-			LIMESTONE	8.0	67.0	
-			SHALE	1.0	75.0	GRAY
-			SHALE	2.0	76.0	BLACK
-			CALCAREOUS SHALE	27.0	78.0	
-			SHALE	6.0	105.0	RED
-			SHALE	2.0	111.0	SANDY; GRAY
-			SHALE	5.5	113.0	RED
-			LIMESTONE & SHALE	9.5	118.5	
-			SHALE	7.0	128.0	SANDY; GRAY
-			SHALE	2.0	135.0	RED
-			CALCAREOUS SHALE	11.0	137.0	
-			SHALE	11.0	148.0	SANDY; GRAY
-			SHALE	3.0	159.0	RED
-	MODESTO	LONSDALE	LIMESTONE	6.0	162.0	
-	MODESTO		SHALE	2.0	168.0	SANDY; GRAY
-	MODESTO		SHALE	6.0	170.0	RED
-	MODESTO		SHALE	8.0	176.0	SANDY; GRAY
-	MODESTO		SANDSTONE	6.0	184.0	
-	MODESTO		SHALE	3.0	190.0	SANDY; RED
-	MODESTO		SHALE	27.0	193.0	SANDY; GRAY
-	MODESTO		SHALE	52.0	220.0	SANDY, WITH IRON BANDS
-	MODESTO		SHALE	2.8	272.0	SAME START CORE HERE
-	CARBONDALE	DANVILLE	COAL	2.8	274.8	PYRITE AND SHALE BAND
-	CARBONDALE		SHALE	2.0	277.6	GRAY

MAPID: 10521994000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 16

QUARTERS/FOOTAGES: 2400' S line, 1320' E line of SE

QUADRANGLE: FAIRBURY

LONGITUDE: -88.53012

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.721621

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 689.0

LOGGED (FT.): 412.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

K-38

WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500856000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 17

QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: FAIRBURY

LONGITUDE: -88.562502

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.715435

DATE COLLECTED:

SURFACE ELEVATION (FT.): 711.0

LOGGED (FT.): 452.0

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	
423.0	CARBONDALE	DANVILLE	COAL	5.0	288.0	
418.0	CARBONDALE		UNCLASSIFIED	17.0	293.0	
401.0	CARBONDALE	HERRIN	COAL	-	310.0	
401.0	CARBONDALE		UNCLASSIFIED	54.0	310.0	
347.0	CARBONDALE	SPRINGFIELD	COAL	-	364.0	
347.0	CARBONDALE		UNCLASSIFIED	22.0	364.0	
325.0	CARBONDALE	HOUCHIN CREEK	COAL	-	386.0	
325.0	CARBONDALE		UNCLASSIFIED	64.0	386.0	
261.0	CARBONDALE	COLCHESTER	COAL	2.0	450.0	

MAPID: 10521613000C

VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 18

QUARTERS/FOOTAGES: 56' S line, 1319' W line

QUADRANGLE: FAIRBURY

LONGITUDE: -88.578699

GEOLOGIST: MCCRACKEN

CONFIDENTIAL: N

LATITUDE: 40.714328

DATE COLLECTED: 11 / 17 / 1977

SURFACE ELEVATION (FT.): 712.0

LOGGED (FT.): 298.0

LOG TYPE: Drillers Log

SOURCE: GULF OIL CORPORATION

C-18-2C

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
712.0	PLEISTOCENE		UNCONSOLIDATED	48.5	0.0	
663.5			SHALE	8.0	48.5	
655.5			LIMESTONE	20.0	56.5	
635.5			BLACK SHALE	8.5	76.5	
627.0			SHALE	24.0	85.0	
603.0			SHALE	11.5	109.0	MULTI-COLORED SHALE
591.5			SHALE	17.5	120.5	
574.0			SHALE	7.0	138.0	MULTI-COLORED SHALE
567.0			SHALE	8.5	145.0	
558.5			SHALE	4.5	153.5	MULTI-COLORED SHALE
554.0			SHALE	7.0	158.0	
547.0			SHALE	5.0	165.0	MULTI-COLORED SHALE
542.0			SHALE	118.5	170.0	
423.5	CARBONDALE	DANVILLE	COAL	5.6	288.5	
417.9	CARBONDALE		SANDY SHALE	3.9	294.1	

MAPID: 10522598000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 18 QUARTERS/FOOTAGES: 65' S line, 2620' E line of SE

QUADRANGLE: FAIRBURY LONGITUDE: -88.573208 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.714479 DATE COLLECTED: 10 / 29 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 297.4 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-14-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	53.0	0.0	
-			SHALE	6.0	53.0	GRAY
-			LIMESTONE	20.5	59.0	
-			SHALE	2.5	79.5	BLACK
-			SHALE	8.0	82.0	GRAY
-			CALCAREOUS SHALE	18.0	90.0	
-			SHALE	2.0	108.0	BROWN
-			SHALE	3.0	110.0	RED
-			SHALE	5.0	113.0	SANDY; GRAY
-			CLAYSTONE & SILTSTONE	2.0	118.0	BROWN
-			SHALE	3.5	120.0	SANDY
-			LIMESTONE	8.0	123.5	
-			LIMESTONE & SHALE	18.5	131.5	
-			SHALE	10.0	150.0	SANDY; GRAY
-			CLAYSTONE & SILTSTONE	3.0	160.0	BROWN
-			SHALE	2.0	163.0	RED
-			LIMESTONE	2.0	165.0	
-			SHALE	2.0	167.0	SANDY
-			SHALE	7.0	169.0	RED
-			SHALE	74.0	176.0	GRAY, WITH SANDSTONE BEDS
-			SHALE	24.0	250.0	SANDY, WITH IRON BANDS
-			SHALE	16.5	274.0	SAME START CORE HERE
-			SHALE	0.7	290.5	SANDY, HARD, DARK
-	CARBONDALE	DANVILLE	COAL	4.6	291.2	
-	CARBONDALE		SHALE	1.6	295.8	SANDY, PYRITE AT TOP

MAPID: 10521995000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 26N 6E **SECTION:** 19 **QUARTERS/FOOTAGES:** 190' S line, 20' E line of SE
QUADRANGLE: FAIRBURY **LONGITUDE:** -88.563569 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.700424 **DATE COLLECTED:** 0 / 0 / 1967
SURFACE ELEVATION (FT.): 700.0 **LOGGED (FT.):** 435.0 **LOG TYPE:**
SOURCE: HYDROCARBON SURVEY K-35 **WELL TYPE:** Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
562.0	BOND	CARTHAGE	LIMESTONE	-	138.0	
391.0	CARBONDALE	DANVILLE	COAL	-	309.0	
369.0	CARBONDALE	HERRIN	COAL	-	331.0	
302.0	CARBONDALE	SPRINGFIELD	COAL	-	398.0	
273.0	CARBONDALE	HOUCHIN CREEK	COAL	-	427.0	

MAPID: 10522599000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: LIVINGSTON **TWP/RNG:** 26N 6E **SECTION:** 20 **QUARTERS/FOOTAGES:** 72' N line, 15' E line of NE
QUADRANGLE: FAIRBURY **LONGITUDE:** -88.544261 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.714601 **DATE COLLECTED:** 11 / 6 / 1975
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 266.7 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY F-15-75 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	44.0	0.0	
-			SHALE	2.0	44.0	GRAY
-			LIMESTONE	20.5	46.0	
-			SHALE	3.5	66.5	WITH MINOR COAL; BLACK
-			CALCAREOUS SHALE	19.0	70.0	
-			SHALE	4.0	89.0	SANDY; GRAY
-			SHALE	7.0	93.0	RED
-			SHALE	4.0	100.0	GRAY
-			SHALE	4.0	104.0	RED
-			CALCAREOUS SHALE	28.0	108.0	
-			SHALE	7.0	136.0	SANDY; GRAY
-			CLAYSTONE & SILTSTONE	5.0	143.0	BROWN
-			SHALE	2.0	148.0	RED
-			LIMESTONE	1.5	150.0	
-			SHALE	1.5	151.5	GRAY
-			SHALE	12.0	153.0	RED
-			CALCAREOUS SHALE	40.0	165.0	SANDY
-			SHALE	56.0	205.0	SANDY, GRAY, WITH IRON BANDS
-			SHALE	0.1	261.0	SANDY; BLACK
-	CARBONDALE	DANVILLE	COAL	4.3	261.1	PYRITE AND SHALE BAND
-	CARBONDALE		UNDERCLAY	1.3	265.4	

MAPID: 10500855000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 21

QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: FAIRBURY

LONGITUDE: -88.52631

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.712326

DATE COLLECTED:

SURFACE ELEVATION (FT.): 718.0

LOGGED (FT.): 427.0

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
470.0	CARBONDALE	DANVILLE	COAL	4.0	248.0
466.0	CARBONDALE		UNCLASSIFIED	12.0	252.0
454.0	CARBONDALE	HERRIN	COAL	-	264.0
454.0	CARBONDALE		UNCLASSIFIED	74.0	264.0
380.0	CARBONDALE	SPRINGFIELD	COAL	-	338.0
380.0	CARBONDALE		UNCLASSIFIED	18.0	338.0
362.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	356.0
359.5	CARBONDALE		UNCLASSIFIED	65.5	358.5
294.0	CARBONDALE	COLCHESTER	COAL	3.0	424.0

MAPID: 10521614000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 21 QUARTERS/FOOTAGES: 716' S line, 47' W line
QUADRANGLE: FAIRBURY LONGITUDE: -88.543932 GEOLOGIST: MCCracken
CONFIDENTIAL: N LATITUDE: 40.702235 DATE COLLECTED: 11 / 3 / 1977
SURFACE ELEVATION (FT.): 712.0 LOGGED (FT.): 284.0 LOG TYPE: Drillers Log
SOURCE: GULF OIL CORPORATION C-21-2C WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
712.0	PLEISTOCENE		UNCONSOLIDATED	43.5	0.0	
668.5			SHALE	5.0	43.5	
663.5			LIMESTONE	23.5	48.5	
640.0			BLACK SHALE	4.0	72.0	
636.0			SHALE	18.5	76.0	
617.5			SANDSTONE	2.5	94.5	
615.0			SHALE	9.5	97.0	
605.5			SHALE	2.0	106.5	MULTI-COLORED SHALE
603.5			SHALE	11.5	108.5	
592.0			SANDSTONE	6.5	120.0	
585.5			SHALE	8.5	126.5	
577.0			SHALE	5.5	135.0	MULTI-COLORED SHALE
571.5			SANDY SHALE	6.0	140.5	
565.5			SHALE	11.5	146.5	
554.0			SANDSTONE	7.5	158.0	
546.5			SHALE	9.5	165.5	MULTI-COLORED SHALE
537.0			SHALE	3.5	175.0	
533.5			SANDY SHALE	21.5	178.5	
512.0			SHALE	4.0	200.0	MULTI-COLORED SHALE
508.0			SANDY SHALE	4.5	204.0	
503.5			SHALE	9.0	208.5	
494.5			SANDY SHALE	51.5	217.5	
443.0			SHALE	8.9	269.0	
434.1	CARBONDALE	DANVILLE	COAL	4.7	277.9	
429.4	CARBONDALE		SHALE	1.4	282.6	

MAPID: 10521998000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 21

QUARTERS/FOOTAGES: 35' S line, 1360' E line of SE

QUADRANGLE: FAIRBURY

LONGITUDE: -88.529858

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.700544

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 716.0

LOGGED (FT.): 389.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

K-40

WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
656.0			LIMESTONE	-	60.0	
588.0	BOND	CARTHAGE	LIMESTONE	-	128.0	

MAPID: 10522600000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 21 QUARTERS/FOOTAGES: 450' S line, 1000' E line of SE

QUADRANGLE: FAIRBURY LONGITUDE: -88.528573 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.701706 DATE COLLECTED: 11 / 13 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 327.2 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-16-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	62.0	0.0	
-			SHALE	28.0	62.0	BLUE
-			SHALE	1.2	90.0	GRAY
-			LIMESTONE	15.8	91.2	
-			SHALE	8.0	107.0	
-			LIMESTONE & SHALE	7.0	115.0	
-			SHALE	4.0	122.0	SANDY; GRAY
-			LIMESTONE	3.0	126.0	
-			SHALE	5.0	129.0	SANDY; GRAY
-			CLAYSTONE & SILTSTONE	2.0	134.0	BROWN
-			SHALE	2.0	136.0	RED
-			SHALE	12.0	138.0	SANDY; GRAY
-			LIMESTONE	9.0	150.0	
-			SHALE	8.0	159.0	SANDY
-			CLAYSTONE & SILTSTONE	3.0	167.0	RED
-			CALCAREOUS SHALE	14.0	170.0	
-			SHALE	1.0	184.0	BLACK
-			SHALE	14.0	185.0	SANDY; GRAY
-			LIMESTONE	1.5	199.0	
-			CLAYSTONE & SILTSTONE	8.5	200.5	SHALEY; RED
-			SHALE	11.0	209.0	WITH SANDSTONE BEDS
-			SANDSTONE	10.0	220.0	GRAY
-			SHALE	9.0	230.0	SANDY
-			SHALE	3.0	239.0	RED
-			SHALE	39.5	242.0	SANDY
-			SHALE	20.5	281.5	SANDY, WITH IRON BANDS
-			SHALE	19.5	302.0	SAME START CORE HERE
-	CARBONDALE	DANVILLE	COAL	4.7	321.5	PYRITE BAND,OIL
-	CARBONDALE		UNDERCLAY	1.0	326.2	

MAPID: 10522601000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 21 QUARTERS/FOOTAGES: 115' S line, 15' W line of SW

QUADRANGLE: FAIRBURY LONGITUDE: -88.544031 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.700578 DATE COLLECTED: 11 / 20 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 283.6 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-17-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	45.0	0.0	
-			SHALE	4.0	45.0	GRAY
-			LIMESTONE	24.0	49.0	
-			SHALE	4.0	73.0	DRILLERS NOTE:COAL SHOW; BLACK
-			SHALE	5.0	77.0	DARK
-			SHALE	3.0	82.0	SANDY; GRAY
-			CALCAREOUS SHALE	13.0	85.0	SANDY
-			SHALE	4.0	98.0	GRAY
-			CLAYSTONE & SILTSTONE	2.0	102.0	BROWN
-			CLAYSTONE & SILTSTONE	4.0	104.0	RED
-			SHALE	2.5	108.0	
-			LIMESTONE	0.5	110.5	
-			SHALE	8.0	111.0	SANDY; GRAY
-			LIMESTONE	7.0	119.0	
-			SHALE	11.5	126.0	SANDY; GRAY
-			LIMESTONE	2.5	137.5	
-			LIMESTONE & SHALE	2.0	140.0	
-			LIMESTONE	2.0	142.0	
-			SHALE	13.0	144.0	SANDY, HARD, GRAY
-			SHALE	2.0	157.0	RED
-			LIMESTONE	5.0	159.0	
-			SHALE	8.0	164.0	RED
-			CALCAREOUS SHALE	58.0	172.0	SANDY
-			SHALE	42.0	230.0	SANDY, GRAY, WITH IRON BANDS
-			SHALE	4.8	272.0	SAME START CORE HERE
-	CARBONDALE	DANVILLE	COAL	4.9	276.8	
-	CARBONDALE		UNDERCLAY	1.9	281.7	

MAPID: 10521999000C VERSION: 1

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 23 QUARTERS/FOOTAGES: 20' S line, 90' E line of SE

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.487278 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.701239 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 726.0 LOGGED (FT.): 335.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-30 WELL TYPE: Structure Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500854000C VERSION: 1

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 24 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.486079 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.714764 DATE COLLECTED:

SURFACE ELEVATION (FT.): 712.0 LOGGED (FT.): 394.0 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	
502.0	CARBONDALE	DANVILLE	COAL	3.0	210.0	
499.0	CARBONDALE		UNCLASSIFIED	11.0	213.0	
488.0	CARBONDALE	HERRIN	COAL	-	224.0	
488.0	CARBONDALE		UNCLASSIFIED	78.0	224.0	
410.0	CARBONDALE	SPRINGFIELD	COAL	-	302.0	
410.0	CARBONDALE		UNCLASSIFIED	14.0	302.0	
396.0	CARBONDALE	HOUCHIN CREEK	COAL	-	316.0	
396.0	CARBONDALE		UNCLASSIFIED	76.0	316.0	
320.0	CARBONDALE	COLCHESTER	COAL	2.0	392.0	

MAPID: 10522602000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 29 QUARTERS/FOOTAGES: 750' S line, 50' E line of SE

QUADRANGLE: FAIRBURY LONGITUDE: -88.544147 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.687739 DATE COLLECTED: 5 / 7 / 1976

SURFACE ELEVATION (FT.): LOGGED (FT.): 314.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-18-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	77.0	0.0	
-			LIMESTONE	15.5	77.0	
-			SHALE	0.5	92.5	GRAY
-			BLACK SHALE	1.0	93.0	
-			SHALE	21.5	94.0	WITH HARD BANDS; DARK
-			LIMESTONE	3.5	115.5	
-			SHALE	22.0	119.0	SANDY; GRAY
-			LIMESTONE	5.5	141.0	
-			SHALE	12.5	146.5	
-			LIMESTONE	8.0	159.0	
-			SHALE	1.0	167.0	SANDY; GRAY
-			SHALE	2.0	168.0	BLACK
-			SHALE	6.0	170.0	SANDY
-			SHALE	2.0	176.0	RED
-			SHALE	5.0	178.0	
-			LIMESTONE	2.5	183.0	
-			SHALE	7.5	185.5	RED
-			LIMESTONE	2.0	193.0	
-			SANDSTONE	2.0	195.0	HARD
-			SHALE	17.5	197.0	WITH SANDSTONE BEDS
-	MODESTO	LONSDALE	LIMESTONE	1.5	214.5	
-	MODESTO		SHALE & SANDSTONE	54.0	216.0	
-	MODESTO		SHALE	37.0	270.0	SANDY, WITH IRON BANDS
-	CARBONDALE	DANVILLE	COAL	1.0	307.0	
-	CARBONDALE	DANVILLE	COAL	3.9	308.0	CORE STARTED HERE
-	CARBONDALE		SHALE	1.2	311.9	SANDY, WITH IRON BANDS
-	CARBONDALE		SHALE	0.9	313.1	SANDY

MAPID: 10500706000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 26N 6E

SECTION: 35

QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: FORREST SOUTH

LONGITUDE: -88.48772

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.685679

DATE COLLECTED:

SURFACE ELEVATION (FT.): 748.0

LOGGED (FT.): 478.0

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	
467.0	CARBONDALE	DANVILLE	COAL	5.0	281.0	
462.0	CARBONDALE		UNCLASSIFIED	24.0	286.0	
438.0	CARBONDALE	HERRIN	COAL	-	310.0	
438.0	CARBONDALE		UNCLASSIFIED	64.0	310.0	
374.0	CARBONDALE	SPRINGFIELD	COAL	2.0	374.0	
372.0	CARBONDALE		UNCLASSIFIED	15.0	376.0	
357.0	CARBONDALE	HOUCHIN CREEK	COAL	-	391.0	
357.0	CARBONDALE		UNCLASSIFIED	85.0	391.0	
272.0	CARBONDALE	COLCHESTER	COAL	2.0	476.0	

MAPID: 10522603000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 26N 6E SECTION: 36 QUARTERS/FOOTAGES: 50' N line, 95' W line of NW

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.486197 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.686472 DATE COLLECTED: 5 / 19 / 1976

SURFACE ELEVATION (FT.): LOGGED (FT.): 319.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-19-76 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	64.0	0.0	
-			LIMESTONE	1.0	64.0	
-			SHALE	1.0	65.0	
-			LIMESTONE	1.0	66.0	
-			SHALE	3.0	67.0	
-			CLAYSTONE & SILTSTONE	5.5	70.0	RED
-			SHALE	3.5	75.5	SANDY
-			LIMESTONE	24.0	79.0	
-			LIMESTONE & SHALE	1.0	103.0	
-			SHALE	2.0	104.0	BLACK
-			SHALE	10.0	106.0	SANDY; GRAY
-			LIMESTONE	1.5	116.0	
-			SHALE	3.5	117.5	CALCAREOUS, HARD
-			SHALE	3.0	121.0	SANDY
-			LIMESTONE	2.0	124.0	
-			SHALE	8.0	126.0	
-			SHALE	4.0	134.0	WITH SANDSTONE BANDS; RED
-			SHALE	10.0	138.0	SANDY
-			LIMESTONE	7.0	148.0	
-			SHALE	9.0	155.0	SANDY
-			SHALE	3.0	164.0	SANDY; RED
-			SHALE	2.0	167.0	SANDY; GRAY
-			LIMESTONE	2.0	169.0	
-			SHALE	6.0	171.0	SANDY
-			BLACK SHALE	2.0	177.0	
-			SHALE	11.0	179.0	SANDY; GRAY
-	MODESTO	LONSDALE	LIMESTONE	3.0	190.0	
-	MODESTO		SHALE	38.0	193.0	SANDY; GRAY
-	MODESTO		SANDSTONE	1.0	231.0	HARD
-	MODESTO		SHALE & SANDSTONE	40.0	232.0	
-	MODESTO		SHALE	30.0	272.0	SANDY, WITH IRON BANDS
-	MODESTO		SHALE	10.2	302.0	SAME START CORE HERE
-	CARBONDALE	DANVILLE	COAL	5.1	312.2	
-	CARBONDALE		SHALE	0.3	317.3	WITH PYRITE; BLACK
-	CARBONDALE		SHALE	1.4	317.6	SANDY; GRAY

MAPID: 10500338000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 1 QUARTERS/FOOTAGES: SW NW SW

QUADRANGLE: CHATSWORTH NORTH LONGITUDE: -88.371332 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.750338 DATE COLLECTED: 0 / 0 / 1950

SURFACE ELEVATION (FT.): 719.8 LOGGED (FT.): 428.0 LOG TYPE: Survey Core Study

SOURCE: PENNSYLVANIAN DRILLING CO. 1 WELL TYPE: Structure Test

COMMENT: TOTAL CORE DEPTH 1400 FEET

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
719.8	PLEISTOCENE		UNCONSOLIDATED	155.0	0.0
564.8	CARBONDALE		SHALE	34.7	155.0
530.1	CARBONDALE		SHALE	46.9	189.7
483.2	CARBONDALE		SHALE	3.3	236.6
479.9	CARBONDALE	HOUCHIN CREEK	COAL	2.2	239.9
477.7	CARBONDALE		CLAYSTONE & SILTSTONE	0.2	242.1
477.5	CARBONDALE		SHALE	9.3	242.3
468.2	CARBONDALE		SHALE	2.2	251.6
466.0	CARBONDALE		CLAYSTONE	4.0	253.8
462.0	CARBONDALE		SHALE	4.3	257.8
457.7	CARBONDALE		SHALE	1.1	262.1
456.6	CARBONDALE		LIMESTONE	4.8	263.2
451.8	CARBONDALE		LIMESTONE	1.4	268.0
450.4	CARBONDALE		LIMESTONE	3.6	269.4
446.8	CARBONDALE		SHALE	0.5	273.0
446.3	CARBONDALE	LOWELL	COAL	0.4	273.5
445.9	CARBONDALE		SHALE	2.8	273.9
443.1	CARBONDALE		SHALE	18.6	276.7
424.5	CARBONDALE		SANDSTONE	36.2	295.3
388.3	CARBONDALE		SHALE	0.5	331.5
387.8	CARBONDALE	COLCHESTER	COAL	0.1	332.0
387.7	CARBONDALE	COLCHESTER	CLAYSTONE & SILTSTONE	0.1	332.1
387.6	CARBONDALE	COLCHESTER	COAL	1.5	332.2
386.1	TRADEWATER		CLAYSTONE & SILTSTONE	9.9	333.7
376.2	TRADEWATER		SHALE	4.1	343.6
372.1	TRADEWATER		COAL	0.4	347.7
371.7	TRADEWATER		CLAYSTONE & SILTSTONE	1.1	348.1
370.6	TRADEWATER		CLAYSTONE & SILTSTONE	1.8	349.2
368.8	TRADEWATER		COAL	0.8	351.0
368.0	TRADEWATER		SHALE	6.8	351.8
361.2	TRADEWATER		SHALE	1.0	358.6
360.2	TRADEWATER		SILTSTONE	0.6	359.6
359.6	TRADEWATER		SHALE	2.6	360.2
357.0	TRADEWATER		COAL	0.4	362.8
356.6	TRADEWATER		SHALE	1.1	363.2
355.5	TRADEWATER		SHALE	2.6	364.3
352.9	TRADEWATER		SHALE	0.9	366.9
352.0	TRADEWATER		CLAYSTONE & SILTSTONE	5.5	367.8
346.5	TRADEWATER		SHALE	1.4	373.3

345.1	TRADEWATER	SHALE	1.5	374.7
343.6	TRADEWATER	SHALE	4.2	376.2
339.4	TRADEWATER	SHALE	3.7	380.4
335.7	TRADEWATER	SHALE	37.7	384.1
298.0	TRADEWATER	CHERT	6.2	421.8

MAPID: 10500338000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 26N 7E **SECTION:** 1 **QUARTERS/FOOTAGES:** SW NW SW
QUADRANGLE: CHATSWORTH NORTH **LONGITUDE:** -88.371332 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.750338 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 720.0 **LOGGED (FT.):** 333.5 **LOG TYPE:** Survey Core Study
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
480.0	CARBONDALE	SPRINGFIELD	COAL	2.1	240.0
477.9	CARBONDALE		UNCLASSIFIED	30.9	242.1
447.0	CARBONDALE	HOUCHIN CREEK	COAL	0.6	273.0
446.4	CARBONDALE		UNCLASSIFIED	58.4	273.6
388.0	CARBONDALE	COLCHESTER	COAL	1.5	332.0

MAPID: 10500339000C **VERSION:** 1 **PROJECT:** NCRDS87
COUNTY: LIVINGSTON **TWP/RNG:** 26N 7E **SECTION:** 1 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: CHATSWORTH NORTH **LONGITUDE:** -88.371388 **GEOLOGIST:** WEIBEL
CONFIDENTIAL: N **LATITUDE:** 40.75936 **DATE COLLECTED:** 0 / 0 / 1950
SURFACE ELEVATION (FT.): 747.0 **LOGGED (FT.):** 396.8 **LOG TYPE:** Survey Core Study
SOURCE: **WELL TYPE:** Diamond Drill
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
747.0			UNCONSOLIDATED	220.0	0.0	
527.0	CARBONDALE		SHALE	50.4	220.0	
476.6	CARBONDALE		SANDSTONE	5.8	270.4	
470.8	CARBONDALE		SHALE	42.3	276.2	
428.5	CARBONDALE		SANDSTONE	17.6	318.5	
410.9	CARBONDALE		COAL WITH SHALE PARTINGS	2.2	336.1	
408.7	CARBONDALE		UNDERCLAY	6.5	338.3	
402.2	CARBONDALE		SHALE	6.7	344.8	
395.5	CARBONDALE	COLCHESTER	COAL	0.5	351.5	
395.0	CARBONDALE		SHALE	3.5	352.0	
391.5	CARBONDALE	COLCHESTER	COAL	0.8	355.5	
390.7	SPOON		UNDERCLAY	0.6	356.3	
390.1	SPOON		SHALE	15.6	356.9	
374.5	SPOON		BLACK SHALE	1.9	372.5	
372.6	SPOON		COAL	0.4	374.4	
372.2	SPOON		UNDERCLAY	7.1	374.8	
365.1	SPOON		BLACK SHALE	3.6	381.9	
361.5	SPOON		SHALE	5.4	385.5	
356.1	SPOON		CONGLOMERATE	5.9	390.9	
350.2	SPOON		UNCLASSIFIED	0.0	396.8	TOP OF SILURIAN

MAPID: 10500339000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 26N 7E **SECTION:** 1 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: CHATSWORTH NORTH **LONGITUDE:** -88.371388 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.75936 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 747.0 **LOGGED (FT.):** 352.4 **LOG TYPE:** Survey Core Study
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
396.0	CARBONDALE	COLCHESTER	COAL	1.4	351.0	

MAPID: 10500339000C VERSION: 3

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 1 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: CHATSWORTH NORTH LONGITUDE: -88.371388

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.75936

DATE COLLECTED: 0 / 0 / 1950

SURFACE ELEVATION (FT.): 747.0 LOGGED (FT.): 396.8

LOG TYPE: Survey Core Study

SOURCE: PENNSYLVANIAN DRILLING CO. 2

WELL TYPE: Structure Test

COMMENT: TOTAL CORE DEPTH 1435

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
747.0	PLEISTOCENE		UNCONSOLIDATED	220.0	0.0	
527.0			SHALE	20.0	220.0	
507.0			SHALE	13.0	240.0	
494.0			SHALE	4.0	253.0	
490.0			SHALE	13.4	257.0	
476.6			SANDSTONE	1.6	270.4	
475.0			SHALE	4.2	272.0	
470.8			SANDSTONE	5.3	276.2	
465.5			SANDSTONE	52.5	281.5	
413.0			SANDSTONE	2.1	334.0	
410.9			COAL	0.3	336.1	
410.6			CLAYSTONE & SILTSTONE	1.8	336.4	
408.8			COAL	0.2	338.2	
408.7			CLAYSTONE & SILTSTONE	1.0	338.3	
407.7			CLAYSTONE & SILTSTONE	2.8	339.3	
404.9			CLAYSTONE & SILTSTONE	2.7	342.1	
402.2			SHALE	1.3	344.8	
400.9			SHALE	5.4	346.1	
395.5			COAL	0.5	351.5	
395.0			CLAYSTONE & SILTSTONE	3.5	352.0	
391.5			COAL	0.8	355.5	
390.7			CLAYSTONE & SILTSTONE	0.6	356.3	
390.1			SHALE	5.1	356.9	
385.0			SHALE	10.5	362.0	
374.5			SHALE	1.9	372.5	
372.6			COAL	0.4	374.4	
372.2			CLAYSTONE & SILTSTONE	6.6	374.8	
365.6			CLAYSTONE & SILTSTONE	0.5	381.4	
365.1			SHALE	3.6	381.9	
361.5			SHALE	5.4	385.5	
356.1			SHALE	5.9	390.9	

MAPID: 10500341000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 1 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: CHATSWORTH NORTH LONGITUDE: -88.364213 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.759466 DATE COLLECTED: 0 / 0 / 1950

SURFACE ELEVATION (FT.): LOGGED (FT.): 403.9 LOG TYPE: Survey Core Study

SOURCE: PENNSYLVANIAN DRILLING CO. 4 WELL TYPE: Structure Test

COMMENT: TOTAL CORE DEPTH 966.3

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	235.0	0.0
-	CARBONDALE		SHALE	18.6	235.0
-	CARBONDALE		SHALE	2.3	253.6
-	CARBONDALE		COAL	1.1	255.9
-	CARBONDALE		SHALE	0.5	257.0
-	CARBONDALE		SHALE	14.5	257.5
-	CARBONDALE		CLAYSTONE	4.0	272.0
-	CARBONDALE		SHALE	2.9	276.0
-	CARBONDALE		COAL	0.2	278.9
-	CARBONDALE		CLAYSTONE	1.0	279.1
-	CARBONDALE		LIMESTONE	5.0	280.1
-	CARBONDALE		SHALE	0.1	285.1
-	CARBONDALE		SHALE	1.8	285.2
-	CARBONDALE		COAL	0.3	287.0
-	CARBONDALE		SHALE	13.3	287.3
-	CARBONDALE		SANDSTONE	8.2	300.6
-	CARBONDALE		SANDSTONE	4.2	308.8
-	CARBONDALE		SANDSTONE	35.0	313.0
-	CARBONDALE		SANDSTONE	6.0	348.0
-	CARBONDALE		SHALE	0.3	354.0
-	CARBONDALE	COLCHESTER	COAL	0.5	354.3
-	CARBONDALE	COLCHESTER	CLAYSTONE	0.4	354.8
-	CARBONDALE	COLCHESTER	COAL	0.0	355.2
-	CARBONDALE	COLCHESTER	CLAYSTONE	1.1	355.2
-	CARBONDALE	COLCHESTER	COAL	1.0	356.3
-	CARBONDALE	COLCHESTER	CLAYSTONE	1.0	357.3
-	CARBONDALE	COLCHESTER	COAL	0.0	358.3
-	TRADEWATER		SHALE	11.5	358.3
-	TRADEWATER		SHALE	3.3	369.8
-	TRADEWATER		SHALE	1.5	373.1
-	TRADEWATER		SHALE	2.2	374.6
-	TRADEWATER		SHALE	3.0	376.8
-	TRADEWATER		SHALE	6.7	379.8
-	TRADEWATER		SHALE	2.5	386.5
-	TRADEWATER		SHALE & CONGLOMERATE	1.0	389.0
-	TRADEWATER		SHALE	0.4	390.0
-	TRADEWATER		SHALE	7.6	390.4
-	TRADEWATER		SHALE	5.5	398.0
-	TRADEWATER		SHALE	0.4	403.5

MAPID: 10500341000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 26N 7E

SECTION: 1

QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: CHATSWORTH NORTH

LONGITUDE: -88.364213

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.759466

DATE COLLECTED:

SURFACE ELEVATION (FT.): 755.0

LOGGED (FT.): 355.5

LOG TYPE: Survey Core Study

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
499.0	CARBONDALE	SPRINGFIELD	COAL	1.1	256.0	
497.9	CARBONDALE		UNCLASSIFIED	20.9	257.1	
477.0	CARBONDALE	HOUCHIN CREEK	COAL	-	278.0	
477.0	CARBONDALE		UNCLASSIFIED	9.0	278.0	
468.0	CARBONDALE	LOWELL	COAL	-	287.0	
468.0	CARBONDALE		UNCLASSIFIED	67.0	287.0	
401.0	CARBONDALE	COLCHESTER	COAL	1.5	354.0	

MAPID: 10500340000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 2 QUARTERS/FOOTAGES: NW NW NE

QUADRANGLE: FORREST NORTH LONGITUDE: -88.380827 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.759184 DATE COLLECTED: 0 / 0 / 1950

SURFACE ELEVATION (FT.): 719.0 LOGGED (FT.): 468.9 LOG TYPE: Survey Core Study

SOURCE: PENNSYLVANIAN DRILLING CO. 3 WELL TYPE: Structure Test

COMMENT: TOTAL CORE DEPTH 1024.5

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
719.0	PLEISTOCENE		UNCONSOLIDATED	205.0	0.0
514.0	CARBONDALE		SHALE	16.0	205.0
498.0	CARBONDALE		SHALE	25.0	221.0
473.0	CARBONDALE		SHALE	2.6	246.0
470.4	CARBONDALE	HOUCHIN CREEK	COAL	2.5	248.6
467.9	CARBONDALE		SHALE	1.9	251.1
466.0	CARBONDALE		SHALE	0.7	253.0
465.3	CARBONDALE		CLAYSTONE	4.2	253.7
461.1	CARBONDALE		SHALE	1.6	257.9
459.5	CARBONDALE	LOWELL	COAL	0.1	259.5
459.4	CARBONDALE		CLAYSTONE	4.0	259.6
455.4	CARBONDALE		SILTSTONE	7.4	263.6
448.0	CARBONDALE		SHALE	34.0	271.0
414.0	CARBONDALE		SANDSTONE	41.5	305.0
372.5	CARBONDALE		SANDSTONE	4.8	346.5
367.7	CARBONDALE	COLCHESTER	COAL	0.0	351.3
367.7	CARBONDALE	COLCHESTER	CLAYSTONE	0.6	351.3
367.1	CARBONDALE	COLCHESTER	COAL	0.1	351.9
367.0	CARBONDALE	COLCHESTER	CLAYSTONE	1.2	352.0
365.8	CARBONDALE	COLCHESTER	COAL	0.6	353.2
365.2			CORE LOSS	10.0	353.8
355.2	TRADEWATER		SHALE	0.2	363.8
355.0	TRADEWATER		SHALE	4.0	364.0
351.0	TRADEWATER		SHALE	0.9	368.0
350.1	TRADEWATER		SHALE	2.2	368.9
347.9	TRADEWATER		CLAYSTONE	0.3	371.1
347.6	TRADEWATER		SHALE	1.3	371.4
346.3	TRADEWATER		SHALE	6.4	372.7
339.9	TRADEWATER		SHALE	6.8	379.1
333.1	TRADEWATER		SHALE	0.8	385.9
332.3	TRADEWATER		COAL	0.2	386.7
332.1	TRADEWATER		SHALE	1.1	386.9
331.0	TRADEWATER		SANDSTONE	9.1	388.0
321.9	TRADEWATER		SHALE	8.3	397.1
313.6	TRADEWATER		SHALE	2.1	405.4
311.5	TRADEWATER		SHALE	0.4	407.5
311.1	TRADEWATER		COAL	1.3	407.9
309.8	TRADEWATER		CLAYSTONE	3.6	409.2
306.2	TRADEWATER		SHALE	4.0	412.8

302.2	TRADEWATER	COAL	0.0	416.8
302.2	TRADEWATER	SHALE	0.3	416.8
301.9	TRADEWATER	COAL	0.0	417.1
301.9	TRADEWATER	SHALE	2.9	417.1
299.0		CORE LOSS	5.0	420.0
294.0	SILURIAN	CHERT	43.9	425.0

MAPID: 10500340000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 2 QUARTERS/FOOTAGES: NW NW NE

QUADRANGLE: FORREST NORTH LONGITUDE: -88.380827 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.759184 DATE COLLECTED:

SURFACE ELEVATION (FT.): 720.0 LOGGED (FT.): 351.9 LOG TYPE: Survey Core Study

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
469.0	CARBONDALE	SPRINGFIELD	COAL	2.5	251.0
466.5	CARBONDALE		UNCLASSIFIED	6.5	253.5
460.0	CARBONDALE	HOUCHIN CREEK	COAL	-	260.0
460.0	CARBONDALE		UNCLASSIFIED	91.0	260.0
369.0	CARBONDALE	COLCHESTER	COAL	0.9	351.0

MAPID: 10500123000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 3 QUARTERS/FOOTAGES: SE/c

QUADRANGLE: FORREST NORTH LONGITUDE: -88.40119 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.752707 DATE COLLECTED: 0 / 0 / 1890

SURFACE ELEVATION (FT.): LOGGED (FT.): 217.8 LOG TYPE: Drillers Log

SOURCE: BENNETT REEDER WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	110.0	0.0
-			SANDSTONE	1.0	110.0
-			COAL	0.8	111.0
-			SHALE	3.5	111.8
-			COAL	0.8	115.3
-			CLAYSTONE & SILTSTONE	98.0	116.2
-			CARBONACEOUS SHALE	0.5	214.2
-			COAL	3.2	214.7

MAPID: 10500857000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 18 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.450008 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.71704 DATE COLLECTED:

SURFACE ELEVATION (FT.): 705.0 LOGGED (FT.): 382.0 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
523.0	CARBONDALE	DANVILLE	COAL	2.0	182.0
521.0	CARBONDALE		UNCLASSIFIED	19.0	184.0
502.0	CARBONDALE	HERRIN	COAL	-	203.0
502.0	CARBONDALE		UNCLASSIFIED	75.0	203.0
427.0	CARBONDALE	SPRINGFIELD	COAL	2.0	278.0
425.0	CARBONDALE		UNCLASSIFIED	12.0	280.0
413.0	CARBONDALE	HOUCHIN CREEK	COAL	-	292.0
413.0	CARBONDALE		UNCLASSIFIED	89.0	292.0
324.0	CARBONDALE	COLCHESTER	COAL	1.0	381.0

MAPID: 10500852000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 26N 7E SECTION: 33 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: FORREST SOUTH LONGITUDE: -88.427683 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.673578 DATE COLLECTED:

SURFACE ELEVATION (FT.): 743.0 LOGGED (FT.): 424.0 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
440.0	CARBONDALE	SPRINGFIELD	COAL	-	303.0
440.0	CARBONDALE		UNCLASSIFIED	16.0	303.0
424.0	CARBONDALE	HOUCHIN CREEK	COAL	-	319.0
424.0	CARBONDALE		UNCLASSIFIED	103.0	319.0
321.0	CARBONDALE	COLCHESTER	COAL	2.0	422.0

MAPID: 10500009000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 26N 8E SECTION: 4 QUARTERS/FOOTAGES:

QUADRANGLE: CHATSWORTH NORTH LONGITUDE: -88.306081

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.754027

DATE COLLECTED:

SURFACE ELEVATION (FT.): 735.0

LOGGED (FT.): 200.0

LOG TYPE: Drillers Log

SOURCE: IL REPT VOL 6 P. 243

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
735.0	PLEISTOCENE		UNCONSOLIDATED	65.0	0.0	
670.0			SANDSTONE	15.0	65.0	
655.0			UNCLASSIFIED	4.0	80.0	
651.0			UNDERCLAY	4.0	84.0	
647.0			SANDSTONE	35.0	88.0	
612.0			SHALE	13.0	123.0	
599.0			COAL	0.2	136.0	
598.8			UNDERCLAY	1.0	136.2	
597.8			SHALE	11.0	137.2	
586.8			COAL	1.3	148.2	
585.6			UNDERCLAY	3.0	149.4	
582.6			SHALE	15.0	152.4	
567.6			BLACK SHALE	1.5	167.4	
566.1			SHALE	31.1	168.9	

MAPID: 10500009000C VERSION: 2

PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 26N 8E SECTION: 4 QUARTERS/FOOTAGES:

QUADRANGLE: CHATSWORTH NORTH LONGITUDE: -88.306081

GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 40.754027

DATE COLLECTED:

SURFACE ELEVATION (FT.): 735.0

LOGGED (FT.): 200.0

LOG TYPE: Drillers Log

SOURCE: CHATSWORTH (TOWNSHIP)

WELL TYPE: Coal Test

COMMENT: LOCATION IMPRECISE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
735.0			UNCONSOLIDATED	88.0	0.0	
647.0	CARBONDALE		SANDSTONE	35.0	88.0	
612.0	CARBONDALE		SHALE	13.0	123.0	
599.0	CARBONDALE		COAL	0.2	136.0	BKSH?
598.8	CARBONDALE		UNDERCLAY	1.0	136.2	
597.8	CARBONDALE		SHALE	11.0	137.2	
586.8	CARBONDALE		COAL	1.3	148.2	
585.6	CARBONDALE		UNDERCLAY	3.0	149.4	
582.6	CARBONDALE		UNCLASSIFIED	15.0	152.4	
567.6	CARBONDALE		BLACK SHALE	1.5	167.4	
566.1	CARBONDALE		SHALE	31.1	168.9	

MAPID: 10500846000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 26N 8E SECTION: 31 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: CHATSWORTH SOUTH LONGITUDE: -88.350595 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.674522 DATE COLLECTED:
SURFACE ELEVATION (FT.): 747.0 LOGGED (FT.): 319.0 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
519.0	CARBONDALE	SPRINGFIELD	COAL	-	228.0
519.0	CARBONDALE		UNCLASSIFIED	88.0	228.0
431.0	CARBONDALE	COLCHESTER	COAL	3.0	316.0

MAPID: 10522002000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 2 QUARTERS/FOOTAGES: 940' N line, 75' W line of NW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.853196 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.839466 DATE COLLECTED: 0 / 0 / 1968
SURFACE ELEVATION (FT.): 697.0 LOGGED (FT.): 342.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-13 WELL TYPE: Structure Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10522003000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 6 QUARTERS/FOOTAGES: 210' N line, 18' W line of NW
QUADRANGLE: FLANAGAN SW LONGITUDE: -88.930792 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.839866 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 743.0 LOGGED (FT.): 343.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY C-53 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
481.0	CARBONDALE	DANVILLE	COAL	-	262.0
468.0	CARBONDALE	HERRIN	COAL	-	275.0
403.0	CARBONDALE	SPRINGFIELD	COAL	-	340.0

MAPID: 10522004000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 7 QUARTERS/FOOTAGES: 70' S line, 15' W line of SW
QUADRANGLE: FLANAGAN SW LONGITUDE: -88.930247 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.811632 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 728.0 LOGGED (FT.): 357.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY C-49 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
474.0	CARBONDALE	DANVILLE	COAL	-	254.0
456.0	CARBONDALE	HERRIN	COAL	-	272.0
394.0	CARBONDALE	SPRINGFIELD	COAL	-	334.0
380.0	CARBONDALE	HOUCHIN CREEK	COAL	-	348.0

MAPID: 10522005000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 8 QUARTERS/FOOTAGES: 85' N line, 15' W line of NW
QUADRANGLE: FLANAGAN SW LONGITUDE: -88.910757 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.826163 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 743.0 LOGGED (FT.): 398.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY C-40 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
458.0	CARBONDALE	DANVILLE	COAL	-	285.0
446.0	CARBONDALE	HERRIN	COAL	-	297.0
381.0	CARBONDALE	SPRINGFIELD	COAL	-	362.0
471.0	CARBONDALE	HOUCHIN CREEK	COAL	-	272.0

MAPID: 10501094000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 9 QUARTERS/FOOTAGES: SE SW SW
QUADRANGLE: FLANAGAN SW LONGITUDE: -88.888053 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.813045 DATE COLLECTED:
SURFACE ELEVATION (FT.): 731.0 LOGGED (FT.): 465.0 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
389.0	CARBONDALE	SPRINGFIELD	COAL	-	342.0
389.0	CARBONDALE		UNCLASSIFIED	13.0	342.0
376.0	CARBONDALE	HOUCHIN CREEK	COAL	-	355.0
376.0	CARBONDALE		UNCLASSIFIED	55.0	355.0
321.0	CARBONDALE	LOWELL	COAL	2.0	410.0
319.0	CARBONDALE		UNCLASSIFIED	50.0	412.0
269.0	CARBONDALE	COLCHESTER	COAL	3.0	462.0

MAPID: 10501095000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 27N 3E **SECTION:** 11 **QUARTERS/FOOTAGES:** SE SW SW
QUADRANGLE: FLANAGAN SOUTH **LONGITUDE:** -88.849871 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.813757 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 710.0 **LOGGED (FT.):** 488.0 **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
425.0	CARBONDALE	DANVILLE	COAL	3.5	285.0
421.5	CARBONDALE		UNCLASSIFIED	15.5	288.5
406.0	CARBONDALE	HERRIN	COAL	1.5	304.0
404.5	CARBONDALE		UNCLASSIFIED	64.5	305.5
340.0	CARBONDALE	SPRINGFIELD	COAL	-	370.0
340.0	CARBONDALE		UNCLASSIFIED	19.0	370.0
321.0	CARBONDALE	HOUCHIN CREEK	COAL	-	389.0
321.0	CARBONDALE		UNCLASSIFIED	49.0	389.0
272.0	CARBONDALE	LOWELL	COAL	1.5	438.0
270.5	CARBONDALE		UNCLASSIFIED	46.5	439.5
224.0	CARBONDALE	COLCHESTER	COAL	2.0	486.0

MAPID: 10522006000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 27N 3E **SECTION:** 13 **QUARTERS/FOOTAGES:** 40' N line, 15' E line of NE
QUADRANGLE: FLANAGAN SOUTH **LONGITUDE:** -88.815215 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.81331 **DATE COLLECTED:** 0 / 0 / 1966
SURFACE ELEVATION (FT.): 700.0 **LOGGED (FT.):** 373.0 **LOG TYPE:**
SOURCE: HYDROCARBON SURVEY C-46 **WELL TYPE:** Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
479.0	CARBONDALE	DANVILLE	COAL	-	221.0
462.0	CARBONDALE	HERRIN	COAL	-	238.0
395.0	CARBONDALE	SPRINGFIELD	COAL	-	305.0
385.0	CARBONDALE	HOUCHIN CREEK	COAL	-	315.0

MAPID: 10522007000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 14 QUARTERS/FOOTAGES: 15' N line, 70' W line of NW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.853177 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.812752 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 719.0 LOGGED (FT.): 345.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY C-48 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
424.0	CARBONDALE	DANVILLE	COAL	-	295.0
405.0	CARBONDALE	HERRIN	COAL	-	314.0

MAPID: 10522008000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 14 QUARTERS/FOOTAGES: 75' S line, 15' E line of SE
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.834215 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.798598 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 727.0 LOGGED (FT.): 423.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY D-36 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
421.0	CARBONDALE	DANVILLE	COAL	-	306.0
403.0	CARBONDALE	HERRIN	COAL	-	324.0
334.0	CARBONDALE	SPRINGFIELD	COAL	-	393.0
323.0	CARBONDALE	HOUCHIN CREEK	COAL	-	404.0

MAPID: 10522009000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 15 QUARTERS/FOOTAGES: 20' S line, 150' W line of SW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.871944 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.798035 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 740.0 LOGGED (FT.): 423.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY D-33 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
425.0	CARBONDALE	DANVILLE	COAL	-	315.0
406.0	CARBONDALE	HERRIN	COAL	-	334.0
334.0	CARBONDALE	SPRINGFIELD	COAL	-	406.0
325.0	CARBONDALE	HOUCHIN CREEK	COAL	-	415.0

MAPID: 10522010000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 16 QUARTERS/FOOTAGES: 15' N line, 75' W line of NW

QUADRANGLE: FLANAGAN SW LONGITUDE: -88.891366 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.81202 DATE COLLECTED: 0 / 0 / 1966

SURFACE ELEVATION (FT.): 732.0 LOGGED (FT.): 397.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY C-39 WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
452.0	CARBONDALE	DANVILLE	COAL	-	280.0	
437.0	CARBONDALE	HERRIN	COAL	-	295.0	
372.0	CARBONDALE	SPRINGFIELD	COAL	-	360.0	
361.0	CARBONDALE	HOUCHIN CREEK	COAL	-	371.0	

MAPID: 10522011000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 17 QUARTERS/FOOTAGES: 95' S line, 18' W line of SW

QUADRANGLE: FLANAGAN SW LONGITUDE: -88.910611 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.797275 DATE COLLECTED: 0 / 0 / 1966

SURFACE ELEVATION (FT.): 749.0 LOGGED (FT.): 397.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY C-38 WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
462.0	CARBONDALE	DANVILLE	COAL	-	287.0	
449.0	CARBONDALE	HERRIN	COAL	-	300.0	
381.0	CARBONDALE	SPRINGFIELD	COAL	-	368.0	
368.0	CARBONDALE	HOUCHIN CREEK	COAL	-	381.0	

MAPID: 10501092000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 21 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: FLANAGAN SW LONGITUDE: -88.89012 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.784088 DATE COLLECTED:
SURFACE ELEVATION (FT.): 726.0 LOGGED (FT.): 460.0 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
479.0	CARBONDALE	DANVILLE	COAL	2.5	247.0
476.5	CARBONDALE		UNCLASSIFIED	15.5	249.5
461.0	CARBONDALE	HERRIN	COAL	1.5	265.0
459.5	CARBONDALE		UNCLASSIFIED	63.5	266.5
396.0	CARBONDALE	SPRINGFIELD	COAL	-	330.0
396.0	CARBONDALE		UNCLASSIFIED	20.0	330.0
376.0	CARBONDALE	HOUCHIN CREEK	COAL	-	350.0
376.0	CARBONDALE		UNCLASSIFIED	52.0	350.0
324.0	CARBONDALE	LOWELL	COAL	2.0	402.0
322.0	CARBONDALE		UNCLASSIFIED	54.0	404.0
268.0	CARBONDALE	COLCHESTER	COAL	2.0	458.0

MAPID: 10522012000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 22 QUARTERS/FOOTAGES: 15' S line, 90' E line of SE
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.853578 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.78386 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 742.0 LOGGED (FT.): 393.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY D-32 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
451.0	CARBONDALE	DANVILLE	COAL	-	291.0
432.0	CARBONDALE	HERRIN	COAL	-	310.0
374.0	CARBONDALE	SPRINGFIELD	COAL	-	368.0
362.0	CARBONDALE	HOUCHIN CREEK	COAL	-	380.0

MAPID: 10501093000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 23 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.852064 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.784748 DATE COLLECTED:
SURFACE ELEVATION (FT.): 743.0 LOGGED (FT.): 483.5 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
453.0	CARBONDALE	DANVILLE	COAL	3.5	290.0
449.5	CARBONDALE		UNCLASSIFIED	22.5	293.5
427.0	CARBONDALE	HERRIN	COAL	-	316.0
427.0	CARBONDALE		UNCLASSIFIED	56.0	316.0
371.0	CARBONDALE	SPRINGFIELD	COAL	-	372.0
371.0	CARBONDALE		UNCLASSIFIED	13.0	372.0
358.0	CARBONDALE	HOUCHIN CREEK	COAL	-	385.0
358.0	CARBONDALE		UNCLASSIFIED	53.0	385.0
305.0	CARBONDALE	LOWELL	COAL	2.0	438.0
303.0	CARBONDALE		UNCLASSIFIED	41.0	440.0
262.0	CARBONDALE	COLCHESTER	COAL	2.5	481.0

MAPID: 10522013000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 28 QUARTERS/FOOTAGES: 10' N line, 60' W line of NW
QUADRANGLE: FLANAGAN SW LONGITUDE: -88.891075 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.783141 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 727.0 LOGGED (FT.): 398.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY C-37 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
480.0	CARBONDALE	DANVILLE	COAL	-	247.0
463.0	CARBONDALE	HERRIN	COAL	-	264.0
395.0	CARBONDALE	SPRINGFIELD	COAL	-	332.0

MAPID: 10522014000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 28 QUARTERS/FOOTAGES: 15' S line, 125' E line of SE
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.872741 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.768971 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 767.0 LOGGED (FT.): 384.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY D-31 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
470.0	CARBONDALE	DANVILLE	COAL	-	297.0
449.0	CARBONDALE	HERRIN	COAL	-	318.0
387.0	CARBONDALE	SPRINGFIELD	COAL	-	380.0

MAPID: 10522015000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 29 QUARTERS/FOOTAGES: 15' S line, 70' W line of SW
QUADRANGLE: FLANAGAN SW LONGITUDE: -88.910164 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.768414 DATE COLLECTED: 0 / 0 / 1966
SURFACE ELEVATION (FT.): 717.0 LOGGED (FT.): 316.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY C-36 WELL TYPE: Structure Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
480.0	CARBONDALE	DANVILLE	COAL	-	237.0
462.0	CARBONDALE	HERRIN	COAL	-	255.0
412.0	CARBONDALE	SPRINGFIELD	COAL	-	305.0

MAPID: 10521346000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 34 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.870959 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.760675 DATE COLLECTED:
SURFACE ELEVATION (FT.): 755.0 LOGGED (FT.): 485.0 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
389.0	CARBONDALE	SPRINGFIELD	COAL	-	366.0
389.0	CARBONDALE		UNCLASSIFIED	15.0	366.0
374.0	CARBONDALE	HOUCHIN CREEK	COAL	-	381.0
374.0	CARBONDALE		UNCLASSIFIED	54.0	381.0
320.0	CARBONDALE	LOWELL	COAL	1.5	435.0
318.5	CARBONDALE		UNCLASSIFIED	45.5	436.5
273.0	CARBONDALE	COLCHESTER	COAL	3.0	482.0

MAPID: 10500722000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 3E SECTION: 35 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.835336 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.768444 DATE COLLECTED:
SURFACE ELEVATION (FT.): 743.0 LOGGED (FT.): 485.5 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
457.0	CARBONDALE	DANVILLE	COAL	3.5	286.0
453.5	CARBONDALE		UNCLASSIFIED	16.5	289.5
437.0	CARBONDALE	HERRIN	COAL	1.0	306.0
436.0	CARBONDALE		UNCLASSIFIED	65.0	307.0
371.0	CARBONDALE	SPRINGFIELD	COAL	-	372.0
371.0	CARBONDALE		UNCLASSIFIED	13.0	372.0
358.0	CARBONDALE	HOUCHIN CREEK	COAL	-	385.0
358.0	CARBONDALE		UNCLASSIFIED	54.0	385.0
304.0	CARBONDALE	LOWELL	COAL	2.0	439.0
302.0	CARBONDALE		UNCLASSIFIED	42.0	441.0
260.0	CARBONDALE	COLCHESTER	COAL	2.5	483.0

MAPID: 10501086000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 1 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.718365 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.835362 DATE COLLECTED:
SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 288.0 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
488.0	CARBONDALE	SPRINGFIELD	COAL	-	174.0
488.0	CARBONDALE		UNCLASSIFIED	13.0	174.0
475.0	CARBONDALE	HOUCHIN CREEK	COAL	-	187.0
475.0	CARBONDALE		UNCLASSIFIED	98.0	187.0
377.0	CARBONDALE	COLCHESTER	COAL	3.0	285.0

MAPID: 10501089000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 2 QUARTERS/FOOTAGES: SE NE NW

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.730257 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.84087 DATE COLLECTED:

SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 277.0 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
492.0	CARBONDALE	SPRINGFIELD	COAL	-	170.0
492.0	CARBONDALE		UNCLASSIFIED	11.0	170.0
481.0	CARBONDALE	HOUCHIN CREEK	COAL	-	181.0
481.0	CARBONDALE		UNCLASSIFIED	39.0	181.0
442.0	CARBONDALE	LOWELL	COAL	1.5	220.0
440.5	CARBONDALE		UNCLASSIFIED	52.5	221.5
388.0	CARBONDALE	COLCHESTER	COAL	3.0	274.0

MAPID: 10501013000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 3 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.739733 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.833328 DATE COLLECTED:

SURFACE ELEVATION (FT.): 672.0 LOGGED (FT.): 302.5 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
460.0	CARBONDALE	HOUCHIN CREEK	COAL	-	212.0
460.0	CARBONDALE		UNCLASSIFIED	38.0	212.0
422.0	CARBONDALE	LOWELL	COAL	2.0	250.0
420.0	CARBONDALE		UNCLASSIFIED	48.0	252.0
372.0	CARBONDALE	COLCHESTER	COAL	2.5	300.0

MAPID: 10500721000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 27N 4E

SECTION: 9

QUARTERS/FOOTAGES: SW NW NW

QUADRANGLE: FLANAGAN SOUTH

LONGITUDE: -88.775377

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.82574

DATE COLLECTED:

SURFACE ELEVATION (FT.): 682.0

LOGGED (FT.): 342.0

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
519.0	CARBONDALE	DANVILLE	COAL	3.3	163.0
515.7	CARBONDALE		UNCLASSIFIED	13.7	166.3
502.0	CARBONDALE	HERRIN	COAL	-	180.0
502.0	CARBONDALE		UNCLASSIFIED	60.0	180.0
442.0	CARBONDALE	SPRINGFIELD	COAL	-	240.0
442.0	CARBONDALE		UNCLASSIFIED	18.0	240.0
424.0	CARBONDALE	HOUCHIN CREEK	COAL	-	258.0
424.0	CARBONDALE		UNCLASSIFIED	34.0	258.0
390.0	CARBONDALE	LOWELL	COAL	1.5	292.0
388.5	CARBONDALE		UNCLASSIFIED	46.5	293.5
342.0	CARBONDALE	COLCHESTER	COAL	2.0	340.0

MAPID: 10500762000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 27N 4E

SECTION: 11

QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: PONTIAC SOUTHWEST

LONGITUDE: -88.737297

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.820422

DATE COLLECTED:

SURFACE ELEVATION (FT.): 685.0

LOGGED (FT.): 345.0

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
507.0	CARBONDALE	DANVILLE	COAL	4.0	178.0
503.0	CARBONDALE		UNCLASSIFIED	18.0	182.0
485.0	CARBONDALE	HERRIN	COAL	-	200.0
485.0	CARBONDALE		UNCLASSIFIED	36.0	200.0
449.0	CARBONDALE	SPRINGFIELD	COAL	-	236.0
449.0	CARBONDALE		UNCLASSIFIED	13.0	236.0
436.0	CARBONDALE	HOUCHIN CREEK	COAL	-	249.0
436.0	CARBONDALE		UNCLASSIFIED	43.0	249.0
393.0	CARBONDALE	LOWELL	COAL	2.0	292.0
391.0	CARBONDALE		UNCLASSIFIED	48.0	294.0
343.0	CARBONDALE	COLCHESTER	COAL	3.0	342.0

MAPID: 10521881000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 12 QUARTERS/FOOTAGES: 245' N line, 20' E line of NE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.700244 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.828213 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 348.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-11 WELL TYPE: Structure Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		UNIT	OVERBURDEN	COMMENT
-			UNCLASSIFIED	-				GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10501009000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 13 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.701383 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.813558 DATE COLLECTED:
SURFACE ELEVATION (FT.): 671.0 LOGGED (FT.): 339.5 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
387.0	CARBONDALE	LOWELL	COAL	2.0	284.0			
385.0	CARBONDALE		UNCLASSIFIED	52.0	286.0			
333.0	CARBONDALE	COLCHESTER	COAL	1.5	338.0			

MAPID: 10500765000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 14 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.720433 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.800859 DATE COLLECTED:
SURFACE ELEVATION (FT.): 680.0 LOGGED (FT.): 353.0 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
515.0	CARBONDALE	DANVILLE	COAL	2.5	165.0			
512.5	CARBONDALE		UNCLASSIFIED	10.5	167.5			
502.0	CARBONDALE	HERRIN	COAL	-	178.0			
502.0	CARBONDALE		UNCLASSIFIED	44.0	178.0			
458.0	CARBONDALE	SPRINGFIELD	COAL	1.5	222.0			
456.5	CARBONDALE		UNCLASSIFIED	22.5	223.5			
434.0	CARBONDALE	HOUCHIN CREEK	COAL	-	246.0			
434.0	CARBONDALE		UNCLASSIFIED	61.0	246.0			
373.0	CARBONDALE	LOWELL	COAL	3.0	307.0			
370.0	CARBONDALE		UNCLASSIFIED	40.0	310.0			
330.0	CARBONDALE	COLCHESTER	COAL	3.0	350.0			

MAPID: 10500770000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 19 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.796866 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.785258 DATE COLLECTED:

SURFACE ELEVATION (FT.): 702.0 LOGGED (FT.): 436.5 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
468.0	CARBONDALE	DANVILLE	COAL	3.5	234.0
464.5	CARBONDALE		UNCLASSIFIED	12.5	237.5
452.0	CARBONDALE	HERRIN	COAL	-	250.0
452.0	CARBONDALE		UNCLASSIFIED	50.0	250.0
402.0	CARBONDALE	SPRINGFIELD	COAL	-	300.0
402.0	CARBONDALE		UNCLASSIFIED	14.0	300.0
388.0	CARBONDALE	HOUCHIN CREEK	COAL	-	314.0
388.0	CARBONDALE		UNCLASSIFIED	121.0	314.0
267.0	CARBONDALE	COLCHESTER	COAL	1.5	435.0

MAPID: 10521882000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 28 QUARTERS/FOOTAGES: 40' N line, 65' E line of NE

QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.757514 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.784822 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 689.0 LOGGED (FT.): 366.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-13 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521883000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 28 QUARTERS/FOOTAGES: 20' S line, 110' W line of SW

QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.77609 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.770193 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 718.0 LOGGED (FT.): 367.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-11 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521884000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 4E SECTION: 36 QUARTERS/FOOTAGES: 550' N line, 60' W line of NW
 QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.719066 GEOLOGIST: C.KOROSE
 CONFIDENTIAL: N LATITUDE: 40.768888 DATE COLLECTED: 0 / 0 / 1967
 SURFACE ELEVATION (FT.): 698.0 LOGGED (FT.): 340.0 LOG TYPE:
 SOURCE: HYDROCARBON SURVEY L-12 WELL TYPE: Coal Test
 COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10522604000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 1 QUARTERS/FOOTAGES: 400' S line, 270' W line of SW
 QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.602668 GEOLOGIST: C KOROSE
 CONFIDENTIAL: N LATITUDE: 40.83117 DATE COLLECTED: 4 / 16 / 1975
 SURFACE ELEVATION (FT.): LOGGED (FT.): 196.1 LOG TYPE: Drillers Log
 SOURCE: PITTSBURG & MIDWAY F-1-75 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		CLAY	10.0	0.0
-			LIMESTONE	5.0	10.0
-			SHALE	22.0	15.0 INTERBEDDED WITH LIMESTONE
-			LIMESTONE	3.0	37.0
-			SHALE	10.0	40.0
-			LIMESTONE	12.0	50.0 BROKEN
-			SHALE	2.0	62.0 WITH BROKEN COAL
-			SHALE	5.0	64.0
-			LIMESTONE	3.0	69.0
-			SHALE	6.0	72.0 GRAY
-	MODESTO	LONSDALE	LIMESTONE	13.0	78.0
-	MODESTO		SHALE	1.0	91.0 RED
-	MODESTO		SHALE	20.0	92.0 WITH LIMESTONE BEDS; GRAY
-	MODESTO		SANDSTONE	3.0	112.0 HARD
-	MODESTO		SHALE	45.0	115.0 WITH SANDSTONE BANDS
-	MODESTO		SHALE	23.0	160.0 WITH SANDSTONE BANDS; GRAY
-	MODESTO		SHALE	4.0	183.0 SOFT
-	MODESTO		SHALE	2.0	187.0 DARK
-	CARBONDALE	DANVILLE	COAL	5.1	189.0
-			SHALE	2.0	194.1 SANDY; DARK

MAPID: 10521887000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 2 QUARTERS/FOOTAGES: 15' N line, 160' E line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.604587 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.845102 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 326.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-4 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521891000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 9 QUARTERS/FOOTAGES: 55' N line, 20' W line of NW

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.661371 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.829033 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 295.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY DOG WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500919000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 14 QUARTERS/FOOTAGES: 310' N, 50' E, NW/c NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.603708 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.814905 DATE COLLECTED: 1 / 11 / 1969

SURFACE ELEVATION (FT.): 656.6 LOGGED (FT.): 191.9 LOG TYPE: Drillers Log

SOURCE: HYDROCARBON SURVEY K-1 CC WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
656.6			UNCLASSIFIED	155.0	0.0
501.6	MODESTO		SHALE	10.0	155.0
491.6	MODESTO		SHALE	10.0	165.0
481.6	MODESTO		SHALE	3.0	175.0
478.6	MODESTO		SHALE	0.7	178.0
477.9	MODESTO		SHALE	1.5	178.7
476.4	MODESTO		SHALE	1.8	180.2
474.6	MODESTO		SHALE	2.0	182.0
472.6	MODESTO		SHALE	3.0	184.0
469.6	CARBONDALE	DANVILLE	COAL	4.8	187.0 #7/DETAILED COAL DESCRIP IN LOG
464.8	MODESTO		CLAYSTONE & SILTSTONE	0.1	191.8

MAPID: 10522159000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 14 QUARTERS/FOOTAGES: 315' N line, 45' E line of NE
QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.60369 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.814891 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 340.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-1 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
472.0	CARBONDALE	DANVILLE	COAL	-	184.0
454.0	CARBONDALE	HERRIN	COAL	-	202.0
402.0	CARBONDALE	SPRINGFIELD	COAL	-	254.0

MAPID: 10521894000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 16 QUARTERS/FOOTAGES: 110' N line, 15' E line of NE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.642587 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.814718 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 354.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-2 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521895000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 17 QUARTERS/FOOTAGES: 80' N line, 5' W line of NW
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.680678 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.814317 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 668.0 LOGGED (FT.): 390.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-2 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10501004000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 23 QUARTERS/FOOTAGES: 50' S line, 0' E line of SE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.603453 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.786392 DATE COLLECTED: 1 / 26 / 1971

SURFACE ELEVATION (FT.): 683.0 LOGGED (FT.): 252.6 LOG TYPE: Drillers Log

SOURCE: HYDROCARBON SURVEY K-5C WELL TYPE: Coal Test

COMMENT: HYDROCARB SURVEY E-LOG ON FILE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
683.0			UNCLASSIFIED	222.0	0.0	
461.0	MODESTO		SHALE	10.0	222.0	
451.0	MODESTO		SHALE	9.5	232.0	
441.5	MODESTO		SHALE	3.2	241.5	
438.3	MODESTO		SHALE	2.2	244.7	
436.1	MODESTO		SHALE	0.8	246.9	
435.3	CARBONDALE	DANVILLE	COAL	4.2	247.7	
431.1	CARBONDALE		SHALE	0.4	251.9	
430.7	CARBONDALE		CLAYSTONE	0.3	252.3	

MAPID: 10521896000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 23 QUARTERS/FOOTAGES: 110' S line, 10' E line of SE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.603491 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.786557 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 683.0 LOGGED (FT.): 340.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-5 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521897000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 23 QUARTERS/FOOTAGES: 45' N line, 66' W line of NW

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.622304 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.800731 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 237.2 LOG TYPE: Survey Core Study

SOURCE: HYDROCARBON SURVEY CC1 WELL TYPE: Coal Test

COMMENT: CORE BROKEN,SOME THICKNESSES WRONG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	NO CORE
-			LIMESTONE	3.5	12.0	
-			CLAYSTONE	0.7	15.5	
-			CLAYSTONE	3.9	16.2	
-			CLAYSTONE	2.0	20.1	RED
-			CLAYSTONE	0.6	22.0	
-			LIMESTONE	7.8	22.6	
-			CLAYSTONE	0.7	30.3	
-			SHALE	0.2	31.0	
-			LIMESTONE	1.8	31.2	
-			LIMESTONE & CLAY	2.0	33.0	
-			SHALE	6.3	35.0	
-			LIMESTONE	1.7	41.3	
-			LIMESTONE & CLAY	2.0	43.0	
-			SHALE	0.7	45.0	
-			CLAYSTONE	3.3	45.7	
-			CLAYSTONE	2.0	48.9	
-			CLAYSTONE	0.4	50.9	THICKNESS QUESTIONABLE, NOTED IN LOG
-			CLAYSTONE	0.7	51.3	DEPTH QUESTIONABLE
-			CLAYSTONE	7.0	52.0	
-			LIMESTONE & CLAY	4.0	59.0	
-			CLAYSTONE	6.0	63.0	
-			CLAYSTONE	3.5	69.0	
-			LIMESTONE	1.7	72.5	GREENISH GRAY
-			LIMESTONE & CLAY	16.8	74.2	THICKNESS QUESTIONABLE
-			LIMESTONE	3.3	91.0	
-			CLAYSTONE	8.8	94.3	
-			CLAYSTONE	0.8	103.0	GRAYISH GREEN
-			LIMESTONE & CLAY	3.5	103.8	
-			CLAYSTONE	5.7	107.3	
-			CLAYSTONE	1.5	113.0	
-			CLAYSTONE	0.5	114.5	GREENISH GRAY
-			SHALE & SILTSTONE	2.0	115.0	
-			SHALY LIMESTONE	0.3	117.0	
-			SHALE	5.7	117.3	GREENISH GRAY
-			SHALE & SILTSTONE	10.0	123.0	
-			SHALE	63.0	133.0	
-			SHALE	4.6	196.0	
-			SHALE	15.4	200.6	

-			SHALE	3.8	216.0	COALY STREAK
-	CARBONDALE	DANVILLE	COAL	4.1	219.8	CORE BADLY CRUSHED, NO DETAILED DESCR.
-	CARBONDALE	DANVILLE	SHALE	0.3	223.8	
-	CARBONDALE	DANVILLE	COAL	0.2	224.2	CORE BROKEN
-	CARBONDALE		CLAYSTONE	0.5	224.4	
-	CARBONDALE		CLAYSTONE	1.8	224.8	
-	CARBONDALE		LIMESTONE	0.5	226.7	
-	CARBONDALE		SHALE WITH LIMESTONE	8.3	227.3	
-	CARBONDALE		CLAYSTONE & LIMESTONE	1.8	235.4	

MAPID: 10522605000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 27 QUARTERS/FOOTAGES: 100' N line, 75' E line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.622539 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.785661 DATE COLLECTED: 4 / 18 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 265.4 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-2-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		UNIT OVERBURDEN COMMENT
-	PLEISTOCENE		CLAY	12.0	0.0	SANDY
-			SHALE	12.0	12.0	
-			LIMESTONE	21.0	24.0	
-			SHALE	10.0	45.0	
-			LIMESTONE	8.0	55.0	
-			SHALE	6.0	63.0	WITH LIMESTONE
-			LIMESTONE	3.0	69.0	
-			SHALE	46.0	72.0	WITH LIMESTONE
-			SHALE	7.0	118.0	
-			SHALE	10.0	125.0	WITH LIMESTONE
-			LIMESTONE	1.5	135.0	
-			SHALE	33.5	136.5	WITH LIMESTONE
-			SHALE	10.0	170.0	WITH SANDSTONE BANDS
-			SHALE	20.0	180.0	SANDY; DARK
-			SANDSTONE	20.0	200.0	SOFT
-			SANDSTONE	7.0	220.0	SMALL SHALE LAMINATIONS
-			SANDSTONE	3.0	227.0	POROUS
-			SHALE	10.0	230.0	DRILLER'S NOTE:IRON BALLS; GRAY
-			SHALE	10.0	240.0	WITH SANDSTONE
-			SHALE	7.0	250.0	DARK
-	CARBONDALE	DANVILLE	COAL	5.3	257.0	
-	CARBONDALE		SHALE	3.1	262.3	HARD; DARK

MAPID: 10501003000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 28 QUARTERS/FOOTAGES: 0' N line, 0' E line of NE

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.642105 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.785707 DATE COLLECTED: 1 / 28 / 1971

SURFACE ELEVATION (FT.): 679.0 LOGGED (FT.): 272.9 LOG TYPE: Survey Core Study

SOURCE: HYDROCARBON SURVEY L1C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
679.0			UNCLASSIFIED	250.0	0.0	
429.0	MODESTO		SHALE	8.9	250.0	
420.1	MODESTO		SHALE	1.0	258.9	
419.1	MODESTO		SHALE	5.1	259.9	
414.0	MODESTO		SHALE	0.6	265.0	
413.4	MODESTO		SHALE	0.5	265.6	
412.9	CARBONDALE	DANVILLE	COAL	3.5	266.1	CORE TOO BROKEN TO DETERMINE THICKNESS
409.4	CARBONDALE		SHALE	0.7	269.6	
408.7	CARBONDALE		UNDERCLAY	2.6	270.3	

MAPID: 10521900000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 28 QUARTERS/FOOTAGES: 15' N line, 75' W line of NE

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.65133 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.785549 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 679.0 LOGGED (FT.): 380.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-1 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521901000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 29 QUARTERS/FOOTAGES: 35' N line, 430' W line of NW

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.678678 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.785183 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 669.0 LOGGED (FT.): 450.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-4 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521902000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 32 QUARTERS/FOOTAGES: 10' S line, 280' W line of SW
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.678783 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.75651 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 688.0 LOGGED (FT.): 483.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-7 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500920000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 33 QUARTERS/FOOTAGES: 50' S, 15' E, NW/c SE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.641664 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.757187 DATE COLLECTED: 1 / 16 / 1969
SURFACE ELEVATION (FT.): 692.0 LOGGED (FT.): 305.0 LOG TYPE: Survey Core Study
SOURCE: HYDROCARBON SURVEY K6 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
692.0			UNCLASSIFIED	237.0	0.0
455.0	MODESTO		SANDSTONE	10.0	237.0
445.0	MODESTO		SANDSTONE	0.7	247.0
444.3	MODESTO		CONGLOMERATE	0.5	247.7
443.8	MODESTO		SHALE	4.8	248.2
439.0	MODESTO		SHALE	10.0	253.0
429.0	MODESTO		SHALE	5.5	263.0
423.5	MODESTO		SHALE	4.7	268.5
418.8	CARBONDALE	DANVILLE	COAL	5.0	273.2
413.8	CARBONDALE		UNDERCLAY	1.8	278.2
412.0	CARBONDALE		UNDERCLAY	3.0	280.0
409.0	CARBONDALE		UNCLASSIFIED	12.0	283.0
397.0	CARBONDALE		SILTSTONE	1.5	295.0
395.5	CARBONDALE		SHALE	2.0	296.5
393.5	CARBONDALE	HERRIN	COAL	5.2	298.5
388.3	CARBONDALE		SHALE	0.6	303.7
387.7	CARBONDALE		UNDERCLAY	0.2	304.3
387.5	CARBONDALE		SHALE	0.2	304.5
387.4	CARBONDALE		CLAYSTONE	0.3	304.6

MAPID: 10521615000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 33 QUARTERS/FOOTAGES: 73' N line, 2590' W line

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.65154 GEOLOGIST: MCCracken

CONFIDENTIAL: N LATITUDE: 40.770797 DATE COLLECTED: 12 / 1 / 1977

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 363.0 LOG TYPE: Drillers Log

SOURCE: GULF OIL CORPORATION B-33-3C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0	PLEISTOCENE		UNCONSOLIDATED	44.5	0.0	
645.5			SHALE	1.0	44.5	
644.5			LIMESTONE	1.1	45.5	
643.4			SHALE	3.2	46.6	
640.2			LIMESTONE	22.9	49.8	
617.3			SHALE	7.8	72.7	
609.5			LIMESTONE	5.5	80.5	
604.0			CALCAREOUS SHALE	8.5	86.0	
595.5			LIMESTONE	4.2	94.5	
591.3			SHALE	17.0	98.7	MULTI-COLORED SHALE
574.3			SANDY SHALE	6.3	115.7	
568.0			CALCAREOUS SHALE	3.0	122.0	
565.0			LIMESTONE	2.5	125.0	
562.5			SHALE	8.5	127.5	MULTI-COLORED SHALE
554.0			LIMESTONE	2.6	136.0	
551.4			SANDY SHALE	13.4	138.6	
538.0			BLACK SHALE	3.0	152.0	TRACE OF COAL
535.0			LIMESTONE	2.5	155.0	
532.5			SHALE	13.1	157.5	MULTI-COLORED SHALE
519.4			SANDY SHALE	13.5	170.6	
505.9			LIMESTONE	1.9	184.1	
504.0			SANDY SHALE	79.5	186.0	
424.5			SHALE	3.3	265.5	
421.2	CARBONDALE	DANVILLE	COAL	3.7	268.8	
417.5	CARBONDALE		SHALE	26.9	272.5	
390.6	CARBONDALE		BLACK SHALE	2.6	299.4	
388.0	CARBONDALE		SHALE	37.0	302.0	
351.0	CARBONDALE		BLACK SHALE	2.0	339.0	CORD SEAMS
349.0	CARBONDALE		CALCAREOUS SHALE	8.0	341.0	
341.0	CARBONDALE		SHALE	14.0	349.0	

MAPID: 10522158000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 27N 5E

SECTION: 33

QUARTERS/FOOTAGES: 50' S line, 15' E line of SE

QUADRANGLE: PONTIAC SOUTHWEST

LONGITUDE: -88.641664

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.757187

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 692.0

LOGGED (FT.): 350.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

K-6

WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10522606000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 5E SECTION: 35 QUARTERS/FOOTAGES: 230' N line, 70' E line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.603505 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.770949 DATE COLLECTED: 6 / 4 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 281.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-8-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	12.0	0.0	SANDY
-	PLEISTOCENE		CLAY	16.0	12.0	DRILLER'S NOTE:BLUE SEA MUD
-	PLEISTOCENE		GRAVEL	13.8	28.0	SANDY
-			LIMESTONE	21.2	41.8	VERY HARD
-			SHALE	1.0	63.0	
-			SHALE	3.0	64.0	SOFT; BLACK
-			SHALE	8.2	67.0	GRAY, THICKNESS CHANGED TO 8.2
-			SHALE	1.3	75.2	WITH LIMESTONE
-			LIMESTONE	6.5	76.5	
-			SHALE	1.0	83.0	
-			LIMESTONE	1.0	84.0	
-			SHALE	3.6	85.0	WITH LIMESTONE; GRAY
-			LIMESTONE	2.8	88.6	
-			SHALE	3.6	91.4	GRAY
-			CLAYSTONE & SILTSTONE	2.0	95.0	BROWN
-			SHALE	6.0	97.0	BROWN
-			SHALE	4.0	103.0	LIMESTONE BANDS AT BASE; GRAY
-			LIMESTONE	7.5	107.0	SHALEY
-			SHALE	11.0	114.5	LIMESTONE BANDS AT BASE
-			LIMESTONE	10.0	125.5	
-			SHALE	13.3	135.5	SANDY; GRAY
-			LIMESTONE	3.7	148.8	
-			SHALE	9.8	152.5	RED
-			SHALE	22.7	162.3	SANDY, GRAY, WITH LIMESTONE BEDS
-	MODESTO	LONSDALE	LIMESTONE	5.0	185.0	SHALEY
-	MODESTO		SHALE	30.0	190.0	SANDY; GRAY
-	MODESTO		SHALE	31.0	220.0	SANDY, WITH IRON BANDS
-	MODESTO		SHALE	20.9	251.0	AS ABOVE START CORE HERE
-	MODESTO		SHALE	1.2	271.9	GRAY
-	MODESTO		SHALE	0.4	273.1	DARK
-	CARBONDALE	DANVILLE	COAL	4.7	273.5	0.2 BAND AT 277.5
-	CARBONDALE		SHALE	1.3	278.2	DARK
-	CARBONDALE		SHALE	1.5	279.5	SANDY; GRAY

MAPID: 10501005000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 27N 5E **SECTION:** 36 **QUARTERS/FOOTAGES:** 0' S line, 0' W line of SW
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.603489 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.757353 **DATE COLLECTED:** 1 / 0 / 1971
SURFACE ELEVATION (FT.): 694.0 **LOGGED (FT.):** 248.8 **LOG TYPE:** Survey Core Study
SOURCE: HYDROCARBON SURVEY L7C **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
694.0			UNCLASSIFIED	230.0	0.0	
464.0	MODESTO		SANDSTONE	1.7	230.0	
462.3	MODESTO		SHALE	1.8	231.7	
460.5	MODESTO		SHALE	6.5	233.5	
454.0	MODESTO		SHALE	1.3	240.0	
452.7	MODESTO		SHALE	0.5	241.3	CORE LOSS
452.2	CARBONDALE	DANVILLE	COAL	2.8	241.8	THICKNESS QUESTIONABLE
449.4	CARBONDALE	DANVILLE	COAL	0.4	244.6	DULL AND BONY
449.0	CARBONDALE		UNCLASSIFIED	0.4	245.0	SEATROCK?
448.7	CARBONDALE		CLAYSTONE	3.5	245.3	

MAPID: 10521905000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 27N 5E **SECTION:** 36 **QUARTERS/FOOTAGES:** 95' S line, 5' W line of SW
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.603467 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.757615 **DATE COLLECTED:** 0 / 0 / 1967
SURFACE ELEVATION (FT.): 694.0 **LOGGED (FT.):** 410.0 **LOG TYPE:**
SOURCE: HYDROCARBON SURVEY L-7 **WELL TYPE:** Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500675000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 27N 6E **SECTION:** 1 **QUARTERS/FOOTAGES:** NE NE NE
QUADRANGLE: FORREST NORTH **LONGITUDE:** -88.470913 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.845781 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 654.0 **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	
364.0	CARBONDALE	COLCHESTER	COAL	3.0	290.0	

MAPID: 10500699000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 2 QUARTERS/FOOTAGES: NW NW NE
QUADRANGLE: FORREST NORTH LONGITUDE: -88.497631 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.845307 DATE COLLECTED:
SURFACE ELEVATION (FT.): 674.0 LOGGED (FT.): 303.9 LOG TYPE: Survey Core Study
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
506.0	CARBONDALE	DANVILLE	COAL	1.5	168.0
504.5	CARBONDALE		UNCLASSIFIED	26.5	169.5
478.0	CARBONDALE	HERRIN	COAL	-	196.0
478.0	CARBONDALE		UNCLASSIFIED	28.0	196.0
450.0	CARBONDALE	SPRINGFIELD	COAL	-	224.0
450.0	CARBONDALE		UNCLASSIFIED	34.0	224.0
416.0	CARBONDALE	LOWELL	COAL	2.2	258.0
413.8	CARBONDALE		UNCLASSIFIED	42.8	260.2
371.0	CARBONDALE	COLCHESTER	COAL	0.9	303.0

MAPID: 10500647000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 3 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.52642 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.831972 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 286.0 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
495.0	CARBONDALE	DANVILLE	COAL	5.0	180.0
490.0	CARBONDALE		UNCLASSIFIED	17.0	185.0
473.0	CARBONDALE	HERRIN	COAL	-	202.0
473.0	CARBONDALE		UNCLASSIFIED	23.0	202.0
450.0	CARBONDALE	SPRINGFIELD	COAL	-	225.0
450.0	CARBONDALE		UNCLASSIFIED	34.0	225.0
416.0	CARBONDALE	LOWELL	COAL	2.0	259.0
414.0	CARBONDALE		UNCLASSIFIED	24.0	261.0
390.0	CARBONDALE	COLCHESTER	COAL	1.0	285.0

MAPID: 10500690000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 4 QUARTERS/FOOTAGES: NE NW SW
QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.54304 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.837144 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 272.0 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
526.0	CARBONDALE	DANVILLE	COAL	4.5	144.0
521.5	CARBONDALE		UNCLASSIFIED	14.5	148.5
507.0	CARBONDALE	HERRIN	COAL	-	163.0
507.0	CARBONDALE		UNCLASSIFIED	31.0	163.0
476.0	CARBONDALE	SPRINGFIELD	COAL	-	194.0
476.0	CARBONDALE		UNCLASSIFIED	37.0	194.0
439.0	CARBONDALE	LOWELL	COAL	2.5	231.0
436.5	CARBONDALE		UNCLASSIFIED	36.5	233.5
400.0	CARBONDALE	COLCHESTER	COAL	2.0	270.0

MAPID: 10500742000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 5 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.547711 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.831366 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 300.0 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
500.0	CARBONDALE	DANVILLE	COAL	5.0	175.0
495.0	CARBONDALE		UNCLASSIFIED	30.0	180.0
465.0	CARBONDALE	HERRIN	COAL	-	210.0
465.0	CARBONDALE		UNCLASSIFIED	47.0	210.0
418.0	CARBONDALE	LOWELL	COAL	3.0	257.0
415.0	CARBONDALE		UNCLASSIFIED	37.0	260.0
378.0	CARBONDALE	COLCHESTER	COAL	3.0	297.0

MAPID: 10500693000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 27N 6E **SECTION:** 6 **QUARTERS/FOOTAGES:** SE SE NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.567061 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.838702 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 338.0 **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	
480.0	CARBONDALE	DANVILLE	COAL	4.0	170.0	
476.0	CARBONDALE		UNCLASSIFIED	20.0	174.0	
456.0	CARBONDALE	HERRIN	COAL	-	194.0	
456.0	CARBONDALE		UNCLASSIFIED	37.0	194.0	
419.0	CARBONDALE	SPRINGFIELD	COAL	-	231.0	
419.0	CARBONDALE		UNCLASSIFIED	16.0	231.0	
403.0	CARBONDALE	HOUCHIN CREEK	COAL	-	247.0	
403.0	CARBONDALE		UNCLASSIFIED	44.0	247.0	
359.0	CARBONDALE	LOWELL	COAL	2.0	291.0	
357.0	CARBONDALE		UNCLASSIFIED	42.0	293.0	
315.0	CARBONDALE	COLCHESTER	COAL	3.0	335.0	

MAPID: 10521616000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: LIVINGSTON **TWP/RNG:** 27N 6E **SECTION:** 7 **QUARTERS/FOOTAGES:** 35' N line, 50' E line
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.565761 **GEOLOGIST:** MCCracken
CONFIDENTIAL: N **LATITUDE:** 40.830129 **DATE COLLECTED:** 11 / 16 / 1977
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 222.0 **LOG TYPE:** Drillers Log
SOURCE: GULF OIL CORPORATION A-7-2C **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0	PLEISTOCENE		UNCONSOLIDATED	31.5	0.0	
618.5			LIMESTONE	7.0	31.5	
611.5			SHALE	5.5	38.5	
606.0			SHALE	16.0	44.0	MULTI-COLORED SHALE
590.0			SHALE	7.0	60.0	
583.0			SANDSTONE	3.0	67.0	
580.0			LIMESTONE	3.5	70.0	
576.5			SHALY SANDSTONE	17.5	73.5	
559.0			SHALE	110.1	91.0	
448.9	CARBONDALE	DANVILLE	COAL	6.6	201.1	
442.3	CARBONDALE		UNDERCLAY	1.3	207.7	
441.0	CARBONDALE	HERRIN	SHALE	13.0	209.0	
428.0	CARBONDALE		COAL	-	222.0	TOP FROM GEOPHY. LOG

MAPID: 10500680000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 27N 6E

SECTION: 8

QUARTERS/FOOTAGES: NW NE NE

QUADRANGLE: PONTIAC SOUTHEAST

LONGITUDE: -88.550054

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.829503

DATE COLLECTED:

SURFACE ELEVATION (FT.): 670.0

LOGGED (FT.): 306.0

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
504.0	CARBONDALE	DANVILLE	COAL	5.0	166.0
499.0	CARBONDALE		UNCLASSIFIED	23.0	171.0
476.0	CARBONDALE	HERRIN	COAL	-	194.0
476.0	CARBONDALE		UNCLASSIFIED	22.0	194.0
454.0	CARBONDALE	SPRINGFIELD	COAL	-	216.0
454.0	CARBONDALE		UNCLASSIFIED	49.0	216.0
405.0	CARBONDALE	LOWELL	COAL	-	265.0
405.0	CARBONDALE		UNCLASSIFIED	39.0	265.0
366.0	CARBONDALE	COLCHESTER	COAL	2.0	304.0

MAPID: 10500629000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 9 QUARTERS/FOOTAGES:

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.536831

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.823491

DATE COLLECTED: 11 / 0 / 1964

SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 358.0

LOG TYPE: Survey Core Study

SOURCE: NORTHERN ILLINOIS GAS CO. PON63

WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
647.0	PLEISTOCENE		UNCONSOLIDATED	90.0	0.0	
557.0	MODESTO		SHALE	22.0	90.0	
535.0	MODESTO		SHALE	9.0	112.0	
526.0	MODESTO		SHALE	4.5	121.0	
521.5	MODESTO		SHALE	0.5	125.5	
521.0	MODESTO		SHALE	1.0	126.0	
520.0	CARBONDALE	DANVILLE	COAL	4.4	127.0	SEE DETAILED DESCRIPTION IN LOG SEATROCK?
515.6	CARBONDALE		UNCLASSIFIED	0.7	131.4	
514.9	CARBONDALE		CLAYSTONE	0.9	132.1	
514.0	CARBONDALE		CLAYSTONE & SILTSTONE	0.7	133.0	
513.3	CARBONDALE		LIMESTONE	0.4	133.7	
512.9	CARBONDALE		CLAYSTONE & LIMESTONE	1.4	134.1	
511.5	CARBONDALE		UNCLASSIFIED	2.5	135.5	CORE LOSS
509.0	CARBONDALE		CLAYSTONE & LIMESTONE	2.5	138.0	
506.5	CARBONDALE		CLAYSTONE & LIMESTONE	3.8	140.5	
502.7	CARBONDALE		CLAYSTONE	1.7	144.3	
501.0	CARBONDALE		SHALE	0.5	146.0	SEE DETAILED DESCRIPTION IN LOG
500.5	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	146.5	
499.7	CARBONDALE		CLAYSTONE & SILTSTONE	1.3	147.3	
498.5	CARBONDALE		CLAYSTONE	1.0	148.5	
497.5	CARBONDALE		CLAYSTONE	2.0	149.5	GRAY
495.5	CARBONDALE		SILTSTONE	2.5	151.5	
493.0	CARBONDALE		SILTSTONE	5.3	154.0	
487.7	CARBONDALE		SHALE	1.0	159.3	
486.7	CARBONDALE		SHALE	0.7	160.3	
486.0	CARBONDALE		SHALE	13.5	161.0	
472.5	CARBONDALE		UNCLASSIFIED	3.5	174.5	CORE LOSS INTERVAL
469.0	CARBONDALE		CLAYSTONE	1.5	178.0	
467.5	CARBONDALE		SHALE	2.5	179.5	
465.0	CARBONDALE		SILTY SHALE	30.0	182.0	
435.0	CARBONDALE		SHALE	2.0	212.0	
433.0	CARBONDALE		SHALE	1.9	214.0	
431.1	CARBONDALE	HOUCHIN CREEK	COAL	1.3	215.9	SEE DETAILED DESCRIPTION IN LOG
429.8	CARBONDALE		SHALE	0.3	217.2	
429.5	CARBONDALE		SHALE	0.3	217.5	
429.3	CARBONDALE		CLAYSTONE	0.5	217.7	CORE LOSS
428.8	CARBONDALE		LIMESTONE	0.5	218.2	

428.3	CARBONDALE		CLAYSTONE	0.2	218.7	CORE LOSS
428.1	CARBONDALE		LIMESTONE	0.1	218.9	
428.0	CARBONDALE		SILTSTONE	1.5	219.0	
426.5	CARBONDALE	LOWELL	COAL	1.0	220.5	SEE DETAILED DESCRIPTION IN LOG
425.5	CARBONDALE		UNCLASSIFIED	2.7	221.5	SEATROCK
422.8	CARBONDALE		UNCLASSIFIED	0.3	224.2	CORE LOSS
422.5	CARBONDALE		SHALE	0.7	224.5	
421.8	CARBONDALE		SHALE	0.8	225.2	
420.9	CARBONDALE		SHALE	20.2	226.1	
400.7	CARBONDALE	COLCHESTER	COAL	1.1	246.3	SEE DETAILED DESCRIPTION IN LOG
399.7	TRADEWATER		UNCLASSIFIED	0.9	247.3	SEATROCK?
398.7	TRADEWATER		SILTSTONE	7.8	248.3	
391.0	TRADEWATER		SILTSTONE	0.5	256.0	
390.5	TRADEWATER		SILTSTONE	17.3	256.5	
373.2	TRADEWATER		SANDSTONE	5.1	273.8	
368.2	TRADEWATER		SANDSTONE	1.2	278.8	
367.0	TRADEWATER		SILTSTONE	8.0	280.0	
359.0	TRADEWATER		SANDSTONE/SILTSTONE	2.8	288.0	
356.2	TRADEWATER		SANDSTONE	0.4	290.8	
355.7	TRADEWATER		SILTSTONE/SANDSTONE	2.2	291.3	
353.6	TRADEWATER		SANDSTONE	5.1	293.4	
348.5	TRADEWATER		SANDSTONE/SILTSTONE	3.2	298.5	
345.3	TRADEWATER		SANDSTONE	3.8	301.7	
341.5	TRADEWATER		SILTSTONE	0.1	305.5	
341.4	TRADEWATER		CONGLOMERATE	0.2	305.6	
341.2	TRADEWATER		CLAYSTONE	0.9	305.8	
340.2	SILURIAN		DOLOMITE	11.3	306.8	
329.0	SILURIAN		CLAYSTONE	4.8	318.0	
324.2	SILURIAN		DOLOMITE	3.3	322.8	
321.0	SILURIAN		DOLOMITE	32.0	326.0	

MAPID: 10500629000C VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 9 QUARTERS/FOOTAGES:

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.536831

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.823491

DATE COLLECTED:

SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 247.1

LOG TYPE: Survey Core Study

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
520.0	CARBONDALE	DANVILLE	COAL	4.3	127.0
515.7	CARBONDALE		UNCLASSIFIED	14.7	131.3
501.0	CARBONDALE	HERRIN	COAL	-	146.0
501.0	CARBONDALE		UNCLASSIFIED	29.0	146.0
472.0	CARBONDALE	SPRINGFIELD	COAL	-	175.0
472.0	CARBONDALE		UNCLASSIFIED	40.0	175.0
432.0	CARBONDALE	HOUCHIN CREEK	COAL	1.2	215.0
430.8	CARBONDALE		UNCLASSIFIED	3.8	216.2
427.0	CARBONDALE	LOWELL	COAL	1.0	220.0
426.0	CARBONDALE		UNCLASSIFIED	25.0	221.0
401.0	CARBONDALE	COLCHESTER	COAL	1.1	246.0

MAPID: 10521908000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 15 QUARTERS/FOOTAGES: 1060' N line, 280' W line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.516461

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.813584

DATE COLLECTED:

SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 183.0

LOG TYPE: Survey Core Study

SOURCE: TILCO CC9

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
650.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	120.0	0.0
530.0	MODESTO		SHALE	28.6	120.0
501.4	MODESTO		SHALE	11.4	148.6
490.0	MODESTO		SHALE	3.3	160.0
486.7	CARBONDALE		COAL	5.4	163.3
481.2	CARBONDALE		CLAYSTONE	0.4	168.8
480.8	CARBONDALE		CLAYSTONE	1.3	169.2
479.6	CARBONDALE		CLAYSTONE	1.0	170.4
478.6	CARBONDALE		CLAYSTONE	3.5	171.4
475.1	CARBONDALE		SHALE	4.0	174.9
471.1	CARBONDALE		CLAYSTONE	2.0	178.9
469.1	CARBONDALE		SHALE	0.9	180.9
468.2	CARBONDALE		SHALE	0.3	181.8
467.9	CARBONDALE		CLAYSTONE	0.9	182.1
					CORE LOSS, DETAILS IN LOG, COAL NO. 7
					BLACKISH GRAY
					GREYISH BLACK

MAPID: 10521617000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 16 QUARTERS/FOOTAGES: 60' S line, 1380' E line
 QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.531781 GEOLOGIST: MCCracken
 CONFIDENTIAL: N LATITUDE: 40.802106 DATE COLLECTED: 11 / 10 / 1977
 SURFACE ELEVATION (FT.): 659.0 LOGGED (FT.): 188.1 LOG TYPE: Drillers Log
 SOURCE: GULF OIL CORPORATION A-16-2C WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
659.0	PLEISTOCENE		UNCONSOLIDATED	42.0	0.0	
617.0			SHALE	5.0	42.0	MULTI-COLORED SHALE
612.0			LIMESTONE	6.0	47.0	
606.0			SHALE	8.0	53.0	MULTI-COLORED SHALE
598.0			SILTY SHALE	65.0	61.0	
533.0			SHALE	32.9	126.0	
500.1	CARBONDALE	DANVILLE	COAL	5.7	158.9	
494.4			UNDERCLAY	2.7	164.6	
491.7			SHALE	20.8	167.3	

MAPID: 10522607000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 18 QUARTERS/FOOTAGES: 300' N line, 290' E line of NE
 QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.566353 GEOLOGIST: C KOROSE
 CONFIDENTIAL: N LATITUDE: 40.815024 DATE COLLECTED: 4 / 28 / 1975
 SURFACE ELEVATION (FT.): LOGGED (FT.): 198.0 LOG TYPE: Drillers Log
 SOURCE: PITTSBURG & MIDWAY F-3-75 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	22.0	0.0	SANDY
-			SHALE	13.0	22.0	
-			LIMESTONE	7.0	35.0	
-			SHALE	13.0	42.0	
-			LIMESTONE	3.0	55.0	
-			SHALE	4.0	58.0	RED; RED
-			SHALE	3.0	62.0	WITH LIMESTONE
-			SANDSTONE	12.0	65.0	SOFT
-			SHALE	63.0	77.0	WITH SANDSTONE BANDS
-			SHALE	15.0	140.0	DARK
-			SHALE	35.0	155.0	WITH IRON BALLS; DARK
-			COAL	6.1	190.0	INCLUDES SULFUR AND SHALE BANDS
-			SHALE	0.5	196.1	HARD; DARK
-	CARBONDALE	DANVILLE	SHALE	1.4	196.6	SOFT; GRAY

MAPID: 10521912000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 19 QUARTERS/FOOTAGES: 760' N line, 20' E line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.564875 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.799274 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 295.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-8 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521913000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 21 QUARTERS/FOOTAGES: 190' N line, 20' E line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.526835 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.80147 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 659.0 LOGGED (FT.): 302.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-10 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10577000000C VERSION: 1 PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 21 QUARTERS/FOOTAGES: 8' S line, 78' E line

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.526773 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 40.787315 DATE COLLECTED: 5 / 15 / 1975

SURFACE ELEVATION (FT.): LOGGED (FT.): 178.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY F-5-75 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE	DANVILLE	CLAY	27.0	0.0	WITH GRAVEL AND SAND
-			SHALE	63.0	27.0	GRAY
-			SHALE	20.0	90.0	SANDY
-			SHALE	20.0	110.0	SANDY, WITH IRON BANDS
-			SHALE	27.5	130.0	SAME START CORE HERE
-	CARBONDALE		COAL	6.0	157.5	WITH PYRITE, SHALE BANDS
-	CARBONDALE		SHALE	10.3	163.5	SANDY; BLACK
-	CARBONDALE		SHALE	4.2	173.8	SANDY; GRAY

MAPID: 10522608000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: LIVINGSTON **TWP/RNG:** 27N 6E **SECTION:** 22 **QUARTERS/FOOTAGES:** 45' N line, 37' E line of NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.507735 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.802 **DATE COLLECTED:** 5 / 19 / 1975
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 150.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY F-5-75 **WELL TYPE:** Coal Test
COMMENT: DIFFERENT THAN F-5-75/5-15-75

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	12.0	0.0	
-	PLEISTOCENE		GRAVEL	29.0	12.0	WITH MUD
-			LIMESTONE	0.6	41.0	
-			SHALE	1.4	41.6	
-			LIMESTONE	8.0	43.0	
-			SHALE	7.0	51.0	WITH CLAY SEAMS
-			SHALE	10.0	58.0	SANDY, WITH HARD BANDS
-	MODESTO	CHAPEL	COAL	0.7	68.0	
-	MODESTO		SHALE	20.3	68.7	SANDY, GRAY
-	MODESTO		SHALE	7.0	89.0	GRAY, WITH SANDSTONE BEDS
-	MODESTO		SHALE	44.0	96.0	SANDY, WITH IRON BANDS
-	MODESTO		SHALE	0.9	140.0	SAME AS ABOVE CORE STARTED HERE
-	CARBONDALE	DANVILLE	COAL	5.0	140.9	PYRITE BAND & BLKSH AT TOP .1
-	CARBONDALE		SHALE	3.0	145.9	LIGHT GRAY
-	CARBONDALE		SHALE	1.1	148.9	SANDY, LIGHT GRAY, SOME CALCITE VEINS

MAPID: 10500821000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 27N 6E **SECTION:** 23 **QUARTERS/FOOTAGES:** NE SE SE
QUADRANGLE: FORREST NORTH **LONGITUDE:** -88.489408 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.790668 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 670.0 **LOGGED (FT.):** 315.0 **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	
518.0	CARBONDALE	DANVILLE	COAL	4.0	152.0	
514.0	CARBONDALE		UNCLASSIFIED	10.0	156.0	
504.0	CARBONDALE	HERRIN	COAL	-	166.0	
504.0	CARBONDALE		UNCLASSIFIED	50.0	166.0	
454.0	CARBONDALE	SPRINGFIELD	COAL	-	216.0	
454.0	CARBONDALE		UNCLASSIFIED	96.0	216.0	
358.0	CARBONDALE	COLCHESTER	COAL	3.0	312.0	

MAPID: 10521618000C VERSION: 1 PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 23 QUARTERS/FOOTAGES: NW NE SE

QUADRANGLE: FORREST NORTH LONGITUDE: -88.49191 GEOLOGIST: MCCracken

CONFIDENTIAL: N LATITUDE: 40.794306 DATE COLLECTED: 11 / 8 / 1977

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 171.0 LOG TYPE: Drillers Log

SOURCE: GULF OIL CORPORATION A-23-2C WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.0	PLEISTOCENE		UNCONSOLIDATED	38.5	0.0	
621.5			SANDSTONE	13.5	38.5	
608.0			SHALE	4.0	52.0	
604.0			SANDSTONE	12.0	56.0	
592.0			SHALE	5.0	68.0	
587.0			SANDY SHALE	5.0	73.0	
582.0			SANDSTONE	5.0	78.0	
577.0			SHALY SANDSTONE	26.0	83.0	
551.0			SANDSTONE	1.0	109.0	
550.0			SHALE	43.9	110.0	
506.1	CARBONDALE	DANVILLE	COAL	3.9	153.9	
502.2	CARBONDALE		UNDERCLAY	5.2	157.8	
497.0	CARBONDALE		SHALE	8.0	163.0	MULTI-COLORED SHALE

MAPID: 10521914000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 24 QUARTERS/FOOTAGES: 20' N line, 60' W line of NW

QUADRANGLE: FORREST NORTH LONGITUDE: -88.488373 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.802586 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 686.0 LOGGED (FT.): 294.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-8 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521916000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 26 QUARTERS/FOOTAGES: 35' S line, 15' E line of SE

QUADRANGLE: FORREST NORTH LONGITUDE: -88.488184 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.773338 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 324.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-9 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10522609000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 26 QUARTERS/FOOTAGES: 1320' N line, 98' W line of NW
 QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.506917 GEOLOGIST: C KOROSE
 CONFIDENTIAL: N LATITUDE: 40.78418 DATE COLLECTED: 5 / 22 / 1975
 SURFACE ELEVATION (FT.): LOGGED (FT.): 161.0 LOG TYPE: Drillers Log
 SOURCE: PITTSBURG & MIDWAY F-7-75 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	7.0	0.0	
-	PLEISTOCENE		GRAVEL	14.0	7.0	SANDY
-			MUDSTONE	12.0	21.0	DRILLERS NOTE:BLUE SEA MUD; BLUE
-			CLAYSTONE & SILTSTONE	10.0	33.0	SOFT; RED
-			SHALE	37.0	43.0	GRAY
-			SHALE	34.0	80.0	SANDY; GRAY
-			SHALE	14.0	114.0	GRAY, WITH SANDSTONE BEDS
-			SHALE	3.0	128.0	WITH IRON BANDS; GRAY
-			SHALE	24.3	131.0	SAME AS ABOVE CORE STARTED HERE
-	CARBONDALE	DANVILLE	COAL	4.2	155.3	
-	CARBONDALE		SHALE	0.2	159.5	DARK
-	CARBONDALE		SHALE	0.9	159.7	LIGHT GRAY
-	CARBONDALE		SHALE	0.4	160.6	SANDY; LIGHT GRAY

MAPID: 10581000000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 26 QUARTERS/FOOTAGES: 703' S line, 45' W line of SW
 QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.507057 GEOLOGIST: C KOROSE
 CONFIDENTIAL: N LATITUDE: 40.774931 DATE COLLECTED: 5 / 24 / 1975
 SURFACE ELEVATION (FT.): LOGGED (FT.): 138.2 LOG TYPE: Drillers Log
 SOURCE: PITTSBURG & MIDWAY F-9-75 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	6.0	0.0	
-	PLEISTOCENE		GRAVEL	30.0	6.0	SANDY
-			SHALE	1.0	36.0	GRAY
-			SHALE	19.0	37.0	SANDY; GRAY
-			SHALE	13.0	56.0	GRAY, WITH SANDSTONE BEDS
-			SANDSTONE	4.0	69.0	
-			SHALE	3.0	73.0	
-			SHALE	39.0	76.0	WITH IRON BANDS; GRAY
-			SHALE	15.6	115.0	SAME START CORE HERE
-	CARBONDALE	DANVILLE	COAL	3.6	130.6	
-	CARBONDALE		SHALE	1.0	134.2	LIGHT GRAY
-	CARBONDALE		SHALE	3.0	135.2	SANDY; LIGHT GRAY

MAPID: 10521919000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 27N 6E **SECTION:** 29 **QUARTERS/FOOTAGES:** 90' S line, 20' W line of SW
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.564014 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.772188 **DATE COLLECTED:** 0 / 0 / 1967
SURFACE ELEVATION (FT.): 677.0 **LOGGED (FT.):** 325.0 **LOG TYPE:**
SOURCE: HYDROCARBON SURVEY L-5 **WELL TYPE:** Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10522610000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: LIVINGSTON **TWP/RNG:** 27N 6E **SECTION:** 29 **QUARTERS/FOOTAGES:** 60' N line, 60' W line of NW
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.564357 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.786572 **DATE COLLECTED:** 5 / 12 / 1975
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 210.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY F-4-75 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		CLAY	7.0	0.0
-	PLEISTOCENE		GRAVEL	11.0	7.0 SANDY
-			SHALE	5.0	18.0 GRAY
-			SHALE	4.5	23.0 WITH LIMESTONE; GRAY
-			LIMESTONE	2.0	27.5
-			SHALE	10.5	29.5 GRAY
-			LIMESTONE	7.0	40.0 WITH SHALE BANDS
-			SHALE	7.0	47.0 GRAY
-			SHALE	8.0	54.0 RED
-			SHALE	1.0	62.0 GRAY
-			SHALE	5.0	63.0 RED
-			SHALE	42.0	68.0 WITH LIMESTONE; GRAY
-			SHALE	65.0	110.0 SANDY
-			SHALE	5.0	175.0 WITH IRON BANDS
-			SHALE	19.0	180.0 AS ABOVE CORE STARTED HERE
-	CARBONDALE	DANVILLE	COAL	3.2	199.0
-	CARBONDALE		SHALE	1.9	202.2 GRAY
-	CARBONDALE		SHALE	1.8	204.1 SANDY
-	CARBONDALE		SANDSTONE	1.0	205.9
-	CARBONDALE		SHALE	3.1	206.9 SANDY

MAPID: 10521920000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 31 QUARTERS/FOOTAGES: 67' N line, 52' W line of NW

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.583928 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.771429 DATE COLLECTED: 4 / 0 / 1971

SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 258.0 LOG TYPE: Survey Core Study

SOURCE: HYDROCARBON SURVEY CC3 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
695.0	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
675.0			LIMESTONE	11.0	20.0	
664.0			LIMESTONE	0.5	31.0	DARK
663.5			SHALE	0.5	31.5	
662.9			SHALE	0.4	32.1	
662.6			SHALE	1.0	32.4	
661.6			CLAYSTONE	4.3	33.4	
657.3			CLAYSTONE	1.7	37.7	
655.7			LIMESTONE	3.7	39.3	
652.0			LIMESTONE	4.7	43.0	
647.3			SHALE WITH LIMESTONE	4.6	47.7	
642.7			LIMESTONE	4.7	52.3	
638.1			SHALE	1.1	56.9	
637.0			SHALE	0.5	58.0	
636.5			CLAYSTONE	1.0	58.5	
635.5			CLAYSTONE	12.0	59.5	
623.5			LIMESTONE & CLAY	3.3	71.5	
620.2			CLAYSTONE	29.3	74.8	THICKNESS UNCERTAIN
591.0			CLAYSTONE	12.7	104.0	
578.3			LIMESTONE & CLAY	3.2	116.7	
575.2			SHALE	0.4	119.8	
574.7			CLAYSTONE	9.8	120.3	
565.0			SILTSTONE & SHALE	20.0	130.0	
545.0			SILTSTONE & SHALE	8.0	150.0	
537.0			SHALE	32.0	158.0	
505.0			SHALE	9.7	190.0	
495.3			SHALE	31.3	199.7	
464.0			SHALE	6.0	231.0	
458.0			SHALE	2.5	237.0	
455.5			SHALE	1.5	239.5	
454.0	CARBONDALE	DANVILLE	COAL	4.0	241.0	DETAILED DESCRIPTION IN LOG

MAPID: 10500010000C VERSION: 1 PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 33 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.536888 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 40.760838 DATE COLLECTED: 0 / 0 / 1936

SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 174.0 LOG TYPE: Drillers Log

SOURCE: BALDWIN COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
670.0			UNCONSOLIDATED	50.0	0.0
620.0	MODESTO		SHALE	20.0	50.0
600.0	MODESTO		SHALE	10.0	70.0
590.0	MODESTO		SANDSTONE	50.0	80.0
540.0	MODESTO		UNCLASSIFIED	40.0	130.0
500.0	CARBONDALE	DANVILLE	COAL	4.0	170.0

MAPID: 10500010000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 33 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.536888 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.760838 DATE COLLECTED:

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

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	DANVILLE	COAL	4.0	170.0

MAPID: 10500010000C VERSION: 3 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 33 QUARTERS/FOOTAGES: NE SE SW

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.536888 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.760838 DATE COLLECTED: 0 / 0 / 1936

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

SOURCE: BALDWIN COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	5.0	0.0	
-	PLEISTOCENE		CLAY	15.0	5.0	YELLOW
-	PLEISTOCENE		CLAY	18.0	20.0	BLUE
-	PLEISTOCENE		CLAY	12.0	38.0	RED
-	CARBONDALE		SHALE	20.0	50.0	BLUE
-	CARBONDALE		CLAYSTONE & SILTSTONE	10.0	70.0	BLUE
-	CARBONDALE		SANDSTONE	50.0	80.0	
-	CARBONDALE		SHALE	40.0	130.0	
-	CARBONDALE	HERRIN	COAL	4.0	170.0	

MAPID: 10521923000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 33 QUARTERS/FOOTAGES: 20' N line, 30' E line of NE

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.526331 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.772577 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 294.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-10 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521924000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 27N 6E SECTION: 33 QUARTERS/FOOTAGES: 75' N line, 57' W line of NW

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.545037 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.772098 DATE COLLECTED:

SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 210.5 LOG TYPE: Survey Core Study

SOURCE: HYDROCARBON SURVEY CC4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
670.0	PLEISTOCENE		UNCONSOLIDATED	34.0	0.0	
636.0	MODESTO		CLAYSTONE	6.0	34.0	
630.0	MODESTO		CLAYSTONE	4.0	40.0	
626.0	MODESTO		CLAYSTONE	3.3	44.0	
622.7	MODESTO		LIMESTONE	0.7	47.3	
622.0	MODESTO		CLAYSTONE	5.0	48.0	
617.0	MODESTO		SHALE	1.9	53.0	
615.1	MODESTO		SHALE	7.0	54.9	
608.1	MODESTO		SHALE	1.3	61.9	
606.8	MODESTO		SHALE & SILTSTONE	13.9	63.2	
592.9	MODESTO		SHALE	33.6	77.1	
559.3	MODESTO		SHALE	13.0	110.7	
546.3	MODESTO		SHALE	14.0	123.7	
532.3	MODESTO		SHALE	4.2	137.7	
528.2	MODESTO		SHALE & SILTSTONE	38.0	141.8	
490.2	MODESTO		SHALE	11.2	179.8	
479.0	MODESTO		MUDSTONE & SHALE	1.0	191.0	
478.0	CARBONDALE	DANVILLE	COAL	6.5	192.0	SEE DETAILED DESCRIPTION IN LOG
471.5	CARBONDALE		UNCLASSIFIED	12.0	198.5	SEATROCK?

MAPID: 10500824000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 27N 7E SECTION: 6 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: FORREST NORTH LONGITUDE: -88.452093 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.845963 DATE COLLECTED:

SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 292.0 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	
366.0	CARBONDALE	COLCHESTER	COAL	3.0	289.0	

MAPID: 10500746000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 7E SECTION: 8 QUARTERS/FOOTAGES: SW NW SW
QUADRANGLE: FORREST NORTH LONGITUDE: -88.449383 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.821878 DATE COLLECTED:
SURFACE ELEVATION (FT.): 667.0 LOGGED (FT.): 331.0 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
567.0	CARBONDALE	DANVILLE	COAL	-	100.0
567.0	CARBONDALE		UNCLASSIFIED	48.0	100.0
519.0	CARBONDALE	HERRIN	COAL	-	148.0
519.0	CARBONDALE		UNCLASSIFIED	180.0	148.0
339.0	CARBONDALE	COLCHESTER	COAL	3.0	328.0

MAPID: 10500818000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 27N 7E SECTION: 15 QUARTERS/FOOTAGES: NW NE NE
QUADRANGLE: FORREST NORTH LONGITUDE: -88.396401 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.817056 DATE COLLECTED:
SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 354.0 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
530.0	CARBONDALE	DANVILLE	COAL	1.5	126.0
528.5	CARBONDALE		UNCLASSIFIED	26.5	127.5
502.0	CARBONDALE	HERRIN	COAL	-	154.0
502.0	CARBONDALE		UNCLASSIFIED	200.0	154.0
302.0	CARBONDALE	COLCHESTER	COAL	-	354.0

MAPID: 10521927000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 3E SECTION: 3 QUARTERS/FOOTAGES: 20' N line, 630' E line of NE
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.857256 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.929041 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 645.0 LOGGED (FT.): 339.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-16 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500661000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 3E **SECTION:** 6 **QUARTERS/FOOTAGES:** NE NE SE
QUADRANGLE: DANA **LONGITUDE:** -88.913504 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.919802 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 680.0 **LOGGED (FT.):** 428.5 **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
479.0	CARBONDALE	DANVILLE	COAL	3.0	201.0
476.0	CARBONDALE		UNCLASSIFIED	15.0	204.0
461.0	CARBONDALE	HERRIN	COAL	-	219.0
461.0	CARBONDALE		UNCLASSIFIED	96.0	219.0
365.0	CARBONDALE	SPRINGFIELD	COAL	-	315.0
365.0	CARBONDALE		UNCLASSIFIED	17.0	315.0
348.0	CARBONDALE	HOUCHIN CREEK	COAL	-	332.0
348.0	CARBONDALE		UNCLASSIFIED	46.0	332.0
302.0	CARBONDALE	LOWELL	COAL	2.0	378.0
300.0	CARBONDALE		UNCLASSIFIED	46.0	380.0
254.0	CARBONDALE	COLCHESTER	COAL	2.5	426.0

MAPID: 10500662000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 3E **SECTION:** 8 **QUARTERS/FOOTAGES:** SE NE SE
QUADRANGLE: DANA **LONGITUDE:** -88.894069 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.903823 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 414.0 **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
483.0	CARBONDALE	DANVILLE	COAL	3.0	190.0
480.0	CARBONDALE		UNCLASSIFIED	13.0	193.0
467.0	CARBONDALE	HERRIN	COAL	-	206.0
467.0	CARBONDALE		UNCLASSIFIED	94.0	206.0
373.0	CARBONDALE	SPRINGFIELD	COAL	-	300.0
373.0	CARBONDALE		UNCLASSIFIED	14.0	300.0
359.0	CARBONDALE	HOUCHIN CREEK	COAL	-	314.0
359.0	CARBONDALE		UNCLASSIFIED	42.0	314.0
317.0	CARBONDALE	LOWELL	COAL	2.3	356.0
314.7	CARBONDALE		UNCLASSIFIED	52.7	358.3
262.0	CARBONDALE	COLCHESTER	COAL	3.0	411.0

MAPID: 10521928000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 3E SECTION: 10 QUARTERS/FOOTAGES: 580' S line, 50' E line of SE

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.854396 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.901574 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 325.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-14 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521929000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 3E SECTION: 25 QUARTERS/FOOTAGES: 75' N line, 20' E line of NE

QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.815534 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.87163 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 295.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-16 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521930000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 3E SECTION: 26 QUARTERS/FOOTAGES: 70' N line, 60' W line of NW

QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.853491 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.87089 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 676.0 LOGGED (FT.): 320.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-14 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521931000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 3E SECTION: 29 QUARTERS/FOOTAGES: 90' N line, 20' E line of NE

QUADRANGLE: FLANAGAN SW LONGITUDE: -88.892355 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.870153 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 343.0 LOG TYPE:

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

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521932000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 3E SECTION: 32 QUARTERS/FOOTAGES: 12' S line, 45' E line of SE

QUADRANGLE: FLANAGAN SW LONGITUDE: -88.89198 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.84131 DATE COLLECTED: 0 / 0 / 1966

SURFACE ELEVATION (FT.): 707.0 LOGGED (FT.): 374.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY D-37 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
471.0	CARBONDALE	DANVILLE	COAL	-	236.0	
452.0	CARBONDALE	HERRIN	COAL	-	255.0	
387.0	CARBONDALE	SPRINGFIELD	COAL	-	320.0	
377.0	CARBONDALE	HOUCHIN CREEK	COAL	-	330.0	

MAPID: 10521933000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 2 QUARTERS/FOOTAGES: 25' N line, 1330' E line of NE

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.724818 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.930983 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 624.0 LOGGED (FT.): 350.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-18 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521934000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 4 QUARTERS/FOOTAGES: SW

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.777749 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.916104 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 280.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-33 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500701000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 5 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.795948 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.916532 DATE COLLECTED:
SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 287.0 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	
351.0	CARBONDALE	COLCHESTER	COAL	3.0	284.0	

MAPID: 10521935000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 6 QUARTERS/FOOTAGES: NW
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.816432 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.929626 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 293.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-15 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500785000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 7 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.797825 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.901791 DATE COLLECTED:
SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 279.0 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	
467.0	CARBONDALE	SPRINGFIELD	COAL	-	176.0	
467.0	CARBONDALE		UNCLASSIFIED	16.0	176.0	
451.0	CARBONDALE	HOUCHIN CREEK	COAL	-	192.0	
451.0	CARBONDALE		UNCLASSIFIED	85.0	192.0	
366.0	CARBONDALE	COLCHESTER	COAL	2.0	277.0	

MAPID: 10521936000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 11 QUARTERS/FOOTAGES: 35' N line, 15' W line of NW

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.739212 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.915984 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 636.0 LOGGED (FT.): 292.0 LOG TYPE:

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

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521937000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 12 QUARTERS/FOOTAGES: 20' S line, 490' W line of SW

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.7181 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.902097 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 637.0 LOGGED (FT.): 300.0 LOG TYPE:

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

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500786000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 16 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.759631 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.889462 DATE COLLECTED:

SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 325.0 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	
508.0	CARBONDALE	HERRIN	COAL	-	134.0	
508.0	CARBONDALE		UNCLASSIFIED	68.0	134.0	
440.0	CARBONDALE	SPRINGFIELD	COAL	-	202.0	
440.0	CARBONDALE		UNCLASSIFIED	14.0	202.0	
426.0	CARBONDALE	HOUCHIN CREEK	COAL	-	216.0	
426.0	CARBONDALE		UNCLASSIFIED	46.0	216.0	
380.0	CARBONDALE	LOWELL	COAL	1.5	262.0	
378.5	CARBONDALE		UNCLASSIFIED	58.5	263.5	
320.0	CARBONDALE	COLCHESTER	COAL	3.0	322.0	

MAPID: 10500787000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 16 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.776201 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.892769 DATE COLLECTED:
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 290.0 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	
354.0	CARBONDALE	COLCHESTER	COAL	2.0	288.0	

MAPID: 10521938000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 16 QUARTERS/FOOTAGES: 90' N line, 20' E line of NE
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.758653 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.900989 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 219.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-26 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500702000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 17 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.778493 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.887335 DATE COLLECTED:
SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 310.0 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	
437.0	CARBONDALE	SPRINGFIELD	COAL	-	210.0	
437.0	CARBONDALE		UNCLASSIFIED	17.0	210.0	
420.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	227.0	
418.0	CARBONDALE		UNCLASSIFIED	29.0	229.0	
389.0	CARBONDALE	LOWELL	COAL	1.7	258.0	
387.3	CARBONDALE		UNCLASSIFIED	48.3	259.7	
339.0	CARBONDALE	COLCHESTER	COAL	2.0	308.0	

MAPID: 10500753000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 18 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.814417 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.88722 DATE COLLECTED:

SURFACE ELEVATION (FT.): 652.0 LOGGED (FT.): 303.0 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
458.0	CARBONDALE	SPRINGFIELD	COAL	-	194.0
458.0	CARBONDALE		UNCLASSIFIED	14.0	194.0
444.0	CARBONDALE	HOUCHIN CREEK	COAL	-	208.0
444.0	CARBONDALE		UNCLASSIFIED	40.0	208.0
404.0	CARBONDALE	LOWELL	COAL	1.0	248.0
403.0	CARBONDALE		UNCLASSIFIED	53.0	249.0
350.0	CARBONDALE	COLCHESTER	COAL	1.0	302.0

MAPID: 10501014000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 18 QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.814537 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.89268 DATE COLLECTED:

SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 0.0 LOG TYPE: Electric Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

MAPID: 10521939000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 18 QUARTERS/FOOTAGES: 75' N line, 65' W line of NW

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.81569 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.900667 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 312.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-17 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10501015000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 19 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.797479 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.872866 DATE COLLECTED:
SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 318.0 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
381.0	CARBONDALE	LOWELL	COAL	1.0	275.0
380.0	CARBONDALE		UNCLASSIFIED	40.0	276.0
340.0	CARBONDALE	COLCHESTER	COAL	2.0	316.0

MAPID: 10500788000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 20 QUARTERS/FOOTAGES: NE NW NW
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.792746 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.885464 DATE COLLECTED:
SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 294.0 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
412.0	CARBONDALE	LOWELL	COAL	-	235.0
412.0	CARBONDALE		UNCLASSIFIED	57.0	235.0
355.0	CARBONDALE	COLCHESTER	COAL	2.0	292.0

MAPID: 10501016000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 20 QUARTERS/FOOTAGES: SE NE SE
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.77842 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.876546 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 295.0 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
406.0	CARBONDALE	LOWELL	COAL	1.0	244.0
405.0	CARBONDALE		UNCLASSIFIED	47.0	245.0
358.0	CARBONDALE	COLCHESTER	COAL	3.0	292.0

MAPID: 10501017000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 21 QUARTERS/FOOTAGES: NE NE SE
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.759511 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.87864 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 305.0 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
402.0	CARBONDALE	LOWELL	COAL	-	248.0
402.0	CARBONDALE		UNCLASSIFIED	55.0	248.0
347.0	CARBONDALE	COLCHESTER	COAL	2.0	303.0

MAPID: 10500719000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 22 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.740265 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.886086 DATE COLLECTED:
SURFACE ELEVATION (FT.): 646.0 LOGGED (FT.): 295.0 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
516.0	CARBONDALE	HERRIN	COAL	-	130.0
516.0	CARBONDALE		UNCLASSIFIED	40.0	130.0
476.0	CARBONDALE	SPRINGFIELD	COAL	-	170.0
476.0	CARBONDALE		UNCLASSIFIED	18.0	170.0
458.0	CARBONDALE	HOUCHIN CREEK	COAL	-	188.0
458.0	CARBONDALE		UNCLASSIFIED	53.0	188.0
405.0	CARBONDALE	LOWELL	COAL	1.0	241.0
404.0	CARBONDALE		UNCLASSIFIED	50.0	242.0
354.0	CARBONDALE	COLCHESTER	COAL	3.0	292.0

MAPID: 10521940000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 23 QUARTERS/FOOTAGES: 160' S line, 770' E line of SE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.722532 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.873415 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 638.0 LOGGED (FT.): 292.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-21 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500782000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 27 QUARTERS/FOOTAGES: SE SW NE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.745011 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.866186 DATE COLLECTED:
SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 279.0 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
551.0	CARBONDALE	DANVILLE	COAL	4.0	103.0
547.0	CARBONDALE		UNCLASSIFIED	17.0	107.0
530.0	CARBONDALE	HERRIN	COAL	-	124.0
530.0	CARBONDALE		UNCLASSIFIED	60.0	124.0
470.0	CARBONDALE	SPRINGFIELD	COAL	-	184.0
470.0	CARBONDALE		UNCLASSIFIED	14.0	184.0
456.0	CARBONDALE	HOUCHIN CREEK	COAL	-	198.0
456.0	CARBONDALE		UNCLASSIFIED	26.0	198.0
430.0	CARBONDALE	LOWELL	COAL	1.5	224.0
428.5	CARBONDALE		UNCLASSIFIED	51.5	225.5
377.0	CARBONDALE	COLCHESTER	COAL	2.0	277.0

MAPID: 10500779000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 28 QUARTERS/FOOTAGES: SE SW SE
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.763886 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.858599 DATE COLLECTED:
SURFACE ELEVATION (FT.): 657.0 LOGGED (FT.): 276.0 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
481.0	CARBONDALE	SPRINGFIELD	COAL	-	176.0
481.0	CARBONDALE		UNCLASSIFIED	22.0	176.0
459.0	CARBONDALE	HOUCHIN CREEK	COAL	-	198.0
459.0	CARBONDALE		UNCLASSIFIED	27.0	198.0
432.0	CARBONDALE	LOWELL	COAL	1.0	225.0
431.0	CARBONDALE		UNCLASSIFIED	48.0	226.0
383.0	CARBONDALE	COLCHESTER	COAL	2.0	274.0

MAPID: 10501000000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 28 QUARTERS/FOOTAGES: SW NW NW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.775995 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.869345 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 290.0 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
412.0	CARBONDALE	LOWELL	COAL	1.0	238.0
411.0	CARBONDALE		UNCLASSIFIED	49.0	239.0
362.0	CARBONDALE	COLCHESTER	COAL	2.0	288.0

MAPID: 10501019000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 28 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.77591 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.858418 DATE COLLECTED:
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 297.0 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
413.0	CARBONDALE	LOWELL	COAL	-	245.0
413.0	CARBONDALE		UNCLASSIFIED	49.0	245.0
364.0	CARBONDALE	COLCHESTER	COAL	3.0	294.0

MAPID: 10521941000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 31 QUARTERS/FOOTAGES: 45' S line, 15' W line of SW
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.814727 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.842744 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 682.0 LOGGED (FT.): 384.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-12 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10501021000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 32 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: FLANAGAN SOUTH LONGITUDE: -88.778097 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.843839 DATE COLLECTED:
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 312.5 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
397.0	CARBONDALE	LOWELL	COAL	1.0	266.0
396.0	CARBONDALE		UNCLASSIFIED	43.0	267.0
353.0	CARBONDALE	COLCHESTER	COAL	2.5	310.0

MAPID: 10501062000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 34 QUARTERS/FOOTAGES: NE NE SW
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.749522 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.849715 DATE COLLECTED:
SURFACE ELEVATION (FT.): 669.0 LOGGED (FT.): 287.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
465.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	204.0
463.0	CARBONDALE		UNCLASSIFIED	37.0	206.0
426.0	CARBONDALE	LOWELL	COAL	-	243.0
426.0	CARBONDALE		UNCLASSIFIED	41.0	243.0
385.0	CARBONDALE	COLCHESTER	COAL	3.0	284.0

MAPID: 10521942000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 34 QUARTERS/FOOTAGES: 30' N line, 60' E line of NE
QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.739103 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.857947 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 657.0 LOGGED (FT.): 335.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-28 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10501011000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 35 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.73754 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.844511 DATE COLLECTED:

SURFACE ELEVATION (FT.): 662.0 LOGGED (FT.): 270.0 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
556.0	CARBONDALE	DANVILLE	COAL	-	106.0
556.0	CARBONDALE		UNCLASSIFIED	58.0	106.0
498.0	CARBONDALE	SPRINGFIELD	COAL	-	164.0
498.0	CARBONDALE		UNCLASSIFIED	16.0	164.0
482.0	CARBONDALE	HOUCHIN CREEK	COAL	-	180.0
482.0	CARBONDALE		UNCLASSIFIED	42.0	180.0
440.0	CARBONDALE	LOWELL	COAL	2.0	222.0
438.0	CARBONDALE		UNCLASSIFIED	44.0	224.0
394.0	CARBONDALE	COLCHESTER	COAL	2.0	268.0

MAPID: 10521943000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 4E SECTION: 35 QUARTERS/FOOTAGES: 260' S line, 30' E line of SE

QUADRANGLE: PONTIAC SOUTHWEST LONGITUDE: -88.719853 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.844475 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 354.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-3 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10501024000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 4E

SECTION: 36

QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: PONTIAC SOUTHWEST

LONGITUDE: -88.718536

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.844689

DATE COLLECTED:

SURFACE ELEVATION (FT.): 659.0

LOGGED (FT.): 308.0

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
549.0	CARBONDALE	DANVILLE	COAL	2.0	110.0
547.0	CARBONDALE		UNCLASSIFIED	36.0	112.0
511.0	CARBONDALE	HERRIN	COAL	-	148.0
511.0	CARBONDALE		UNCLASSIFIED	52.0	148.0
459.0	CARBONDALE	SPRINGFIELD	COAL	-	200.0
459.0	CARBONDALE		UNCLASSIFIED	12.0	200.0
447.0	CARBONDALE	HOUCHIN CREEK	COAL	-	212.0
447.0	CARBONDALE		UNCLASSIFIED	40.0	212.0
407.0	CARBONDALE	LOWELL	COAL	-	252.0
407.0	CARBONDALE		UNCLASSIFIED	54.0	252.0
353.0	CARBONDALE	COLCHESTER	COAL	2.0	306.0

MAPID: 10521949000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 28N 4E

SECTION: 36

QUARTERS/FOOTAGES: 110' N line, 20' E line of NE

QUADRANGLE: PONTIAC SOUTHWEST

LONGITUDE: -88.700652

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.858207

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 652.0

LOGGED (FT.): 400.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-32

WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500708000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 5E **SECTION:** 1 **QUARTERS/FOOTAGES:** NW NW SW
QUADRANGLE: PONTIAC NORTHEAST **LONGITUDE:** -88.603942 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.924165 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 665.0 **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.)	
				UNIT	OVERBURDEN COMMENT
480.0	CARBONDALE	DANVILLE	COAL	4.0	185.0
476.0			UNCLASSIFIED	27.0	189.0
449.0	CARBONDALE	HERRIN	COAL	3.0	216.0
446.0			UNCLASSIFIED	53.0	219.0
393.0	CARBONDALE	SPRINGFIELD	COAL	-	272.0
393.0			UNCLASSIFIED	14.0	272.0
379.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	286.0
377.0			UNCLASSIFIED	45.0	288.0
332.0	CARBONDALE	LOWELL	COAL	1.5	333.0
330.5			UNCLASSIFIED	55.5	334.5
275.0	CARBONDALE	COLCHESTER	COAL	3.0	390.0

MAPID: 10500720000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 5E **SECTION:** 3 **QUARTERS/FOOTAGES:** NE NW NE
QUADRANGLE: PONTIAC NORTHWEST **LONGITUDE:** -88.630106 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.931025 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 651.0 **LOGGED (FT.):** 397.0 **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
449.0	CARBONDALE	DANVILLE	COAL	3.0	202.0
446.0	CARBONDALE		UNCLASSIFIED	25.0	205.0
421.0	CARBONDALE	HERRIN	COAL	1.0	230.0
420.0	CARBONDALE		UNCLASSIFIED	56.0	231.0
364.0	CARBONDALE	SPRINGFIELD	COAL	-	287.0
364.0	CARBONDALE		UNCLASSIFIED	11.0	287.0
353.0	CARBONDALE	HOUCHIN CREEK	COAL	-	298.0
353.0	CARBONDALE		UNCLASSIFIED	47.0	298.0
306.0	CARBONDALE	LOWELL	COAL	1.0	345.0
305.0	CARBONDALE		UNCLASSIFIED	48.0	346.0
257.0	CARBONDALE	COLCHESTER	COAL	3.0	394.0

MAPID: 10521944000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 28N 5E

SECTION: 5

QUARTERS/FOOTAGES: 70' N line, 15' E line of NE

QUADRANGLE: PONTIAC NORTHWEST

LONGITUDE: -88.662596

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.931411

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 644.0

LOGGED (FT.): 310.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

K-28

WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500160000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 5E

SECTION: 8

QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: PONTIAC NORTHWEST

LONGITUDE: -88.680531

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.915823

DATE COLLECTED:

SURFACE ELEVATION (FT.): 634.0

LOGGED (FT.): 394.0

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
430.0	CARBONDALE	DANVILLE	COAL	4.0	204.0
426.0	CARBONDALE		UNCLASSIFIED	23.0	208.0
403.0	CARBONDALE	HERRIN	COAL	-	231.0
403.0	CARBONDALE		UNCLASSIFIED	54.0	231.0
349.0	CARBONDALE	SPRINGFIELD	COAL	-	285.0
349.0	CARBONDALE		UNCLASSIFIED	9.0	285.0
340.0	CARBONDALE	HOUCHIN CREEK	COAL	-	294.0
340.0	CARBONDALE		UNCLASSIFIED	47.0	294.0
293.0	CARBONDALE	LOWELL	COAL	1.0	341.0
292.0	CARBONDALE		UNCLASSIFIED	49.0	342.0
243.0	CARBONDALE	COLCHESTER	COAL	3.0	391.0

MAPID: 10500013000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 5E SECTION: 10 QUARTERS/FOOTAGES: SE/c

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.633487 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.910049 DATE COLLECTED: 0 / 0 / 1930

SURFACE ELEVATION (FT.): 623.0 LOGGED (FT.): 523.0 LOG TYPE: Drillers Log

SOURCE: JOHN BOLLINGER & SONS WELL TYPE: Water Well

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
623.0	PLEISTOCENE		SOIL	35.0	0.0	
588.0			LIMESTONE	3.0	35.0	
585.0			SHALE	3.0	38.0	
582.0			ROCK	2.0	41.0	
580.0			SHALE	7.0	43.0	
573.0			SHALE	5.0	50.0	"BLACK JACK" WRITTEN IN LOG
568.0			SHALE	7.0	55.0	
561.0			ROCK	3.0	62.0	
558.0			SHALE	6.0	65.0	
552.0			CLAYSTONE	3.0	71.0	RED
549.0			CLAYSTONE & SILTSTONE	12.0	74.0	
537.0			SHALE	12.0	86.0	
525.0			UNDERCLAY	7.0	98.0	RED
518.0			ROCK	5.0	105.0	
513.0			CLAYSTONE	7.0	110.0	
506.0			CLAYSTONE	10.0	117.0	
496.0			SHALE	38.0	127.0	
458.0			SHALE	46.0	165.0	
412.0	CARBONDALE	DANVILLE	COAL	2.5	211.0	
409.5	CARBONDALE		SHALE	9.5	213.5	
400.0	CARBONDALE		ROCK	2.0	223.0	GRAY
398.0	CARBONDALE		SHALE	5.0	225.0	
393.0	CARBONDALE		ROCK	5.0	230.0	
388.0	CARBONDALE		SHALE	29.0	235.0	
359.0	CARBONDALE		SHALE	32.0	264.0	
327.0	CARBONDALE		COAL	1.0	296.0	
326.0	CARBONDALE		ROCK	11.0	297.0	GREEN
315.0	CARBONDALE		SHALE	3.0	308.0	
312.0	CARBONDALE		ROCK	15.0	311.0	GREEN
297.0	CARBONDALE		SHALE	6.0	326.0	
291.0	CARBONDALE		ROCK	8.0	332.0	GREEN
283.0	CARBONDALE		SHALE	9.0	340.0	
274.0	CARBONDALE	COLCHESTER	COAL	4.0	349.0	CORRELATION UNCERTAIN
270.0	TRADEWATER		ROCK	7.0	353.0	GREEN
263.0	TRADEWATER		SHALE	22.0	360.0	
241.0	TRADEWATER		SHALE	3.0	382.0	
238.0	TRADEWATER		ROCK	1.0	385.0	
237.0	TRADEWATER		SHALE	3.0	386.0	
234.0	TRADEWATER		SHALE	4.0	389.0	

230.0	TRADEWATER	SHALE	8.0	393.0	
222.0	TRADEWATER	SANDSTONE	2.0	401.0	
220.0	TRADEWATER	SHALE	9.0	403.0	
211.0	TRADEWATER	SANDSTONE	2.0	412.0	
209.0	TRADEWATER	SHALE	18.0	414.0	
191.0	TRADEWATER	SHALE	6.0	432.0	
185.0	TRADEWATER	SANDSTONE	2.0	438.0	
183.0	TRADEWATER	SHALE	5.0	440.0	
178.0	SILURIAN	LIMESTONE	10.0	445.0	WHITISH GREEN
168.0	SILURIAN	SHALE	2.0	455.0	WHITE
166.0	SILURIAN	LIMESTONE	18.0	457.0	GREENISH WHITE
148.0	SILURIAN	LIMESTONE	17.0	475.0	
131.0	SILURIAN	SHALE	2.0	492.0	
129.0	SILURIAN	SHALE	10.0	494.0	GREENISH WHITE
119.0	SILURIAN	SHALE	2.0	504.0	
117.0	SILURIAN	SHALE	17.0	506.0	BLUE

MAPID: 10500718000C
VERSION: 1
PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON
TWP/RNG: 28N 5E
SECTION: 13
QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: PONTIAC NORTHEAST
LONGITUDE: -88.596276
GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N
LATITUDE: 40.893096
DATE COLLECTED:

SURFACE ELEVATION (FT.): 652.0
LOGGED (FT.): 355.5
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
477.0	CARBONDALE	DANVILLE	COAL	2.5	175.0
474.5	CARBONDALE		UNCLASSIFIED	26.5	177.5
448.0	CARBONDALE	HERRIN	COAL	2.0	204.0
446.0	CARBONDALE		UNCLASSIFIED	50.0	206.0
396.0	CARBONDALE	SPRINGFIELD	COAL	-	256.0
396.0	CARBONDALE		UNCLASSIFIED	12.0	256.0
384.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	268.0
382.0	CARBONDALE		UNCLASSIFIED	41.0	270.0
341.0	CARBONDALE	LOWELL	COAL	-	311.0
341.0	CARBONDALE		UNCLASSIFIED	42.0	311.0
299.0	CARBONDALE	COLCHESTER	COAL	2.5	353.0

MAPID: 10500012000C VERSION: 1

PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 28N 5E SECTION: 15 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.624822 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 40.892903 DATE COLLECTED:

SURFACE ELEVATION (FT.): 645.0 LOGGED (FT.): 373.8 LOG TYPE: Drillers Log

SOURCE: PONTIAC (COAL SHAFT) WELL TYPE: Mine Shaft

COMMENT: LOC.&ELEV. IMPRECISE,QUESTIONABLE LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.0			UNCONSOLIDATED	18.8	0.0	
626.2	BOND		LIMESTONE	1.4	18.8	
624.8	BOND		SHALE	5.0	20.2	
619.8	BOND		LIMESTONE	4.0	25.2	
615.8	BOND		SHALE	7.0	29.2	
608.8	BOND	CARTHAGE	LIMESTONE	17.5	36.2	UNCERTAIN CORRELATION
591.3	MODESTO		BLACK SHALE	1.0	53.7	UNCERTAIN CORRELATION
590.3	MODESTO		SHALE	8.2	54.7	
582.2	MODESTO		LIMESTONE	6.0	62.8	
576.2	MODESTO		DARK SHALE	2.0	68.8	
574.2	MODESTO		LIMESTONE	5.0	70.8	
569.2	MODESTO		SHALE	56.0	75.8	
513.2	MODESTO		BLACK SHALE	45.0	131.8	
468.2	MODESTO		LIMESTONE	4.5	176.8	
463.7	MODESTO		UNCLASSIFIED	1.0	181.3	
462.7	CARBONDALE	DANVILLE	COAL	4.5	182.3	
458.2	CARBONDALE		DARK SHALE	44.5	186.8	
413.7	CARBONDALE		BLACK SHALE	50.0	231.3	
363.7	CARBONDALE		LIMESTONE	7.5	281.3	
356.2	CARBONDALE		UNCLASSIFIED	18.0	288.8	
338.2	CARBONDALE		LIMESTONE	6.0	306.8	
332.2	CARBONDALE		UNCLASSIFIED	20.0	312.8	
312.2	CARBONDALE		BLACK SHALE	30.0	332.8	
282.2	CARBONDALE		UNCLASSIFIED	5.0	362.8	
277.2	CARBONDALE	COLCHESTER	COAL	2.5	367.8	
274.7	SPOON		UNDERCLAY	3.5	370.3	

MAPID: 10500012000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 5E

SECTION: 15

QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: PONTIAC NORTHEAST

LONGITUDE: -88.624822

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.892903

DATE COLLECTED:

SURFACE ELEVATION (FT.): 645.0

LOGGED (FT.): 370.5

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	
463.0	CARBONDALE	DANVILLE	COAL	4.5	182.0	
458.5	CARBONDALE		UNCLASSIFIED	19.5	186.5	
439.0	CARBONDALE	HERRIN	COAL	-	206.0	
439.0	CARBONDALE		UNCLASSIFIED	162.0	206.0	
277.0	CARBONDALE	COLCHESTER	COAL	2.5	368.0	

MAPID: 10500012000C VERSION: 3

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 5E SECTION: 15 QUARTERS/FOOTAGES: SE NE SE

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.624822 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.892903 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 373.8 LOG TYPE: Drillers Log

SOURCE: IL REPRTS, VOL. 6, P 240-1 WELL TYPE: Unknown well type

COMMENT: NOT A RELIABLE RECORD

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	18.8	0.0	
-			LIMESTONE	1.4	18.8	
-			SHALE	5.0	20.2	BLUE
-			LIMESTONE	4.0	25.2	
-			SHALE	4.0	29.2	
-			SHALE	2.0	33.2	
-			SHALE	1.0	35.2	BLUE
-			LIMESTONE	17.5	36.2	
-			BLACK SHALE	1.0	53.7	BLACK
-			SHALE	8.2	54.7	
-			LIMESTONE	6.0	62.8	
-			SHALE	2.0	68.8	
-			LIMESTONE	5.0	70.8	
-			SHALE	16.0	75.8	
-			SHALE	40.0	91.8	BLUE
-			BLACK SHALE	14.0	131.8	
-			BLACK SHALE	19.0	145.8	
-			BLACK SHALE	12.0	164.8	
-			LIMESTONE	4.5	176.8	
-			SHALE	1.0	181.3	
-	CARBONDALE	DANVILLE	COAL	4.5	182.3	
-	CARBONDALE		BLACK SHALE	12.0	186.8	
-	CARBONDALE		SHALE	7.0	198.8	
-	CARBONDALE		BLACK SHALE	6.5	205.8	
-	CARBONDALE		SHALE	12.0	212.3	
-	CARBONDALE		CLAYSTONE & SILTSTONE	7.0	224.3	DARK
-	CARBONDALE		BLACK SHALE	50.0	231.3	
-	CARBONDALE		LIMESTONE	7.5	281.3	
-	CARBONDALE		SHALE	18.0	288.8	
-	CARBONDALE		LIMESTONE	6.0	306.8	
-	CARBONDALE		SHALE	20.0	312.8	
-	CARBONDALE		BLACK SHALE	30.0	332.8	
-	CARBONDALE		CONCRETION	2.0	362.8	WITH "BITUM"
-	CARBONDALE		UNDERCLAY	3.0	364.8	
-	CARBONDALE	COLCHESTER	COAL	2.5	367.8	
-			UNDERCLAY	3.5	370.3	

MAPID: 10500717000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 5E SECTION: 15 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.625035 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.901872 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 403.5 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
438.0	CARBONDALE	DANVILLE	COAL	4.0	212.0
434.0	CARBONDALE		UNCLASSIFIED	41.0	216.0
393.0	CARBONDALE	HERRIN	COAL	-	257.0
393.0	CARBONDALE		UNCLASSIFIED	37.0	257.0
356.0	CARBONDALE	SPRINGFIELD	COAL	-	294.0
356.0	CARBONDALE		UNCLASSIFIED	16.0	294.0
340.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	310.0
339.0	CARBONDALE		UNCLASSIFIED	35.0	311.0
304.0	CARBONDALE	LOWELL	COAL	2.5	346.0
301.5	CARBONDALE		UNCLASSIFIED	52.5	348.5
249.0	CARBONDALE	COLCHESTER	COAL	2.5	401.0

MAPID: 10521945000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 5E SECTION: 17 QUARTERS/FOOTAGES: 10' S line, 35' W line of SW NW
QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.681307 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.895126 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 379.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-19 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521946000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 5E SECTION: 19 QUARTERS/FOOTAGES: 30' N line, 70' W line of NW
QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.700081 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.887507 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 340.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-27 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521947000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 28N 5E

SECTION: 26

QUARTERS/FOOTAGES: 1200' S line, 20' W line of SE

QUADRANGLE: PONTIAC SOUTHEAST

LONGITUDE: -88.614209

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.862762

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 647.0

LOGGED (FT.): 297.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

L-35

WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521948000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 28N 5E

SECTION: 30

QUARTERS/FOOTAGES: 120' N line, 15' E line of NE

QUADRANGLE: PONTIAC SOUTHWEST

LONGITUDE: -88.681616

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.873043

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 653.0

LOGGED (FT.): 324.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

K-27

WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500771000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 6E

SECTION: 2

QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: SAUNEMIN

LONGITUDE: -88.491999

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.927239

DATE COLLECTED:

SURFACE ELEVATION (FT.): 702.0

LOGGED (FT.): 351.0

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
502.0	CARBONDALE	HERRIN	COAL	-	200.0
502.0	CARBONDALE		UNCLASSIFIED	52.0	200.0
450.0	CARBONDALE	SPRINGFIELD	COAL	-	252.0
450.0	CARBONDALE		UNCLASSIFIED	44.0	252.0
406.0	CARBONDALE	LOWELL	COAL	2.0	296.0
404.0	CARBONDALE		UNCLASSIFIED	50.0	298.0
354.0	CARBONDALE	COLCHESTER	COAL	3.0	348.0

MAPID: 10500761000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 3 QUARTERS/FOOTAGES: SE SW SW

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.525549 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.919655 DATE COLLECTED:

SURFACE ELEVATION (FT.): 713.0 LOGGED (FT.): 346.0 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
543.0	CARBONDALE	DANVILLE	COAL	2.0	170.0
541.0	CARBONDALE		UNCLASSIFIED	51.0	172.0
490.0	CARBONDALE	HERRIN	COAL	-	223.0
490.0	CARBONDALE		UNCLASSIFIED	45.0	223.0
445.0	CARBONDALE	SPRINGFIELD	COAL	-	268.0
445.0	CARBONDALE		UNCLASSIFIED	32.0	268.0
413.0	CARBONDALE	LOWELL	COAL	-	300.0
413.0	CARBONDALE		UNCLASSIFIED	43.0	300.0
370.0	CARBONDALE	COLCHESTER	COAL	3.0	343.0

MAPID: 10521950000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 3 QUARTERS/FOOTAGES: 30' N line, 150' W line of NW

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.528976 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.933273 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 717.0 LOGGED (FT.): 368.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-38 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500709000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 5 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.566462 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.924631 DATE COLLECTED:
SURFACE ELEVATION (FT.): 720.0 LOGGED (FT.): 378.5 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
520.0	CARBONDALE	DANVILLE	COAL	2.0	200.0
518.0	CARBONDALE		UNCLASSIFIED	36.0	202.0
482.0	CARBONDALE	HERRIN	COAL	1.0	238.0
481.0	CARBONDALE		UNCLASSIFIED	55.0	239.0
426.0	CARBONDALE	SPRINGFIELD	COAL	1.5	294.0
424.5	CARBONDALE		UNCLASSIFIED	38.5	295.5
386.0	CARBONDALE	LOWELL	COAL	1.0	334.0
385.0	CARBONDALE		UNCLASSIFIED	41.0	335.0
344.0	CARBONDALE	COLCHESTER	COAL	2.5	376.0

MAPID: 10521951000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 5 QUARTERS/FOOTAGES: 35' N line, 1320' W line of NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.563158 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.932787 DATE COLLECTED: 0 / 0 / 1968
SURFACE ELEVATION (FT.): 713.0 LOGGED (FT.): 384.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-43 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521952000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 5 QUARTERS/FOOTAGES: 40' N line, 85' E line of NE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.549178 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.932931 DATE COLLECTED: 0 / 0 / 1968
SURFACE ELEVATION (FT.): 711.0 LOGGED (FT.): 355.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-45 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500712000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 6E

SECTION: 6

QUARTERS/FOOTAGES: NW NW SW

QUADRANGLE: PONTIAC NORTHEAST

LONGITUDE: -88.584852

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.924511

DATE COLLECTED:

SURFACE ELEVATION (FT.): 671.0

LOGGED (FT.): 362.0

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
506.0	CARBONDALE	DANVILLE	COAL	3.0	165.0
503.0	CARBONDALE		UNCLASSIFIED	34.0	168.0
469.0	CARBONDALE	HERRIN	COAL	1.0	202.0
468.0	CARBONDALE		UNCLASSIFIED	56.0	203.0
412.0	CARBONDALE	SPRINGFIELD	COAL	-	259.0
412.0	CARBONDALE		UNCLASSIFIED	9.0	259.0
403.0	CARBONDALE	HOUCHIN CREEK	COAL	-	268.0
403.0	CARBONDALE		UNCLASSIFIED	48.0	268.0
355.0	CARBONDALE	LOWELL	COAL	1.5	316.0
353.5	CARBONDALE		UNCLASSIFIED	40.5	317.5
313.0	CARBONDALE	COLCHESTER	COAL	4.0	358.0

MAPID: 10500630000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 7 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.584395 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.904145 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 362.0 LOG TYPE: Survey Core Study

SOURCE: NORTHERN ILLINOIS GAS CO. PON-60 WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	115.0	0.0	
-	MODESTO		DOLOMITE	0.6	115.0	GRAY
-	MODESTO		SILTSTONE	1.9	115.6	
-	MODESTO		SHALE	1.3	117.5	DARK GRAY
-	MODESTO		SILTSTONE	4.3	118.8	
-	MODESTO		SHALE	2.5	123.0	DARK GRAY
-	MODESTO		SHALE	2.0	125.5	MEDIUM GRAY
-	MODESTO		SHALE	20.8	127.5	MEDIUM GRAY
-	MODESTO		SHALE	3.8	148.3	
-	MODESTO		SHALE	0.8	152.0	
-	CARBONDALE	DANVILLE	COAL	2.9	152.8	DETAILED DESCRIPTION OF COAL IN LOG
-	CARBONDALE		CORE LOSS	2.3	155.7	
-	CARBONDALE		UNDERCLAY	3.0	158.0	
-	CARBONDALE		UNDERCLAY	5.0	161.0	MEDIUM GRAY
-	CARBONDALE		CLAYSTONE	3.0	166.0	
-	CARBONDALE		SILTSTONE	0.7	169.0	
-	CARBONDALE		CORE LOSS	8.3	169.7	
-	CARBONDALE		CLAYSTONE	0.6	178.0	
-	CARBONDALE		LIMESTONE	2.2	178.6	
-	CARBONDALE		SHALE	3.3	180.8	DARK GRAY
-	CARBONDALE		LIMESTONE	1.1	184.0	
-	CARBONDALE		SHALE	2.0	185.1	MEDIUM GRAY
-	CARBONDALE	HERRIN	COAL	1.2	187.1	DETAILED DESCRIPT OF COAL IN LOG
-	CARBONDALE		UNDERCLAY	5.7	188.3	
-	CARBONDALE		CORE LOSS	4.0	194.0	
-	CARBONDALE		CLAYSTONE	4.0	198.0	
-	CARBONDALE		SILTSTONE	2.5	202.0	
-	CARBONDALE		SHALE	4.2	204.5	MEDIUM GRAY
-	CARBONDALE		SHALE	1.2	208.7	GRYSH RD
-	CARBONDALE		SHALE	0.3	209.8	MEDIUM GRAY
-	CARBONDALE		SHALE	4.8	210.2	FOSSILIFEROUS ZONE, DETAILS IN LOG
-	CARBONDALE		SHALE	0.9	215.0	
-	CARBONDALE		CORE LOSS	2.0	215.9	
-	CARBONDALE		SHALE	5.5	218.0	MEDIUM GRAY
-	CARBONDALE		SHALE	9.5	223.5	MEDIUM GRAY
-	CARBONDALE		SHALE	13.3	233.0	FOSSILIFEROUS ZONE, DETAILS IN LOG
-	CARBONDALE		CLAYSTONE	3.8	246.3	
-	CARBONDALE		CLAYSTONE	4.3	250.0	MEDIUM GRAY
-	CARBONDALE		CORE LOSS	3.8	254.3	

-	CARBONDALE		CLAYSTONE	1.3	258.0	GRAY
-	CARBONDALE		CLAYSTONE	1.5	259.3	MEDIUM GRAY
-	CARBONDALE		SANDSTONE	4.3	260.8	
-	CARBONDALE		SILTSTONE	10.5	265.0	
-	CARBONDALE		SHALE	14.5	275.5	MEDIUM GRAY
-	CARBONDALE		SHALE	3.3	290.0	DARK GRAY
-	CARBONDALE		COAL	0.1	293.3	WITH PYRITE
-	CARBONDALE		SHALE	1.5	293.4	MEDIUM GRAY
-	CARBONDALE	HOUCHIN CREEK	COAL	1.1	294.8	
-	CARBONDALE		ROCK	0.3	295.9	SEATROCK NOTED
-	CARBONDALE		ROCK	2.1	296.2	SEATROCK NOTED
-	CARBONDALE		ROCK	1.3	298.3	SEATROCK NOTED
-	CARBONDALE		SANDSTONE	0.5	299.5	
-	CARBONDALE		SILTSTONE	7.0	300.0	
-	CARBONDALE		SHALE	3.5	307.0	
-	CARBONDALE		SHALE	7.1	310.5	FOSSILIFEROUS ZONE, DETAILS IN LOG
-	CARBONDALE		SHALE	20.4	317.6	
-	CARBONDALE	COLCHESTER	COAL	1.2	338.0	NO. 2
-	TRADEWATER		CORE LOSS	0.2	339.2	
-	TRADEWATER		UNDERCLAY	2.7	339.3	
-	TRADEWATER		COAL	0.4	342.0	
-	TRADEWATER		UNDERCLAY	1.9	342.4	
-	TRADEWATER		COAL	0.9	344.3	
-	TRADEWATER		CLAYSTONE & SILTSTONE	8.8	345.3	
-	TRADEWATER		CORE LOSS	4.2	354.0	
-	TRADEWATER		SHALE	0.5	358.2	
-	TRADEWATER		COAL	0.6	358.7	
-	TRADEWATER		CLAYSTONE & SILTSTONE	2.8	359.3	

MAPID: 10500630000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 7 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.584395 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.904145 DATE COLLECTED:

SURFACE ELEVATION (FT.): 674.0 LOGGED (FT.): 339.2 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
521.0	CARBONDALE	DANVILLE	COAL	3.0	153.0
518.0	CARBONDALE		UNCLASSIFIED	31.0	156.0
487.0	CARBONDALE	HERRIN	COAL	1.2	187.0
485.8	CARBONDALE		UNCLASSIFIED	51.8	188.2
434.0	CARBONDALE	SPRINGFIELD	COAL	-	240.0
434.0	CARBONDALE		UNCLASSIFIED	15.0	240.0
419.0	CARBONDALE	HOUCHIN CREEK	COAL	-	255.0
419.0	CARBONDALE		UNCLASSIFIED	39.0	255.0
380.0	CARBONDALE	LOWELL	COAL	1.0	294.0
379.0	CARBONDALE		UNCLASSIFIED	43.0	295.0
336.0	CARBONDALE	COLCHESTER	COAL	1.2	338.0

MAPID: 10521953000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 7 QUARTERS/FOOTAGES: 40' N line, 90' E line of NE

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.567729 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.918123 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 713.0 LOGGED (FT.): 367.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-44 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500656000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 8 QUARTERS/FOOTAGES: SE SE SW

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.558779 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.904517 DATE COLLECTED:

SURFACE ELEVATION (FT.): 693.0 LOGGED (FT.): 332.0 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
513.0	CARBONDALE	DANVILLE	COAL	2.0	180.0
511.0	CARBONDALE		UNCLASSIFIED	34.0	182.0
477.0	CARBONDALE	HERRIN	COAL	1.5	216.0
475.5	CARBONDALE		UNCLASSIFIED	42.5	217.5
433.0	CARBONDALE	SPRINGFIELD	COAL	-	260.0
433.0	CARBONDALE		UNCLASSIFIED	35.0	260.0
398.0	CARBONDALE	LOWELL	COAL	-	295.0
398.0	CARBONDALE		UNCLASSIFIED	34.0	295.0
364.0	CARBONDALE	COLCHESTER	COAL	3.0	329.0

MAPID: 10521954000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 8 QUARTERS/FOOTAGES: 40' N line, 100' E line of NE

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.548832 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.918256 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 729.0 LOGGED (FT.): 440.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-43 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500644000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 9 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.530148 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.905009 DATE COLLECTED:
SURFACE ELEVATION (FT.): 715.0 LOGGED (FT.): 292.0 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	DANVILLE	COAL	1.5	183.0
530.5	CARBONDALE		UNCLASSIFIED	39.5	184.5
491.0	CARBONDALE	HERRIN	COAL	1.0	224.0
490.0	CARBONDALE		UNCLASSIFIED	41.0	225.0
449.0	CARBONDALE	SPRINGFIELD	COAL	-	266.0
449.0	CARBONDALE		UNCLASSIFIED	26.0	266.0
423.0	CARBONDALE	LOWELL	COAL	-	292.0

MAPID: 10500733000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 9 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.547064 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.910134 DATE COLLECTED:
SURFACE ELEVATION (FT.): 725.0 LOGGED (FT.): 354.5 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
535.0	CARBONDALE	DANVILLE	COAL	1.0	190.0
534.0	CARBONDALE		UNCLASSIFIED	44.0	191.0
490.0	CARBONDALE	HERRIN	COAL	-	235.0
490.0	CARBONDALE		UNCLASSIFIED	47.0	235.0
443.0	CARBONDALE	SPRINGFIELD	COAL	-	282.0
443.0	CARBONDALE		UNCLASSIFIED	71.0	282.0
372.0	CARBONDALE	COLCHESTER	COAL	1.5	353.0

MAPID: 10521955000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 10 QUARTERS/FOOTAGES: 2450' N line, 50' W line of NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.528887 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.911947 DATE COLLECTED: 0 / 0 / 1968
SURFACE ELEVATION (FT.): 732.0 LOGGED (FT.): 400.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-46 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500772000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 12 QUARTERS/FOOTAGES: SW SW SE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.479813 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.905514 DATE COLLECTED:
SURFACE ELEVATION (FT.): 681.0 LOGGED (FT.): 342.0 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
442.0	CARBONDALE	HERRIN	COAL	1.0	239.0
441.0	CARBONDALE		UNCLASSIFIED	25.0	240.0
416.0	CARBONDALE	SPRINGFIELD	COAL	-	265.0
416.0	CARBONDALE		UNCLASSIFIED	44.0	265.0
372.0	CARBONDALE	LOWELL	COAL	-	309.0
372.0	CARBONDALE		UNCLASSIFIED	30.0	309.0
342.0	CARBONDALE	COLCHESTER	COAL	3.0	339.0

MAPID: 10500677000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 14 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.508326 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.896099 DATE COLLECTED:
SURFACE ELEVATION (FT.): 685.0 LOGGED (FT.): 314.0 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
498.0	CARBONDALE	HERRIN	COAL	1.0	187.0
497.0	CARBONDALE		UNCLASSIFIED	41.0	188.0
456.0	CARBONDALE	SPRINGFIELD	COAL	1.5	229.0
454.5	CARBONDALE		UNCLASSIFIED	42.5	230.5
412.0	CARBONDALE	LOWELL	COAL	-	273.0
412.0	CARBONDALE		UNCLASSIFIED	39.0	273.0
373.0	CARBONDALE	COLCHESTER	COAL	2.0	312.0

MAPID: 10500670000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 15 QUARTERS/FOOTAGES: NE SE SW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.520204 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.892227 DATE COLLECTED:
SURFACE ELEVATION (FT.): 710.0 LOGGED (FT.): 320.0 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
516.0	CARBONDALE	HERRIN	COAL	1.0	194.0
515.0	CARBONDALE		UNCLASSIFIED	37.0	195.0
478.0	CARBONDALE	SPRINGFIELD	COAL	1.0	232.0
477.0	CARBONDALE		UNCLASSIFIED	41.0	233.0
436.0	CARBONDALE	LOWELL	COAL	-	274.0
436.0	CARBONDALE		UNCLASSIFIED	44.0	274.0
392.0	CARBONDALE	COLCHESTER	COAL	2.0	318.0

MAPID: 10500638000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 16 QUARTERS/FOOTAGES: SW NW SE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.536969 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.893787 DATE COLLECTED:
SURFACE ELEVATION (FT.): 685.0 LOGGED (FT.): 297.0 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
548.0	CARBONDALE	DANVILLE	COAL	2.5	137.0
545.5	CARBONDALE		UNCLASSIFIED	30.5	139.5
515.0	CARBONDALE	HERRIN	COAL	2.5	170.0
512.5	CARBONDALE		UNCLASSIFIED	39.5	172.5
473.0	CARBONDALE	SPRINGFIELD	COAL	-	212.0
473.0	CARBONDALE		UNCLASSIFIED	20.0	212.0
453.0	CARBONDALE	LOWELL	COAL	1.0	232.0
452.0	CARBONDALE		UNCLASSIFIED	62.0	233.0
390.0	CARBONDALE	COLCHESTER	COAL	2.0	295.0

MAPID: 10500655000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 17 QUARTERS/FOOTAGES: SE NW SE NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.560413 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.898547 DATE COLLECTED:
SURFACE ELEVATION (FT.): 698.0 LOGGED (FT.): 353.0 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
517.0	CARBONDALE	DANVILLE	COAL	3.0	181.0
514.0	CARBONDALE		UNCLASSIFIED	32.0	184.0
482.0	CARBONDALE	HERRIN	COAL	2.0	216.0
480.0	CARBONDALE		UNCLASSIFIED	40.0	218.0
440.0	CARBONDALE	SPRINGFIELD	COAL	-	258.0
440.0	CARBONDALE		UNCLASSIFIED	52.0	258.0
388.0	CARBONDALE	LOWELL	COAL	3.0	310.0
385.0	CARBONDALE		UNCLASSIFIED	37.0	313.0
348.0	CARBONDALE	COLCHESTER	COAL	3.0	350.0

MAPID: 10500745000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 17 QUARTERS/FOOTAGES: SE NE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.550257 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.898158 DATE COLLECTED:
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 258.0 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
545.0	CARBONDALE	SPRINGFIELD	COAL	-	150.0
545.0	CARBONDALE		UNCLASSIFIED	35.0	150.0
510.0	CARBONDALE	LOWELL	COAL	2.5	185.0
507.5	CARBONDALE		UNCLASSIFIED	67.5	187.5
440.0	CARBONDALE	COLCHESTER	COAL	3.0	255.0

MAPID: 10500654000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 18 QUARTERS/FOOTAGES: SE SE NE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.56814 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.897115 DATE COLLECTED:
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 322.0 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
548.0	CARBONDALE	DANVILLE	COAL	3.5	147.0
544.5	CARBONDALE		UNCLASSIFIED	28.5	150.5
516.0	CARBONDALE	HERRIN	COAL	1.0	179.0
515.0	CARBONDALE		UNCLASSIFIED	45.0	180.0
470.0	CARBONDALE	SPRINGFIELD	COAL	-	225.0
470.0	CARBONDALE		UNCLASSIFIED	48.0	225.0
422.0	CARBONDALE	LOWELL	COAL	1.0	273.0
421.0	CARBONDALE		UNCLASSIFIED	45.0	274.0
376.0	CARBONDALE	COLCHESTER	COAL	3.0	319.0

MAPID: 10500683000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 19 QUARTERS/FOOTAGES: NE SE NE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.567905 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.884338 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 347.5 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
498.0	CARBONDALE	DANVILLE	COAL	4.0	172.0
494.0	CARBONDALE		UNCLASSIFIED	26.0	176.0
468.0	CARBONDALE	HERRIN	COAL	1.0	202.0
467.0	CARBONDALE		UNCLASSIFIED	39.0	203.0
428.0	CARBONDALE	SPRINGFIELD	COAL	-	242.0
428.0	CARBONDALE		UNCLASSIFIED	65.0	242.0
363.0	CARBONDALE	LOWELL	COAL	1.5	307.0
361.5	CARBONDALE		UNCLASSIFIED	36.5	308.5
325.0	CARBONDALE	COLCHESTER	COAL	2.5	345.0

MAPID: 10500904000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 6E

SECTION: 20

QUARTERS/FOOTAGES: NE

QUADRANGLE: PONTIAC NORTHEAST

LONGITUDE: -88.552207

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.885357

DATE COLLECTED:

SURFACE ELEVATION (FT.): 672.0

LOGGED (FT.): 309.0

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
536.0	CARBONDALE	DANVILLE	COAL	3.0	136.0
533.0	CARBONDALE		UNCLASSIFIED	25.0	139.0
508.0	CARBONDALE	HERRIN	COAL	2.0	164.0
506.0	CARBONDALE		UNCLASSIFIED	54.0	166.0
452.0	CARBONDALE	SPRINGFIELD	COAL	-	220.0
452.0	CARBONDALE		UNCLASSIFIED	38.0	220.0
414.0	CARBONDALE	LOWELL	COAL	1.0	258.0
413.0	CARBONDALE		UNCLASSIFIED	47.0	259.0
366.0	CARBONDALE	COLCHESTER	COAL	3.0	306.0

MAPID: 10500627000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 21 QUARTERS/FOOTAGES: 40' S line, 60' W line

QUADRANGLE: PONTIAC SOUTHEAST LONGITUDE: -88.546786 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.874721 DATE COLLECTED: 10 / 0 / 1964

SURFACE ELEVATION (FT.): LOGGED (FT.): 338.5 LOG TYPE: Survey Core Study

SOURCE: NORTHERN ILLINOIS GAS CO. PON-61 WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	106.0	0.0	
-	MODESTO		SHALE	31.0	106.0	
-	MODESTO		CORE LOSS	1.0	137.0	
-	MODESTO		SHALE	14.0	138.0	MEDIUM GRAY
-	MODESTO		SHALE	0.7	152.0	
-	MODESTO		SHALE	11.8	152.7	DARK GRAY
-	CARBONDALE	DANVILLE	COAL	0.7	164.5	DETAILED DESCRIPT OF COAL IN LOG
-	CARBONDALE		UNDERCLAY	1.8	165.2	
-	CARBONDALE		UNDERCLAY	1.8	167.0	
-	CARBONDALE		LIMESTONE	0.3	168.8	
-	CARBONDALE		CLAYSTONE & SILTSTONE	0.9	169.1	
-	CARBONDALE		CORE LOSS	8.0	170.0	
-	CARBONDALE		CLAYSTONE	4.3	178.0	RDSH
-	CARBONDALE		CLAYSTONE	0.6	182.3	GREEN
-	CARBONDALE		CLAYSTONE	3.6	182.9	LIGHT GRAY
-	CARBONDALE		SHALE	3.5	186.5	
-	CARBONDALE		SHALE	2.0	190.0	MEDIUM GRAY
-	CARBONDALE		SHALE	1.9	192.0	
-	CARBONDALE		SHALE	0.3	193.9	DARK GRAY
-	CARBONDALE		SHALE	0.2	194.2	
-	CARBONDALE		CORE LOSS	1.7	194.3	
-	CARBONDALE		UNDERCLAY	1.8	196.0	
-	CARBONDALE		CLAYSTONE	1.5	197.8	
-	CARBONDALE		CLAYSTONE & SILTSTONE	1.4	199.3	
-	CARBONDALE		SANDSTONE	7.3	200.7	
-	CARBONDALE		SILTSTONE	5.0	208.0	
-	CARBONDALE		SHALE	2.0	213.0	
-	CARBONDALE		SHALE	0.8	215.0	GRYSH RD
-	CARBONDALE		SHALE	2.3	215.8	MEDIUM GRAY
-	CARBONDALE		SHALE	11.5	218.0	MEDIUM GRAY
-	CARBONDALE		SHALE	4.0	229.5	DARK GRAY
-	CARBONDALE		CLAYSTONE	0.8	233.5	
-	CARBONDALE		SHALE	0.5	234.3	
-	CARBONDALE	HOUCHIN CREEK	SHALE	0.2	234.8	REPRESENTS NO. 4 COAL HORIZON
-	CARBONDALE		ROCK	1.0	235.0	SEATROCK NOTED
-	CARBONDALE		SHALE	12.0	236.0	LIGHT GRAY
-	CARBONDALE		SILTSTONE	5.5	248.0	
-	CARBONDALE		SHALE	4.5	253.5	MEDIUM GRAY
-	CARBONDALE		SHALE	9.7	258.0	DARK GRAY

-	CARBONDALE	LOWELL	COAL	2.1	267.7	LOWELL/DETAIL DESCRIP IN LOG
-	CARBONDALE		SILTSTONE	4.3	269.8	
-	CARBONDALE		SILTSTONE	1.5	274.0	LIGHT GRAY
-	CARBONDALE		CORE LOSS	2.5	275.5	
-	CARBONDALE		SHALE	1.8	278.0	DARK GRAY
-	CARBONDALE		SHALE	6.4	279.8	DARK GRAY
-	CARBONDALE		SHALE	0.8	286.3	
-	CARBONDALE		SHALE	1.4	287.0	
-	CARBONDALE		LIMESTONE	0.8	288.4	
-	CARBONDALE		SHALE	8.8	289.2	DARK GRAY
-	CARBONDALE		SHALE	10.8	298.0	MEDIUM GRAY
-	CARBONDALE	COLCHESTER	COAL	3.0	308.8	
-	TRADEWATER		ROCK	8.3	311.7	SEATROCK NOTED
-	TRADEWATER		CLAYSTONE & SILTSTONE	2.7	320.0	
-	TRADEWATER		CLAYSTONE	0.3	322.7	
-	TRADEWATER		CLAYSTONE & SILTSTONE	3.1	322.9	
-	TRADEWATER		SILTSTONE	1.2	326.0	
-	TRADEWATER		SILTSTONE	0.2	327.2	
-	TRADEWATER		CLAYSTONE & SILTSTONE	3.2	327.3	
-	TRADEWATER		CLAYSTONE & SILTSTONE	1.3	330.5	MEDIUM GRAY
-	TRADEWATER		CLAYSTONE & SILTSTONE	0.7	331.8	MEDIUM GRAY
-	TRADEWATER		SILTSTONE	0.3	332.4	
-	TRADEWATER		SILTSTONE	5.8	332.8	LIGHT GRAY

MAPID: 10500667000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 21 QUARTERS/FOOTAGES: SW

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.542397 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.878283 DATE COLLECTED:

SURFACE ELEVATION (FT.): 693.0 LOGGED (FT.): 284.0 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
547.0	CARBONDALE	DANVILLE	COAL	3.0	146.0
544.0	CARBONDALE		UNCLASSIFIED	25.0	149.0
519.0	CARBONDALE	HERRIN	COAL	1.0	174.0
518.0	CARBONDALE		UNCLASSIFIED	41.0	175.0
477.0	CARBONDALE	SPRINGFIELD	COAL	-	216.0
477.0	CARBONDALE		UNCLASSIFIED	29.0	216.0
448.0	CARBONDALE	LOWELL	COAL	1.5	245.0
446.5	CARBONDALE		UNCLASSIFIED	35.5	246.5
411.0	CARBONDALE	COLCHESTER	COAL	2.0	282.0

MAPID: 10500684000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 22 QUARTERS/FOOTAGES: NW SW NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.5272 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.884842 DATE COLLECTED:
SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 308.0 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
520.0	CARBONDALE	DANVILLE	COAL	2.0	170.0
518.0	CARBONDALE		UNCLASSIFIED	33.0	172.0
485.0	CARBONDALE	HERRIN	COAL	1.0	205.0
484.0	CARBONDALE		UNCLASSIFIED	37.0	206.0
447.0	CARBONDALE	SPRINGFIELD	COAL	-	243.0
447.0	CARBONDALE		UNCLASSIFIED	23.0	243.0
424.0	CARBONDALE	LOWELL	COAL	1.0	266.0
423.0	CARBONDALE		UNCLASSIFIED	41.0	267.0
382.0	CARBONDALE	COLCHESTER	COAL	-	308.0

MAPID: 10500738000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 6E SECTION: 25 QUARTERS/FOOTAGES: NE NE NW
QUADRANGLE: FORREST NORTH LONGITUDE: -88.481527 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.874644 DATE COLLECTED:
SURFACE ELEVATION (FT.): 663.0 LOGGED (FT.): 316.5 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
407.0	CARBONDALE	LOWELL	COAL	1.5	256.0
405.5	CARBONDALE		UNCLASSIFIED	56.5	257.5
349.0	CARBONDALE	COLCHESTER	COAL	2.5	314.0

MAPID: 10500747000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 26 **QUARTERS/FOOTAGES:** NW NE NW
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.503137 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.874354 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 673.0 **LOGGED (FT.):** 335.0 **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
500.0	CARBONDALE	DANVILLE	COAL	2.5	173.0
497.5	CARBONDALE		UNCLASSIFIED	35.5	175.5
462.0	CARBONDALE	HERRIN	COAL	-	211.0
462.0	CARBONDALE		UNCLASSIFIED	41.0	211.0
421.0	CARBONDALE	SPRINGFIELD	COAL	-	252.0
421.0	CARBONDALE		UNCLASSIFIED	42.0	252.0
379.0	CARBONDALE	LOWELL	COAL	2.0	294.0
377.0	CARBONDALE		UNCLASSIFIED	37.0	296.0
340.0	CARBONDALE	COLCHESTER	COAL	2.0	333.0

MAPID: 10500692000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 27 **QUARTERS/FOOTAGES:** SW SW NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.517336 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.868701 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 675.0 **LOGGED (FT.):** 296.0 **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
506.0	CARBONDALE	DANVILLE	COAL	2.0	169.0
504.0	CARBONDALE		UNCLASSIFIED	27.0	171.0
477.0	CARBONDALE	HERRIN	COAL	-	198.0
477.0	CARBONDALE		UNCLASSIFIED	34.0	198.0
443.0	CARBONDALE	SPRINGFIELD	COAL	-	232.0
443.0	CARBONDALE		UNCLASSIFIED	28.0	232.0
415.0	CARBONDALE	LOWELL	COAL	-	260.0
415.0	CARBONDALE		UNCLASSIFIED	36.0	260.0
379.0	CARBONDALE	COLCHESTER	COAL	-	296.0

MAPID: 10500635000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 28 **QUARTERS/FOOTAGES:** SW SW NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.536313 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.868433 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 685.0 **LOGGED (FT.):** 268.0 **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
548.0	CARBONDALE	DANVILLE	COAL	3.5	137.0
544.5	CARBONDALE		UNCLASSIFIED	23.5	140.5
521.0	CARBONDALE	HERRIN	COAL	-	164.0
521.0	CARBONDALE		UNCLASSIFIED	35.0	164.0
486.0	CARBONDALE	SPRINGFIELD	COAL	-	199.0
486.0	CARBONDALE		UNCLASSIFIED	27.0	199.0
459.0	CARBONDALE	LOWELL	COAL	2.0	226.0
457.0	CARBONDALE		UNCLASSIFIED	38.0	228.0
419.0	CARBONDALE	COLCHESTER	COAL	2.0	266.0

MAPID: 10500634000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 29 **QUARTERS/FOOTAGES:** NE NE SW
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.557815 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.86629 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 670.0 **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.)	
				UNIT	OVERBURDEN COMMENT
527.0	CARBONDALE	DANVILLE	COAL	4.5	143.0
522.5	CARBONDALE		UNCLASSIFIED	20.5	147.5
502.0	CARBONDALE	HERRIN	COAL	1.0	168.0
501.0	CARBONDALE		UNCLASSIFIED	38.0	169.0
463.0	CARBONDALE	SPRINGFIELD	COAL	-	207.0
463.0	CARBONDALE		UNCLASSIFIED	9.0	207.0
454.0	CARBONDALE	HOUCHIN CREEK	COAL	-	216.0
454.0	CARBONDALE		UNCLASSIFIED	39.0	216.0
415.0	CARBONDALE	LOWELL	COAL	2.5	255.0
412.5	CARBONDALE		UNCLASSIFIED	32.5	257.5
380.0	CARBONDALE	COLCHESTER	COAL	3.0	290.0

MAPID: 10500632000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 30 **QUARTERS/FOOTAGES:** NE NW NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.572396 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.873366 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 682.0 **LOGGED (FT.):** 352.0 **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
480.0	CARBONDALE	DANVILLE	COAL	3.0	202.0
477.0	CARBONDALE		UNCLASSIFIED	23.0	205.0
454.0	CARBONDALE	HERRIN	COAL	2.0	228.0
452.0	CARBONDALE		UNCLASSIFIED	44.0	230.0
408.0	CARBONDALE	SPRINGFIELD	COAL	-	274.0
408.0	CARBONDALE		UNCLASSIFIED	14.0	274.0
394.0	CARBONDALE	HOUCHIN CREEK	COAL	-	288.0
394.0	CARBONDALE		UNCLASSIFIED	14.0	288.0
380.0	CARBONDALE	LOWELL	COAL	2.0	302.0
378.0	CARBONDALE		UNCLASSIFIED	46.0	304.0
332.0	CARBONDALE	COLCHESTER	COAL	2.0	350.0

MAPID: 10500695000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 31 **QUARTERS/FOOTAGES:** NE SE SE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.567302 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.84802 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 308.0 **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
506.0	CARBONDALE	DANVILLE	COAL	4.0	144.0
502.0	CARBONDALE		UNCLASSIFIED	19.0	148.0
483.0	CARBONDALE	HERRIN	COAL	-	167.0
483.0	CARBONDALE		UNCLASSIFIED	41.0	167.0
442.0	CARBONDALE	SPRINGFIELD	COAL	-	208.0
442.0	CARBONDALE		UNCLASSIFIED	14.0	208.0
428.0	CARBONDALE	HOUCHIN CREEK	COAL	-	222.0
428.0	CARBONDALE		UNCLASSIFIED	42.0	222.0
386.0	CARBONDALE	LOWELL	COAL	2.0	264.0
384.0	CARBONDALE		UNCLASSIFIED	40.0	266.0
344.0	CARBONDALE	COLCHESTER	COAL	2.0	306.0

MAPID: 10500631000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 32 **QUARTERS/FOOTAGES:** SW SW NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.555237 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.853627 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 653.0 **LOGGED (FT.):** 256.5 **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
544.0	CARBONDALE	DANVILLE	COAL	3.5	109.0
540.5	CARBONDALE		UNCLASSIFIED	18.5	112.5
522.0	CARBONDALE	HERRIN	COAL	-	131.0
522.0	CARBONDALE		UNCLASSIFIED	39.0	131.0
483.0	CARBONDALE	SPRINGFIELD	COAL	-	170.0
483.0	CARBONDALE		UNCLASSIFIED	9.0	170.0
474.0	CARBONDALE	HOUCHIN CREEK	COAL	-	179.0
474.0	CARBONDALE		UNCLASSIFIED	35.0	179.0
439.0	CARBONDALE	LOWELL	COAL	2.0	214.0
437.0	CARBONDALE		UNCLASSIFIED	39.0	216.0
398.0	CARBONDALE	COLCHESTER	COAL	1.5	255.0

MAPID: 10500639000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 33 **QUARTERS/FOOTAGES:** NE NE NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.529153 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.859459 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 704.0 **LOGGED (FT.):** 272.0 **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
558.0	CARBONDALE	DANVILLE	COAL	4.0	146.0
554.0	CARBONDALE		UNCLASSIFIED	19.0	150.0
535.0	CARBONDALE	HERRIN	COAL	-	169.0
535.0	CARBONDALE		UNCLASSIFIED	34.0	169.0
501.0	CARBONDALE	SPRINGFIELD	COAL	-	203.0
501.0	CARBONDALE		UNCLASSIFIED	27.0	203.0
474.0	CARBONDALE	LOWELL	COAL	2.0	230.0
472.0	CARBONDALE		UNCLASSIFIED	38.0	232.0
434.0	CARBONDALE	COLCHESTER	COAL	2.0	270.0

MAPID: 10500694000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 34 **QUARTERS/FOOTAGES:** SW SW NE
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.517064 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.854166 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 680.0 **LOGGED (FT.):** 278.0 **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
512.0	CARBONDALE	DANVILLE	COAL	4.0	168.0
508.0	CARBONDALE		UNCLASSIFIED	18.0	172.0
490.0	CARBONDALE	HERRIN	COAL	-	190.0
490.0	CARBONDALE		UNCLASSIFIED	35.0	190.0
455.0	CARBONDALE	SPRINGFIELD	COAL	-	225.0
455.0	CARBONDALE		UNCLASSIFIED	29.0	225.0
426.0	CARBONDALE	LOWELL	COAL	2.0	254.0
424.0	CARBONDALE		UNCLASSIFIED	22.0	256.0
402.0	CARBONDALE	COLCHESTER	COAL	-	278.0

MAPID: 10500681000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 6E **SECTION:** 35 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: PONTIAC SOUTHEAST **LONGITUDE:** -88.507596 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.859705 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 655.0 **LOGGED (FT.):** 305.5 **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
499.0	CARBONDALE	DANVILLE	COAL	3.5	156.0
495.5	CARBONDALE		UNCLASSIFIED	25.5	159.5
470.0	CARBONDALE	HERRIN	COAL	-	185.0
470.0	CARBONDALE		UNCLASSIFIED	36.0	185.0
434.0	CARBONDALE	SPRINGFIELD	COAL	-	221.0
434.0	CARBONDALE		UNCLASSIFIED	30.0	221.0
404.0	CARBONDALE	LOWELL	COAL	2.0	251.0
402.0	CARBONDALE		UNCLASSIFIED	51.0	253.0
351.0	CARBONDALE	COLCHESTER	COAL	1.5	304.0

MAPID: 10500748000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 6E

SECTION: 36

QUARTERS/FOOTAGES: SW NW NW

QUADRANGLE: FORREST NORTH

LONGITUDE: -88.488364

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.858211

DATE COLLECTED:

SURFACE ELEVATION (FT.): 704.0

LOGGED (FT.): 318.0

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
554.0	CARBONDALE	DANVILLE	COAL	3.5	150.0
550.5	CARBONDALE		UNCLASSIFIED	22.5	153.5
528.0	CARBONDALE	HERRIN	COAL	-	176.0
528.0	CARBONDALE		UNCLASSIFIED	44.0	176.0
484.0	CARBONDALE	SPRINGFIELD	COAL	-	220.0
484.0	CARBONDALE		UNCLASSIFIED	37.0	220.0
447.0	CARBONDALE	LOWELL	COAL	-	257.0
447.0	CARBONDALE		UNCLASSIFIED	59.0	257.0
388.0	CARBONDALE	COLCHESTER	COAL	2.0	316.0

MAPID: 10500820000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 7E

SECTION: 2

QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: SAUNEMIN

LONGITUDE: -88.394257

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.933725

DATE COLLECTED:

SURFACE ELEVATION (FT.): 725.0

LOGGED (FT.): 356.5

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
483.0	CARBONDALE	SPRINGFIELD	COAL	-	242.0
483.0	CARBONDALE		UNCLASSIFIED	14.0	242.0
469.0	CARBONDALE	HOUCHIN CREEK	COAL	-	256.0
469.0	CARBONDALE		UNCLASSIFIED	26.0	256.0
443.0	CARBONDALE	LOWELL	COAL	2.0	282.0
441.0	CARBONDALE		UNCLASSIFIED	70.0	284.0
371.0	CARBONDALE	COLCHESTER	COAL	2.5	354.0

MAPID: 10500381000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 3 QUARTERS/FOOTAGES: SW NW NW
QUADRANGLE: SAUNEMIN LONGITUDE: -88.413744 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.931777 DATE COLLECTED:
SURFACE ELEVATION (FT.): 720.0 LOGGED (FT.): 308.0 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	
415.0	CARBONDALE	COLCHESTER	COAL	3.0	305.0	

MAPID: 10500776000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 7 QUARTERS/FOOTAGES: NW NE NE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.456261 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.918674 DATE COLLECTED:
SURFACE ELEVATION (FT.): 693.0 LOGGED (FT.): 306.0 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	
481.0	CARBONDALE	SPRINGFIELD	COAL	-	212.0	
481.0	CARBONDALE		UNCLASSIFIED	39.0	212.0	
442.0	CARBONDALE	LOWELL	COAL	1.0	251.0	
441.0	CARBONDALE		UNCLASSIFIED	51.0	252.0	
390.0	CARBONDALE	COLCHESTER	COAL	3.0	303.0	

MAPID: 10500756000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 8 QUARTERS/FOOTAGES: NE NE SE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.434808 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.911691 DATE COLLECTED:
SURFACE ELEVATION (FT.): 696.0 LOGGED (FT.): 311.0 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	
442.0	CARBONDALE	LOWELL	COAL	1.5	254.0	
440.5	CARBONDALE		UNCLASSIFIED	52.5	255.5	
388.0	CARBONDALE	COLCHESTER	COAL	3.0	308.0	

MAPID: 10500845000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 12 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: CULLOM LONGITUDE: -88.358107 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.914088 DATE COLLECTED:

SURFACE ELEVATION (FT.): 705.0 LOGGED (FT.): 289.0 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
525.0	CARBONDALE	SPRINGFIELD	COAL	-	180.0
525.0	CARBONDALE		UNCLASSIFIED	62.0	180.0
463.0	CARBONDALE	LOWELL	COAL	-	242.0
463.0	CARBONDALE		UNCLASSIFIED	44.0	242.0
419.0	CARBONDALE	COLCHESTER	COAL	3.0	286.0

MAPID: 10500843000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 13 QUARTERS/FOOTAGES: NW NW NW

QUADRANGLE: CULLOM LONGITUDE: -88.374523 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.904817 DATE COLLECTED:

SURFACE ELEVATION (FT.): 702.0 LOGGED (FT.): 295.0 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
512.0	CARBONDALE	SPRINGFIELD	COAL	-	190.0
512.0	CARBONDALE		UNCLASSIFIED	51.0	190.0
461.0	CARBONDALE	LOWELL	COAL	1.5	241.0
459.5	CARBONDALE		UNCLASSIFIED	49.5	242.5
410.0	CARBONDALE	COLCHESTER	COAL	3.0	292.0

MAPID: 10500015000C

VERSION: 1

PROJECT: NCRDS87

COUNTY: LIVINGSTON

TWP/RNG: 28N 7E

SECTION: 15

QUARTERS/FOOTAGES: 830' S line, 264' W line

QUADRANGLE: SAUNEMIN

LONGITUDE: -88.413054

GEOLOGIST: WEIBEL

CONFIDENTIAL: N

LATITUDE: 40.893162

DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 670.0

LOGGED (FT.): 330.0

LOG TYPE: Drillers Log

SOURCE: J. BOLLIGER & SONS

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
670.0			UNCONSOLIDATED	210.0	0.0
460.0	CARBONDALE		UNCLASSIFIED	14.0	210.0
446.0	CARBONDALE	HERRIN	COAL	1.0	224.0
445.0	CARBONDALE		GRAY SHALE	15.0	225.0
430.0	CARBONDALE		SHALE	28.0	240.0
402.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	268.0
400.0	CARBONDALE		GRAY SHALE	25.0	270.0
375.0	CARBONDALE		SANDSTONE	35.0	295.0

MAPID: 10500017000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 15 QUARTERS/FOOTAGES: SE/c

QUADRANGLE: SAUNEMIN LONGITUDE: -88.404394 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.898233 DATE COLLECTED: 0 / 0 / 1883

SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 373.3 LOG TYPE: Drillers Log

SOURCE: BENNETT READER 2 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.0	PLEISTOCENE		SOIL	1.5	0.0	
698.5	PLEISTOCENE		CLAY	10.5	1.5	YELLOW
688.0	PLEISTOCENE		CLAY	4.0	12.0	BLUE
684.0	PLEISTOCENE		SAND & GRAVEL	3.0	16.0	
681.0	PLEISTOCENE		CLAY	14.0	19.0	BLUE
667.0	PLEISTOCENE		SAND	2.0	33.0	
665.0	PLEISTOCENE		CLAY	9.0	35.0	BLUE
656.0	PLEISTOCENE		GRAVEL	2.0	44.0	WITH CLAY
654.0	PLEISTOCENE		CLAY	54.5	46.0	BLUE
599.5	PLEISTOCENE		SAND	4.0	100.5	
595.5	PLEISTOCENE		HARD PAN	28.5	104.5	BLUE
567.0	PLEISTOCENE		HARD PAN	3.0	133.0	
564.0	PLEISTOCENE		HARD PAN	26.0	136.0	BLUE
538.0			SANDSTONE	13.5	162.0	
524.5			ARGILLACEOUS SANDSTONE	9.0	175.5	
515.5			SANDSTONE	1.0	184.5	WITH GRAVEL
514.5			SHALE	54.5	185.5	BLUE
460.0			SHALE	6.0	240.0	
454.0			SHALE	2.0	246.0	
452.0			COAL	1.5	248.0	
450.5			UNDERCLAY	2.0	249.5	
448.5			SHALE	78.5	251.5	
370.0			SHALE	6.0	330.0	
364.0			SHALE	8.0	336.0	BLUE
356.0			SHALE	2.0	344.0	
354.0			LIMESTONE	3.0	346.0	
351.0			SHALE	3.5	349.0	
347.5			ROCK	1.3	352.5	
346.2			SHALE	3.0	353.8	
343.2			SHALE	13.0	356.8	
330.2			COAL	3.5	369.8	SAND BURST IN, COULD NOT SEE BELOW COAL

MAPID: 10500844000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 15 QUARTERS/FOOTAGES: NW NW NE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.403385 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.904552 DATE COLLECTED:
SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 342.0 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
478.0	CARBONDALE	HERRIN	COAL	-	222.0
478.0	CARBONDALE		UNCLASSIFIED	28.0	222.0
450.0	CARBONDALE	SPRINGFIELD	COAL	-	250.0
450.0	CARBONDALE		UNCLASSIFIED	20.0	250.0
430.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	270.0
428.0	CARBONDALE		UNCLASSIFIED	24.0	272.0
404.0	CARBONDALE	LOWELL	COAL	1.0	296.0
403.0	CARBONDALE		UNCLASSIFIED	42.0	297.0
361.0	CARBONDALE	COLCHESTER	COAL	3.0	339.0

MAPID: 10500778000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 18 QUARTERS/FOOTAGES: SE SE NE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.453548 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.898554 DATE COLLECTED:
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 325.0 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
459.0	CARBONDALE	SPRINGFIELD	COAL	-	236.0
459.0	CARBONDALE		UNCLASSIFIED	34.0	236.0
425.0	CARBONDALE	LOWELL	COAL	1.5	270.0
423.5	CARBONDALE		UNCLASSIFIED	50.5	271.5
373.0	CARBONDALE	COLCHESTER	COAL	3.0	322.0

MAPID: 10500826000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 7E SECTION: 24 QUARTERS/FOOTAGES: NW NW NW
QUADRANGLE: CULLOM LONGITUDE: -88.374139 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.890524 DATE COLLECTED:
SURFACE ELEVATION (FT.): 680.0 LOGGED (FT.): 271.0 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
412.0	CARBONDALE	COLCHESTER	COAL	3.0	268.0

MAPID: 10500777000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 28N 7E

SECTION: 30

QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: FORREST NORTH

LONGITUDE: -88.452629

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.869526

DATE COLLECTED:

SURFACE ELEVATION (FT.): 680.0

LOGGED (FT.): 344.5

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	
522.0	CARBONDALE	DANVILLE	COAL	3.0	158.0	
519.0	CARBONDALE		UNCLASSIFIED	19.0	161.0	
500.0	CARBONDALE	HERRIN	COAL	-	180.0	
500.0	CARBONDALE		UNCLASSIFIED	98.0	180.0	
402.0	CARBONDALE	LOWELL	COAL	2.5	278.0	
399.5	CARBONDALE		UNCLASSIFIED	61.5	280.5	
338.0	CARBONDALE	COLCHESTER	COAL	2.5	342.0	

MAPID: 10500019000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: CULLOM LONGITUDE: -88.273261 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.928755 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 197.9 LOG TYPE: Drillers Log

SOURCE: LIVINGSTON CO. COAL PROSP. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	1.5	0.0	
-	PLEISTOCENE		CLAY	8.0	1.5	YELLOW
-	PLEISTOCENE		CLAY	32.5	9.5	BLUE
-	PLEISTOCENE		SAND	1.0	42.0	
-	PLEISTOCENE		CLAY	24.0	43.0	BLUE
-	PLEISTOCENE		SILT	12.0	67.0	GRAY
-	PLEISTOCENE		HARD PAN	4.0	79.0	BLUE
-	PLEISTOCENE		SAND	0.3	83.0	
-	PLEISTOCENE		HARD PAN	4.8	83.3	BLUE
-	PLEISTOCENE		HARD PAN	6.0	88.0	BROWN
-	PLEISTOCENE		SAND	0.5	94.0	
-	PLEISTOCENE		HARD PAN	2.0	94.5	BROWN
-	PLEISTOCENE		HARD PAN	2.0	96.5	
-	PLEISTOCENE		SAND	0.5	98.5	
-	PLEISTOCENE		SILT	3.5	99.0	
-	PLEISTOCENE		HARD PAN	5.0	102.5	
-	PLEISTOCENE		CLAY	0.5	107.5	
-	PLEISTOCENE		HARD PAN	3.0	108.0	
-	PLEISTOCENE		HARD PAN	2.0	111.0	WITH GRAVEL
-	PLEISTOCENE		HARD PAN	53.0	113.0	BROWN
-	PLEISTOCENE		CLAY	5.0	166.0	RED
-			SHALE	19.0	171.0	
-			COAL	3.9	190.0	
-			UNDERCLAY	4.0	193.9	

MAPID: 10500019000C VERSION: 2 PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 2 QUARTERS/FOOTAGES:

QUADRANGLE: CULLOM LONGITUDE: -88.273261 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 40.928755 DATE COLLECTED:

SURFACE ELEVATION (FT.): 730.0 LOGGED (FT.): 197.9 LOG TYPE: Drillers Log

SOURCE: LIVINGSTON CO. COAL PROSP. WELL TYPE: Coal Test

COMMENT: LOCATION AND ELEVATION IMPRECISE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
730.0			UNCONSOLIDATED	171.0	0.0	
559.0	CARBONDALE		SHALE	19.0	171.0	
540.0	CARBONDALE	HOUCHIN CREEK	COAL	3.9	190.0	UNCERTAIN CORRELATION
536.1	CARBONDALE		UNDERCLAY	4.0	193.9	

MAPID: 10500867000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 3 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: CULLOM LONGITUDE: -88.300576 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.922016 DATE COLLECTED:

SURFACE ELEVATION (FT.): 705.0 LOGGED (FT.): 346.0 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	
476.0	CARBONDALE	SPRINGFIELD	COAL	-	229.0	
476.0	CARBONDALE		UNCLASSIFIED	18.0	229.0	
458.0	CARBONDALE	HOUCHIN CREEK	COAL	-	247.0	
458.0	CARBONDALE		UNCLASSIFIED	25.0	247.0	
433.0	CARBONDALE	LOWELL	COAL	2.0	272.0	
431.0	CARBONDALE		UNCLASSIFIED	69.0	274.0	
362.0	CARBONDALE	COLCHESTER	COAL	3.0	343.0	

MAPID: 10500842000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 5 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: CULLOM LONGITUDE: -88.338635 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.921589 DATE COLLECTED:
SURFACE ELEVATION (FT.): 751.0 LOGGED (FT.): 334.5 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
531.0	CARBONDALE	SPRINGFIELD	COAL	-	220.0
531.0	CARBONDALE		UNCLASSIFIED	38.0	220.0
493.0	CARBONDALE	LOWELL	COAL	1.5	258.0
491.5	CARBONDALE		UNCLASSIFIED	72.5	259.5
419.0	CARBONDALE	COLCHESTER	COAL	2.5	332.0

MAPID: 10500839000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 6 QUARTERS/FOOTAGES: SW SW NW
QUADRANGLE: CULLOM LONGITUDE: -88.356243 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.928646 DATE COLLECTED:
SURFACE ELEVATION (FT.): 733.0 LOGGED (FT.): 333.5 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
519.0	CARBONDALE	SPRINGFIELD	COAL	-	214.0
519.0	CARBONDALE		UNCLASSIFIED	15.0	214.0
504.0	CARBONDALE	HOUCHIN CREEK	COAL	-	229.0
504.0	CARBONDALE		UNCLASSIFIED	28.0	229.0
476.0	CARBONDALE	LOWELL	COAL	1.0	257.0
475.0	CARBONDALE		UNCLASSIFIED	73.0	258.0
402.0	CARBONDALE	COLCHESTER	COAL	2.5	331.0

MAPID: 10500840000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 8 QUARTERS/FOOTAGES: NE NE SE
QUADRANGLE: CULLOM LONGITUDE: -88.321675 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.912742 DATE COLLECTED:
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 275.0 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
493.0	CARBONDALE	LOWELL	COAL	2.0	202.0
491.0	CARBONDALE		UNCLASSIFIED	69.0	204.0
422.0	CARBONDALE	COLCHESTER	COAL	2.0	273.0

MAPID: 10500825000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 8E **SECTION:** 12 **QUARTERS/FOOTAGES:** SE NE SE
QUADRANGLE: CABERY **LONGITUDE:** -88.245773 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.91182 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 687.0 **LOGGED (FT.):** 310.0 **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
379.0	CARBONDALE	COLCHESTER	COAL	2.0	308.0	

MAPID: 10500838000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 8E **SECTION:** 14 **QUARTERS/FOOTAGES:** NW SW NW
QUADRANGLE: CULLOM **LONGITUDE:** -88.280783 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.902159 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 695.0 **LOGGED (FT.):** 332.0 **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
469.0	CARBONDALE	SPRINGFIELD	COAL	-	226.0	
469.0	CARBONDALE		UNCLASSIFIED	12.0	226.0	
457.0	CARBONDALE	HOUCHIN CREEK	COAL	-	238.0	
457.0	CARBONDALE		UNCLASSIFIED	32.0	238.0	
425.0	CARBONDALE	LOWELL	COAL	3.0	270.0	
422.0	CARBONDALE		UNCLASSIFIED	56.0	273.0	
366.0	CARBONDALE	COLCHESTER	COAL	3.0	329.0	

MAPID: 10500836000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 28N 8E **SECTION:** 17 **QUARTERS/FOOTAGES:** SE SW SW
QUADRANGLE: CULLOM **LONGITUDE:** -88.33544 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.892419 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 688.0 **LOGGED (FT.):** 270.0 **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
494.0	CARBONDALE	LOWELL	COAL	1.0	194.0	
493.0	CARBONDALE		UNCLASSIFIED	73.0	195.0	
420.0	CARBONDALE	COLCHESTER	COAL	2.0	268.0	

MAPID: 10500837000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 18 QUARTERS/FOOTAGES: NW SW NW
QUADRANGLE: CULLOM LONGITUDE: -88.355478 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.90134 DATE COLLECTED:
SURFACE ELEVATION (FT.): 692.0 LOGGED (FT.): 279.5 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
498.0	CARBONDALE	LOWELL	COAL	2.0	194.0
496.0	CARBONDALE		UNCLASSIFIED	82.0	196.0
414.0	CARBONDALE	COLCHESTER	COAL	1.5	278.0

MAPID: 10500835000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 28N 8E SECTION: 19 QUARTERS/FOOTAGES: SW SW SE
QUADRANGLE: CULLOM LONGITUDE: -88.346957 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.877791 DATE COLLECTED:
SURFACE ELEVATION (FT.): 706.0 LOGGED (FT.): 277.0 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
430.0	CARBONDALE	COLCHESTER	COAL	1.0	276.0

MAPID: 10500263000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 2 QUARTERS/FOOTAGES: SW SW NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.843504 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.010637 DATE COLLECTED:
SURFACE ELEVATION (FT.): 623.0 LOGGED (FT.): 234.0 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
557.0	CARBONDALE	HERRIN	COAL	-	66.0
557.0	CARBONDALE		UNCLASSIFIED	166.0	66.0
391.0	CARBONDALE	COLCHESTER	COAL	2.0	232.0

MAPID: 10500267000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 3 QUARTERS/FOOTAGES: NE NE NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.864944 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.0158 DATE COLLECTED:
SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 147.7 LOG TYPE: Survey Core Study
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG; CORE #4312

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
487.0	CARBONDALE	COLCHESTER	COAL	2.7	145.0

MAPID: 10500284000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 3 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.872416 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.002605 DATE COLLECTED:
SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 172.0 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
568.0	CARBONDALE	SPRING LAKE	COAL	2.0	64.0
566.0	CARBONDALE		UNCLASSIFIED	104.0	66.0
462.0	CARBONDALE	COLCHESTER	COAL	2.0	170.0

MAPID: 10500285000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 3 QUARTERS/FOOTAGES: SE SE NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.865082 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.010207 DATE COLLECTED:
SURFACE ELEVATION (FT.): 628.0 LOGGED (FT.): 154.0 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
476.0	CARBONDALE	COLCHESTER	COAL	2.0	152.0

MAPID: 10500289000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 5 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: LONG POINT LONGITUDE: -88.893227 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.015105 DATE COLLECTED:
SURFACE ELEVATION (FT.): 634.0 LOGGED (FT.): 168.0 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	
550.0	CARBONDALE	SPRINGFIELD	COAL	-	84.0	
550.0	CARBONDALE		UNCLASSIFIED	23.0	84.0	
527.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	107.0	
525.0	CARBONDALE		UNCLASSIFIED	27.0	109.0	
498.0	CARBONDALE	LOWELL	COAL	1.0	136.0	
497.0	CARBONDALE		UNCLASSIFIED	29.0	137.0	
468.0	CARBONDALE	COLCHESTER	COAL	2.0	166.0	

MAPID: 10500290000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 7 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: LONG POINT LONGITUDE: -88.913293 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.000318 DATE COLLECTED:
SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 193.5 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	
512.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	132.0	
510.0	CARBONDALE		UNCLASSIFIED	57.0	134.0	
453.0	CARBONDALE	COLCHESTER	COAL	2.5	191.0	

MAPID: 10581006000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 8 QUARTERS/FOOTAGES: NE SE
QUADRANGLE: DANA LONGITUDE: -88.894846 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 40.992355 DATE COLLECTED:
SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 100.0 LOG TYPE: Drillers Log
SOURCE: AMAX 100 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0	
609.0			UNKNOWN	63.0	30.0	NO RECORD
546.0	CARBONDALE	HERRIN	COAL	2.0	93.0	
544.0	CARBONDALE		UNKNOWN	5.0	95.0	COPIED FROM BOREHOLE SUMMARY

MAPID: 10500265000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 10 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.871958 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.988078 DATE COLLECTED:
SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 174.0 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
585.0	CARBONDALE	SPRING LAKE	COAL	2.0	50.0
583.0	CARBONDALE		UNCLASSIFIED	38.0	52.0
545.0	CARBONDALE	SPRINGFIELD	COAL	-	90.0
545.0	CARBONDALE		UNCLASSIFIED	22.0	90.0
523.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	112.0
521.5	CARBONDALE		UNCLASSIFIED	58.5	113.5
463.0	CARBONDALE	COLCHESTER	COAL	2.0	172.0

MAPID: 10500291000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 10 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.855715 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.001104 DATE COLLECTED:
SURFACE ELEVATION (FT.): 612.0 LOGGED (FT.): 191.7 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
472.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	140.0
470.0	CARBONDALE		UNCLASSIFIED	48.0	142.0
422.0	CARBONDALE	COLCHESTER	COAL	1.7	190.0

MAPID: 10500621000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 10 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.855106 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.988364 DATE COLLECTED:
SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 212.0 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
503.0	CARBONDALE	SPRINGFIELD	COAL	-	129.0
503.0	CARBONDALE		UNCLASSIFIED	25.0	129.0
478.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	154.0
477.0	CARBONDALE		UNCLASSIFIED	55.0	155.0
422.0	CARBONDALE	COLCHESTER	COAL	2.0	210.0

MAPID: 10521956000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 29N 3E

SECTION: 12

QUARTERS/FOOTAGES: 60' S line, 50' E line of SE

QUADRANGLE: FLANAGAN NORTH

LONGITUDE: -88.815618

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.988672

DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 616.0

LOGGED (FT.): 312.0

LOG TYPE:

SOURCE: HYDROCARBON SURVEY

L-26

WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10581001000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 29N 3E

SECTION: 12

QUARTERS/FOOTAGES: NW NW

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.83266

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.00084

DATE COLLECTED:

SURFACE ELEVATION (FT.): 621.0

LOGGED (FT.): 186.0

LOG TYPE: Drillers Log

SOURCE: AMAX

92

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
621.0	PLEISTOCENE		UNCONSOLIDATED	132.0	0.0	
489.0			UNKNOWN	54.0	132.0	NO REPORT; COPIED FROM BOREHOLE SUMMARY

MAPID: 10581002000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 29N 3E

SECTION: 13

QUARTERS/FOOTAGES: SW NW

QUADRANGLE: FLANAGAN NORTH

LONGITUDE: -88.832415

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 40.982557

DATE COLLECTED:

SURFACE ELEVATION (FT.): 628.0

LOGGED (FT.): 237.0

LOG TYPE: Drillers Log

SOURCE: AMAX

93

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT	OVERBURDEN	COMMENT
628.0	PLEISTOCENE		UNCONSOLIDATED	93.5	0.0	
534.5			UNKNOWN	136.5	93.5	NO RECORD
398.0	CARBONDALE	COLCHESTER	COAL	3.1	230.0	
394.9	CARBONDALE		UNKNOWN	3.9	233.1	COPIED FROM BOREHOLE SUMMARY

MAPID: 10581004000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 15 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.870917 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 40.974554 DATE COLLECTED:

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 192.0 LOG TYPE: Drillers Log

SOURCE: AMAX 95 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0	PLEISTOCENE		UNCONSOLIDATED	36.0	0.0	
604.0			UNKNOWN	84.0	36.0	
520.0			UNKNOWN	27.0	120.0	COAL TRACES
493.0	CARBONDALE	LOWELL	COAL	1.0	147.0	
492.0	CARBONDALE		UNKNOWN	39.0	148.0	
453.0	CARBONDALE	COLCHESTER	COAL	2.1	187.0	
450.9	CARBONDALE		UNKNOWN	2.9	189.1	COPIED FROM BOREHOLE SUMMARY

MAPID: 10581041000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 15 QUARTERS/FOOTAGES: 1' N line, 1' W line

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.873124 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 40.987152 DATE COLLECTED:

SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 175.0 LOG TYPE: Drillers Log

SOURCE: AMAX 98 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0	PLEISTOCENE		UNCONSOLIDATED	29.0	0.0	
606.0			UNKNOWN	84.0	29.0	
522.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	113.0	
520.0	CARBONDALE		UNKNOWN	56.0	115.0	
464.0	CARBONDALE	COLCHESTER	COAL	2.4	171.0	
461.6	CARBONDALE		UNKNOWN	1.6	173.4	NO RECORD; COPIED FROM BOREHOLE SUMMARY

MAPID: 10581005000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 29N 3E

SECTION: 16

QUARTERS/FOOTAGES: SW NW

QUADRANGLE: DANA

LONGITUDE: -88.890028

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 40.981529

DATE COLLECTED:

SURFACE ELEVATION (FT.): 642.0

LOGGED (FT.): 98.0

LOG TYPE: Drillers Log

SOURCE: AMAX

96

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.0	PLEISTOCENE		UNCONSOLIDATED	30.0	0.0	
612.0			UNKNOWN	67.0	30.0	
545.0	CARBONDALE	HERRIN	COAL	1.0	97.0	COPIED FROM BOREHOLE SUMMARY

MAPID: 10581007000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 29N 3E

SECTION: 18

QUARTERS/FOOTAGES: SW SE

QUADRANGLE: DANA

LONGITUDE: -88.91909

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 40.973903

DATE COLLECTED:

SURFACE ELEVATION (FT.): 651.0

LOGGED (FT.): 226.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 401

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
651.0	PLEISTOCENE		UNCONSOLIDATED	32.0	0.0	
619.0			GRAY SHALE	5.5	32.0	LIMESTONE CONCRETIONS
613.5			SANDSTONE	0.5	37.5	
613.0			SANDY SHALE	4.5	38.0	
608.5			SIDERITE	0.2	42.5	
608.3			SANDY SHALE	6.8	42.7	
601.5			DARK SHALE	5.8	49.5	COAL TRACES
595.7			SANDY SHALE	0.2	55.3	
595.5			DARK SHALE	17.7	55.5	
577.8	SHELBURN	DANVILLE	COAL	1.5	73.2	
576.3	SHELBURN		UNDERCLAY	4.3	74.7	
572.0	SHELBURN		GRAY SHALE	4.5	79.0	LIMESTONE BANDS
567.5	SHELBURN		GRAY SHALE	0.5	83.5	GREENISH
567.0	SHELBURN		SANDY SHALE	3.0	84.0	GREENISH
564.0	SHELBURN		GRAY SHALE	6.0	87.0	GREENISH
558.0	SHELBURN		GRAY SHALE & LIMESTONE	0.3	93.0	GREENISH
557.7	SHELBURN		DARK SHALE	1.8	93.3	GREENISH
556.0	SHELBURN		GRAY SHALE & LIMESTONE	0.5	95.0	GREENISH
555.5			LIMESTONE	0.7	95.5	
554.8			SANDY SHALE	1.8	96.2	GREENISH
553.0			GRAY SHALE	4.3	98.0	RED SHALE STREAKS
548.7			SHALE	3.8	102.3	GREEN
545.0			GRAY SHALE	18.0	106.0	GREENISH
527.0			GRAY SHALE	1.5	124.0	GREENISH, SIDERITE BANDS
525.5			GRAY SHALE	1.7	125.5	GREENISH
523.8			GRAY SHALE	1.1	127.2	
522.7			DARK SHALE	0.8	128.3	
522.0			DARK SHALE	4.0	129.0	RED-BROWN
518.0			DARK SHALE	1.0	133.0	GREENISH
517.0			SANDY SHALE	11.0	134.0	GREEN
506.0			SANDSTONE	2.3	145.0	GREEN, OILY
503.7			SANDY SHALE	2.2	147.3	GREEN, OILY
501.5			SANDSTONE	1.0	149.5	GREEN, OILY
500.5			SANDY SHALE	1.3	150.5	GREEN, OILY
499.2			SANDSTONE	0.3	151.8	GREEN, OILY
498.8			SANDY SHALE	0.7	152.2	GREEN, OILY
498.2			SANDSTONE	1.2	152.8	GREEN, OILY

497.0	SANDY SHALE	9.0	154.0	GREEN, OILY
488.0	GRAY SHALE	15.5	163.0	
472.5	DARK SHALE	0.5	178.5	
472.0	BLACK SHALE	2.5	179.0	
469.5	SHALE	0.2	181.5	BROWN
469.3	BLACK SHALE	0.3	181.7	
469.0	DARK SHALE	13.0	182.0	SIDERITE BANDS
456.0	CLAYSTONE	0.5	195.0	BLACK
455.5	BLACK SHALE	0.5	195.5	
455.0	BLACK SHALE	2.4	196.0	PYRITE
452.6	DARK SHALE	1.3	198.4	
451.2	LIMESTONE	0.4	199.8	
450.8	GRAY SHALE & LIMESTONE	0.3	200.2	
450.5	GRAY SHALE	11.5	200.5	
439.0	GRAY SHALE	1.8	212.0	GREENISH
437.2	LIMESTONE	0.5	213.8	
436.7	GRAY SHALE	1.3	214.3	GREENISH
435.5	BLACK SHALE	0.5	215.5	
435.0	COAL W/ PYRITE	1.0	216.0	LOWELL?
434.0	UNDERCLAY	4.8	217.0	
429.2	SANDY SHALE	0.8	221.8	GREENISH
428.5	GRAY SHALE	3.5	222.5	

MAPID: 10521957000C
VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON
TWP/RNG: 29N 3E
SECTION: 20

QUADRANGLE: DANA
LONGITUDE: -88.893029

CONFIDENTIAL: N
LATITUDE: 40.957729

SURFACE ELEVATION (FT.): 655.0
LOGGED (FT.): 280.0

SOURCE: HYDROCARBON SURVEY L-17

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

QUARTERS/FOOTAGES: 20' S line, 75' E line of SE

GEOLOGIST: C.KOROSE

DATE COLLECTED: 0 / 0 / 1967

LOG TYPE:

WELL TYPE: Coal Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10581003000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 20 QUARTERS/FOOTAGES: SE NE

QUADRANGLE: DANA LONGITUDE: -88.895077 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 40.966889 DATE COLLECTED:

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 226.0 LOG TYPE: Drillers Log

SOURCE: AMAX 94 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0	PLEISTOCENE		UNCONSOLIDATED	43.0	0.0	
597.0			UNKNOWN	129.0	43.0	
468.0	CARBONDALE	SPRINGFIELD	COAL	0.9	172.0	
467.1	CARBONDALE		UNKNOWN	41.1	172.9	
426.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	214.0	
423.5	CARBONDALE		UNKNOWN	9.5	216.5	COPIED FROM BOREHOLE SUMMARY

MAPID: 10521958000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 27 QUARTERS/FOOTAGES: 15' N line, 30' E line of NE

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.854448 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.958309 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 248.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-29 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521959000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 30 QUARTERS/FOOTAGES: 75' N line, 20' W line of NW

QUADRANGLE: DANA LONGITUDE: -88.931282 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.957114 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 250.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-18 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500211000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 3E SECTION: 33 QUARTERS/FOOTAGES:
QUADRANGLE: DANA LONGITUDE: -88.883833 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.935864 DATE COLLECTED:
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 213.0 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	
438.0	CARBONDALE	COLCHESTER	COAL	1.0	212.0	

MAPID: 10500660000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 5 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.778677 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.017246 DATE COLLECTED:
SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 284.0 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	
481.0	CARBONDALE	DANVILLE	COAL	3.0	134.0	
478.0	CARBONDALE		UNCLASSIFIED	21.0	137.0	
457.0	CARBONDALE	HERRIN	COAL	-	158.0	
457.0	CARBONDALE		UNCLASSIFIED	54.0	158.0	
403.0	CARBONDALE	SPRINGFIELD	COAL	-	212.0	
403.0	CARBONDALE		UNCLASSIFIED	15.0	212.0	
388.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	227.0	
387.0	CARBONDALE		UNCLASSIFIED	54.0	228.0	
333.0	CARBONDALE	COLCHESTER	COAL	2.0	282.0	

MAPID: 10500659000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 10 QUARTERS/FOOTAGES: NE NE SW

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.749598 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.995848 DATE COLLECTED:

SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 301.5 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
502.0	CARBONDALE	DANVILLE	COAL	3.5	130.0
498.5	CARBONDALE		UNCLASSIFIED	20.5	133.5
478.0	CARBONDALE	HERRIN	COAL	-	154.0
478.0	CARBONDALE		UNCLASSIFIED	66.0	154.0
412.0	CARBONDALE	SPRINGFIELD	COAL	-	220.0
412.0	CARBONDALE		UNCLASSIFIED	20.0	220.0
392.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	240.0
390.0	CARBONDALE		UNCLASSIFIED	58.0	242.0
332.0	CARBONDALE	COLCHESTER	COAL	1.5	300.0

MAPID: 10521960000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 13 QUARTERS/FOOTAGES: 65' N line, 910' E line of NE

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.703995 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.989646 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 310.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-24 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500658000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 19 QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.797617 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.971516 DATE COLLECTED:

SURFACE ELEVATION (FT.): 710.0 LOGGED (FT.): 268.0 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	
630.0	CARBONDALE	HERRIN	COAL	-	80.0	
630.0	CARBONDALE		UNCLASSIFIED	106.0	80.0	
524.0	CARBONDALE	SPRINGFIELD	COAL	-	186.0	
524.0	CARBONDALE		UNCLASSIFIED	28.0	186.0	
496.0	CARBONDALE	HOUCHIN CREEK	COAL	-	214.0	
496.0	CARBONDALE		UNCLASSIFIED	52.0	214.0	
444.0	CARBONDALE	COLCHESTER	COAL	2.0	266.0	

MAPID: 10521962000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 19 QUARTERS/FOOTAGES: 290' S line, 30' W line of SW

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.815967 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.960117 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 636.0 LOGGED (FT.): 340.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-42 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500220000C VERSION: 1 PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 24 QUARTERS/FOOTAGES: 1' S line, 600' W line of SW SW SW

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.717748 GEOLOGIST: MCCracken

CONFIDENTIAL: N LATITUDE: 40.960424 DATE COLLECTED: 4 / 21 / 1957

SURFACE ELEVATION (FT.): 627.0 LOGGED (FT.): 197.0 LOG TYPE: Drillers Log

SOURCE: DONAN ST-4 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
627.0	PLEISTOCENE		UNCONSOLIDATED	42.0	0.0
585.0			LIMESTONE	1.2	42.0
583.8			CLAYSTONE & SILTSTONE	11.0	43.2
572.8			LIMESTONE	10.8	54.2
562.0			CLAYSTONE & SILTSTONE	56.1	65.0
505.9			SHALE	67.9	121.1
438.0			CLAYSTONE & SILTSTONE	2.3	189.0
435.7	CARBONDALE	DANVILLE	COAL	2.4	191.3
433.4	CARBONDALE	DANVILLE	SHALE	0.1	193.6
433.3	CARBONDALE	DANVILLE	COAL	0.3	193.7
433.0	CARBONDALE	DANVILLE	PYRITE	0.1	194.0
432.9	CARBONDALE	DANVILLE	COAL	0.5	194.1
432.4	CARBONDALE	DANVILLE	CLAYSTONE	0.0	194.6
432.4	CARBONDALE	DANVILLE	COAL	0.3	194.6
432.1	CARBONDALE	DANVILLE	PYRITE	0.1	194.9
432.0	CARBONDALE	DANVILLE	COAL	0.3	195.0
431.7	CARBONDALE		UNDERCLAY	1.7	195.3

MAPID: 10521963000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 26 QUARTERS/FOOTAGES: 100' N line, 4450' E line of NE

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.736119 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.95988 DATE COLLECTED: 0 / 0 / 1968

SURFACE ELEVATION (FT.): 601.0 LOGGED (FT.): 363.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-40 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521965000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 4E SECTION: 33 QUARTERS/FOOTAGES: 390' S line, 35' E line of SE

QUADRANGLE: FLANAGAN NORTH LONGITUDE: -88.759034 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.931837 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 638.0 LOGGED (FT.): 220.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-19 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521966000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 1 QUARTERS/FOOTAGES: 20' N line, 380' E line of NE

QUADRANGLE: ODELL LONGITUDE: -88.586833 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.019356 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 743.0 LOGGED (FT.): 400.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-30 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500707000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 5 QUARTERS/FOOTAGES: SE SW SE

QUADRANGLE: BLACKSTONE LONGITUDE: -88.668947 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.005337 DATE COLLECTED:

SURFACE ELEVATION (FT.): 665.0 LOGGED (FT.): 300.0 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
541.0	CARBONDALE	DANVILLE	COAL	1.5	124.0
539.5	CARBONDALE		UNCLASSIFIED	24.5	125.5
515.0	CARBONDALE	HERRIN	COAL	-	150.0
515.0	CARBONDALE		UNCLASSIFIED	50.0	150.0
465.0	CARBONDALE	SPRINGFIELD	COAL	-	200.0
465.0	CARBONDALE		UNCLASSIFIED	20.0	200.0
445.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	220.0
443.0	CARBONDALE		UNCLASSIFIED	76.0	222.0
367.0	CARBONDALE	COLCHESTER	COAL	2.0	298.0

MAPID: 10500725000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 8 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.664119 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.990955 DATE COLLECTED:

SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 360.0 LOG TYPE: Nuclear Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
469.0	CARBONDALE	DANVILLE	COAL	4.0	172.0
465.0	CARBONDALE		UNCLASSIFIED	32.0	176.0
433.0	CARBONDALE	HERRIN	COAL	1.5	208.0
431.5	CARBONDALE		UNCLASSIFIED	60.5	209.5
371.0	CARBONDALE	SPRINGFIELD	COAL	-	270.0
371.0	CARBONDALE		UNCLASSIFIED	16.0	270.0
355.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	286.0
353.0	CARBONDALE		UNCLASSIFIED	30.0	288.0
323.0	CARBONDALE	LOWELL	COAL	2.5	318.0
320.5	CARBONDALE		UNCLASSIFIED	36.5	320.5
284.0	CARBONDALE	COLCHESTER	COAL	3.0	357.0

MAPID: 10500407000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 9 QUARTERS/FOOTAGES: 330' N line, 330' W line of SW NW

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.661755

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.99998

DATE COLLECTED: 9 / 0 / 1954

SURFACE ELEVATION (FT.): LOGGED (FT.): 447.0

LOG TYPE: Drillers Log

SOURCE: DICKINSON OIL COMPANY INC. 1

WELL TYPE: Unknown well type

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	10.0	0.0	
-			SHALE	25.0	10.0	
-			SHALE	40.0	35.0	
-			SHALE	10.0	75.0	
-			SHALE	15.0	85.0	
-			SHALE	10.0	100.0	BLUE
-			SANDY SHALE	5.0	110.0	
-			SANDSTONE	10.0	115.0	
-			SANDSTONE	15.0	125.0	
-			SANDSTONE	5.0	140.0	LITTLE SHOW OIL
-			LIMESTONE	28.0	145.0	
-	CARBONDALE	HERRIN	COAL	2.0	173.0	
-	CARBONDALE		SHALE	6.0	175.0	
-	CARBONDALE		LIMESTONE	7.0	181.0	BLUE
-	CARBONDALE		LIMESTONE	21.0	188.0	
-	CARBONDALE		SANDY SHALE	88.0	209.0	
-	CARBONDALE	HOUCHIN CREEK	COAL	1.0	297.0	
-	CARBONDALE		LIMESTONE	2.0	298.0	
-	CARBONDALE		SHALE	15.0	300.0	BLUE
-	CARBONDALE		CLAYSTONE	15.0	315.0	
-	CARBONDALE		SHALE	15.0	330.0	
-	CARBONDALE	COLCHESTER	COAL	1.0	345.0	
-	TRADEWATER		SHALE	14.0	346.0	
-	TRADEWATER		SHALE	13.0	360.0	BLUE
-	TRADEWATER		UNCLASSIFIED	4.0	373.0	MIXED FORMATION
-	TRADEWATER		LIMESTONE	3.0	377.0	
-	TRADEWATER		SHALE	42.0	380.0	BLUE
-	TRADEWATER		SHALE	18.0	422.0	BLUE
-			LIMESTONE	7.0	440.0	

MAPID: 10500700000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 9 QUARTERS/FOOTAGES: SE SW NW

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.659341 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.998209 DATE COLLECTED:

SURFACE ELEVATION (FT.): 702.0 LOGGED (FT.): 362.5 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
520.0	CARBONDALE	DANVILLE	COAL	2.0	182.0
518.0	CARBONDALE		UNCLASSIFIED	20.0	184.0
498.0	CARBONDALE	HERRIN	COAL	1.5	204.0
496.5	CARBONDALE		UNCLASSIFIED	61.5	205.5
435.0	CARBONDALE	SPRINGFIELD	COAL	-	267.0
435.0	CARBONDALE		UNCLASSIFIED	17.0	267.0
418.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	284.0
417.0	CARBONDALE		UNCLASSIFIED	30.0	285.0
387.0	CARBONDALE	LOWELL	COAL	2.0	315.0
385.0	CARBONDALE		UNCLASSIFIED	43.0	317.0
342.0	CARBONDALE	COLCHESTER	COAL	2.5	360.0

MAPID: 10521967000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 11 QUARTERS/FOOTAGES: 20' S line, 350' W line of SW

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.623098 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.990215 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 371.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-29 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500674000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 13 QUARTERS/FOOTAGES: SE SE SE

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.587016 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.977263 DATE COLLECTED:

SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 357.0 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
528.0	CARBONDALE	DANVILLE	COAL	2.8	172.0
525.2	CARBONDALE		UNCLASSIFIED	25.2	174.8
500.0	CARBONDALE	HERRIN	COAL	-	200.0
500.0	CARBONDALE		UNCLASSIFIED	70.0	200.0
430.0	CARBONDALE	SPRINGFIELD	COAL	-	270.0
430.0	CARBONDALE		UNCLASSIFIED	9.0	270.0
421.0	CARBONDALE	HOUCHIN CREEK	COAL	-	279.0
421.0	CARBONDALE		UNCLASSIFIED	34.0	279.0
387.0	CARBONDALE	LOWELL	COAL	1.0	313.0
386.0	CARBONDALE		UNCLASSIFIED	40.0	314.0
346.0	CARBONDALE	COLCHESTER	COAL	3.0	354.0

MAPID: 10521968000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 13 QUARTERS/FOOTAGES: 40' N line, 15' E line of NE

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.586047 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.990462 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 746.0 LOGGED (FT.): 415.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY L-25 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500672000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 14 QUARTERS/FOOTAGES: NE NE NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.61597 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.989352 DATE COLLECTED:
SURFACE ELEVATION (FT.): 715.0 LOGGED (FT.): 387.5 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
529.0	CARBONDALE	DANVILLE	COAL	2.0	186.0
527.0	CARBONDALE		UNCLASSIFIED	28.0	188.0
499.0	CARBONDALE	HERRIN	COAL	-	216.0
499.0	CARBONDALE		UNCLASSIFIED	84.0	216.0
415.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	300.0
413.0	CARBONDALE		UNCLASSIFIED	44.0	302.0
369.0	CARBONDALE	LOWELL	COAL	1.5	346.0
367.5	CARBONDALE		UNCLASSIFIED	36.5	347.5
331.0	CARBONDALE	COLCHESTER	COAL	3.5	384.0

MAPID: 10521969000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 21 QUARTERS/FOOTAGES: 710' S line, 15' W line of SW
QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.663343 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.96306 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 288.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-25 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521970000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 26 QUARTERS/FOOTAGES: 730' N line, 20' W line of NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.624809 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.959216 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 325.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-23 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521971000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 30 QUARTERS/FOOTAGES: 90' N line, 320' W line of NW

QUADRANGLE: PONTIAC NORTHWEST LONGITUDE: -88.699867 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.960466 DATE COLLECTED: 0 / 0 / 1967

SURFACE ELEVATION (FT.): 628.0 LOGGED (FT.): 309.0 LOG TYPE:

SOURCE: HYDROCARBON SURVEY K-24 WELL TYPE: Coal Test

COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500734000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 5E SECTION: 36 QUARTERS/FOOTAGES: SE NW SE

QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.592164 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.937046 DATE COLLECTED:

SURFACE ELEVATION (FT.): 680.0 LOGGED (FT.): 377.5 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	
505.0	CARBONDALE	DANVILLE	COAL	3.0	175.0	
502.0	CARBONDALE		UNCLASSIFIED	34.0	178.0	
468.0	CARBONDALE	HERRIN	COAL	1.0	212.0	
467.0	CARBONDALE		UNCLASSIFIED	60.0	213.0	
407.0	CARBONDALE	SPRINGFIELD	COAL	-	273.0	
407.0	CARBONDALE		UNCLASSIFIED	13.0	273.0	
394.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	286.0	
393.0	CARBONDALE		UNCLASSIFIED	45.0	287.0	
348.0	CARBONDALE	LOWELL	COAL	1.0	332.0	
347.0	CARBONDALE		UNCLASSIFIED	41.0	333.0	
306.0	CARBONDALE	COLCHESTER	COAL	3.5	374.0	

MAPID: 10500021000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 29N 6E **SECTION:** 16 **QUARTERS/FOOTAGES:** NW NE SW
QUADRANGLE: PONTIAC NORTHEAST **LONGITUDE:** -88.541949 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 40.983065 **DATE COLLECTED:** 0 / 0 / 1944
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 423.0 **LOG TYPE:** Drillers Log
SOURCE: J. BOLLIGER & SONS **WELL TYPE:** Water Well
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	1.0	0.0	
-	PLEISTOCENE		SOIL	9.0	1.0	YELLOW
-	PLEISTOCENE		SOIL	125.0	10.0	BLUE
-	PLEISTOCENE		HARD PAN	30.0	135.0	
-			SHALE	12.0	165.0	
-			SANDSTONE	3.0	177.0	
-			LIMESTONE	17.0	180.0	
-			SHALE	25.0	197.0	
-			SANDSTONE	38.0	222.0	
-			SHALE	30.0	260.0	
-			COAL	3.0	290.0	
-			SHALE	24.0	293.0	
-			COAL	3.0	317.0	
-			SHALE	8.0	320.0	
-			COAL	3.0	328.0	
-			SHALE	39.0	331.0	
-			COAL	1.0	370.0	
-			SHALE	24.0	371.0	
-	SILURIAN		LIMESTONE	28.0	395.0	

MAPID: 10500021000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 29N 6E **SECTION:** 16 **QUARTERS/FOOTAGES:** NW NE SW
QUADRANGLE: PONTIAC NORTHEAST **LONGITUDE:** -88.541949 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.983065 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 735.0 **LOGGED (FT.):** 334.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
404.0	CARBONDALE	COLCHESTER	COAL	3.0	331.0	

MAPID: 10500757000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 29N 6E **SECTION:** 23 **QUARTERS/FOOTAGES:** NW NE NW
QUADRANGLE: PONTIAC NORTHEAST **LONGITUDE:** -88.503518 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.976303 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 718.0 **LOGGED (FT.):** 323.0 **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
545.0	CARBONDALE	DANVILLE	COAL	2.0	173.0
543.0	CARBONDALE		UNCLASSIFIED	16.0	175.0
527.0	CARBONDALE	HERRIN	COAL	-	191.0
527.0	CARBONDALE		UNCLASSIFIED	69.0	191.0
458.0	CARBONDALE	SPRINGFIELD	COAL	-	260.0
458.0	CARBONDALE		UNCLASSIFIED	14.0	260.0
444.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	274.0
443.0	CARBONDALE		UNCLASSIFIED	13.0	275.0
430.0	CARBONDALE	LOWELL	COAL	1.5	288.0
428.5	CARBONDALE		UNCLASSIFIED	31.5	289.5
397.0	CARBONDALE	COLCHESTER	COAL	2.0	321.0

MAPID: 10500760000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 29N 6E **SECTION:** 23 **QUARTERS/FOOTAGES:** SW SW SE
QUADRANGLE: SAUNEMIN **LONGITUDE:** -88.498921 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.963526 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 713.0 **LOGGED (FT.):** 307.5 **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
535.0	CARBONDALE	HERRIN	COAL	-	178.0
535.0	CARBONDALE		UNCLASSIFIED	59.0	178.0
476.0	CARBONDALE	SPRINGFIELD	COAL	-	237.0
476.0	CARBONDALE		UNCLASSIFIED	29.0	237.0
447.0	CARBONDALE	LOWELL	COAL	1.5	266.0
445.5	CARBONDALE		UNCLASSIFIED	37.5	267.5
408.0	CARBONDALE	COLCHESTER	COAL	2.5	305.0

MAPID: 10521320000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 24 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: SAUNEMIN LONGITUDE: -88.489314 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.963575 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 315.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
530.0	CARBONDALE	DANVILLE	COAL	4.0	145.0
526.0	CARBONDALE		UNCLASSIFIED	106.0	149.0
420.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	255.0
419.0	CARBONDALE		UNCLASSIFIED	15.0	256.0
404.0	CARBONDALE	LOWELL	COAL	-	271.0
404.0	CARBONDALE		UNCLASSIFIED	41.0	271.0
363.0	CARBONDALE	COLCHESTER	COAL	3.0	312.0

MAPID: 10500755000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 25 QUARTERS/FOOTAGES: SE SE SW
QUADRANGLE: SAUNEMIN LONGITUDE: -88.482344 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.948891 DATE COLLECTED:
SURFACE ELEVATION (FT.): 703.0 LOGGED (FT.): 301.0 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
527.0	CARBONDALE	HERRIN	COAL	-	176.0
527.0	CARBONDALE		UNCLASSIFIED	38.0	176.0
489.0	CARBONDALE	SPRINGFIELD	COAL	-	214.0
489.0	CARBONDALE		UNCLASSIFIED	24.0	214.0
465.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	238.0
463.5	CARBONDALE		UNCLASSIFIED	31.5	239.5
432.0	CARBONDALE	LOWELL	COAL	-	271.0
432.0	CARBONDALE		UNCLASSIFIED	28.0	271.0
404.0	CARBONDALE	COLCHESTER	COAL	2.0	299.0

MAPID: 10521972000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 28 QUARTERS/FOOTAGES: 70' N line, 700' W line of NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.545478 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.961881 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 725.0 LOGGED (FT.): 310.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-41 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521973000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 30 QUARTERS/FOOTAGES: 65' N line, 60' W line of NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.585647 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 40.961651 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 382.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-22 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500716000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 31 QUARTERS/FOOTAGES: SW SW SE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.575611 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.9337 DATE COLLECTED:
SURFACE ELEVATION (FT.): 704.0 LOGGED (FT.): 382.5 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
510.0	CARBONDALE	DANVILLE	COAL	3.0	194.0
507.0	CARBONDALE		UNCLASSIFIED	33.0	197.0
474.0	CARBONDALE	HERRIN	COAL	2.0	230.0
472.0	CARBONDALE		UNCLASSIFIED	57.0	232.0
415.0	CARBONDALE	SPRINGFIELD	COAL	-	289.0
415.0	CARBONDALE		UNCLASSIFIED	15.0	289.0
400.0	CARBONDALE	HOUCHIN CREEK	COAL	-	304.0
400.0	CARBONDALE		UNCLASSIFIED	36.0	304.0
364.0	CARBONDALE	LOWELL	COAL	-	340.0
364.0	CARBONDALE		UNCLASSIFIED	40.0	340.0
324.0	CARBONDALE	COLCHESTER	COAL	2.5	380.0

MAPID: 10500790000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 31 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.568602 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.933712 DATE COLLECTED:
SURFACE ELEVATION (FT.): 726.0 LOGGED (FT.): 390.0 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
520.0	CARBONDALE	DANVILLE	COAL	3.0	206.0
517.0	CARBONDALE		UNCLASSIFIED	36.0	209.0
481.0	CARBONDALE	HERRIN	COAL	1.0	245.0
480.0	CARBONDALE		UNCLASSIFIED	58.0	246.0
422.0	CARBONDALE	SPRINGFIELD	COAL	-	304.0
422.0	CARBONDALE		UNCLASSIFIED	44.0	304.0
378.0	CARBONDALE	LOWELL	COAL	1.0	348.0
377.0	CARBONDALE		UNCLASSIFIED	38.0	349.0
339.0	CARBONDALE	COLCHESTER	COAL	3.0	387.0

MAPID: 10500731000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 32 QUARTERS/FOOTAGES: SW SW NW
QUADRANGLE: PONTIAC NORTHEAST LONGITUDE: -88.56628 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.940789 DATE COLLECTED:
SURFACE ELEVATION (FT.): 720.0 LOGGED (FT.): 350.0 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
552.0	CARBONDALE	DANVILLE	COAL	2.5	168.0
549.5	CARBONDALE		UNCLASSIFIED	32.5	170.5
517.0	CARBONDALE	HERRIN	COAL	2.0	203.0
515.0	CARBONDALE		UNCLASSIFIED	61.0	205.0
454.0	CARBONDALE	SPRINGFIELD	COAL	-	266.0
454.0	CARBONDALE		UNCLASSIFIED	48.0	266.0
406.0	CARBONDALE	LOWELL	COAL	1.5	314.0
404.5	CARBONDALE		UNCLASSIFIED	32.5	315.5
372.0	CARBONDALE	COLCHESTER	COAL	2.0	348.0

MAPID: 10500732000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 29N 6E **SECTION:** 32 **QUARTERS/FOOTAGES:** SW SW SE
QUADRANGLE: PONTIAC NORTHEAST **LONGITUDE:** -88.55656 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.93385 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 720.0 **LOGGED (FT.):** 354.0 **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
542.0	CARBONDALE	DANVILLE	COAL	5.0	178.0
537.0	CARBONDALE		UNCLASSIFIED	41.0	183.0
496.0	CARBONDALE	HERRIN	COAL	1.0	224.0
495.0	CARBONDALE		UNCLASSIFIED	58.0	225.0
437.0	CARBONDALE	SPRINGFIELD	COAL	-	283.0
437.0	CARBONDALE		UNCLASSIFIED	41.0	283.0
396.0	CARBONDALE	LOWELL	COAL	1.5	324.0
394.5	CARBONDALE		UNCLASSIFIED	26.5	325.5
368.0	CARBONDALE	COLCHESTER	COAL	2.0	352.0

MAPID: 10500758000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 29N 6E **SECTION:** 34 **QUARTERS/FOOTAGES:** NW NE NE
QUADRANGLE: PONTIAC NORTHEAST **LONGITUDE:** -88.513495 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.946972 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 745.0 **LOGGED (FT.):** 343.0 **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
565.0	CARBONDALE	DANVILLE	COAL	1.5	180.0
563.5	CARBONDALE		UNCLASSIFIED	38.5	181.5
525.0	CARBONDALE	HERRIN	COAL	-	220.0
525.0	CARBONDALE		UNCLASSIFIED	56.0	220.0
469.0	CARBONDALE	SPRINGFIELD	COAL	-	276.0
469.0	CARBONDALE		UNCLASSIFIED	31.0	276.0
438.0	CARBONDALE	LOWELL	COAL	1.0	307.0
437.0	CARBONDALE		UNCLASSIFIED	33.0	308.0
404.0	CARBONDALE	COLCHESTER	COAL	2.0	341.0

MAPID: 10500775000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 6E SECTION: 36 QUARTERS/FOOTAGES: SW SE SE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.475198 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.934743 DATE COLLECTED:
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 313.0 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
537.0	CARBONDALE	HERRIN	COAL	2.0	158.0
535.0	CARBONDALE		UNCLASSIFIED	58.0	160.0
477.0	CARBONDALE	SPRINGFIELD	COAL	-	218.0
477.0	CARBONDALE		UNCLASSIFIED	14.0	218.0
463.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	232.0
461.0	CARBONDALE		UNCLASSIFIED	76.0	234.0
385.0	CARBONDALE	COLCHESTER	COAL	3.0	310.0

MAPID: 10500022000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 6 QUARTERS/FOOTAGES: NE NE
QUADRANGLE: DWIGHT LONGITUDE: -88.457955 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.019095 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 316.0 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
445.0	CARBONDALE	SPRINGFIELD	COAL	-	225.0
445.0	CARBONDALE		UNCLASSIFIED	90.0	225.0
355.0	CARBONDALE	COLCHESTER	COAL	1.0	315.0

MAPID: 10500833000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 10 QUARTERS/FOOTAGES: NW NW NW
QUADRANGLE: DWIGHT LONGITUDE: -88.415761 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.006107 DATE COLLECTED:
SURFACE ELEVATION (FT.): 678.0 LOGGED (FT.): 301.0 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
446.0	CARBONDALE	SPRINGFIELD	COAL	-	232.0
446.0	CARBONDALE		UNCLASSIFIED	26.0	232.0
420.0	CARBONDALE	LOWELL	COAL	1.5	258.0
418.5	CARBONDALE		UNCLASSIFIED	41.5	259.5
377.0	CARBONDALE	COLCHESTER	COAL	-	301.0

MAPID: 10500834000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 11 QUARTERS/FOOTAGES: SW SW SE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.386516 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.994094 DATE COLLECTED:
SURFACE ELEVATION (FT.): 677.0 LOGGED (FT.): 331.0 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
431.0	CARBONDALE	SPRINGFIELD	COAL	-	246.0
431.0	CARBONDALE		UNCLASSIFIED	26.0	246.0
405.0	CARBONDALE	HOUCHIN CREEK	COAL	-	272.0
405.0	CARBONDALE		UNCLASSIFIED	56.0	272.0
349.0	CARBONDALE	COLCHESTER	COAL	3.0	328.0

MAPID: 10500767000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 20 QUARTERS/FOOTAGES: NW SW SW
QUADRANGLE: SAUNEMIN LONGITUDE: -88.452617 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.965872 DATE COLLECTED:
SURFACE ELEVATION (FT.): 725.0 LOGGED (FT.): 356.0 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
491.0	CARBONDALE	SPRINGFIELD	COAL	-	234.0
491.0	CARBONDALE		UNCLASSIFIED	36.0	234.0
455.0	CARBONDALE	HOUCHIN CREEK	COAL	-	270.0
455.0	CARBONDALE		UNCLASSIFIED	50.0	270.0
405.0	CARBONDALE	LOWELL	COAL	-	320.0
405.0	CARBONDALE		UNCLASSIFIED	34.0	320.0
371.0	CARBONDALE	COLCHESTER	COAL	2.0	354.0

MAPID: 10500768000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 29N 7E

SECTION: 21

QUARTERS/FOOTAGES: NW NW NE

QUADRANGLE: SAUNEMIN

LONGITUDE: -88.424099

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.977015

DATE COLLECTED:

SURFACE ELEVATION (FT.): 714.0

LOGGED (FT.): 348.0

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
487.0	CARBONDALE	SPRINGFIELD	COAL	-	227.0
487.0	CARBONDALE		UNCLASSIFIED	29.0	227.0
458.0	CARBONDALE	HOUCHIN CREEK	COAL	-	256.0
458.0	CARBONDALE		UNCLASSIFIED	29.0	256.0
429.0	CARBONDALE	LOWELL	COAL	-	285.0
429.0	CARBONDALE		UNCLASSIFIED	62.0	285.0
367.0	CARBONDALE	COLCHESTER	COAL	1.0	347.0

MAPID: 10500023000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 29N 7E

SECTION: 26

QUARTERS/FOOTAGES: 165' S line, 465' E line

QUADRANGLE: SAUNEMIN

LONGITUDE: -88.378463

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 40.949658

DATE COLLECTED: 0 / 0 / 1944

SURFACE ELEVATION (FT.): 690.0

LOGGED (FT.): 438.0

LOG TYPE: Drillers Log

SOURCE: J. BOLLIGER & SONS

WELL TYPE: Unknown well type

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0	PLEISTOCENE		SOIL	2.0	0.0	
688.0	PLEISTOCENE		CLAY	10.0	2.0	YELLOW
678.0	PLEISTOCENE		CLAY	106.0	12.0	BLUE
572.0	PLEISTOCENE		SANDY CLAY	20.0	118.0	
552.0	PLEISTOCENE		HARD PAN	42.0	138.0	
510.0			SHALE	25.0	180.0	
485.0			SANDSTONE	10.0	205.0	
475.0			SHALE	20.0	215.0	
455.0			COAL	3.0	235.0	
452.0			SHALE	43.0	238.0	
409.0			COAL	3.0	281.0	
406.0			SHALE	11.0	284.0	
395.0			SANDSTONE	38.0	295.0	
357.0			SHALE	12.0	333.0	
345.0			SHALE	20.0	345.0	
325.0			SHALE	3.0	365.0	
322.0			SHALE	14.0	368.0	
308.0	SILURIAN		LIMESTONE	11.0	382.0	
297.0	SILURIAN		SHALE	5.0	393.0	BLUE
292.0	SILURIAN		LIMESTONE	40.0	398.0	

MAPID: 10500759000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 29N 7E **SECTION:** 30 **QUARTERS/FOOTAGES:** SW NW NW
QUADRANGLE: SAUNEMIN **LONGITUDE:** -88.470064 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.960184 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 719.0 **LOGGED (FT.):** 319.5 **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
555.0	CARBONDALE	HERRIN	COAL	-	164.0
555.0	CARBONDALE		UNCLASSIFIED	73.0	164.0
482.0	CARBONDALE	SPRINGFIELD	COAL	-	237.0
482.0	CARBONDALE		UNCLASSIFIED	26.0	237.0
456.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	263.0
454.0	CARBONDALE		UNCLASSIFIED	7.0	265.0
447.0	CARBONDALE	LOWELL	COAL	1.0	272.0
446.0	CARBONDALE		UNCLASSIFIED	45.0	273.0
401.0	CARBONDALE	COLCHESTER	COAL	1.5	318.0

MAPID: 10500754000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 29N 7E **SECTION:** 31 **QUARTERS/FOOTAGES:** NW NW NE
QUADRANGLE: SAUNEMIN **LONGITUDE:** -88.461763 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 40.94747 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 720.0 **LOGGED (FT.):** 344.0 **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
554.0	CARBONDALE	HERRIN	COAL	-	166.0
554.0	CARBONDALE		UNCLASSIFIED	82.0	166.0
472.0	CARBONDALE	SPRINGFIELD	COAL	-	248.0
472.0	CARBONDALE		UNCLASSIFIED	32.0	248.0
440.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	280.0
438.5	CARBONDALE		UNCLASSIFIED	10.5	281.5
428.0	CARBONDALE	LOWELL	COAL	-	292.0
428.0	CARBONDALE		UNCLASSIFIED	50.0	292.0
378.0	CARBONDALE	COLCHESTER	COAL	2.0	342.0

MAPID: 10500774000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 31 QUARTERS/FOOTAGES: SE SW SW
QUADRANGLE: SAUNEMIN LONGITUDE: -88.46906 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.93485 DATE COLLECTED:
SURFACE ELEVATION (FT.): 694.0 LOGGED (FT.): 319.0 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
494.0	CARBONDALE	SPRINGFIELD	COAL	-	200.0
494.0			UNCLASSIFIED	27.0	200.0
467.0	CARBONDALE	HOUCHIN CREEK	COAL	-	227.0
467.0			UNCLASSIFIED	45.0	227.0
422.0	CARBONDALE	LOWELL	COAL	-	272.0
422.0			UNCLASSIFIED	104.0	272.0
378.0	CARBONDALE	COLCHESTER	COAL	3.0	316.0

MAPID: 10521347000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 31 QUARTERS/FOOTAGES: SW SW SE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.461857 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.934948 DATE COLLECTED:
SURFACE ELEVATION (FT.): 697.0 LOGGED (FT.): 323.0 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
433.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	264.0
432.0	CARBONDALE		UNCLASSIFIED	55.0	265.0
377.0	CARBONDALE	COLCHESTER	COAL	3.0	320.0

MAPID: 10500665000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 32 QUARTERS/FOOTAGES: SW SW NW
QUADRANGLE: SAUNEMIN LONGITUDE: -88.452204 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.942276 DATE COLLECTED:
SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 318.0 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
384.0	CARBONDALE	COLCHESTER	COAL	2.0	316.0

MAPID: 10500769000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 32 QUARTERS/FOOTAGES: NE SE NE
QUADRANGLE: SAUNEMIN LONGITUDE: -88.435394 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.944158 DATE COLLECTED:
SURFACE ELEVATION (FT.): 739.0 LOGGED (FT.): 352.0 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
492.0	CARBONDALE	SPRINGFIELD	COAL	-	247.0
492.0	CARBONDALE		UNCLASSIFIED	28.0	247.0
464.0	CARBONDALE	HOUCHIN CREEK	COAL	-	275.0
464.0	CARBONDALE		UNCLASSIFIED	74.0	275.0
390.0	CARBONDALE	COLCHESTER	COAL	3.0	349.0

MAPID: 10500828000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 7E SECTION: 36 QUARTERS/FOOTAGES: NE SE SW
QUADRANGLE: CULLOM LONGITUDE: -88.368245 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 40.937565 DATE COLLECTED:
SURFACE ELEVATION (FT.): 746.0 LOGGED (FT.): 353.0 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
497.0	CARBONDALE	SPRINGFIELD	COAL	-	249.0
497.0	CARBONDALE		UNCLASSIFIED	35.0	249.0
462.0	CARBONDALE	LOWELL	COAL	1.0	284.0
461.0	CARBONDALE		UNCLASSIFIED	67.0	285.0
394.0	CARBONDALE	COLCHESTER	COAL	1.0	352.0

MAPID: 10500829000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 29N 8E SECTION: 1 QUARTERS/FOOTAGES: SE SE SW
QUADRANGLE: CAMPUS LONGITUDE: -88.258443 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.009743 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 268.5 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
404.0	CARBONDALE	COLCHESTER	COAL	2.5	266.0

MAPID: 10500830000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 8E SECTION: 3 QUARTERS/FOOTAGES: SW SW NW

QUADRANGLE: CAMPUS LONGITUDE: -88.30407 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.016711 DATE COLLECTED:

SURFACE ELEVATION (FT.): 670.0 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.)	
				UNIT	OVERBURDEN COMMENT
470.0	CARBONDALE	HOUCHIN CREEK	COAL	-	200.0
470.0	CARBONDALE		UNCLASSIFIED	36.0	200.0
434.0	CARBONDALE	LOWELL	COAL	-	236.0
434.0	CARBONDALE		UNCLASSIFIED	54.0	236.0
380.0	CARBONDALE	COLCHESTER	COAL	3.0	290.0

MAPID: 10500831000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 8E SECTION: 7 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: CAMPUS LONGITUDE: -88.344562 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.006987 DATE COLLECTED:

SURFACE ELEVATION (FT.): 665.0 LOGGED (FT.): 301.5 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
457.0	CARBONDALE	HOUCHIN CREEK	COAL	-	208.0
457.0	CARBONDALE		UNCLASSIFIED	32.0	208.0
425.0	CARBONDALE	LOWELL	COAL	-	240.0
425.0	CARBONDALE		UNCLASSIFIED	59.0	240.0
366.0	CARBONDALE	COLCHESTER	COAL	2.5	299.0

MAPID: 10500027000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 29N 8E SECTION: 19 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: CULLOM LONGITUDE: -88.343102 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 40.977687 DATE COLLECTED: 0 / 0 / 1943

SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 336.0 LOG TYPE: Drillers Log

SOURCE: J. BOLLIGER & SONS WELL TYPE: Unknown well type

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
698.0	PLEISTOCENE		CLAY	10.0	2.0	YELLOW
688.0	PLEISTOCENE		CLAY	118.0	12.0	BLUE
570.0	PLEISTOCENE		HARD PAN	20.0	130.0	
550.0	CARBONDALE		SHALE	40.0	150.0	BLUE
510.0	CARBONDALE		SHALE	48.0	190.0	
462.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	238.0	
460.0	CARBONDALE		SHALE	30.0	240.0	
430.0	CARBONDALE	LOWELL	COAL	3.0	270.0	
427.0	CARBONDALE		SHALE	2.0	273.0	
425.0	CARBONDALE		SANDSTONE	60.0	275.0	
365.0	CARBONDALE	COLCHESTER	COAL	1.0	335.0	

MAPID: 10500027000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 29N 8E SECTION: 19 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: CULLOM LONGITUDE: -88.343102 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 40.977687 DATE COLLECTED:

SURFACE ELEVATION (FT.): 700.0 LOGGED (FT.): 337.0 LOG TYPE: Drillers Log

SOURCE:

COMMENT: GOOD LOG WELL TYPE: Oil and Gas Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
462.0	CARBONDALE	HOUCHIN CREEK	COAL	-	238.0	
462.0	CARBONDALE		UNCLASSIFIED	32.0	238.0	
430.0	CARBONDALE	LOWELL	COAL	-	270.0	
430.0	CARBONDALE		UNCLASSIFIED	66.0	270.0	
364.0	CARBONDALE	COLCHESTER	COAL	1.0	336.0	

MAPID: 10500028000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 29N 8E

SECTION: 20

QUARTERS/FOOTAGES: SW SE SE

QUADRANGLE: CULLOM

LONGITUDE: -88.325887

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.965234

DATE COLLECTED:

SURFACE ELEVATION (FT.): 710.0

LOGGED (FT.): 324.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
386.0	CARBONDALE	COLCHESTER	COAL	-	324.0	

MAPID: 10500750000C

VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 29N 8E

SECTION: 21

QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: CULLOM

LONGITUDE: -88.305022

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 40.978149

DATE COLLECTED:

SURFACE ELEVATION (FT.): 695.0

LOGGED (FT.): 311.0

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	
485.0	CARBONDALE	SPRINGFIELD	COAL	-	210.0	
485.0	CARBONDALE		UNCLASSIFIED	6.0	210.0	
479.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	216.0	
477.0	CARBONDALE		UNCLASSIFIED	24.0	218.0	
453.0	CARBONDALE	LOWELL	COAL	1.0	242.0	
452.0	CARBONDALE		UNCLASSIFIED	65.0	243.0	
387.0	CARBONDALE	COLCHESTER	COAL	3.0	308.0	

MAPID: 10500003000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 1

QUARTERS/FOOTAGES: SE/c NE NE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.815522

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.104385

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 112.0

LOG TYPE: Drillers Log

SOURCE: CHICAGO, WILM., VERM., COAL 1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	YELLOW
-	PLEISTOCENE		UNCONSOLIDATED	14.0	12.0	
-	CARBONDALE		SHALE	23.0	26.0	BLUE
-	CARBONDALE		SANDY SHALE	12.5	49.0	
-	CARBONDALE	HERRIN	COAL	2.5	61.5	
-	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	1.0	64.0	COAL SEAMS
-	CARBONDALE	HERRIN	COAL	2.0	65.0	
-	CARBONDALE		UNDERCLAY	4.0	67.0	
-	CARBONDALE		SHALE	13.0	71.0	
-	CARBONDALE		SHALE	8.0	84.0	
-	CARBONDALE		SHALE	0.8	92.0	
-	CARBONDALE		UNDERCLAY	1.3	92.8	
-	CARBONDALE		LIMESTONE	1.5	94.0	
-	CARBONDALE		UNDERCLAY	4.5	95.5	
-	CARBONDALE		SHALY SANDSTONE	11.0	100.0	
-	CARBONDALE		SHALE	1.0	111.0	

MAPID: 10500004000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 1

QUARTERS/FOOTAGES: SE NE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.815659

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.100511

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 70.0

LOG TYPE: Drillers Log

SOURCE: CHI. WIL. & VERMILION COAL CO.2

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	YELLOW
-	PLEISTOCENE		SAND	7.0	12.0	
-	PLEISTOCENE		CLAY	10.0	19.0	
-	CARBONDALE		SHALE	32.5	29.0	
-	CARBONDALE	HERRIN	COAL	2.0	61.5	
-	CARBONDALE	HERRIN	SHALE	1.0	63.5	
-	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	0.5	64.5	
-	CARBONDALE	HERRIN	SHALE	0.8	65.0	
-	CARBONDALE	HERRIN	COAL	1.5	65.8	
-			UNDERCLAY	2.8	67.3	

MAPID: 10500004000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 1

QUARTERS/FOOTAGES: SE NE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.815659

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 41.100511

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 64.5

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	HERRIN	COAL	3.5	61.0	

MAPID: 10500005000C VERSION: 1

PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 1 QUARTERS/FOOTAGES: SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.818233 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 41.094659 DATE COLLECTED:

SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 229.0 LOG TYPE: Drillers Log

SOURCE: STAR COAL CO. WELL TYPE: Coal Test

COMMENT: LOCATION & ELEVATION IMPRECISE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
615.0			UNCONSOLIDATED	24.3	0.0
590.7	MODESTO		UNCLASSIFIED	50.3	24.3
540.5	CARBONDALE	HERRIN	COAL WITH SHALE PARTINGS	5.5	74.5
535.0	CARBONDALE		UNDERCLAY	1.3	80.0
533.7	CARBONDALE		SANDSTONE	8.9	81.3
524.7	CARBONDALE		GRAY SHALE	27.5	90.3
497.2	CARBONDALE		SHALE	2.0	117.8
495.2	CARBONDALE		COAL	0.5	119.8
494.7	CARBONDALE		SHALE	7.9	120.3
486.8	CARBONDALE	TURNER MINE	BLACK SHALE	0.2	128.2
486.7	CARBONDALE	SPRINGFIELD	COAL	2.2	128.3
484.5	CARBONDALE		UNDERCLAY	0.5	130.5
484.0	CARBONDALE		UNCLASSIFIED	3.5	131.0
480.5	CARBONDALE		LIMESTONE	7.4	134.5
473.1	CARBONDALE		DARK SHALE	16.0	141.9
457.1	CARBONDALE	EXCELLO	BLACK SHALE	1.6	157.9
455.5	CARBONDALE		UNCLASSIFIED	14.1	159.5
441.4	CARBONDALE	HOUCHIN CREEK	COAL	2.6	173.6
438.8	CARBONDALE		UNDERCLAY	4.1	176.2
434.7	CARBONDALE		UNCLASSIFIED	9.7	180.3
425.1	CARBONDALE		SHALE	0.3	189.9
424.7	CARBONDALE		COAL	1.0	190.3
423.7	CARBONDALE		UNCLASSIFIED	0.5	191.3
423.2	CARBONDALE		DARK SHALE	11.0	191.8
412.2	CARBONDALE		BLACK SHALE	2.0	202.8
410.2	CARBONDALE		UNCLASSIFIED	15.5	204.8
394.7	CARBONDALE	COLCHESTER	COAL	2.1	220.3
392.7			UNDERCLAY	5.7	222.3
387.0			UNCLASSIFIED	1.0	228.0

MAPID: 10500005000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 1 QUARTERS/FOOTAGES: SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.818233 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.094659 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 222.1 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	HERRIN	COAL	5.5	80.0
-	CARBONDALE		UNCLASSIFIED	42.5	85.5
-	CARBONDALE	SPRINGFIELD	COAL	1.9	128.0
-	CARBONDALE		UNCLASSIFIED	43.1	129.9
-	CARBONDALE	HOUCHIN CREEK	COAL	2.6	173.0
-	CARBONDALE		UNCLASSIFIED	14.4	175.6
-	CARBONDALE	LOWELL	COAL	1.0	190.0
-	CARBONDALE		UNCLASSIFIED	29.0	191.0
-	CARBONDALE	COLCHESTER	COAL	2.1	220.0

MAPID: 10500005000C VERSION: 3

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 1 QUARTERS/FOOTAGES: SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.818233 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.094659 DATE COLLECTED:

SURFACE ELEVATION (FT.): LOGGED (FT.): 229.0 LOG TYPE: Drillers Log

SOURCE: STAR COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	12.5	0.0	
-	PLEISTOCENE		CLAY & GRAVEL	2.5	12.5	
-	PLEISTOCENE		SAND	0.5	15.0	
-	PLEISTOCENE		CLAY	2.8	15.5	BLUE
-	PLEISTOCENE		SAND	6.0	18.3	
-	CARBONDALE		SHALE	10.0	24.3	
-	CARBONDALE		SHALE	40.3	34.3	
-	CARBONDALE	HERRIN	COAL	5.5	74.5	
-	CARBONDALE		UNDERCLAY	1.3	80.0	
-	CARBONDALE		SANDSTONE	8.9	81.3	
-	CARBONDALE		SHALE	27.5	90.3	
-	CARBONDALE		SHALE	2.0	117.8	
-	CARBONDALE		COAL	0.5	119.8	
-	CARBONDALE		SHALE	7.9	120.3	
-	CARBONDALE		SHALE	0.5	128.2	
-	CARBONDALE	SPRINGFIELD	COAL	1.8	128.7	
-	CARBONDALE		UNDERCLAY	0.5	130.5	
-	CARBONDALE		ROCK	3.5	131.0	
-	CARBONDALE		LIMESTONE	7.4	134.5	
-	CARBONDALE		SHALE	16.0	141.9	
-	CARBONDALE		SHALE	1.6	157.9	
-	CARBONDALE		ROCK	3.1	159.5	
-	CARBONDALE		ARGILLACEOUS SANDSTONE	8.1	162.6	
-	CARBONDALE		SHALE	1.8	170.7	
-	CARBONDALE		ROCK	0.8	172.5	
-	CARBONDALE		SHALE	0.3	173.3	
-	CARBONDALE	HOUCHIN CREEK	COAL	2.6	173.6	
-	CARBONDALE		UNDERCLAY	4.1	176.2	
-	CARBONDALE		SHALE	8.7	180.3	
-	CARBONDALE		ROCK	1.0	188.9	
-	CARBONDALE		SHALE	0.3	189.9	
-	CARBONDALE	LOWELL	COAL	1.0	190.3	
-	CARBONDALE		PYRITE	0.5	191.3	
-	CARBONDALE		SHALE	11.0	191.8	
-	CARBONDALE		SHALE	2.0	202.8	
-	CARBONDALE		SHALE	15.5	204.8	
-	CARBONDALE	COLCHESTER	COAL	2.1	220.3	
-			UNDERCLAY	5.7	222.3	

-

SHALE

1.0

228.0

MAPID: 10500029000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 1

QUARTERS/FOOTAGES: SE/c SE NE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.815659

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.100511

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 83.0

LOG TYPE: Drillers Log

SOURCE: CHI., WIL., & VERMILION COA 3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	YELLOW
-	PLEISTOCENE		UNCONSOLIDATED	4.0	9.0	YELLOW
-	PLEISTOCENE		SAND	8.0	13.0	
-	PLEISTOCENE		CLAY	8.0	21.0	
-	CARBONDALE		LIMESTONE	2.0	29.0	
-	CARBONDALE		SHALE	43.5	31.0	BLUE
-	CARBONDALE	HERRIN	COAL	2.0	74.5	
-	CARBONDALE	HERRIN	SHALE	1.3	76.5	
-	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	0.5	77.8	
-	CARBONDALE	HERRIN	COAL	1.8	78.3	
-			UNDERCLAY	2.0	80.0	
-			UNDERCLAY	1.0	82.0	

MAPID: 10521207000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 1

QUARTERS/FOOTAGES: SE/c SE SW NE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.819227

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.0995

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 58.0

LOG TYPE: Drillers Log

SOURCE: CHI., WIL., & VERMILION COAL 4

WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
-	PLEISTOCENE		UNCONSOLIDATED	12.0	10.0	
-	PLEISTOCENE		UNCONSOLIDATED	36.0	22.0	

MAPID: 10521208000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 1 **QUARTERS/FOOTAGES:** SE/c SE NW NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.81908 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.103388 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 75.0 **LOG TYPE:** Drillers Log
SOURCE: CHI., WIL., & VERMILION COA 5 **WELL TYPE:** Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	CLY
-	PLEISTOCENE		UNCONSOLIDATED	3.0	12.0	
-	PLEISTOCENE		UNCONSOLIDATED	60.0	15.0	

MAPID: 10581010000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 4 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of SW SW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.890843 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.093629 **DATE COLLECTED:** 1 / 14 / 1970
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 128.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 32 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0	PLEISTOCENE		UNCONSOLIDATED	24.0	0.0	
611.0	SHELBURN		SANDY SHALE	10.0	24.0	
601.0	SHELBURN		SANDSTONE	6.0	34.0	
595.0	SHELBURN		SHALE	8.5	40.0	
586.5	SHELBURN	DANVILLE	COAL	2.3	48.5	SOFT
584.2	SHELBURN		UNDERCLAY	6.3	50.8	
578.0	SHELBURN		SHALE	31.0	57.0	
547.0	CARBONDALE	HERRIN	COAL	0.4	88.0	BLOSSOM
546.6	CARBONDALE		UNDERCLAY	7.6	88.4	
539.0	CARBONDALE		SANDY SHALE	25.0	96.0	
514.0	CARBONDALE		DARK SHALE	7.0	121.0	

MAPID: 10581011000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 4

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.870934

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.106017

DATE COLLECTED: 12 / 22 / 1969

SURFACE ELEVATION (FT.): 615.0

LOGGED (FT.): 143.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

4

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE		UNCONSOLIDATED	2.0	0.0	
613.0	PLEISTOCENE		UNCONSOLIDATED	9.5	2.0	
603.5	SHELBURN		GRAY SHALE	4.0	11.5	
599.5	SHELBURN		LIMESTONE	2.2	15.5	
597.3	SHELBURN		DARK SHALE	4.3	17.7	
593.0	SHELBURN		GRAY SHALE	15.7	22.0	
577.3	CARBONDALE	HERRIN	COAL	1.5	37.7	
575.8	CARBONDALE		UNDERCLAY	1.8	39.2	
574.0	CARBONDALE		SHALE	16.0	41.0	SOFT
558.0	CARBONDALE		SHALE	8.3	57.0	GREENISH
549.7	CARBONDALE		SANDSTONE	2.7	65.3	
547.0	CARBONDALE		SHALE	19.0	68.0	
528.0	CARBONDALE		DARK SHALE	34.5	87.0	
493.5	CARBONDALE		BLACK SHALE	1.0	121.5	
492.5	CARBONDALE		BLACK SHALE	1.5	122.5	BLACK
491.0	CARBONDALE		LIMESTONE	2.0	124.0	
489.0	CARBONDALE		SHALE	12.5	126.0	
476.5	CARBONDALE		BLACK SHALE	1.7	138.5	
474.8	CARBONDALE	COLCHESTER	COAL	0.8	140.2	BLOSSOM
474.0	CARBONDALE		UNDERCLAY	2.0	141.0	

MAPID: 10581012000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 4

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW

QUADRANGLE: LONG POINT

LONGITUDE: -88.880702

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.106035

DATE COLLECTED: 12 / 22 / 1969

SURFACE ELEVATION (FT.): 630.0

LOGGED (FT.): 80.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

6

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
619.0	PLEISTOCENE		UNCONSOLIDATED	6.0	11.0	
613.0	SHELBURN		SHALE	1.5	17.0	
611.5	SHELBURN		SANDSTONE	11.5	18.5	
600.0	SHELBURN		GRAY SHALE	7.0	30.0	
593.0	CARBONDALE	ANNA	BLACK SHALE	0.7	37.0	
592.3	CARBONDALE	HERRIN	COAL	2.0	37.7	
590.3	CARBONDALE		UNDERCLAY	2.3	39.7	
588.0	CARBONDALE		GRAY SHALE	11.0	42.0	SOFT
577.0	CARBONDALE		SANDSTONE	3.0	53.0	
574.0	CARBONDALE		GRAY SHALE	4.0	56.0	
570.0	CARBONDALE		LIMESTONE	8.0	60.0	
562.0	CARBONDALE		GRAY SHALE	8.0	68.0	
554.0	CARBONDALE	SPRINGFIELD	COAL	1.2	76.0	
552.8	CARBONDALE		UNDERCLAY	1.8	77.2	
551.0	CARBONDALE		GRAY SHALE	1.0	79.0	

MAPID: 10581013000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 4 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of SE SE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.871383 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.093945 **DATE COLLECTED:** 1 / 13 / 1970
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 98.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 31 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
618.0	SHELBURN		SANDSTONE	11.0	14.0	
607.0	SHELBURN		SHALE	3.0	25.0	
604.0	SHELBURN		SANDSTONE	3.0	28.0	
601.0	SHELBURN		SHALE	3.3	31.0	
597.7	SHELBURN	DANVILLE	COAL	1.8	34.3	
595.9	SHELBURN		UNDERCLAY	5.9	36.1	
590.0	SHELBURN		SHALE	39.0	42.0	
551.0	CARBONDALE	HERRIN	COAL	0.7	81.0	BLOSSOM
550.3	CARBONDALE		UNDERCLAY	3.7	81.7	
546.7	CARBONDALE		SHALE	12.7	85.3	

MAPID: 10581008000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 5 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW SE
QUADRANGLE: LONG POINT **LONGITUDE:** -88.900429 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.097591 **DATE COLLECTED:** 1 / 16 / 1970
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 108.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 41 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
637.0	PLEISTOCENE		UNCONSOLIDATED	8.0	6.0	
629.0	PLEISTOCENE		GRAVEL	11.0	14.0	
618.0	SHELBURN		SANDSTONE	29.0	25.0	
589.0	SHELBURN		SHALE	4.0	54.0	
585.0	SHELBURN	DANVILLE	COAL	2.2	58.0	FAIR
582.8	SHELBURN		UNDERCLAY	5.8	60.2	
577.0	SHELBURN		SHALE	9.0	66.0	
568.0	SHELBURN		SANDSTONE	2.0	75.0	
566.0	SHELBURN		LIMESTONE	1.3	77.0	
564.7	SHELBURN		SHALE	22.7	78.3	
542.0	CARBONDALE	HERRIN	COAL	0.5	101.0	BLOSSOM
541.5	CARBONDALE		UNDERCLAY	3.5	101.5	
538.0	CARBONDALE		SHALE	3.0	105.0	

MAPID: 10581009000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 5 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NE

QUADRANGLE: LONG POINT LONGITUDE: -88.890598 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.10191 DATE COLLECTED: 12 / 19 / 1969

SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 200.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 3 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
628.0	PLEISTOCENE		UNCONSOLIDATED	7.5	4.0	
620.5	SHELBURN		SANDSTONE	26.5	11.5	SOFT
594.0	SHELBURN		SHALE	4.6	38.0	
589.4	SHELBURN	DANVILLE	COAL	2.6	42.6	
586.8	SHELBURN		UNDERCLAY	0.8	45.2	
586.0	SHELBURN		SHALE	15.5	46.0	
570.5	SHELBURN		SANDSTONE	8.0	61.5	
562.5	SHELBURN		SHALE	14.8	69.5	
547.8	CARBONDALE	HERRIN	COAL	1.3	84.2	
546.5	CARBONDALE		UNDERCLAY	1.1	85.5	
545.4	CARBONDALE		SANDY SHALE	8.4	86.6	
537.0	CARBONDALE		SHALE	19.0	95.0	ROCK STREAKS
518.0	CARBONDALE		SANDY SHALE	46.0	114.0	
472.0	CARBONDALE		SHALE	4.0	160.0	ROCK STREAKS
468.0	CARBONDALE		BLACK SHALE	2.8	164.0	BLACK
465.2	CARBONDALE		SANDSTONE	3.6	166.8	
461.6	CARBONDALE		GRAY SHALE	4.8	170.4	
456.8	CARBONDALE		SANDSTONE	2.8	175.2	
454.0	CARBONDALE		SANDY DARK SHALE	2.5	178.0	
451.5	CARBONDALE		BLACK SHALE	1.7	180.5	BLACK
449.8	CARBONDALE	COLCHESTER	COAL	1.9	182.2	
447.9	CARBONDALE		UNDERCLAY	3.9	184.1	
444.0	CARBONDALE		SANDSTONE	1.5	188.0	
442.5	CARBONDALE		GRAY SHALE	10.5	189.5	

MAPID: 10500619000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 6 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.929842 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.098346 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 262.5 **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
552.0	CARBONDALE	HERRIN	COAL	2.0	106.0
550.0	CARBONDALE		UNCLASSIFIED	74.0	108.0
476.0	CARBONDALE	SPRINGFIELD	COAL	-	182.0
476.0	CARBONDALE		UNCLASSIFIED	18.0	182.0
458.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	200.0
456.5	CARBONDALE		UNCLASSIFIED	16.5	201.5
440.0	CARBONDALE	LOWELL	COAL	-	218.0
440.0	CARBONDALE		UNCLASSIFIED	42.0	218.0
398.0	CARBONDALE	COLCHESTER	COAL	2.5	260.0

MAPID: 10500620000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 6 **QUARTERS/FOOTAGES:** NW NE NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.92454 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.104904 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 638.0 **LOGGED (FT.):** 236.0 **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
556.0	CARBONDALE	HERRIN	COAL	-	82.0
556.0	CARBONDALE		UNCLASSIFIED	80.0	82.0
476.0	CARBONDALE	SPRINGFIELD	COAL	-	162.0
476.0	CARBONDALE		UNCLASSIFIED	14.0	162.0
462.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	176.0
460.0	CARBONDALE		UNCLASSIFIED	17.0	178.0
443.0	CARBONDALE	LOWELL	COAL	1.0	195.0
442.0	CARBONDALE		UNCLASSIFIED	38.0	196.0
404.0	CARBONDALE	COLCHESTER	COAL	2.0	234.0

MAPID: 10581014000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 6 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW NE
QUADRANGLE: LONG POINT **LONGITUDE:** -88.920568 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.106011 **DATE COLLECTED:** 12 / 22 / 1969
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 118.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 8 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
636.0	PLEISTOCENE		SAND	18.0	14.0	
618.0	PLEISTOCENE		UNCONSOLIDATED	9.0	32.0	
609.0	SHELBURN		DARK SHALE	21.0	41.0	
588.0	CARBONDALE	HERRIN	COAL	0.6	62.0	BLOSSOM
587.4	CARBONDALE		MICACEOUS SHALE	15.4	62.6	
572.0	CARBONDALE		SANDY SHALE	6.0	78.0	
566.0	CARBONDALE		DARK SHALE	10.0	84.0	
556.0	CARBONDALE		LIMESTONE	1.4	94.0	
554.6	CARBONDALE		DARK SHALE	17.6	95.4	
537.0	CARBONDALE	SPRINGFIELD	COAL	2.8	113.0	
534.2	CARBONDALE		UNDERCLAY	2.3	115.8	

MAPID: 10581015000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 6 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NE NE
QUADRANGLE: LONG POINT **LONGITUDE:** -88.910015 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.106064 **DATE COLLECTED:** 12 / 23 / 1969
SURFACE ELEVATION (FT.): 643.0 **LOGGED (FT.):** 115.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 12 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
629.0	PLEISTOCENE		SAND	4.0	14.0	
625.0	SHELBURN		GRAY SHALE	16.0	18.0	
609.0	SHELBURN		SANDSTONE	4.0	34.0	SOFT
605.0	SHELBURN		SANDY SHALE	23.0	38.0	
582.0	CARBONDALE		SANDSTONE	4.0	61.0	SOFT
578.0	CARBONDALE		SANDY DARK SHALE	3.0	65.0	
575.0	CARBONDALE		BLACK SHALE	0.5	68.0	
574.5	CARBONDALE		SANDY SHALE	39.5	68.5	
535.0	CARBONDALE		DARK SHALE	3.0	108.0	
532.0	CARBONDALE	SPRINGFIELD	COAL	1.9	111.0	
530.1	CARBONDALE		UNDERCLAY	2.1	112.9	

MAPID: 10581016000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 6 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE

QUADRANGLE: LONG POINT LONGITUDE: -88.910287 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.088758 DATE COLLECTED: 1 / 26 / 1970

SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 47 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.0	PLEISTOCENE		UNCONSOLIDATED	21.0	0.0	
622.0	SHELBURN		SANDY SHALE	15.0	21.0	
607.0	SHELBURN		SANDSTONE	15.0	36.0	SOFT
592.0	CARBONDALE		DARK SHALE	2.5	51.0	
589.5	CARBONDALE	HERRIN	COAL	0.4	53.5	BLOSSOM, SOFT
589.1	CARBONDALE		UNDERCLAY	6.1	53.9	
583.0	CARBONDALE		MICACEOUS SHALE	7.0	60.0	
576.0	CARBONDALE		LIMESTONE	18.0	67.0	SOFT
558.0	CARBONDALE		DARK SHALE	6.0	85.0	
552.0	CARBONDALE		MICACEOUS SHALE	5.0	91.0	
547.0	CARBONDALE	SPRINGFIELD	COAL	1.7	96.0	SOFT
545.3	CARBONDALE		UNDERCLAY	5.3	97.7	
540.0	CARBONDALE		SANDY SHALE	5.0	103.0	

MAPID: 10581017000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 8 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NW

QUADRANGLE: LONG POINT LONGITUDE: -88.900691 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.081824 DATE COLLECTED: 1 / 15 / 1970

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 35 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
640.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	8.0	0.0
632.0	PLEISTOCENE		UNCONSOLIDATED	18.0	8.0
614.0	SHELBURN		GRAY SHALE	14.0	26.0
600.0	SHELBURN		SANDSTONE	13.5	40.0
586.5	SHELBURN		SHALE	0.5	53.5
586.0	SHELBURN		COAL	1.8	54.0 FAIR
584.2	SHELBURN		UNDERCLAY	5.3	55.8
579.0	SHELBURN		SHALE	4.0	61.0
575.0	SHELBURN		SANDSTONE	4.0	65.0
571.0			LIMESTONE	3.0	69.0
568.0			SANDSTONE	8.0	72.0
560.0			SHALE	32.0	80.0
528.0			LIMESTONE	2.0	112.0
526.0			SHALE	14.0	114.0

MAPID: 10581018000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 8 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW

QUADRANGLE: LONG POINT LONGITUDE: -88.910327 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.081469 DATE COLLECTED: 2 / 2 / 1970

SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 66 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
641.0	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0
621.0	PLEISTOCENE		SAND & GRAVEL	34.0	20.0
587.0	CARBONDALE		GRAY SHALE	18.0	54.0
569.0	CARBONDALE		SANDSTONE	11.0	72.0
558.0	CARBONDALE		GRAY SHALE	55.0	83.0

MAPID: 10500423000C VERSION: 1 PROJECT: NCRDS99
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: NW NE NE
QUADRANGLE: LONG POINT LONGITUDE: -88.875198 GEOLOGIST: C KOROSE
CONFIDENTIAL: N LATITUDE: 41.088926 DATE COLLECTED: 11 / 19 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 36.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY 31 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	12.5	0.0	CLAYEY
-	PLEISTOCENE		SAND	2.3	12.5	
-			SHALE	3.8	14.8	
-			SHALE	13.0	18.5	SANDY, HARD
-			SHALE	3.0	31.5	DARK
-			UNDERCLAY	1.5	34.5	

MAPID: 10500424000C VERSION: 1 PROJECT: NCRDS99
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: SW/c SE SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.873109 GEOLOGIST: C KOROSE
CONFIDENTIAL: N LATITUDE: 41.076142 DATE COLLECTED: 11 / 20 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 48.5 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY 37 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	15.0	0.0	
-	PLEISTOCENE		GRAVEL	4.5	15.0	SANDY
-			SHALE	29.0	19.5	SANDY

MAPID: 10500424000C VERSION: 2 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: SW/c SE SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.873109 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.076142 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 30.5 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 37 WELL TYPE: Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	
-	PLEISTOCENE		SAND & GRAVEL	3.5	16.0	
-			SHALE	9.0	19.5	BLUE
-			SANDSTONE	2.0	28.5	

MAPID: 10500425000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: SW/c SW SE NE

QUADRANGLE: LONG POINT LONGITUDE: -88.875332 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.083424 DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 48.5 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 38 WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	15.0	0.0	
-	PLEISTOCENE		SAND & GRAVEL	4.5	15.0	
-			SANDY SHALE	29.0	19.5	

MAPID: 10500426000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: SW/c NE SE SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.87306 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.077976 DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 23.5 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 43 WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	20.0	0.0	
-			SHALE	2.0	20.0	BLUE
-			SANDSTONE	1.5	22.0	SAND AND GRAVEL NOTED

MAPID: 10581019000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 9 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW SW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.891039 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.082167 **DATE COLLECTED:** 12 / 19 / 1969
SURFACE ELEVATION (FT.): 639.0 **LOGGED (FT.):** 182.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 2 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
629.0	PLEISTOCENE		UNCONSOLIDATED	14.0	10.0	
615.0	SHELBURN		GRAY SHALE	9.0	24.0	
606.0	SHELBURN		SANDSTONE	15.0	33.0	SOFT
591.0	SHELBURN		GRAY SHALE	14.0	48.0	
577.0	SHELBURN		SANDSTONE	4.0	62.0	
573.0	SHELBURN		GRAY SHALE	23.8	66.0	
549.2	CARBONDALE	HERRIN	COAL	2.3	89.8	
546.9	CARBONDALE		UNDERCLAY	3.9	92.1	
543.0	CARBONDALE		GRAY SHALE	62.5	96.0	
480.5	CARBONDALE		DARK SHALE	4.8	158.5	HARD
475.7	CARBONDALE		BLACK SHALE	2.0	163.3	
473.7	CARBONDALE		SHALE	16.7	165.3	ROCK STREAKS

MAPID: 10581020000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 9 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.871735 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.082589 **DATE COLLECTED:** 12 / 23 / 1969
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 108.9 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 13 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
621.0	PLEISTOCENE		UNCONSOLIDATED	13.0	9.0	
608.0	SHELBURN		SANDY SHALE	15.0	22.0	
593.0	SHELBURN		DARK SHALE	5.5	37.0	
587.5	CARBONDALE	DANVILLE	COAL	2.7	42.5	
584.8	CARBONDALE		UNDERCLAY	3.8	45.2	
581.0	CARBONDALE		GRAY SHALE	38.8	49.0	
542.2	CARBONDALE		DARK SHALE	14.0	87.8	
528.2	CARBONDALE		GRAY SHALE	7.0	101.8	

MAPID: 10581021000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NW
QUADRANGLE: LONG POINT LONGITUDE: -88.881392 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.08238 DATE COLLECTED: 1 / 15 / 1970
SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 138.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 36 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0	PLEISTOCENE		UNCONSOLIDATED	22.0	0.0	
613.0	PLEISTOCENE		UNCONSOLIDATED	9.0	22.0	
604.0	SHELBURN		SANDSTONE	21.0	31.0	
583.0	SHELBURN		SHALE	43.0	52.0	
540.0	CARBONDALE	HERRIN	COAL	1.0	95.0	SOFT
539.0	CARBONDALE		UNDERCLAY	5.0	96.0	
534.0	CARBONDALE		GRAY SHALE	32.0	101.0	
502.0	CARBONDALE		DARK SHALE	5.0	133.0	

MAPID: 10581022000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.871936 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.075251 DATE COLLECTED: 1 / 26 / 1970
SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 46 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0	PLEISTOCENE		UNCONSOLIDATED	28.0	0.0	
604.0	PLEISTOCENE		GRAVEL	4.0	28.0	
600.0	SHELBURN		SANDY SHALE	13.0	32.0	
587.0	SHELBURN		DARK SHALE	10.0	45.0	
577.0	SHELBURN	DANVILLE	COAL	0.6	55.0	SOFT
576.4	CARBONDALE		UNDERCLAY	3.4	55.6	
573.0	SHELBURN		MICACEOUS SHALE	47.0	59.0	
526.0	SHELBURN		SANDY SHALE	12.0	106.0	

MAPID: 10581023000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: 1' S line, 1' E line of NE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.871837 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.078921 DATE COLLECTED: 2 / 4 / 1970
SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 101.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 60 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
619.0	PLEISTOCENE		UNCONSOLIDATED	18.0	11.0	
601.0	PLEISTOCENE		SAND	6.0	29.0	
595.0	PLEISTOCENE		UNCONSOLIDATED	20.5	35.0	
574.5	SHELBURN	DANVILLE	COAL	0.9	55.5	SOFT; TOP ERODED
573.6	SHELBURN		UNDERCLAY	8.6	56.4	
565.0	SHELBURN		SHALE	29.1	65.0	
535.9	CARBONDALE	HERRIN	COAL	1.3	94.1	
534.6	CARBONDALE		UNDERCLAY	4.1	95.4	
530.5	CARBONDALE		SHALE	1.5	99.5	

MAPID: 10581024000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW
QUADRANGLE: LONG POINT LONGITUDE: -88.891107 GEOLOGIST: STRAAYER
CONFIDENTIAL: N LATITUDE: 41.074853 DATE COLLECTED: 2 / 5 / 1970
SURFACE ELEVATION (FT.): 625.0 LOGGED (FT.): 100.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 64 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
612.0	SHELBURN		SHALE	41.0	13.0	
571.0	SHELBURN		GRAY SHALE	40.0	54.0	
531.0	CARBONDALE	HERRIN	COAL	1.3	94.0	SOFT
529.7	CARBONDALE		UNDERCLAY	3.8	95.3	
526.0	CARBONDALE		SHALE	1.0	99.0	

MAPID: 10581134000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE SE
 QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.871936 GEOLOGIST: STRAAYER
 CONFIDENTIAL: N LATITUDE: 41.075251 DATE COLLECTED: 1 / 26 / 1970
 SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log
 SOURCE: AMAX 46 WELL TYPE: Coal Test
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	28.0	0.0	
604.0	PLEISTOCENE		GRAVEL	4.0	28.0	
600.0	SHELBURN		SANDY SHALE	13.0	32.0	
587.0	SHELBURN		DARK SHALE	10.0	45.0	
577.0	CARBONDALE		COAL	0.6	55.0	SOFT
576.4	CARBONDALE		UNDERCLAY	3.4	55.6	
573.0	CARBONDALE		MICACEOUS SHALE	47.0	59.0	
526.0	CARBONDALE		SANDY SHALE	12.0	106.0	

MAPID: 10581135000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 9 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NE SE
 QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.871837 GEOLOGIST: STRAAYER
 CONFIDENTIAL: N LATITUDE: 41.078921 DATE COLLECTED: 2 / 4 / 1970
 SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 101.0 LOG TYPE: Drillers Log
 SOURCE: AMAX 60 WELL TYPE: Coal Test
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE	DANVILLE	CLAY	11.0	0.0	
619.0	PLEISTOCENE		UNCONSOLIDATED	18.0	11.0	
601.0	PLEISTOCENE		SAND	6.0	29.0	
595.0	PLEISTOCENE		UNCONSOLIDATED	20.5	35.0	
574.5	SHELBURN		COAL	0.9	55.5	SOFT; TOP ERODED
573.6	SHELBURN		UNDERCLAY	8.6	56.4	
565.0	SHELBURN		SHALE	29.1	65.0	
535.9	CARBONDALE	HERRIN	COAL	1.3	94.1	
534.6	CARBONDALE		UNDERCLAY	4.1	95.4	
530.5	CARBONDALE		SHALE	1.5	99.5	

MAPID: 10500427000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 10 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.860834 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.076464 DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 37.8 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 24 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SANDY CLAY	4.0	0.0
-	PLEISTOCENE		SAND	6.0	4.0
-	PLEISTOCENE		SAND	5.5	10.0
-	PLEISTOCENE		SAND	4.5	15.5
-	PLEISTOCENE		CLAY	2.0	20.0
-	MODESTO		SANDSTONE	12.5	22.0
-	MODESTO		SHALE	2.7	34.5
-	CARBONDALE	DANVILLE	COAL	0.7	37.2

MAPID: 10500427000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 10 QUARTERS/FOOTAGES: SW SW SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.860834 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.076464 DATE COLLECTED:

SURFACE ELEVATION (FT.): 622.0 LOGGED (FT.): 37.8 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
585.0	CARBONDALE	DANVILLE	COAL	0.8	37.0

MAPID: 10500428000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 10 QUARTERS/FOOTAGES: SE SE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.853504 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.083918 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 33.3 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 20 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
-	PLEISTOCENE		SAND & GRAVEL	6.0	7.0	
-	MODESTO		SANDSTONE	1.0	13.0	
-	MODESTO		SHALE	3.0	14.0	
-	MODESTO		SHALE	0.5	17.0	BLUE
-	MODESTO		SANDSTONE	12.7	17.5	
-	MODESTO		SHALE	1.5	30.2	
-	CARBONDALE	DANVILLE	COAL	1.7	31.7	

MAPID: 10500428000C VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 10 QUARTERS/FOOTAGES: SE SE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.853504 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.083918 DATE COLLECTED:
SURFACE ELEVATION (FT.): 613.0 LOGGED (FT.): 33.8 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
581.0	CARBONDALE	DANVILLE	COAL	1.8	32.0	

MAPID: 10500429000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 10 QUARTERS/FOOTAGES: SW SW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.870494 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.083531 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 42.5 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 22 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
-	PLEISTOCENE		SAND & GRAVEL	5.0	9.0	
-	MODESTO		SHALE	3.0	14.0	
-	MODESTO		SANDSTONE	11.0	17.0	
-	MODESTO		SANDY SHALE	13.0	28.0	
-	CARBONDALE	DANVILLE	COAL	1.5	41.0	

MAPID: 10500429000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.870494 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.083531 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 42.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
589.0	CARBONDALE	DANVILLE	COAL	1.5 41.0	

MAPID: 10500430000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** 0' N, 1000' E, SW/c
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.855993 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.09022 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 41.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 23 **WELL TYPE:** Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	10.0 0.0	
-			SAND & GRAVEL	2.5 10.0	
-			SHALE	4.5 12.5	
-			SANDSTONE	0.7 17.0	
-			SHALE	13.3 17.7	
-			UNDERCLAY	6.4 31.0	
-			ROCK	3.6 37.4	

MAPID: 10500431000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** NW SW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.870448 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.085365 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 37.5 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 25 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	8.0 0.0	
-	PLEISTOCENE		SAND & GRAVEL	5.0 8.0	
-	MODESTO		SHALE	4.0 13.0	
-	MODESTO		SANDSTONE	7.0 17.0	
-	MODESTO		SHALE	12.0 24.0	
-	CARBONDALE	DANVILLE	COAL	1.5 36.0	

MAPID: 10500431000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** NW SW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.870448 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.085365 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 627.0 **LOGGED (FT.):** 37.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
591.0	CARBONDALE	DANVILLE	COAL	1.5 36.0	

MAPID: 10500432000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** NW/c E2 NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.854729 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.086614 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 33.5 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 26 **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-			UNCONSOLIDATED	8.0 0.0	
-			SAND & GRAVEL	2.0 8.0	
-			SHALE	4.0 10.0	
-			SANDSTONE	3.4 14.0	
-			SHALE	4.6 17.4	LOG NOTES "FIRE CLAY?"
-			SHALE	11.5 22.0	

MAPID: 10500433000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.870356 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.08903 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 33.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 27 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	9.0 0.0	
-	PLEISTOCENE		SAND & GRAVEL	5.0 9.0	
-	MODESTO		SHALE	2.0 14.0	
-	MODESTO		SANDSTONE	10.0 16.0	
-	MODESTO		SHALE	6.0 26.0	
-	CARBONDALE	DANVILLE	COAL	1.0 32.0	

MAPID: 10500433000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** NW NW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.870356 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.08903 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 33.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
592.0	CARBONDALE	DANVILLE	COAL	1.0 32.0	

MAPID: 10500434000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** SE SW SE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.858373 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.076531 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 36.5 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 30 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	9.0 0.0	
-	PLEISTOCENE		SOIL	5.0 9.0	
-	MODESTO		SHALE	6.0 14.0	
-	MODESTO		SANDSTONE	8.0 20.0	
-	MODESTO		SANDY SHALE	8.0 28.0	
-	CARBONDALE	DANVILLE	COAL	0.5 36.0	

MAPID: 10500434000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 10 **QUARTERS/FOOTAGES:** SE SW SE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.858373 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.076531 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 36.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
586.0	CARBONDALE	DANVILLE	COAL	0.5 36.0	

MAPID: 10522593000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 10 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.853504 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.083918 DATE COLLECTED: 11 / 18 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 36.5 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 30 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	9.0	0.0	
-	PLEISTOCENE		GRAVEL	5.0	9.0	SANDY
-			BLACK SHALE	6.0	14.0	
-			SANDSTONE	8.0	20.0	GRAY
-			BLACK SHALE	8.0	28.0	SANDY
-			COAL	0.5	36.0	
-			UNDERCLAY	0.0	36.5	

MAPID: 10581025000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 10 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.862011 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.082811 DATE COLLECTED: 12 / 23 / 1969

SURFACE ELEVATION (FT.): 613.0 LOGGED (FT.): 175.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 14 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
613.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
609.0	PLEISTOCENE		GRAVEL	1.5	4.0	
607.5	PLEISTOCENE		UNCONSOLIDATED	26.5	5.5	
581.0	SHELBURN		UNDERCLAY	3.0	32.0	NO #7 COAL
578.0	SHELBURN		GRAY SHALE	3.5	35.0	
574.5	SHELBURN		SANDSTONE	2.0	38.5	
572.5	SHELBURN		SHALE	29.5	40.5	GREENISH
543.0	CARBONDALE	HERRIN	COAL	0.8	70.0	BLOSSOM
542.2	CARBONDALE		UNDERCLAY	1.3	70.8	
541.0	CARBONDALE		GRAY SHALE	48.0	72.0	
493.0	CARBONDALE		BLACK SHALE	6.0	120.0	
487.0	CARBONDALE		DARK SHALE	11.0	126.0	
476.0	CARBONDALE		GRAY SHALE	16.0	137.0	HARD
460.0	CARBONDALE		BLACK SHALE	3.0	153.0	
457.0	CARBONDALE		GRAY SHALE	14.0	156.0	
443.0	CARBONDALE		BLACK SHALE	1.6	170.0	
441.4	CARBONDALE	COLCHESTER	COAL	2.2	171.6	
439.2	CARBONDALE		UNDERCLAY	1.3	173.8	

MAPID: 10500008000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: SE NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.844957 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.084942 DATE COLLECTED: 0 / 0 / 1914
SURFACE ELEVATION (FT.): LOGGED (FT.): 51.5 LOG TYPE: Drillers Log
SOURCE: COAL RUN COAL CO. 1 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SOIL	16.0	0.0
-	CARBONDALE		SHALE	31.0	16.0
-	CARBONDALE	HERRIN	COAL	3.5	47.0
-	CARBONDALE		UNDERCLAY	1.0	50.5

MAPID: 10500008000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: SE NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.844957 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.084942 DATE COLLECTED:
SURFACE ELEVATION (FT.): LOGGED (FT.): 50.5 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	CARBONDALE	DANVILLE	COAL	3.5	47.0

MAPID: 10500435000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: SW SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.836512 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.076939 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 18.2 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 7 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0
-	MODESTO		SHALE	7.0	9.0
-	CARBONDALE	DANVILLE	COAL	2.2	16.0

MAPID: 10500435000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 11 **QUARTERS/FOOTAGES:** SW SE SE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.836512 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.076939 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 615.0 **LOGGED (FT.):** 18.1 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
599.0	CARBONDALE	DANVILLE	COAL	2.1 16.0	

MAPID: 10500436000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 11 **QUARTERS/FOOTAGES:** SW/c NW NE SE SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.844966 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.078615 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 20.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 9 **WELL TYPE:** Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		SANDY CLAY	2.0 0.0	
-	PLEISTOCENE		SAND	3.0 2.0	RED
-	PLEISTOCENE		SAND	5.0 5.0	
-			SANDSTONE	8.5 10.0	
-			SHALE	1.5 18.5	

MAPID: 10500437000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 11 **QUARTERS/FOOTAGES:**
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.842521 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.083166 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 58.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 19 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	8.0 0.0	
-	PLEISTOCENE		SAND & GRAVEL	4.0 8.0	
-	MODESTO		SANDSTONE	8.0 12.0	
-	MODESTO		SANDY SHALE	20.0 20.0	
-	MODESTO		SHALE	11.5 40.0	
-	CARBONDALE	DANVILLE	COAL	1.5 51.5	
-	CARBONDALE		UNDERCLAY	3.0 53.0	
-	CARBONDALE		SHALE	2.0 56.0	

MAPID: 10500437000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES:

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.842521 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.083166 DATE COLLECTED:

SURFACE ELEVATION (FT.): 612.0 LOGGED (FT.): 52.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
561.0	CARBONDALE	DANVILLE	COAL	1.5	51.0	

MAPID: 10500438000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: SW/c SE NW NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.848639 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.087613 DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 55.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 21 WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
-	PLEISTOCENE		SAND & GRAVEL	5.0	9.0	
-			SANDSTONE	8.0	14.0	
-			SANDY SHALE	19.0	22.0	
-			SHALE	14.0	41.0	

MAPID: 10500439000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: SW SE SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.846179 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.07679 DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 35.7 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 29 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	4.0	0.0	
-	PLEISTOCENE		SANDY CLAY	3.0	4.0	
-	PLEISTOCENE		SAND & GRAVEL	5.0	7.0	
-	MODESTO		SANDSTONE	19.5	12.0	
-	MODESTO		SHALE	2.4	31.5	BLUE
-	CARBONDALE	DANVILLE	COAL	1.8	33.9	

MAPID: 10500439000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: SW SE SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.846179 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.07679 DATE COLLECTED:
SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 35.8 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
581.0	CARBONDALE	DANVILLE	COAL	1.8	34.0

MAPID: 10500440000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: SW/c SW NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.840065 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.085001 DATE COLLECTED: 0 / 0 / 1880
SURFACE ELEVATION (FT.): LOGGED (FT.): 76.5 LOG TYPE: Drillers Log
SOURCE: COAL RUN COAL CO. WELL TYPE: Dry Hole
COMMENT: NO IDENTIFIABLE COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	4.5	0.0
-	PLEISTOCENE		SAND	13.0	4.5
-	PLEISTOCENE		CLAY	6.5	17.5
-			SHALE	30.0	24.0
-			CLAYSTONE	10.0	54.0 "BLACK STUFF"
-			SANDSTONE	6.0	64.0
-			CLAYSTONE	6.5	70.0

MAPID: 10500612000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: NE SE SW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.848016 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.084451 DATE COLLECTED: 0 / 0 / 1914
SURFACE ELEVATION (FT.): LOGGED (FT.): 50.7 LOG TYPE: Drillers Log
SOURCE: COAL RUN COAL CO. 2 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SOIL	8.0	0.0
-	MODESTO		SANDSTONE	8.0	8.0
-	MODESTO		SHALE	31.0	16.0
-	CARBONDALE	DANVILLE	COAL	3.7	47.0

MAPID: 10500612000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: NE SE SW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.848016 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.084451 DATE COLLECTED:
SURFACE ELEVATION (FT.): LOGGED (FT.): 50.7 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	DANVILLE	COAL	3.7	47.0	

MAPID: 10500613000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: NW SW SW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.85168 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.084408 DATE COLLECTED: 0 / 0 / 1914
SURFACE ELEVATION (FT.): LOGGED (FT.): 54.1 LOG TYPE: Drillers Log
SOURCE: COAL RUN COAL CO. 3 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE	DANVILLE	SOIL	8.0	0.0	
-	PLEISTOCENE		CLAY	8.0	8.0	BLUE
-	MODESTO		SHALE	33.0	16.0	
-	CARBONDALE		COAL	4.1	49.0	
-	CARBONDALE		UNDERCLAY	1.0	53.1	

MAPID: 10500613000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: NW SW SW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.85168 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.084408 DATE COLLECTED:
SURFACE ELEVATION (FT.): LOGGED (FT.): 53.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	CARBONDALE	DANVILLE	COAL	4.0	49.0	

MAPID: 10522611000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: 1' S line, 1320' W line of SW
 QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.847402 GEOLOGIST: C KOROSE
 CONFIDENTIAL: N LATITUDE: 41.07587 DATE COLLECTED: 11 / 18 / 1936
 SURFACE ELEVATION (FT.): LOGGED (FT.): 35.7 LOG TYPE: Drillers Log
 SOURCE: PITTSBURG & MIDWAY 29 WELL TYPE: Coal Test
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	4.0	0.0	
-	PLEISTOCENE		CLAY	3.0	4.0	SANDY
-	PLEISTOCENE		GRAVEL	5.0	7.0	SANDY
-			SANDSTONE	19.5	12.0	HARD
-			SHALE	2.4	31.5	BLUE
-	CARBONDALE	DANVILLE	COAL	1.8	33.9	
-	CARBONDALE		UNDERCLAY	0.0	35.7	

MAPID: 10581026000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW
 QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.842525 GEOLOGIST: PHILLIPS
 CONFIDENTIAL: N LATITUDE: 41.083161 DATE COLLECTED: 12 / 29 / 1969
 SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 127.0 LOG TYPE: Drillers Log
 SOURCE: AYRSHIRE 15 WELL TYPE: Coal Test
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE		UNCONSOLIDATED	3.0	0.0	
612.0	PLEISTOCENE		SAND	4.0	3.0	
608.0	PLEISTOCENE		UNCONSOLIDATED	11.0	7.0	
597.0	SHELBURN		SANDY SHALE	17.0	18.0	
580.0	SHELBURN		GRAY SHALE	24.5	35.0	SOFT
555.5	CARBONDALE	HERRIN	COAL	0.9	59.5	BLOSSOM, SOFT
554.6	CARBONDALE		UNDERCLAY	2.6	60.4	
552.0	CARBONDALE		DARK SHALE	22.0	63.0	
530.0	CARBONDALE		SHALE	2.0	85.0	GREENISH
528.0	CARBONDALE		SANDY SHALE	18.0	87.0	
510.0	CARBONDALE		DARK SHALE	7.0	105.0	
503.0	CARBONDALE		BLACK SHALE	2.0	112.0	
501.0	CARBONDALE		DARK SHALE	13.0	114.0	

MAPID: 10500441000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 12 **QUARTERS/FOOTAGES:** SW/c NW SW SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.831672 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.078798 **DATE COLLECTED:** 0 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 29.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 1 **WELL TYPE:** Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SOIL	4.0	0.0
-	PLEISTOCENE		SAND	18.0	4.0
-	PLEISTOCENE		GRAVEL	1.5	22.0
-			CLAYSTONE	5.5	23.5

MAPID: 10500442000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 12 **QUARTERS/FOOTAGES:** 500' S, 0' W, SW/c
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.83288 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.077476 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 21.2 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 2 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SANDY CLAY	10.0	0.0
-	MODESTO		SHALE	1.0	10.0
-	MODESTO		SHALE	8.0	11.0
-	CARBONDALE	DANVILLE	COAL	2.2	19.0

MAPID: 10500443000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 12 **QUARTERS/FOOTAGES:** 500' S, 0' E, SW/c SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.823447 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.077492 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 24.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 3 **WELL TYPE:** Dry Hole
COMMENT: ONLY PARTICLES OF COAL, NEAR CROP LINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SOIL	4.0	0.0
-	PLEISTOCENE		SAND	20.0	4.0

MAPID: 10500444000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 12 QUARTERS/FOOTAGES: SW/c SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.818668 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.079784 DATE COLLECTED: 0 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 12.5 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 4 WELL TYPE: Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0
-			SHALE	6.5	6.0

MAPID: 10500445000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 12 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.831711 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.076997 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 55.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 18 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0
-	PLEISTOCENE		SAND/CLAY	3.0	6.0
-	MODESTO		SANDSTONE	10.5	9.0
-	CARBONDALE	DANVILLE	COAL	0.5	19.5
-	CARBONDALE		UNDERCLAY	6.0	20.0
-	CARBONDALE		SHALE	9.0	26.0
-	CARBONDALE		SANDY SHALE	20.0	35.0

MAPID: 10500445000C VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 12 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.831711 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.076997 DATE COLLECTED:
SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 20.5 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
595.0	CARBONDALE	DANVILLE	COAL	0.5	20.0

MAPID: 10581027000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 12 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NE SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.823305 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.083393 **DATE COLLECTED:** 12 / 29 / 1969
SURFACE ELEVATION (FT.): 611.0 **LOGGED (FT.):** 110.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 16 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
611.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
597.0	SHELBURN		GRAY SHALE	8.0	14.0	SOFT
589.0	SHELBURN		SANDSTONE	5.0	22.0	SOFT
584.0	SHELBURN		SANDY SHALE	21.0	27.0	
563.0	CARBONDALE	HERRIN	COAL	2.5	48.0	
560.5	CARBONDALE		UNDERCLAY	3.5	50.5	
557.0	CARBONDALE		DARK SHALE	21.0	54.0	
536.0	CARBONDALE		GRAY SHALE	5.0	75.0	
531.0	CARBONDALE		SHALE	19.0	80.0	GREENISH
512.0	CARBONDALE		DARK SHALE	11.0	99.0	

MAPID: 10581028000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 12 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.832619 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.090481 **DATE COLLECTED:** 4 / 2 / 1970
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 52.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 81 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
593.0	PLEISTOCENE		UNCONSOLIDATED	3.0	7.0	
590.0	SHELBURN		MICACEOUS SHALE	11.0	10.0	
579.0	SHELBURN		GRAY SHALE	23.0	21.0	
556.0	CARBONDALE	HERRIN	CAVITY	4.0	44.0	
552.0	CARBONDALE		SHALE/UNDERCLAY	4.0	48.0	CUT WITHOUT RETURN

MAPID: 10581029000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 12 QUARTERS/FOOTAGES: 40' S line, 40' W line of SW NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.832615 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.083401 DATE COLLECTED: 4 / 7 / 1970

SURFACE ELEVATION (FT.): 614.0 LOGGED (FT.): 181.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 82 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
614.0	PLEISTOCENE		UNCONSOLIDATED	11.5	0.0	
602.5	SHELBURN		SANDY SHALE	4.5	11.5	
598.0	SHELBURN		GRAY SANDSTONE	21.5	16.0	
576.5	SHELBURN		LIMESTONE	1.5	37.5	
575.0	SHELBURN		SANDY SHALE	10.7	39.0	
564.3	CARBONDALE	HERRIN	COAL	0.5	49.7	FAIR
563.8	CARBONDALE	HERRIN	GRAY SHALE	0.2	50.2	
563.6	CARBONDALE	HERRIN	COAL	0.1	50.4	FAIR
563.5	CARBONDALE	HERRIN	COAL	0.0	50.5	FAIR
563.5	CARBONDALE	HERRIN	COAL	0.9	50.5	FAIR
562.5	CARBONDALE		UNDERCLAY	4.5	51.5	
558.0	CARBONDALE		GRAY SHALE	11.0	56.0	
547.0	CARBONDALE		GRAY SHALE	30.0	67.0	AND LIME BUTTONS
517.0	CARBONDALE		SANDY SHALE	12.5	97.0	
504.5	CARBONDALE		DARK SHALE	10.2	109.5	
494.3	CARBONDALE		GRAY SHALE	19.0	119.7	
475.3	CARBONDALE		GRAY SHALE	3.0	138.7	AND LIME BUTTONS
472.3	CARBONDALE		BLACK SHALE	1.2	141.7	
471.2	CARBONDALE		SANDY SHALE	7.2	142.8	
464.0	CARBONDALE		GRAY SHALE	9.3	150.0	AND LIME BUTTONS
454.7	CARBONDALE		COAL	1.8	159.3	FAIR
452.8	CARBONDALE		UNDERCLAY	4.6	161.2	
448.2	CARBONDALE		GRAY SHALE	15.3	165.8	AND LIME BUTTONS

MAPID: 10500568000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 13

QUARTERS/FOOTAGES: SW/c SW SE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.821476

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.062962

DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.):

LOGGED (FT.): 38.8

LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 12

WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SANDY CLAY	5.0	0.0	
-	PLEISTOCENE		SAND	4.0	5.0	RED
-	PLEISTOCENE		SAND	5.0	9.0	
-			SANDSTONE	1.5	14.0	
-			SHALE	5.3	15.5	
-			SANDSTONE	18.0	20.8	

MAPID: 10581030000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 13

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.823702

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.068601

DATE COLLECTED: 12 / 30 / 1969

SURFACE ELEVATION (FT.): 614.0

LOGGED (FT.): 73.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 19

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
614.0	PLEISTOCENE		UNCONSOLIDATED	16.0	0.0	
598.0	SHELBURN		SANDSTONE	21.6	16.0	
576.4	SHELBURN	DANVILLE	COAL	2.8	37.6	
573.6	SHELBURN		UNDERCLAY	5.6	40.4	
568.0	SHELBURN		GRAY SHALE	6.0	46.0	
562.0	SHELBURN		MICACEOUS SHALE	2.0	52.0	GREEN
560.0	SHELBURN		GRAY SHALE	14.0	54.0	
546.0	CARBONDALE	HERRIN	COAL	1.7	68.0	
544.3	CARBONDALE		UNDERCLAY	3.3	69.7	

MAPID: 10581031000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 13

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.814057

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.076126

DATE COLLECTED: 12 / 30 / 1969

SURFACE ELEVATION (FT.): 615.0

LOGGED (FT.): 154.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

20

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	5
611.0	PLEISTOCENE		UNCONSOLIDATED	5.0	4.0	SOFT
606.0	PLEISTOCENE		SAND	3.5	9.0	
602.5	PLEISTOCENE		UNCONSOLIDATED	66.5	12.5	HARD
536.0	CARBONDALE		SHALE	19.5	79.0	
516.5	CARBONDALE		SANDSTONE	10.0	98.5	
506.5	CARBONDALE		BLACK SHALE	13.5	108.5	
493.0	CARBONDALE		GRAY SHALE	32.0	122.0	

MAPID: 10581032000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.833468 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.061156 DATE COLLECTED: 2 / 23 / 1970

SURFACE ELEVATION (FT.): 617.0 LOGGED (FT.): 218.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 74 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
617.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
608.0	PLEISTOCENE		UNCONSOLIDATED	15.0	9.0	
593.0	PLEISTOCENE		GRAVEL	4.5	24.0	
588.5	PLEISTOCENE		UNCONSOLIDATED	5.5	28.5	
583.0	SHELBURN	DANVILLE	COAL	2.3	34.0	TOP ERODED
580.7	SHELBURN		UNDERCLAY	2.8	36.3	
578.0	SHELBURN		GRAY SHALE	12.0	39.0	
566.0	SHELBURN		SHALE	2.0	51.0	RED, MOTTLED
564.0	SHELBURN		SANDSTONE	4.2	53.0	
559.8	SHELBURN		SHALE	20.8	57.2	GREEN, SOFT
539.0	SHELBURN		DARK SHALE	50.4	78.0	
488.6	CARBONDALE	HERRIN	COAL	1.3	128.4	
487.3	CARBONDALE		UNDERCLAY	4.8	129.7	
482.5	CARBONDALE		SHALE	5.5	134.5	GREEN, SOFT
477.0	CARBONDALE		DARK SHALE	36.3	140.0	
440.7	CARBONDALE		SANDSTONE	1.7	176.3	
439.0	CARBONDALE		DARK SHALE	16.0	178.0	
423.0	CARBONDALE		SANDSTONE	17.0	194.0	
406.0	CARBONDALE		GRAY SHALE	7.0	211.0	

MAPID: 10581033000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 13

QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.82391

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.0611

DATE COLLECTED: 3 / 30 / 1970

SURFACE ELEVATION (FT.): 615.0

LOGGED (FT.): 116.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

78

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
607.0	PLEISTOCENE		UNCONSOLIDATED	2.0	8.0	
605.0	PLEISTOCENE		SAND	6.0	10.0	
599.0	PLEISTOCENE		UNCONSOLIDATED	8.0	16.0	
591.0	SHELBURN		MICACEOUS SHALE	4.5	24.0	
586.5	SHELBURN		DARK SHALE	35.5	28.5	
551.0	SHELBURN		MICACEOUS SHALE	2.2	64.0	
548.8	SHELBURN		SANDSTONE	4.8	66.2	SOFT
544.0	CARBONDALE	HERRIN	COAL	2.4	71.0	
541.6	CARBONDALE		UNDERCLAY	2.2	73.4	
539.4	CARBONDALE		SHALE	7.4	75.6	GREEN
532.0	CARBONDALE		SHALE	3.4	83.0	RED AND GREEN MOTTLED
528.6	CARBONDALE		LIMESTONE	4.0	86.4	SOFT
524.6	CARBONDALE		SHALE	9.9	90.4	RED, GREEN, YELLOW MOTTLED
514.7	CARBONDALE	SPRINGFIELD	COAL	0.7	100.3	
514.0	CARBONDALE		UNDERCLAY	1.5	101.0	
512.5	CARBONDALE		GRAY SHALE	13.5	102.5	

MAPID: 10581034000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 13

QUARTERS/FOOTAGES: 50' S line, 20' W line of SW SE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.82384

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.061232

DATE COLLECTED: 4 / 9 / 1970

SURFACE ELEVATION (FT.): 615.0

LOGGED (FT.): 74.7

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

78-CORED

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
607.0	PLEISTOCENE		UNCONSOLIDATED	3.0	8.0	
604.0	PLEISTOCENE		SAND	4.0	11.0	
600.0	PLEISTOCENE		UNCONSOLIDATED	10.0	15.0	
590.0	SHELBURN		GRAY SHALE	5.0	25.0	
585.0	SHELBURN		GRAY SHALE	8.0	30.0	
577.0	SHELBURN		DARK SHALE	27.0	38.0	
550.0	SHELBURN		GRAY SHALE	2.7	65.0	
547.3	SHELBURN		GRAY SANDSTONE	3.8	67.7	
543.5	SHELBURN		CONGLOMERATE	0.2	71.5	
543.3	CARBONDALE	HERRIN	COAL	2.5	71.7	BAD
540.8	CARBONDALE		UNDERCLAY	0.5	74.2	

MAPID: 10581035000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 13 QUARTERS/FOOTAGES: 10' N line, 40' W line of NW NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.832762 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.076068 DATE COLLECTED: 4 / 8 / 1970

SURFACE ELEVATION (FT.): 616.0 LOGGED (FT.): 168.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 83 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
616.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0	
611.0	SHELBURN		SANDSTONE	10.0	5.0	
601.0	SHELBURN		GRAY SHALE	7.5	15.0	
593.5	SHELBURN	DANVILLE	COAL	1.8	22.5	NO GOOD
591.7	SHELBURN		UNDERCLAY	5.7	24.3	
586.0	SHELBURN		GRAY SHALE	28.0	30.0	
558.0	CARBONDALE	HERRIN	COAL	0.8	58.0	SOFT
557.2	CARBONDALE		UNDERCLAY	2.0	58.8	
555.2	CARBONDALE		GRAY SHALE	26.3	60.8	
529.0	CARBONDALE		GRAY SANDSTONE	14.0	87.0	
515.0	CARBONDALE		SANDY SHALE	15.5	101.0	
499.5	CARBONDALE		BLACK SHALE	6.5	116.5	
493.0	CARBONDALE		LIMESTONE	1.0	123.0	
492.0	CARBONDALE		DARK SHALE	15.0	124.0	
477.0	CARBONDALE		GRAY SHALE	7.3	139.0	AND LIME BUTTONS
469.7	CARBONDALE		BLACK SHALE	1.3	146.3	
468.3	CARBONDALE		GRAY SHALE	8.3	147.7	
460.0	CARBONDALE		LIMESTONE	1.3	156.0	
458.7	CARBONDALE		BLACK SHALE	2.0	157.3	
456.7	CARBONDALE		LIMESTONE	1.0	159.3	
455.7	CARBONDALE		GRAY SHALE	2.7	160.3	
453.0	CARBONDALE	HOUCHIN CREEK	COAL	2.4	163.0	FAIR
450.6	CARBONDALE		UNDERCLAY	2.0	165.4	
448.6	CARBONDALE		GRAY SHALE	0.6	167.4	

MAPID: 10581136000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 13 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE SW
 QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.823702 GEOLOGIST: STRAAYER
 CONFIDENTIAL: N LATITUDE: 41.068601 DATE COLLECTED: 12 / 30 / 1969
 SURFACE ELEVATION (FT.): 614.0 LOGGED (FT.): 73.0 LOG TYPE: Drillers Log
 SOURCE: AMAX 19 WELL TYPE: Coal Test
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
614.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	16.0	0.0
598.0	SHELBURN		SANDSTONE	21.6	16.0
576.4	CARBONDALE		COAL	2.8	37.6
573.6	CARBONDALE		UNDERCLAY	5.6	40.4
568.0	CARBONDALE		GRAY SHALE	6.0	46.0
562.0	CARBONDALE		GRAY SHALE	2.0	52.0
560.0	CARBONDALE	HERRIN	GRAY SHALE	14.0	54.0
546.0	CARBONDALE		COAL	1.7	68.0
544.3	CARBONDALE		UNDERCLAY	3.3	69.7

MAPID: 10581137000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 13 QUARTERS/FOOTAGES: SW SE
 QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.821476 GEOLOGIST: STRAAYER
 CONFIDENTIAL: N LATITUDE: 41.062962 DATE COLLECTED: 3 / 30 / 1970
 SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 116.0 LOG TYPE: Drillers Log
 SOURCE: AMAX 78 WELL TYPE: Coal Test
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
615.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	8.0	0.0
607.0	PLEISTOCENE		UNCONSOLIDATED	2.0	8.0
605.0	PLEISTOCENE		SAND	6.0	10.0
599.0	PLEISTOCENE		UNCONSOLIDATED	8.0	16.0
591.0	SHELBURN		MICACEOUS SHALE	4.5	24.0
586.5	SHELBURN		DARK SHALE	35.5	28.5
551.0	SHELBURN		MICACEOUS SHALE	2.2	64.0
548.8	SHELBURN		SANDSTONE	4.8	66.2
544.0	SHELBURN		COAL	2.4	71.0
541.6	SHELBURN		UNDERCLAY	2.2	73.4
539.4	SHELBURN		SHALE	7.4	75.6 GREEN
532.0	SHELBURN		SHALE	3.4	83.0 GREEN AND RED
528.6	SHELBURN		LIMESTONE	4.0	86.4
524.6	SHELBURN		SHALE	9.9	90.4
514.6	CARBONDALE	HERRIN	COAL	0.7	100.4
514.0	CARBONDALE		UNDERCLAY	1.5	101.0
512.5	CARBONDALE		GRAY SHALE	13.5	102.5

MAPID: 10581138000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 13 QUARTERS/FOOTAGES: 50' S line, 20' W line of SW SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.82384 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.061232 DATE COLLECTED: 4 / 9 / 1970

SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 74.7 LOG TYPE: Drillers Log

SOURCE: AMAX CORED VERSION 2 78 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	8.0	0.0	
607.0	PLEISTOCENE		UNCONSOLIDATED	3.0	8.0	
604.0	PLEISTOCENE		SAND	4.0	11.0	BROWN
600.0	PLEISTOCENE		UNCONSOLIDATED	10.0	15.0	
590.0	SHELBURN		GRAY SHALE	5.0	25.0	
585.0	SHELBURN		GRAY SHALE	8.0	30.0	
577.0	SHELBURN		DARK SHALE	27.0	38.0	
550.0	SHELBURN		GRAY SHALE	2.7	65.0	
547.3	SHELBURN		GRAY SANDSTONE	3.8	67.7	
543.5	SHELBURN		CONGLOMERATE	0.2	71.5	
543.3	SHELBURN		COAL	2.5	71.7	BAD
540.8	SHELBURN		UNDERCLAY	0.5	74.2	

MAPID: 10581139000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 13 QUARTERS/FOOTAGES: 10' N line, 40' W line of NW NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.832762 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.076068 DATE COLLECTED: 4 / 8 / 1970

SURFACE ELEVATION (FT.): 616.0 LOGGED (FT.): 168.0 LOG TYPE: Drillers Log

SOURCE: AMAX 83 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
616.0	PLEISTOCENE		CLAY	5.0	0.0	
611.0	SHELBURN		SANDSTONE	10.0	5.0	
601.0	SHELBURN		GRAY SHALE	7.5	15.0	
593.5	SHELBURN	DANVILLE	COAL	1.8	22.5	NO GOOD
591.7	SHELBURN		UNDERCLAY	5.7	24.3	
586.0	SHELBURN		GRAY SHALE	28.0	30.0	
558.0	CARBONDALE	HERRIN	COAL	0.8	58.0	SOFT
557.2	CARBONDALE		UNDERCLAY	2.0	58.8	
555.2	CARBONDALE		GRAY SHALE	26.3	60.8	
529.0	CARBONDALE		GRAY SANDSTONE	14.0	87.0	
515.0	CARBONDALE		SANDY SHALE	15.5	101.0	
499.5	CARBONDALE		BLACK SHALE	6.5	116.5	
493.0	CARBONDALE		LIMESTONE	1.0	123.0	
492.0	CARBONDALE		DARK SHALE	15.0	124.0	
477.0	CARBONDALE		CALCAREOUS SHALE	7.3	139.0	
469.7	CARBONDALE		BLACK SHALE	1.3	146.3	
468.3	CARBONDALE		GRAY SHALE	8.3	147.7	
460.0	CARBONDALE		LIMESTONE	1.3	156.0	
458.7	CARBONDALE		BLACK SHALE	2.0	157.3	
456.7	CARBONDALE		LIMESTONE	1.0	159.3	
455.7	CARBONDALE		GRAY SHALE	2.7	160.3	
453.0	CARBONDALE		COAL	2.4	163.0	
450.6	CARBONDALE		UNDERCLAY	2.0	165.4	
448.6	CARBONDALE		GRAY SHALE	0.6	167.4	

MAPID: 10581145000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.833184 GEOLOGIST: STRAAYER
CONFIDENTIAL: N LATITUDE: 41.068626 DATE COLLECTED: 2 / 6 / 1970
SURFACE ELEVATION (FT.): 633.0 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log
SOURCE: AMAX 67 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
633.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
623.0	PLEISTOCENE		UNCONSOLIDATED	14.0	10.0
609.0	SHELBURN		SANDSTONE	5.0	24.0
604.0	SHELBURN		GRAY SHALE	8.0	29.0
596.0	SHELBURN		SANDSTONE	11.5	37.0
584.5	SHELBURN		SHALE	3.6	48.5
580.9	SHELBURN	DANVILLE	COAL	1.3	52.1
579.6	SHELBURN		UNDERCLAY	3.6	53.4
576.0	SHELBURN		SHALE	13.0	57.0
563.0	SHELBURN		GRAY SHALE	28.5	70.0
534.5	CARBONDALE	HERRIN	COAL	0.5	98.5 BLOSSOM
534.0	CARBONDALE		UNDERCLAY	1.5	99.0
532.5	CARBONDALE		SHALE	7.5	100.5

MAPID: 10500446000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: NW/c NE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.843805 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.074998 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 22.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY 5 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0
-	PLEISTOCENE		SAND & GRAVEL	5.0	7.0
-	MODESTO		SHALE	0.7	12.0
-	MODESTO		SANDSTONE	1.8	12.7
-	MODESTO		SHALE	5.3	14.5
-	CARBONDALE	DANVILLE	COAL	2.3	19.8

MAPID: 10500447000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: SE NE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.834222 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.073277 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 24.4 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 6 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			CLAY	5.0	0.0	
-			SAND	3.0	5.0	RED
-			SHALE	6.5	8.0	
-			SHALY SANDSTONE	4.8	14.5	
-			SANDSTONE	3.1	19.3	
-			COAL	2.0	22.4	

MAPID: 10500447000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: SE NE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.834222 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.073277 DATE COLLECTED:
SURFACE ELEVATION (FT.): 617.0 LOGGED (FT.): 24.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
595.0	CARBONDALE	DANVILLE	COAL	2.0	22.0	

MAPID: 10500448000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: SW/c SE NE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.843541 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.067128 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 28.1 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 8 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SANDY CLAY	5.0	0.0	
-	PLEISTOCENE		SAND	3.0	5.0	RED
-	MODESTO		SHALE	4.0	8.0	
-	MODESTO		SHALE	13.7	12.0	
-	CARBONDALE	DANVILLE	COAL	2.4	25.7	

MAPID: 10500449000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 14 **QUARTERS/FOOTAGES:** SE NW NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.839051 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.07321 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 27.4 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 33 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SANDY CLAY	4.0	0.0	
-	PLEISTOCENE		SAND	8.5	4.0	
-	MODESTO		SANDSTONE	10.5	12.5	
-	MODESTO		SHALE	2.1	23.0	
-	CARBONDALE	DANVILLE	COAL	2.3	25.1	

MAPID: 10500449000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 14 **QUARTERS/FOOTAGES:** SE NW NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.839051 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.07321 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 27.3 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
593.0	CARBONDALE	DANVILLE	COAL	2.3	25.0	

MAPID: 10500450000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 14 **QUARTERS/FOOTAGES:** SW/c NW NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.846547 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.067564 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 35.8 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 35 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SANDY CLAY	4.0	0.0	
-	PLEISTOCENE		SAND	6.0	4.0	
-	MODESTO		SHALE	12.3	10.0	
-	MODESTO		SANDSTONE	11.3	22.3	
-			SHALE	0.1	33.5	
-	CARBONDALE	DANVILLE	COAL	0.2	33.6	
-	CARBONDALE		UNDERCLAY	0.3	33.8	
-	CARBONDALE		SANDSTONE	1.2	34.0	
-	CARBONDALE		SHALE	0.6	35.2	BLUE

MAPID: 10521210000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: SE/c NW SW NW NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.842637 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.074087 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 55.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 10 WELL TYPE: Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0
-	PLEISTOCENE		SAND & GRAVEL	12.0	4.0
-			SHALE	4.5	16.0
-			SANDSTONE	3.5	20.5
-			SHALE	12.0	24.0
-			SANDSTONE	0.8	36.0
-			SHALE	3.2	36.8
-			SANDSTONE	1.5	40.0
-			SANDY SHALE	2.5	41.5
-			SANDSTONE	1.2	44.0
-			SHALE	9.8	45.2

MAPID: 10521211000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: SE/c NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.84755 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.07217 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 13.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 11 WELL TYPE: Dry Hole
COMMENT: NO COAL TO 13 FT.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SAND	13.0	0.0

MAPID: 10581036000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 14 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.833192 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.068626 **DATE COLLECTED:** 12 / 30 / 1969
SURFACE ELEVATION (FT.): 618.0 **LOGGED (FT.):** 80.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 17 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
618.0	PLEISTOCENE		UNCONSOLIDATED	8.5	0.0
609.5	PLEISTOCENE		UNCONSOLIDATED	10.0	8.5
599.5	SHELBURN		SHALE	21.2	18.5
578.3	SHELBURN	DANVILLE	COAL	1.8	39.7
576.5	SHELBURN		UNDERCLAY	6.0	41.5
570.5	SHELBURN		SHALE	7.0	47.5 GREENISH
563.5	SHELBURN		LIMESTONE	1.5	54.5
562.0	SHELBURN		SHALE	21.6	56.0
540.4	CARBONDALE	HERRIN	COAL	1.3	77.6
539.1	CARBONDALE		UNDERCLAY	1.1	78.9

MAPID: 10581037000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 14 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.852556 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.068424 **DATE COLLECTED:** 12 / 30 / 1969
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 118.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 18 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
622.0	PLEISTOCENE		UNCONSOLIDATED	36.0	0.0
586.0	SHELBURN		DARK SHALE	9.0	36.0 SOFT
577.0	SHELBURN	DANVILLE	COAL	1.7	45.0 SOFT
575.3	SHELBURN		UNDERCLAY	1.3	46.7
574.0	SHELBURN		SANDY SHALE	30.0	48.0
544.0	CARBONDALE	HERRIN	COAL	0.2	78.0 TRACE
543.8	CARBONDALE		UNDERCLAY	1.3	78.2
542.5	CARBONDALE		SANDY SHALE	4.5	79.5
538.0	CARBONDALE		DARK SHALE	24.0	84.0
514.0	CARBONDALE		SANDY SHALE	4.5	108.0
509.5	CARBONDALE		LIMESTONE	1.5	112.5
508.0	CARBONDALE		GRAY SHALE	4.0	114.0

MAPID: 10581038000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.843187 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.06111 DATE COLLECTED: 3 / 31 / 1970
SURFACE ELEVATION (FT.): 621.0 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 79 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
621.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
612.0	PLEISTOCENE		UNCONSOLIDATED	80.0	9.0	
532.0	PLEISTOCENE		SAND	6.0	89.0	
526.0	PLEISTOCENE		UNCONSOLIDATED	3.5	95.0	
522.5	CARBONDALE		GRAY SHALE	25.1	98.5	VERY SOFT
497.4	CARBONDALE		COAL	1.4	123.6	?
496.0	CARBONDALE		UNDERCLAY	6.0	125.0	
490.0	CARBONDALE		MICACEOUS SHALE	9.0	131.0	
481.0	CARBONDALE		GRAY SHALE	8.0	140.0	

MAPID: 10581140000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 14 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.852556 GEOLOGIST: STRAAYER
CONFIDENTIAL: N LATITUDE: 41.068424 DATE COLLECTED: 12 / 30 / 1969
SURFACE ELEVATION (FT.): 622.0 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log
SOURCE: AMAX 18 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
622.0	PLEISTOCENE		UNCONSOLIDATED	36.0	0.0	
586.0	SHELBURN		DARK SHALE	9.0	36.0	SOFT
577.0	SHELBURN	DANVILLE	COAL	1.7	45.0	SOFT
575.3	SHELBURN		UNDERCLAY	1.3	46.7	
574.0	SHELBURN		SANDY SHALE	30.0	48.0	LIGHT GRAY
544.0	CARBONDALE	HERRIN	COAL	0.2	78.0	
543.8	CARBONDALE		UNDERCLAY	1.3	78.2	
542.5	CARBONDALE		SANDY SHALE	4.5	79.5	
538.0	CARBONDALE		DARK SHALE	24.0	84.0	
514.0	CARBONDALE		SANDY SHALE	4.5	108.0	
509.5	CARBONDALE		LIMESTONE	1.5	112.5	
508.0	CARBONDALE		GRAY SHALE	4.0	114.0	

MAPID: 10522612000C VERSION: 1

PROJECT: NCRDS99

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 15 QUARTERS/FOOTAGES: SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.867321 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.064271 DATE COLLECTED: 11 / 18 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 46.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 28 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	4.0	0.0	SANDY
-	PLEISTOCENE		SAND	3.0	4.0	
-			SHALE	3.0	7.0	
-			SANDSTONE	0.3	10.0	
-			SHALE	9.5	10.3	
-			SANDSTONE	0.5	19.8	
-			SHALE	25.7	20.3	DARK

MAPID: 10581039000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 15 QUARTERS/FOOTAGES: 1' N line, 1' E line of NW SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.867218 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.067975 DATE COLLECTED: 1 / 13 / 1969

SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 30 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
618.0	PLEISTOCENE		UNCONSOLIDATED	12.0	12.0	
606.0	SHELBURN		SHALE	3.0	24.0	GREENISH
603.0	SHELBURN		SANDSTONE	14.0	27.0	
589.0	SHELBURN		GRAY SHALE	3.0	41.0	
586.0	SHELBURN	DANVILLE	COAL	1.2	44.0	SOFT, NO GOOD
584.8	SHELBURN	DANVILLE	BLUE BAND	0.3	45.2	
584.6	SHELBURN	DANVILLE	COAL	0.8	45.4	SOFT, NO GOOD
583.8	SHELBURN		UNDERCLAY	4.8	46.2	
579.0	SHELBURN		SHALE	3.0	51.0	
576.0	CARBONDALE		LIMESTONE	1.0	54.0	
575.0	CARBONDALE		SHALE	28.5	55.0	
546.5	CARBONDALE	HERRIN	COAL	0.5	83.5	BLOSSOM
546.0	CARBONDALE		UNDERCLAY	4.0	84.0	
542.0	CARBONDALE		SHALE	10.0	88.0	

MAPID: 10581040000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 15

QUARTERS/FOOTAGES: 1' S line, 660' W line of SW SW

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.869859

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.060489

DATE COLLECTED: 2 / 18 / 1970

SURFACE ELEVATION (FT.): 625.0

LOGGED (FT.): 98.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

73

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	11.0	0.0	
614.0	PLEISTOCENE		UNCONSOLIDATED	3.0	11.0	
611.0	PLEISTOCENE		GRAVEL	2.0	14.0	
609.0	PLEISTOCENE		UNCONSOLIDATED	2.5	16.0	
606.5	PLEISTOCENE		SAND	6.5	18.5	
600.0	SHELBURN		SHALE	5.3	25.0	MUDDY, VERY SOFT
594.7	SHELBURN		COAL	2.3	30.3	
592.3	SHELBURN		UNDERCLAY	5.3	32.7	
587.0	SHELBURN		GRAY SHALE	6.0	38.0	
581.0	SHELBURN		SHALE	4.0	44.0	RED, MOTTLED
577.0	SHELBURN		SANDSTONE	3.3	48.0	
573.7	SHELBURN		GRAY SHALE	32.3	51.3	GREENISH
541.4	SHELBURN		DARK SHALE	14.4	83.6	

MAPID: 10581141000C VERSION: 1 PROJECT: R

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 15 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.867218 GEOLOGIST: STRAAYE

CONFIDENTIAL: N LATITUDE: 41.067975 DATE COLLECTED: 1 / 13 / 1969

SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 98.0 LOG TYPE: Drillers Log

SOURCE: AMAX 30 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
618.0	PLEISTOCENE		CLAY	12.0	12.0	
606.0	SHELBURN		SHALE	3.0	24.0	GREENISH
603.0	SHELBURN		SANDSTONE	14.0	27.0	
589.0	SHELBURN		GRAY SHALE	3.0	41.0	
586.0	SHELBURN	DANVILLE	COAL	1.2	44.0	SOFT
584.8	CARBONDALE		UNDERCLAY	0.3	45.2	
584.6	SHELBURN		SHALE	0.8	45.4	
583.8	SHELBURN		LIMESTONE	4.8	46.2	
579.0	SHELBURN		SHALE	3.0	51.0	
576.0	SHELBURN		LIMESTONE	1.0	54.0	
575.0	SHELBURN		SHALE	28.5	55.0	
546.5	CARBONDALE	HERRIN	COAL	0.5	83.5	BLOSSOM
546.0	CARBONDALE		UNDERCLAY	4.0	84.0	
542.0	CARBONDALE		SHALE	10.0	88.0	

MAPID: 10581142000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 15

QUARTERS/FOOTAGES: SE SW

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.864947

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.062502

DATE COLLECTED: 2 / 18 / 1970

SURFACE ELEVATION (FT.): 625.0

LOGGED (FT.): 98.0

LOG TYPE: Drillers Log

SOURCE: AMAX

73

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
625.0	PLEISTOCENE	DANVILLE	CLAY	11.0	0.0
614.0	PLEISTOCENE		UNCONSOLIDATED	3.0	11.0
611.0	PLEISTOCENE		GRAVEL	2.0	14.0
609.0	PLEISTOCENE		UNCONSOLIDATED	2.5	16.0
606.5	PLEISTOCENE		SAND	6.5	18.5
600.0	SHELBURN		SHALE	5.3	25.0
594.7	SHELBURN		COAL	2.3	30.3
592.3	SHELBURN		UNDERCLAY	5.3	32.7
587.0	SHELBURN		SHALE	6.0	38.0
581.0	SHELBURN		SHALE	4.0	44.0
577.0	SHELBURN		SANDSTONE	3.3	48.0
573.7	SHELBURN		SHALE	32.3	51.3
541.4	SHELBURN		SHALE	14.4	83.6

MAPID: 10581042000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 16 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SW

QUADRANGLE: LONG POINT LONGITUDE: -88.881884 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.060077 DATE COLLECTED: 3 / 25 / 1970

SURFACE ELEVATION (FT.): 634.0 LOGGED (FT.): 150.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 77 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
634.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	11.0	0.0	
623.0	PLEISTOCENE		UNCONSOLIDATED	6.5	11.0	
616.5	SHELBURN		MICACEOUS SHALE	9.5	17.5	
607.0	SHELBURN		SANDSTONE	2.0	27.0	
605.0	SHELBURN		MICACEOUS SHALE	2.0	29.0	
603.0	SHELBURN		DARK SHALE	19.0	31.0	
584.0	SHELBURN		BLACK SHALE	0.7	50.0	
583.3	SHELBURN		UNDERCLAY	1.3	50.7	NO COAL
582.0	SHELBURN		DARK SHALE	4.3	52.0	SOFT
577.7	SHELBURN		COAL	2.3	56.3	
575.4	SHELBURN		UNDERCLAY	3.4	58.6	
572.0	SHELBURN		GRAY SHALE	23.0	62.0	
549.0	SHELBURN		SANDSTONE	3.0	85.0	
546.0	SHELBURN		MICACEOUS SHALE	18.5	88.0	
527.5	SHELBURN		DARK SHALE	38.6	106.5	
488.9	CARBONDALE	HERRIN	COAL	1.3	145.1	
487.7	CARBONDALE		UNDERCLAY	2.5	146.3	
485.2	CARBONDALE		GRAY SHALE	1.2	148.8	

MAPID: 10581043000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 16

QUARTERS/FOOTAGES: 70' S line, 25' W line of SW SW

QUADRANGLE: LONG POINT

LONGITUDE: -88.891403

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.059941

DATE COLLECTED: 4 / 8 / 1970

SURFACE ELEVATION (FT.): 632.0

LOGGED (FT.): 98.6

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

84

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0	PLEISTOCENE		UNCONSOLIDATED	4.0	0.0	
628.0	PLEISTOCENE		UNCONSOLIDATED	7.0	4.0	
621.0	SHELBURN		GRAY SHALE	5.0	11.0	
616.0	SHELBURN		DARK SHALE	14.3	16.0	
601.7	SHELBURN		GRAY SANDSTONE	9.2	30.3	
592.5	SHELBURN		GRAY SHALE	3.3	39.5	
589.2	CARBONDALE	DANVILLE	COAL	1.1	42.8	FAIR
588.2	CARBONDALE	DANVILLE	COAL	0.3	43.8	FAIR
587.9	CARBONDALE	DANVILLE	COAL	0.5	44.1	FAIR
587.4	CARBONDALE		UNDERCLAY	5.0	44.6	
582.4	CARBONDALE		GRAY SHALE	6.0	49.6	
576.4	CARBONDALE		LIMESTONE	2.7	55.6	
573.7	CARBONDALE		GRAY SHALE	20.3	58.3	
553.4	CARBONDALE		DARK SHALE	10.0	78.6	
543.4	CARBONDALE		GRAY SHALE	10.0	88.6	

MAPID: 10581044000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 16 **QUARTERS/FOOTAGES:** 1' S line, 1' W line of SW NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.891302 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.067299 **DATE COLLECTED:** 2 / 6 / 1970
SURFACE ELEVATION (FT.): 633.0 **LOGGED (FT.):** 108.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 67 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
633.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
623.0	PLEISTOCENE		UNCONSOLIDATED	14.0	10.0
609.0	SHELBURN		SANDSTONE	5.0	24.0
604.0	SHELBURN		GRAY SHALE	8.0	29.0
596.0	SHELBURN		SANDSTONE	11.5	37.0
584.5	SHELBURN		SHALE	3.6	48.5
580.9	SHELBURN	DANVILLE	COAL	1.3	52.1
579.6	SHELBURN		UNDERCLAY	3.6	53.4
576.0	SHELBURN		SHALE	13.0	57.0
563.0	SHELBURN		GRAY SHALE	28.5	70.0
534.5	CARBONDALE	HERRIN	COAL	0.5	98.5 BLOSSOM
534.0	CARBONDALE		UNDERCLAY	1.5	99.0
532.5	CARBONDALE		SHALE	7.5	100.5

MAPID: 10581045000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 16 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of NE NE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.872021 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.071542 **DATE COLLECTED:** 2 / 4 / 1970
SURFACE ELEVATION (FT.): 630.0 **LOGGED (FT.):** 118.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 61 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
630.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0
622.0	PLEISTOCENE		UNCONSOLIDATED	15.0	8.0
607.0	SHELBURN		SHALE	11.0	23.0
596.0	SHELBURN		SANDSTONE	13.0	34.0
583.0	SHELBURN		SHALE	6.5	47.0
576.5	SHELBURN	DANVILLE	COAL	2.1	53.5 SOFT
574.4	SHELBURN		UNDERCLAY	5.4	55.6
569.0	SHELBURN		SHALE	57.0	61.0

MAPID: 10581046000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 3E

SECTION: 16

QUARTERS/FOOTAGES: 1' S line, 1' E line of NE SW

QUADRANGLE: LONG POINT

LONGITUDE: -88.881796

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.06382

DATE COLLECTED: 12 / 19 / 1969

SURFACE ELEVATION (FT.): 620.0

LOGGED (FT.): 210.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

1

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
613.0	SHELBURN		SHALE	19.0	7.0	
594.0	SHELBURN		SANDSTONE	6.0	26.0	
588.0	SHELBURN		SHALE	44.0	32.0	
544.0	SHELBURN	DANVILLE	COAL	1.4	76.0	
542.6	SHELBURN		UNDERCLAY	0.6	77.4	
542.0	SHELBURN		GRAY SHALE	27.0	78.0	
515.0	CARBONDALE		SANDY SHALE	21.0	105.0	
494.0	CARBONDALE		DARK SHALE	41.0	126.0	
453.0	CARBONDALE		LIMESTONE	1.3	167.0	
451.7	CARBONDALE		GRAY SHALE	6.8	168.3	
445.0	CARBONDALE		BLACK SHALE	0.8	175.0	BLACK
444.2	CARBONDALE		MICACEOUS SHALE	12.2	175.8	
432.0	CARBONDALE		LIMESTONE	1.5	188.0	
430.5	CARBONDALE		SANDY SHALE	6.5	189.5	
424.0	CARBONDALE	COLCHESTER	COAL	2.3	196.0	
421.7	CARBONDALE		UNDERCLAY	2.7	198.3	
419.0	CARBONDALE		SANDY SHALE	9.0	201.0	

MAPID: 10581143000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 16 QUARTERS/FOOTAGES: NE SW

QUADRANGLE: LONG POINT LONGITUDE: -88.884148 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.065619 DATE COLLECTED: 12 / 19 / 1969

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 210.2 LOG TYPE: Drillers Log

SOURCE: AMAX 1 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		UNCONSOLIDATED	7.0	0.0	
613.0	SHELBURN		SHALE	19.0	7.0	
594.0	SHELBURN		SANDSTONE	6.0	26.0	
588.0	SHELBURN		SHALE	44.0	32.0	
544.0	SHELBURN	DANVILLE	COAL	1.5	76.0	
542.5	SHELBURN		UNDERCLAY	0.6	77.5	
541.9	SHELBURN		GRAY SHALE	27.0	78.1	
514.9	SHELBURN		SANDY SHALE	21.0	105.1	
493.9	SHELBURN		DARK SHALE	41.0	126.1	
452.9	CARBONDALE		LIMESTONE	1.3	167.1	
451.7	CARBONDALE		GRAY SHALE	6.8	168.3	
444.9	CARBONDALE		BLACK SHALE	0.8	175.1	
444.1	CARBONDALE		MICACEOUS SHALE	12.2	175.9	
431.9	CARBONDALE		LIMESTONE	1.5	188.1	
430.4	CARBONDALE		SANDY SHALE	6.6	189.6	LIGHT
423.8	CARBONDALE	COLCHESTER	COAL	2.3	196.2	
421.5	CARBONDALE		UNDERCLAY	2.7	198.5	
418.8	CARBONDALE		SANDY SHALE	9.0	201.2	LIGHT

MAPID: 10581144000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 16 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NE NE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.872021 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.071542 DATE COLLECTED: 2 / 4 / 1970

SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log

SOURCE: AMAX 61 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	8.0	0.0	
622.0	PLEISTOCENE		CLAY	15.0	8.0	
607.0	SHELBURN		SHALE	11.0	23.0	
596.0	SHELBURN		SANDSTONE	13.0	34.0	
583.0	SHELBURN		SHALE	6.5	47.0	
576.5	SHELBURN	DANVILLE	COAL	2.1	53.5	SOFT
574.4	SHELBURN		UNDERCLAY	5.4	55.6	
569.0	SHELBURN		SHALE	57.0	61.0	

MAPID: 10581146000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 16 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE SW

QUADRANGLE: LONG POINT LONGITUDE: -88.881884 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.060077 DATE COLLECTED: 3 / 25 / 1970

SURFACE ELEVATION (FT.): 634.0 LOGGED (FT.): 150.0 LOG TYPE: Drillers Log

SOURCE: AMAX 77 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
634.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	11.0	0.0	
623.0	PLEISTOCENE		UNCONSOLIDATED	6.5	11.0	
616.5	SHELBURN		SHALE	9.5	17.5	
607.0	SHELBURN		SANDSTONE	2.0	27.0	
605.0	SHELBURN		MICACEOUS SHALE	2.0	29.0	
603.0	SHELBURN		DARK SHALE	19.0	31.0	
584.0	SHELBURN		BLACK SHALE	0.7	50.0	
583.3	SHELBURN		UNDERCLAY	1.3	50.7	NO COAL
582.0	SHELBURN		DARK SHALE	4.3	52.0	SOFT
577.7	SHELBURN		COAL	2.3	56.3	
575.4	SHELBURN		UNDERCLAY	3.4	58.6	
572.0	SHELBURN		GRAY SHALE	23.0	62.0	
549.0	SHELBURN		SANDSTONE	3.0	85.0	
546.0	SHELBURN		MICACEOUS SHALE	18.5	88.0	
527.5	SHELBURN		DARK SHALE	38.6	106.5	
488.9	SHELBURN		COAL	1.3	145.1	
487.7	SHELBURN		UNDERCLAY	2.5	146.3	
485.2	SHELBURN		SHALE	1.2	148.8	

MAPID: 10581047000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW NW

QUADRANGLE: LONG POINT LONGITUDE: -88.905864 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.066909 DATE COLLECTED: 1 / 16 / 1970

SURFACE ELEVATION (FT.): 634.0 LOGGED (FT.): 158.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 40 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
634.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0	
628.0	PLEISTOCENE		UNCONSOLIDATED	50.0	6.0	
578.0			SHALE	2.0	56.0	
576.0			SANDSTONE	4.0	58.0	
572.0			SHALE	43.0	62.0	
529.0			SANDSTONE	11.0	105.0	
518.0			SHALE	42.0	116.0	

MAPID: 10581048000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 17 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SW
QUADRANGLE: LONG POINT LONGITUDE: -88.901274 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.059558 DATE COLLECTED: 2 / 24 / 1970
SURFACE ELEVATION (FT.): 636.0 LOGGED (FT.): 188.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 75 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
636.0	PLEISTOCENE		UNCONSOLIDATED	11.5	0.0	
624.5	PLEISTOCENE		UNCONSOLIDATED	51.5	11.5	
573.0	SHELBURN		MICACEOUS SHALE	9.0	63.0	
564.0	SHELBURN		DARK SHALE	2.0	72.0	
562.0	SHELBURN		SHALE	2.5	74.0	RED, MOTTLED
559.5	SHELBURN		SHALE	20.5	76.5	GREEN, SOFT
539.0	SHELBURN		DARK SHALE	77.0	97.0	
462.0	CARBONDALE		BLACK SHALE	1.8	174.0	
460.2	CARBONDALE		COAL	0.9	175.8	TOO DEEP FOR #6
459.2	CARBONDALE		UNDERCLAY	0.5	176.8	
458.7	CARBONDALE		SANDSTONE	2.8	177.3	
456.0	CARBONDALE		DARK SHALE	8.0	180.0	

MAPID: 10581049000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 18 QUARTERS/FOOTAGES: 1' S line, 1' E line of SW NW
QUADRANGLE: LONG POINT LONGITUDE: -88.926127 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.066817 DATE COLLECTED: 1 / 16 / 1970
SURFACE ELEVATION (FT.): 649.0 LOGGED (FT.): 78.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 39 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
649.0	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0	
640.0	PLEISTOCENE		UNCONSOLIDATED	12.5	9.0	
627.5	SHELBURN		SHALE	22.5	21.5	
605.0	SHELBURN		SANDSTONE	22.0	44.0	
583.0	SHELBURN		SHALE	1.0	66.0	
582.0	SHELBURN	DANVILLE	COAL	1.9	67.0	
580.1	SHELBURN		UNDERCLAY	2.5	68.9	
577.6	SHELBURN		SHALE	6.6	71.4	

MAPID: 10581050000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 18 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NE NE
QUADRANGLE: LONG POINT **LONGITUDE:** -88.910386 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.074182 **DATE COLLECTED:** 1 / 26 / 1970
SURFACE ELEVATION (FT.): 645.0 **LOGGED (FT.):** 138.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 45 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
645.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
635.0	PLEISTOCENE		UNCONSOLIDATED	16.0	10.0
619.0	SHELBURN		GRAY SHALE	19.0	26.0
600.0	SHELBURN		SANDSTONE	5.0	45.0
595.0	SHELBURN		GRAY SHALE	17.0	50.0
578.0	SHELBURN		SANDSTONE	4.0	67.0
574.0	SHELBURN		LIMESTONE	1.3	71.0
572.7	SHELBURN		GRAY SHALE	1.7	72.3
571.0	SHELBURN		BLACK SHALE	3.5	74.0
567.5	SHELBURN	DANVILLE	COAL	1.6	77.5 SOFT
565.9	SHELBURN		UNDERCLAY	5.9	79.1
560.0	SHELBURN		SHALE	11.0	85.0
549.0	SHELBURN		LIMESTONE	17.0	96.0
532.0	SHELBURN		SHALE	11.0	113.0
521.0	CARBONDALE	HERRIN	COAL	0.2	124.0 BLOSSOM
520.8	CARBONDALE		UNDERCLAY	4.8	124.2
516.0	CARBONDALE		SHALE	9.0	129.0

MAPID: 10581051000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 18 **QUARTERS/FOOTAGES:** 1' S line, 1' W line of SE NE
QUADRANGLE: LONG POINT **LONGITUDE:** -88.915847 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.066793 **DATE COLLECTED:** 2 / 5 / 1970
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 138.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 65 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
640.0	PLEISTOCENE		UNCONSOLIDATED	6.0	0.0
634.0	PLEISTOCENE		UNCONSOLIDATED	9.0	6.0
625.0	SHELBURN		SHALE	95.6	15.0
529.4	SHELBURN		LIMESTONE	0.4	110.6
529.0	SHELBURN		SANDSTONE	7.0	111.0
522.0	SHELBURN		SHALE	20.0	118.0

MAPID: 10500293000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 19 **QUARTERS/FOOTAGES:** NW NW SW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.930048 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.051379 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 650.0 **LOGGED (FT.):** 244.5 **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
580.0	CARBONDALE	HERRIN	COAL	-	70.0
580.0	CARBONDALE		UNCLASSIFIED	92.0	70.0
488.0	CARBONDALE	SPRINGFIELD	COAL	-	162.0
488.0	CARBONDALE		UNCLASSIFIED	20.0	162.0
468.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	182.0
467.0	CARBONDALE		UNCLASSIFIED	59.0	183.0
408.0	CARBONDALE	COLCHESTER	COAL	2.5	242.0

MAPID: 10500295000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 20 **QUARTERS/FOOTAGES:** NW SW NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.909881 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.054851 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 242.0 **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
596.0	CARBONDALE	DANVILLE	COAL	2.0	45.0
594.0	CARBONDALE		UNCLASSIFIED	33.0	47.0
561.0	CARBONDALE	HERRIN	COAL	-	80.0
561.0	CARBONDALE		UNCLASSIFIED	92.0	80.0
469.0	CARBONDALE	SPRINGFIELD	COAL	-	172.0
469.0	CARBONDALE		UNCLASSIFIED	18.0	172.0
451.0	CARBONDALE	HOUCHIN CREEK	COAL	1.8	190.0
449.2	CARBONDALE		UNCLASSIFIED	14.2	191.8
435.0	CARBONDALE	LOWELL	COAL	1.0	206.0
434.0	CARBONDALE		UNCLASSIFIED	33.0	207.0
401.0	CARBONDALE	COLCHESTER	COAL	2.0	240.0

MAPID: 10500571000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 20 QUARTERS/FOOTAGES:

QUADRANGLE: LONG POINT LONGITUDE: -88.901381

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.052277

DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 40.0

LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 41

WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
-	PLEISTOCENE		SAND & GRAVEL	12.0	10.0
-			SANDSTONE	18.0	22.0

MAPID: 10500572000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 20 QUARTERS/FOOTAGES: SE

QUADRANGLE: LONG POINT LONGITUDE: -88.89657

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.04872

DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 22.5

LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 44

WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0
-			SANDY SHALE	9.5	11.0
-			SANDSTONE	2.0	20.5

MAPID: 10500573000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 20 QUARTERS/FOOTAGES: SE NE

QUADRANGLE: LONG POINT LONGITUDE: -88.894037

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.054229

DATE COLLECTED: 10 / 0 / 1936

SURFACE ELEVATION (FT.): LOGGED (FT.): 36.0

LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY COAL CO. 42

WELL TYPE: Dry Hole

COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		UNCONSOLIDATED	9.0	0.0
-	PLEISTOCENE		SAND & GRAVEL	12.0	9.0
-			SANDSTONE	15.0	21.0

MAPID: 10500958000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 20 **QUARTERS/FOOTAGES:** SW SW NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.909904 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.053033 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 658.0 **LOGGED (FT.):** 242.0 **LOG TYPE:** Nuclear Log
SOURCE: **WELL TYPE:** Oil and Gas Test
COMMENT: FAIR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
573.0	CARBONDALE	HERRIN	COAL	-	85.0	
573.0	CARBONDALE		UNCLASSIFIED	90.0	85.0	
483.0	CARBONDALE	SPRINGFIELD	COAL	-	175.0	
483.0	CARBONDALE		UNCLASSIFIED	21.0	175.0	
462.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	196.0	
459.5	CARBONDALE		UNCLASSIFIED	19.5	198.5	
440.0	CARBONDALE	LOWELL	COAL	2.0	218.0	
438.0	CARBONDALE		UNCLASSIFIED	20.0	220.0	
418.0	CARBONDALE	COLCHESTER	COAL	2.0	240.0	

MAPID: 10581052000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 20 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.911041 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.059366 **DATE COLLECTED:** 2 / 4 / 1970
SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 118.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 58 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	6.0	0.0	
635.0	PLEISTOCENE		UNCONSOLIDATED	15.0	6.0	
620.0	SHELBURN		GRAY SHALE	8.0	21.0	
612.0	SHELBURN		DARK SHALE	15.0	29.0	
597.0	SHELBURN		SHALE	8.0	44.0	BROWN
589.0	SHELBURN		DARK SHALE	2.0	52.0	
587.0	SHELBURN		COAL	1.7	54.0	VERY SOFT
585.3	SHELBURN		UNDERCLAY	6.3	55.7	
579.0	SHELBURN		SHALE	25.0	62.0	
554.0	SHELBURN		LIMESTONE	1.0	87.0	
553.0	SHELBURN		SHALE	30.0	88.0	

MAPID: 10581053000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 20 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NE
QUADRANGLE: LONG POINT LONGITUDE: -88.901378 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.05228 DATE COLLECTED: 2 / 4 / 1970
SURFACE ELEVATION (FT.): 645.0 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 59 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	10.0	0.0	
635.0	PLEISTOCENE		UNCONSOLIDATED	13.0	10.0	
622.0	SHELBURN		SHALE	24.2	23.0	
597.8	SHELBURN		COAL	1.9	47.2	SOFT
595.9	SHELBURN		UNDERCLAY	8.9	49.1	
587.0	SHELBURN		SHALE	46.0	58.0	
541.0	SHELBURN		LIMESTONE	1.3	104.0	
539.7	SHELBURN		SHALE	12.7	105.3	

MAPID: 10581054000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 20 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NW
QUADRANGLE: LONG POINT LONGITUDE: -88.911129 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.052107 DATE COLLECTED: 2 / 5 / 1970
SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 62 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
644.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	10.0	0.0	
634.0	PLEISTOCENE		UNCONSOLIDATED	18.0	10.0	
616.0	SHELBURN		DARK SHALE	20.0	28.0	
596.0	SHELBURN		COAL	1.3	48.0	
594.7	SHELBURN		UNDERCLAY	4.7	49.3	
590.0	SHELBURN		MICACEOUS SHALE	6.0	54.0	
584.0	SHELBURN		DARK SHALE	34.0	60.0	
550.0	SHELBURN		MICACEOUS SHALE	14.0	94.0	

MAPID: 10581055000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 20 QUARTERS/FOOTAGES: 1' N line, 1' E line of SE NE
QUADRANGLE: LONG POINT LONGITUDE: -88.891568 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.056094 DATE COLLECTED: 2 / 5 / 1970
SURFACE ELEVATION (FT.): 637.0 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 63 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
637.0	PLEISTOCENE		UNCONSOLIDATED	11.5	0.0
625.5	PLEISTOCENE		UNCONSOLIDATED	8.0	11.5
617.5	PLEISTOCENE		SAND & GRAVEL	34.5	19.5
583.0	PLEISTOCENE		UNCONSOLIDATED	15.0	54.0
568.0	SHELBURN		SHALE	10.0	69.0
558.0	SHELBURN		SANDSTONE	5.0	79.0
553.0	SHELBURN		SHALE	34.0	84.0

MAPID: 10500296000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: NW SW SW
QUADRANGLE: LONG POINT LONGITUDE: -88.890515 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.047919 DATE COLLECTED:
SURFACE ELEVATION (FT.): 633.0 LOGGED (FT.): 263.0 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
544.0	CARBONDALE	HERRIN	COAL	-	89.0
544.0	CARBONDALE		UNCLASSIFIED	23.0	89.0
521.0	CARBONDALE	SPRING LAKE	COAL	-	112.0
521.0	CARBONDALE		UNCLASSIFIED	68.0	112.0
453.0	CARBONDALE	SPRINGFIELD	COAL	-	180.0
453.0	CARBONDALE		UNCLASSIFIED	27.0	180.0
426.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	207.0
425.0	CARBONDALE		UNCLASSIFIED	18.0	208.0
407.0	CARBONDALE	LOWELL	COAL	-	226.0
407.0	CARBONDALE		UNCLASSIFIED	36.0	226.0
371.0	CARBONDALE	COLCHESTER	COAL	1.0	262.0

MAPID: 10500452000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: SW/c NW SW NE SE
QUADRANGLE: LONG POINT LONGITUDE: -88.877229 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.051007 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 34.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 14 WELL TYPE: Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	11.0	0.0	
-	PLEISTOCENE		SAND	3.0	11.0	
-			SHALE	18.5	14.0	
-			UNDERCLAY	2.0	32.5	

MAPID: 10500453000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: NE NE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.873605 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.052028 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 32.8 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 15 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	4.0	0.0	
-	PLEISTOCENE		SAND	3.0	4.0	RED
-	MODESTO		SHALE	2.0	7.0	
-	MODESTO		SANDSTONE	12.0	9.0	
-	MODESTO		SHALE	9.8	21.0	
-	CARBONDALE	DANVILLE	COAL	2.1	30.8	UNDERLAYING FIRE CLAY

MAPID: 10500453000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: NE NE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.873605 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.052028 DATE COLLECTED:
SURFACE ELEVATION (FT.): 628.0 LOGGED (FT.): 33.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
597.0	CARBONDALE	DANVILLE	COAL	2.0	31.0	

MAPID: 10500454000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 21 **QUARTERS/FOOTAGES:** SE/c NW SW SW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.890515 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.047919 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 42.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 17 **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	10.0	0.0	
-			SHALE	6.0	10.0	
-			SANDSTONE	5.0	16.0	
-			SHALE	21.0	21.0	

MAPID: 10500455000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 21 **QUARTERS/FOOTAGES:** NW NW SW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.890446 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.051571 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 34.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 32 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	9.0	0.0	
-	PLEISTOCENE		GRAVEL	23.7	9.0	
-	CARBONDALE	DANVILLE	COAL	1.3	32.7	UNDERLAYING FIRE CLAY

MAPID: 10500455000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 21 **QUARTERS/FOOTAGES:** NW NW SW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.890446 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.051571 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 637.0 **LOGGED (FT.):** 33.3 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
605.0	CARBONDALE	DANVILLE	COAL	1.3	32.0	

MAPID: 10500456000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: NE/c NW SW
QUADRANGLE: LONG POINT LONGITUDE: -88.880759 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.055515 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 35.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 34 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	9.0	0.0	
-	PLEISTOCENE		SAND	12.0	9.0	
-	MODESTO		SANDSTONE	13.5	21.0	
-	CARBONDALE	DANVILLE	COAL	0.5	34.5	UNDERLAYING FIRE CLAY

MAPID: 10500457000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: NE/c
QUADRANGLE: LONG POINT LONGITUDE: -88.882008 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.052719 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 34.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 36 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	10.0	0.0	
-	PLEISTOCENE		SAND	11.0	10.0	
-	MODESTO		SANDSTONE	12.5	21.0	
-	CARBONDALE	DANVILLE	COAL	0.5	33.5	UNDERLAYING FIRE CLAY

MAPID: 10521212000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: SE/c SE
QUADRANGLE: LONG POINT LONGITUDE: -88.87726 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.049162 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 47.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 13 WELL TYPE: Dry Hole
COMMENT: NO COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	15.0	0.0	
-			SAND	3.0	15.0	
-			SHALE	22.0	18.0	
-			SANDSTONE	3.0	40.0	
-			SHALE	1.0	43.0	
-			SANDSTONE	3.0	44.0	

MAPID: 10521213000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: SE/c SW
QUADRANGLE: LONG POINT LONGITUDE: -88.886888 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.048922 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 44.1 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 16 WELL TYPE: Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SOIL	11.0	0.0
-			SHALE	5.8	11.0
-			SANDSTONE	1.7	16.8
-			SHALE	23.8	18.4
-			SANDSTONE	1.9	42.2

MAPID: 10581056000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 21 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW
QUADRANGLE: LONG POINT LONGITUDE: -88.891763 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.045159 DATE COLLECTED: 1 / 28 / 1970
SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 118.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 44 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
630.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
620.0	PLEISTOCENE		UNCONSOLIDATED	47.0	10.0
573.0	PLEISTOCENE		SAND & GRAVEL	4.0	57.0
569.0	SHELBURN		SHALE	11.0	61.0
558.0	SHELBURN		SANDSTONE	7.0	72.0
551.0	SHELBURN		SHALE	39.0	79.0

MAPID: 10500297000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 22 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.871287 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.046552 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 629.0 **LOGGED (FT.):** 239.5 **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
477.0	CARBONDALE	SPRINGFIELD	COAL	-	152.0
477.0	CARBONDALE		UNCLASSIFIED	29.0	152.0
448.0	CARBONDALE	HOUCHIN CREEK	COAL	-	181.0
448.0	CARBONDALE		UNCLASSIFIED	56.0	181.0
392.0	CARBONDALE	COLCHESTER	COAL	2.5	237.0

MAPID: 10500458000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 22 **QUARTERS/FOOTAGES:** NE/c SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.867621 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.049481 **DATE COLLECTED:** 10 / 0 / 1936
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 37.5 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 39 **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		CLAY	4.0	0.0
-	PLEISTOCENE		SAND	6.0	4.0
-	PLEISTOCENE		CLAY	2.0	10.0
-	PLEISTOCENE		SAND	1.0	12.0
-	PLEISTOCENE		GRAVEL	3.0	13.0
-	PLEISTOCENE		SAND	2.5	16.0
-			SHALE	1.8	18.5
-			SANDSTONE	3.8	20.3
-			SHALE	5.0	24.0 BLUE
-			SANDSTONE	2.3	29.0
-			SHALE	0.3	31.3 BLUE
-			SANDSTONE	1.1	31.6
-			SHALE	4.0	32.7
-			UNDERCLAY	0.8	36.7

MAPID: 10581057000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 22 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.853069 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.053734 DATE COLLECTED: 1 / 13 / 1970
SURFACE ELEVATION (FT.): 624.0 LOGGED (FT.): 130.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 29 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
624.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
612.0	PLEISTOCENE		UNCONSOLIDATED	6.0	12.0	
606.0	SHELBURN		SHALE	15.0	18.0	
591.0	SHELBURN	DANVILLE	COAL	1.8	33.0	SOFT
589.2	SHELBURN		UNDERCLAY	2.3	34.8	
587.0	SHELBURN		SHALE	90.0	37.0	
497.0	CARBONDALE	HERRIN	COAL	0.3	127.0	BLOSSOM
496.7	CARBONDALE		UNDERCLAY	2.7	127.3	

MAPID: 10581058000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 22 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.872502 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.045576 DATE COLLECTED: 1 / 28 / 1970
SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 128.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 51 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		UNCONSOLIDATED	67.0	0.0	
563.0	SHELBURN		SHALE	61.0	67.0	

MAPID: 10581059000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 22 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.852913 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.061056 DATE COLLECTED: 4 / 2 / 1970
SURFACE ELEVATION (FT.): 624.0 LOGGED (FT.): 146.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 80 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
624.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
614.0	PLEISTOCENE		UNCONSOLIDATED	66.0	10.0
548.0	SHELBURN		CLAYSTONE	4.0	76.0
544.0	SHELBURN		GRAY SHALE	61.5	80.0
482.5	CARBONDALE	HERRIN	COAL	1.9	141.5
480.6	CARBONDALE		UNDERCLAY	1.1	143.4
479.5	CARBONDALE		GRAY SHALE	1.5	144.5

MAPID: 10500459000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 23 QUARTERS/FOOTAGES: NW SW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.851957 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.049155 DATE COLLECTED: 10 / 0 / 1936
SURFACE ELEVATION (FT.): LOGGED (FT.): 38.0 LOG TYPE: Drillers Log
SOURCE: PITTSBURG & MIDWAY COAL CO. 40 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-	PLEISTOCENE		SOIL	10.0	0.0
-	PLEISTOCENE		SAND	11.0	10.0
-	MODESTO		SANDSTONE	15.0	21.0
-	CARBONDALE	DANVILLE	COAL	0.5	36.0
-	CARBONDALE		UNDERCLAY	1.5	36.5

MAPID: 10500459000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 23 QUARTERS/FOOTAGES: NW SW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.851957 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.049155 DATE COLLECTED:
SURFACE ELEVATION (FT.): 624.0 LOGGED (FT.): 36.5 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
588.0	CARBONDALE	DANVILLE	COAL	0.5	36.0

MAPID: 10581060000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 23 QUARTERS/FOOTAGES: 1' N line, 40' E line of SE NE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.833744 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.057426 DATE COLLECTED: 4 / 9 / 1970

SURFACE ELEVATION (FT.): 614.0 LOGGED (FT.): 198.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 87 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
614.0	PLEISTOCENE		UNCONSOLIDATED	5.0	0.0
609.0	PLEISTOCENE		UNCONSOLIDATED	7.0	5.0
602.0	PLEISTOCENE		UNCONSOLIDATED	70.5	12.0
531.5	SHELBURN		GRAY SHALE	12.5	82.5
519.0	SHELBURN		GRAY SHALE	40.0	95.0
479.0	SHELBURN		DARK SHALE	15.8	135.0
463.2	CARBONDALE	HERRIN	COAL	0.5	150.8
462.7	CARBONDALE		UNDERCLAY	2.8	151.3
460.0	CARBONDALE		GRAY SHALE	30.0	154.0
430.0	CARBONDALE		SANDY SHALE	14.0	184.0

MAPID: 10581061000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 24 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.814516 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.05379 DATE COLLECTED: 12 / 31 / 1969

SURFACE ELEVATION (FT.): 614.0 LOGGED (FT.): 96.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 21 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
614.0	PLEISTOCENE		UNCONSOLIDATED	23.0	0.0
591.0	SHELBURN		GRAY SHALE	20.0	23.0 SOFT
571.0	SHELBURN		DARK SHALE	43.0	43.0
528.0	SHELBURN	DANVILLE	COAL	1.8	86.0 SOFT
526.2	SHELBURN		UNDERCLAY	1.3	87.8
525.0	SHELBURN		MICACEOUS SHALE	7.0	89.0

MAPID: 10581062000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 24 **QUARTERS/FOOTAGES:** 1' S line, 1' W line of NE SW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.826573 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.051894 **DATE COLLECTED:** 1 / 28 / 1970
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 108.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 42 **WELL TYPE:** Coal Test
COMMENT: BAD LOCATION INFO BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
620.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0
608.0	PLEISTOCENE		UNCONSOLIDATED	11.0	12.0
597.0	PLEISTOCENE		GRAVEL	13.0	23.0
584.0	PLEISTOCENE		UNCONSOLIDATED	5.0	36.0
579.0	PLEISTOCENE		SAND	4.0	41.0
575.0	PLEISTOCENE		UNCONSOLIDATED	11.0	45.0
564.0	PLEISTOCENE		SAND	16.0	56.0
548.0	PLEISTOCENE		UNCONSOLIDATED	32.0	72.0
516.0			SHALE	4.0	104.0

MAPID: 10581063000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 25 **QUARTERS/FOOTAGES:** 1' N line, 55' W line of NW SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.83397 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.039027 **DATE COLLECTED:** 4 / 9 / 1970
SURFACE ELEVATION (FT.): 622.0 **LOGGED (FT.):** 130.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 86 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
622.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0
612.0	SHELBURN		GRAY SHALE	12.0	10.0
600.0	SHELBURN		GRAY SANDSTONE	29.5	22.0
570.5	SHELBURN		LIMESTONE	1.3	51.5
569.2	SHELBURN		GRAY SANDSTONE	5.2	52.8
564.0	SHELBURN		GRAY SHALE	10.0	58.0
554.0	SHELBURN		GRAY SHALE	6.0	68.0
548.0	SHELBURN	DANVILLE	COAL	2.3	74.0 BAD
545.7	SHELBURN		UNDERCLAY	3.8	76.3
542.0	SHELBURN		GRAY SHALE	12.5	80.0
529.5	SHELBURN		GRAY SHALE	15.5	92.5 AND LIME BUTTONS
514.0	SHELBURN		GRAY SHALE	22.0	108.0

MAPID: 10581064000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 25 QUARTERS/FOOTAGES: SE SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.827086 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.033696 DATE COLLECTED:

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 116.0 LOG TYPE: Drillers Log

SOURCE: AMAX 97 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		UNCONSOLIDATED	48.0	0.0	
572.0			UNKNOWN	35.0	48.0	
537.0	SHELBURN	DANVILLE	COAL	2.4	83.0	
534.6			UNKNOWN	29.6	85.4	
505.0	CARBONDALE	HERRIN	COAL	0.4	115.0	
504.6	CARBONDALE		UNKNOWN	0.6	115.4	COPIED FROM BOREHOLE SUMMARY

MAPID: 10581065000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 26 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.853222 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.046414 DATE COLLECTED: 1 / 27 / 1970

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 108.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 43 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	
610.0	PLEISTOCENE		UNCONSOLIDATED	30.0	10.0	
580.0	PLEISTOCENE		SAND & GRAVEL	16.0	40.0	
564.0			GRAY SHALE	4.5	56.0	
559.5			LIMESTONE	1.5	60.5	
558.0			SHALE	46.0	62.0	

MAPID: 10581066000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 26 **QUARTERS/FOOTAGES:** 1' S line, 1' W line of SW SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.85393 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.031546 **DATE COLLECTED:** 1 / 28 / 1970
SURFACE ELEVATION (FT.): 626.0 **LOGGED (FT.):** 128.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 52 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
626.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	9.0	0.0	
617.0	PLEISTOCENE		UNCONSOLIDATED	13.0	9.0	
604.0	SHELBURN		SHALE	42.0	22.0	
562.0	SHELBURN		BLACK SHALE	2.0	64.0	
560.0	SHELBURN		COAL	1.3	66.0	SOFT, SMUTTY
558.7	SHELBURN		UNDERCLAY	8.8	67.3	
550.0	SHELBURN		SHALE	52.0	76.0	

MAPID: 10581067000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 26 **QUARTERS/FOOTAGES:** 1' N line, 100' W line of NW SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.853215 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.038978 **DATE COLLECTED:** 4 / 10 / 1970
SURFACE ELEVATION (FT.): 625.0 **LOGGED (FT.):** 138.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 88 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0	PLEISTOCENE		SAND	14.0	0.0	
611.0			SANDY SHALE	8.0	14.0	
603.0			GRAY SHALE	23.0	22.0	
580.0			UNKNOWN	12.0	45.0	DRILLER REPORTS SAND AND GRAVEL
568.0			GRAY SHALE	22.5	57.0	SOFT
545.5			LIMESTONE	2.1	79.5	
543.4			GRAY SHALE	9.4	81.6	
534.0			GRAY SHALE	5.0	91.0	LIME BUTTONS
529.0			GRAY SHALE	10.3	96.0	
518.7			GRAY SHALE	31.7	106.3	

MAPID: 10500299000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 27 QUARTERS/FOOTAGES: SE SW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.869102 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.039325 DATE COLLECTED:
SURFACE ELEVATION (FT.): 626.0 LOGGED (FT.): 266.0 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
547.0	CARBONDALE	HERRIN	COAL	-	79.0
547.0	CARBONDALE		UNCLASSIFIED	87.0	79.0
460.0	CARBONDALE	SPRINGFIELD	COAL	-	166.0
460.0	CARBONDALE		UNCLASSIFIED	18.0	166.0
442.0	CARBONDALE	HOUCHIN CREEK	COAL	-	184.0
442.0	CARBONDALE		UNCLASSIFIED	80.0	184.0
362.0	CARBONDALE	COLCHESTER	COAL	2.0	264.0

MAPID: 10500300000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 27 QUARTERS/FOOTAGES: SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.868058 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.034787 DATE COLLECTED:
SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 250.5 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
544.0	CARBONDALE	HERRIN	COAL	1.0	85.0
543.0	CARBONDALE		UNCLASSIFIED	74.0	86.0
469.0	CARBONDALE	SPRINGFIELD	COAL	-	160.0
469.0	CARBONDALE		UNCLASSIFIED	21.0	160.0
448.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	181.0
447.0	CARBONDALE		UNCLASSIFIED	66.0	182.0
381.0	CARBONDALE	COLCHESTER	COAL	2.5	248.0

MAPID: 10500301000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 27 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.855079 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.032435 DATE COLLECTED:
SURFACE ELEVATION (FT.): 624.0 LOGGED (FT.): 270.0 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
561.0	CARBONDALE	DANVILLE	COAL	2.3	63.0
558.7			UNCLASSIFIED	26.7	65.3
532.0	CARBONDALE	HERRIN	COAL	-	92.0
532.0			UNCLASSIFIED	103.0	92.0
429.0	CARBONDALE	SPRINGFIELD	COAL	-	195.0
429.0			UNCLASSIFIED	25.0	195.0
404.0	CARBONDALE	HOUCHIN CREEK	COAL	-	220.0
404.0			UNCLASSIFIED	13.0	220.0
391.0	CARBONDALE	LOWELL	COAL	2.3	233.0
388.7			UNCLASSIFIED	32.7	235.3
356.0	CARBONDALE	COLCHESTER	COAL	2.0	268.0

MAPID: 10500615000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 27 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.871716 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.03193 DATE COLLECTED:
SURFACE ELEVATION (FT.): 641.0 LOGGED (FT.): 159.5 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
484.0	CARBONDALE	COLCHESTER	COAL	2.5	157.0

MAPID: 10500875000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 27 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.871553 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.03741 DATE COLLECTED:
SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 307.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
339.0	CARBONDALE	COLCHESTER	COAL	2.0	305.0

MAPID: 10500302000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 28 QUARTERS/FOOTAGES: NW SW NE
QUADRANGLE: LONG POINT LONGITUDE: -88.881091 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.040843 DATE COLLECTED:
SURFACE ELEVATION (FT.): 631.0 LOGGED (FT.): 243.5 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	
389.0	CARBONDALE	COLCHESTER	COAL	1.5	242.0	

MAPID: 10500303000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 28 QUARTERS/FOOTAGES: NE NE NW
QUADRANGLE: LONG POINT LONGITUDE: -88.883376 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.04443 DATE COLLECTED:
SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 229.0 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	
403.0	CARBONDALE	COLCHESTER	COAL	2.0	227.0	

MAPID: 10500858000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 28 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: LONG POINT LONGITUDE: -88.891107 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.031586 DATE COLLECTED:
SURFACE ELEVATION (FT.): 644.0 LOGGED (FT.): 146.0 LOG TYPE: Nuclear 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	SPRINGFIELD	COAL	-	78.0	
566.0	CARBONDALE		UNCLASSIFIED	26.0	78.0	
540.0	CARBONDALE	HOUCHIN CREEK	COAL	-	104.0	
540.0	CARBONDALE		UNCLASSIFIED	40.0	104.0	
500.0	CARBONDALE	COLCHESTER	COAL	2.0	144.0	

MAPID: 10500306000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 29 QUARTERS/FOOTAGES: SW NW NW
QUADRANGLE: LONG POINT LONGITUDE: -88.910121 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.042162 DATE COLLECTED:
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 180.0 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	
538.0	CARBONDALE	SPRINGFIELD	COAL	-	104.0	
538.0	CARBONDALE		UNCLASSIFIED	21.0	104.0	
517.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	125.0	
514.5	CARBONDALE		UNCLASSIFIED	50.5	127.5	
464.0	CARBONDALE	COLCHESTER	COAL	2.0	178.0	

MAPID: 10500859000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 29 QUARTERS/FOOTAGES: SW NW SW
QUADRANGLE: LONG POINT LONGITUDE: -88.910441 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.034976 DATE COLLECTED:
SURFACE ELEVATION (FT.): 658.0 LOGGED (FT.): 152.5 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.0	CARBONDALE	SPRINGFIELD	COAL	-	78.0	
580.0	CARBONDALE		UNCLASSIFIED	22.0	78.0	
558.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	100.0	
556.5	CARBONDALE		UNCLASSIFIED	48.5	101.5	
508.0	CARBONDALE	COLCHESTER	COAL	2.5	150.0	

MAPID: 10500874000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 29 QUARTERS/FOOTAGES: SE SE SW
QUADRANGLE: LONG POINT LONGITUDE: -88.903289 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.031454 DATE COLLECTED:
SURFACE ELEVATION (FT.): 654.0 LOGGED (FT.): 138.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
519.0	CARBONDALE	COLCHESTER	COAL	3.0	135.0	

MAPID: 10501125000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 29 QUARTERS/FOOTAGES: NW SW SE
QUADRANGLE: LONG POINT LONGITUDE: -88.900774 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.033284 DATE COLLECTED:
SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 142.5 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
578.0	CARBONDALE	SPRINGFIELD	COAL	-	70.0	
578.0	CARBONDALE		UNCLASSIFIED	17.0	70.0	
561.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	87.0	
559.5	CARBONDALE		UNCLASSIFIED	51.5	88.5	
508.0	CARBONDALE	COLCHESTER	COAL	2.5	140.0	

MAPID: 10521148000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 29 QUARTERS/FOOTAGES: NW NW SE
QUADRANGLE: LONG POINT LONGITUDE: -88.900622 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.036893 DATE COLLECTED:
SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 132.5 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
591.0	CARBONDALE	SPRINGFIELD	COAL	-	57.0	
591.0	CARBONDALE		UNCLASSIFIED	18.0	57.0	
573.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	75.0	
571.0	CARBONDALE		UNCLASSIFIED	53.0	77.0	
518.0	CARBONDALE	COLCHESTER	COAL	2.5	130.0	

MAPID: 10521369000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 29 QUARTERS/FOOTAGES: NW NW SW
QUADRANGLE: LONG POINT LONGITUDE: -88.91036 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.036773 DATE COLLECTED:
SURFACE ELEVATION (FT.): 656.0 LOGGED (FT.): 154.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
504.0	CARBONDALE	COLCHESTER	COAL	2.0	152.0	

MAPID: 10500313000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 30 QUARTERS/FOOTAGES:

QUADRANGLE: LONG POINT LONGITUDE: -88.921462 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.037779 DATE COLLECTED:

SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 156.0 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
564.0	CARBONDALE	SPRINGFIELD	COAL	-	84.0
564.0	CARBONDALE		UNCLASSIFIED	20.0	84.0
544.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	104.0
542.0	CARBONDALE		UNCLASSIFIED	15.0	106.0
527.0	CARBONDALE	LOWELL	COAL	1.0	121.0
526.0	CARBONDALE		UNCLASSIFIED	31.0	122.0
495.0	CARBONDALE	COLCHESTER	COAL	3.0	153.0

MAPID: 10521378000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 30 QUARTERS/FOOTAGES: NW SW NW

QUADRANGLE: LONG POINT LONGITUDE: -88.930119 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.040579 DATE COLLECTED:

SURFACE ELEVATION (FT.): 664.0 LOGGED (FT.): 190.0 LOG TYPE: Nuclear Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
553.0	CARBONDALE	SPRINGFIELD	COAL	-	111.0
553.0	CARBONDALE		UNCLASSIFIED	27.0	111.0
526.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	138.0
524.5	CARBONDALE		UNCLASSIFIED	6.5	139.5
518.0	CARBONDALE	LOWELL	COAL	-	146.0
518.0	CARBONDALE		UNCLASSIFIED	42.0	146.0
476.0	CARBONDALE	COLCHESTER	COAL	2.0	188.0

MAPID: 10500264000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 31 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: LONG POINT LONGITUDE: -88.913153

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.024061

DATE COLLECTED: 5 / 0 / 1962

SURFACE ELEVATION (FT.): 645.0 LOGGED (FT.): 233.8

LOG TYPE: Survey Core Study

SOURCE: NORTHERN ILLINOIS GAS CO. S-104

WELL TYPE: Structure Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.0	PLEISTOCENE		UNCONSOLIDATED	37.0	0.0	
608.0	CARBONDALE		SIDERITE	0.2	37.0	
607.8	CARBONDALE		SILTSTONE	1.5	37.2	
606.2	CARBONDALE		SHALE	1.5	38.8	DARK GRAY
604.7	CARBONDALE		SHALE	0.6	40.3	DARK GRAY
604.2	CARBONDALE		SHALE	0.6	40.8	MEDIUM GRAY
603.6	CARBONDALE		SHALE	1.3	41.4	
602.2	CARBONDALE		SHALE	1.2	42.8	
601.1	CARBONDALE		SHALE	3.9	43.9	
597.2	CARBONDALE		SHALE	5.6	47.8	WITH SILTSTONE
591.6	CARBONDALE		SILTSTONE	1.0	53.4	LIGHT GRAY
590.6	CARBONDALE		UNCLASSIFIED	0.3	54.4	
590.3	CARBONDALE		SHALE	5.3	54.7	
585.0	CARBONDALE		SHALE	1.8	60.0	
583.2	CARBONDALE		SHALE	3.6	61.8	DARK GRAY
579.7	CARBONDALE		SHALE	5.6	65.3	
574.1	CARBONDALE		SHALE	1.0	70.9	DARK GRAY
573.1	CARBONDALE		SHALE	1.9	71.9	
571.2	CARBONDALE		SHALE	0.1	73.8	
571.0	CARBONDALE		CLAYSTONE	0.5	74.0	
570.5	CARBONDALE		SHALE	0.5	74.5	
570.1	CARBONDALE		CLAYSTONE	1.0	74.9	GRAY
569.1	CARBONDALE		CLAYSTONE	1.8	75.9	
567.2	CARBONDALE		SHALE	3.8	77.8	
563.6	CARBONDALE		SHALE	1.4	81.4	
562.2	CARBONDALE		SHALE	1.4	82.8	LIGHT GRAY
560.7	CARBONDALE		SHALE	3.8	84.3	LIGHT GREEN
557.0	CARBONDALE		SHALE	2.0	88.0	LIGHT GRAY
555.0	CARBONDALE		SHALE	2.0	90.0	GREENISH GRAY
553.0	CARBONDALE		SHALE	1.2	92.0	LIGHT GRAY
551.8	CARBONDALE		SHALE	0.3	93.2	
551.5	CARBONDALE		SIDERITE	0.1	93.5	
551.4	CARBONDALE		SHALE	1.4	93.6	
550.0	CARBONDALE	HOUCHIN CREEK	COAL	1.8	95.0	
548.2	CARBONDALE		UNDERCLAY	0.3	96.8	
547.9	CARBONDALE		UNDERCLAY	1.0	97.1	LIGHT GRAY
546.9	CARBONDALE		SHALE	0.5	98.1	
546.4	CARBONDALE		SHALE	1.8	98.6	LIGHT GREEN
544.6	CARBONDALE		CORE LOSS	12.6	100.4	

532.0	CARBONDALE	COLCHESTER	SANDSTONE	1.8	113.0	
530.2	CARBONDALE		CORE LOSS	1.2	114.8	
529.0	CARBONDALE		SANDSTONE	1.0	116.0	
528.0	CARBONDALE		SILTSTONE	1.8	117.0	
526.2	CARBONDALE		SANDSTONE	2.5	118.8	DEPTH ADJUSTED FOR MISSING CORE
523.7	CARBONDALE		SANDSTONE	1.8	121.3	DEPTH ADJUSTED FOR MISSING CORE
522.0	CARBONDALE		SILTSTONE	0.5	123.0	
521.5	CARBONDALE		SHALE	0.9	123.5	
520.6	CARBONDALE		SILTSTONE	3.6	124.4	
517.0	CARBONDALE		SILTSTONE	3.3	128.0	GRAY
513.7	CARBONDALE		SHALE	1.7	131.3	
512.0	CARBONDALE		SHALE	7.0	133.0	
505.0	CARBONDALE		SHALE	5.6	140.0	
499.4	CARBONDALE		SHALE	1.0	145.6	MEDIUM GRAY
498.4	CARBONDALE		SHALE	4.2	146.6	DEPTH ADJUSTED FOR MISSING CORE
494.2	CARBONDALE		SHALE	1.0	150.8	
493.2	CARBONDALE		SHALE	0.3	151.8	
492.9	CARBONDALE		SHALE	0.3	152.1	
492.6	CARBONDALE		SHALE	1.5	152.4	FINE BLACK
491.1	CARBONDALE		SHALE	0.3	153.9	
490.8	CARBONDALE		SHALE	0.8	154.2	DEPTH ADJUSTED FOR MISSING CORE
490.0	CARBONDALE		COAL	2.1	155.0	DETAILED DESCRIPTION OF COAL IN LOG
487.9	TRADEWATER		UNDERCLAY	2.4	157.1	DEPTH ADJUSTED FOR MISSING CORE
485.5	TRADEWATER		SHALE	0.6	159.5	LIGHT GRAY
484.9	TRADEWATER		SHALE	4.8	160.1	DEPTH ADJUSTED FOR MISSING CORE; LIGHT G
480.1	TRADEWATER		SILTSTONE	2.8	164.9	
477.3	TRADEWATER		SHALE	2.9	167.7	LIGHT GRAY
474.4	TRADEWATER		SHALE	0.6	170.6	LIGHT GRAY
473.8	TRADEWATER		SILTSTONE	1.8	171.2	
472.1	TRADEWATER		SHALE	3.1	172.9	WITH SIDERITE;DEPTH ADJ.FOR MISSING CORE
469.0	TRADEWATER		SHALE	5.6	176.0	LIGHT GRAY
463.4	TRADEWATER		SHALE	1.0	181.6	LIGHT GRAY
462.4	TRADEWATER		UNDERCLAY	0.2	182.6	
462.2	TRADEWATER		SHALE	0.1	182.8	LIGHT GRAY
462.2	TRADEWATER		UNDERCLAY	2.2	182.8	DEPTH ADJUSTED FOR MISSING CORE
460.0	TRADEWATER		SHALE	1.9	185.0	
458.1	TRADEWATER		SILTSTONE	0.5	186.9	
457.6	TRADEWATER		SILTSTONE	1.2	187.4	GRAY
456.4	TRADEWATER		CLAYSTONE	1.4	188.6	DEPTH ADJUSTED FOR MISSING CORE
455.0	TRADEWATER		SHALE	1.7	190.0	
453.3	TRADEWATER		SHALE	0.7	191.7	GREENISH GRAY
452.7	TRADEWATER		SHALE	1.7	192.3	DEPTH ADJ.FOR MISSING CORE;GREEN GRAY
451.0	TRADEWATER		CONCRETION	0.2	194.0	
450.8	TRADEWATER		SHALE	0.6	194.2	GREENISH GRAY
450.2	TRADEWATER		SHALE	0.1	194.8	
450.2	TRADEWATER		SHALE	0.4	194.8	GREENISH GRAY
449.7	TRADEWATER		SHALE	0.1	195.3	

449.7	TRADEWATER	SHALE	0.7	195.3	DEPTH ADJUSTED FOR MISSING CORE; LIGHT G
449.0	TRADEWATER	SHALE	1.6	196.0	LIGHT GRAY
447.4	TRADEWATER	SHALE	1.3	197.6	
446.1	TRADEWATER	SHALE	3.9	198.9	CORE BADLY BROKEN
442.2	TRADEWATER	SHALE	0.5	202.8	
441.7	TRADEWATER	SHALE	2.5	203.3	
439.2	TRADEWATER	SHALE	0.8	205.8	
438.3	TRADEWATER	SHALE	1.9	206.7	LIGHT GRAY
436.4	TRADEWATER	SHALE	1.3	208.6	
435.1	TRADEWATER	CLAYSTONE	3.1	209.9	
432.0	TRADEWATER	SHALE	0.3	213.0	DARK GRAY
431.7	TRADEWATER	SHALE	1.0	213.3	
430.7	TRADEWATER	SHALE	0.7	214.3	DEPTH ADJUSTED FOR MISSING CORE; LIGHT G
430.0	TRADEWATER	SHALE	2.5	215.0	DARK GRAY
427.5	TRADEWATER	SANDSTONE	0.8	217.5	
426.7	TRADEWATER	SHALE	0.3	218.3	MEDIUM GRAY
426.3	TRADEWATER	SANDSTONE	1.4	218.7	LIGHT GRAY
424.9	TRADEWATER	SANDSTONE	4.4	220.1	DEPTH ADJUSTED FOR MISSING CORE
420.5	TRADEWATER	SHALE	1.1	224.5	
419.4	TRADEWATER	SILTSTONE	2.3	225.6	DEPTH ADJUSTED FOR MISSING CORE
417.2	TRADEWATER	SHALE	4.0	227.8	
413.2	TRADEWATER	SHALE	0.5	231.8	
412.7	TRADEWATER	SANDSTONE	1.8	232.3	DEPTH ADJUSTED FOR MISSING CORE

MAPID: 10500264000C VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 31 QUARTERS/FOOTAGES: SE SE NE

QUADRANGLE: LONG POINT LONGITUDE: -88.913153 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.024061 DATE COLLECTED:

SURFACE ELEVATION (FT.): 645.0 LOGGED (FT.): 157.1 LOG TYPE: Survey Core Study

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG; CORE #4307

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
574.0	CARBONDALE	SPRINGFIELD	COAL	-	71.0
574.0	CARBONDALE		UNCLASSIFIED	24.0	71.0
550.0	CARBONDALE	HOUCHIN CREEK	COAL	1.8	95.0
548.2	CARBONDALE		UNCLASSIFIED	58.2	96.8
490.0	CARBONDALE	COLCHESTER	COAL	2.1	155.0

MAPID: 10521373000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 31 QUARTERS/FOOTAGES: NE NE NW
QUADRANGLE: LONG POINT LONGITUDE: -88.922878 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.029671 DATE COLLECTED:
SURFACE ELEVATION (FT.): 659.0 LOGGED (FT.): 145.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
589.0	CARBONDALE	SPRINGFIELD	COAL	-	70.0
589.0	CARBONDALE		UNCLASSIFIED	25.0	70.0
564.0	CARBONDALE	HOUCHIN CREEK	COAL	-	95.0
564.0	CARBONDALE		UNCLASSIFIED	48.0	95.0
516.0	CARBONDALE	COLCHESTER	COAL	2.0	143.0

MAPID: 10500277000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 32 QUARTERS/FOOTAGES: SE SW SE
QUADRANGLE: LONG POINT LONGITUDE: -88.898655 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.016881 DATE COLLECTED:
SURFACE ELEVATION (FT.): 643.0 LOGGED (FT.): 187.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
539.0	CARBONDALE	SPRINGFIELD	COAL	-	104.0
539.0	CARBONDALE		UNCLASSIFIED	21.0	104.0
518.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	125.0
517.0	CARBONDALE		UNCLASSIFIED	60.0	126.0
457.0	CARBONDALE	COLCHESTER	COAL	1.0	186.0

MAPID: 10500317000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 32 QUARTERS/FOOTAGES:
QUADRANGLE: LONG POINT LONGITUDE: -88.902212 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.023248 DATE COLLECTED:
SURFACE ELEVATION (FT.): 642.0 LOGGED (FT.): 150.0 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
575.0	CARBONDALE	SPRINGFIELD	COAL	-	67.0
575.0	CARBONDALE		UNCLASSIFIED	21.0	67.0
554.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	88.0
552.0	CARBONDALE		UNCLASSIFIED	58.0	90.0
494.0	CARBONDALE	COLCHESTER	COAL	2.0	148.0

MAPID: 10501136000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 32 QUARTERS/FOOTAGES: SW NE NW

QUADRANGLE: LONG POINT LONGITUDE: -88.905804 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.027784 DATE COLLECTED:

SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 134.0 LOG TYPE: Nuclear Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
596.0	CARBONDALE	SPRINGFIELD	COAL	-	51.0	
596.0	CARBONDALE		UNCLASSIFIED	21.0	51.0	
575.0	CARBONDALE	HOUCHIN CREEK	COAL	-	72.0	
575.0	CARBONDALE		UNCLASSIFIED	60.0	72.0	
515.0	CARBONDALE	COLCHESTER	COAL	2.0	132.0	

MAPID: 10581068000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 32 QUARTERS/FOOTAGES: SE NE

QUADRANGLE: LONG POINT LONGITUDE: -88.894879 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.025148 DATE COLLECTED:

SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 126.0 LOG TYPE: Drillers Log

SOURCE: AMAX 101 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0	PLEISTOCENE		UNCONSOLIDATED	47.0	0.0	
592.0			UNKNOWN	19.0	47.0	
573.0			COAL	2.0	66.0	
571.0			UNKNOWN	56.0	68.0	
515.0			COAL	0.7	124.0	
514.3			UNKNOWN	1.3	124.7	COPIED FROM BOREHOLE SUMMARY

MAPID: 10500273000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 33 **QUARTERS/FOOTAGES:** NE NE NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.883878 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.029894 **DATE COLLECTED:** 5 / 0 / 1962
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 154.9 **LOG TYPE:** Survey Core Study
SOURCE: NORTHERN ILLINOIS GAS CO. 1 **WELL TYPE:** Structure Test
COMMENT: TOTAL DEPTH 425 FEET

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0	PLEISTOCENE		UNCONSOLIDATED	32.0	0.0	
603.0			SHALE	4.0	32.0	
599.0			SILTSTONE	7.0	36.0	MEDIUM GRAY
592.0			SILTSTONE	9.8	43.0	
582.2			SANDSTONE	24.2	52.8	MEDIUM GRAY
558.0			SANDSTONE	23.0	77.0	
535.0			CORE LOSS	12.0	100.0	
523.0			SANDSTONE	0.3	112.0	
522.7			LIMESTONE	0.7	112.3	
523.0			SANDSTONE	2.0	112.0	DEPTH ADJUSTED FOR MISSING CORE
521.0			COAL	1.1	114.0	WITH PRIMARILY LIMESTONE
519.9			SHALE	7.9	115.1	LIGHT GRAY
512.0			SHALE	2.0	123.0	MEDIUM GRAY
510.0			CLAYSTONE & SILTSTONE	2.0	125.0	MEDIUM GRAY
508.0			CLAYSTONE & SILTSTONE	1.0	127.0	
507.0			SILTSTONE	5.0	128.0	
502.0			CLAYSTONE & SILTSTONE	4.0	133.0	
498.0			CORE LOSS	13.0	137.0	
485.0			CLAYSTONE & SILTSTONE	4.8	150.0	

MAPID: 10500273000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 3E **SECTION:** 33 **QUARTERS/FOOTAGES:** NE NE NW
QUADRANGLE: LONG POINT **LONGITUDE:** -88.883878 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.029894 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 635.0 **LOGGED (FT.):** 114.0 **LOG TYPE:** Survey Core Study
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG; CORE #4313

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
521.0	CARBONDALE	COLCHESTER	COAL	-	114.0	

MAPID: 10500324000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 33 QUARTERS/FOOTAGES:

QUADRANGLE: LONG POINT LONGITUDE: -88.882783 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.02358 DATE COLLECTED:

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 140.0 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	
502.0	CARBONDALE	COLCHESTER	COAL	2.0	138.0	

MAPID: 10581069000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 33 QUARTERS/FOOTAGES: NE SE

QUADRANGLE: LONG POINT LONGITUDE: -88.875558 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.02196 DATE COLLECTED:

SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 78.0 LOG TYPE: Drillers Log

SOURCE: AMAX 105 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0	PLEISTOCENE		UNCONSOLIDATED	40.0	0.0	
595.0			UNKNOWN	36.0	40.0	
559.0			UNKNOWN	2.0	76.0	COAL TRACES; COPIED FROM BOREHOLESUMMARY

MAPID: 10500269000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 34 QUARTERS/FOOTAGES: NE NW SE

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.860032

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.023163

DATE COLLECTED: 6 / 3 / 1962

SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 247.0

LOG TYPE: Survey Core Study

SOURCE: NORTHERN ILLINOIS GAS CO. S111

WELL TYPE: Structure Test

COMMENT: TOTAL DEPTH OF HOLE = 565 FEET

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0	PLEISTOCENE		UNCONSOLIDATED	56.0	0.0	
573.0	CARBONDALE		SHALE	2.5	56.0	
570.5	CARBONDALE		SHALE	0.5	58.5	
570.0	CARBONDALE		SHALE	3.8	59.0	
566.2	CARBONDALE		SHALE	0.7	62.8	
565.5	CARBONDALE		SILTSTONE	1.0	63.5	
564.5	CARBONDALE		SHALE	2.0	64.5	
562.5	CARBONDALE		SHALE	1.3	66.5	
561.2	CARBONDALE		SHALE & SILTSTONE	1.0	67.8	
560.2	CARBONDALE		SANDSTONE	5.2	68.8	
555.0	CARBONDALE		SANDSTONE	1.8	74.0	
553.2	CARBONDALE		SHALE	2.0	75.8	
551.2	CARBONDALE		COAL	0.8	77.8	5.5" SHALE, 1.5" CLAY, 3.5" COAL
550.4	CARBONDALE		CLAYSTONE & SILTSTONE	0.6	78.6	
549.7	CARBONDALE		SANDSTONE	0.6	79.3	
549.2	CARBONDALE		SANDSTONE	1.7	79.8	
547.5	CARBONDALE		SANDSTONE	3.0	81.5	
544.5	CARBONDALE		SANDSTONE	0.8	84.5	
543.7	CARBONDALE		SILTY CLAYSTONE	0.9	85.3	
542.7	CARBONDALE		SANDSTONE/SILTSTONE	0.7	86.3	
542.1	CARBONDALE		CLAYSTONE & LIMESTONE	1.2	86.9	
540.9	CARBONDALE		SANDSTONE	1.6	88.1	
539.3	CARBONDALE		SILTSTONE & SHALE	5.8	89.7	
533.6	CARBONDALE		SILTSTONE	0.5	95.4	
533.1	CARBONDALE		SILTSTONE	4.1	95.9	
529.0	CARBONDALE		SANDSTONE	1.8	100.0	
527.2	CARBONDALE		SANDSTONE	1.3	101.8	
526.0	CARBONDALE		CLAYSTONE	1.8	103.0	
524.2	CARBONDALE		SILTSTONE/SANDSTONE	1.5	104.8	
522.7	CARBONDALE		SANDSTONE	4.4	106.3	
518.3	CARBONDALE		CLAYSTONE	0.7	110.7	
517.7	CARBONDALE		CLAYSTONE	3.7	111.3	
514.0	CARBONDALE		CLAYSTONE	5.1	115.0	
508.9	CARBONDALE		LIMESTONE	0.4	120.1	
508.5	CARBONDALE		CLAYSTONE	0.5	120.5	
508.0	CARBONDALE		CLAYSTONE	4.8	121.0	
503.2	CARBONDALE		CLAYSTONE	1.3	125.8	
501.9	CARBONDALE		SHALE	1.2	127.1	

500.7	CARBONDALE		SHALE	0.8	128.3	
500.0	CARBONDALE	HOUCHIN CREEK	COAL	2.1	129.0	1.5 INCH OF COALY SHALE
497.9	CARBONDALE		UNDERCLAY	2.9	131.1	
495.0	CARBONDALE		CLAYSTONE & SILTSTONE	2.0	134.0	
493.0	CARBONDALE		CLAYSTONE	4.0	136.0	
489.0	CARBONDALE		LIMESTONE	0.7	140.0	
488.3	CARBONDALE		SHALE	4.3	140.7	
484.0	CARBONDALE		SHALE	3.1	145.0	
480.9	CARBONDALE		SILTSTONE/SANDSTONE	1.8	148.1	
479.2	CARBONDALE		SILTSTONE/SANDSTONE	4.9	149.8	
474.2	CARBONDALE		SILTSTONE	5.6	154.8	
468.7	CARBONDALE		SILTSTONE/SANDSTONE	5.0	160.3	
463.7	CARBONDALE		SILTSTONE	4.7	165.3	
459.0	CARBONDALE		SHALE	5.3	170.0	
453.7	CARBONDALE		SHALE	2.8	175.3	
451.0	CARBONDALE		LIMESTONE	0.6	178.0	
450.4	CARBONDALE		SHALE	0.5	178.6	
449.9	CARBONDALE		SHALE	1.8	179.1	
448.2	CARBONDALE		SHALE	0.3	180.8	
447.8	CARBONDALE		SHALE	4.6	181.2	
443.2	CARBONDALE	COLCHESTER	COAL	1.9	185.8	
441.3	TRADEWATER		UNDERCLAY	1.8	187.7	
439.5	TRADEWATER		SILTSTONE & SHALE	5.3	189.5	
434.2	TRADEWATER		SHALE	4.8	194.8	
429.5	TRADEWATER		SHALE	3.2	199.5	
426.3	TRADEWATER		CLAYSTONE & SILTSTONE	2.5	202.7	
423.8	TRADEWATER		SHALE	4.8	205.2	
419.0	TRADEWATER		SANDSTONE	0.2	210.0	
418.8	TRADEWATER		SANDSTONE	2.8	210.2	
416.0	TRADEWATER		SHALE	3.3	213.0	
412.7	TRADEWATER		SHALE	0.3	216.3	
412.5	TRADEWATER		CLAYSTONE & SILTSTONE	2.3	216.5	
410.2	TRADEWATER		SILTSTONE	0.7	218.8	
409.6			UNCLASSIFIED	17.6	219.4	NO CORE
392.0	ORDOVICIAN		LIMESTONE	10.0	237.0	

MAPID: 10500269000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 34 QUARTERS/FOOTAGES: NE NW SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.860032 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.023163 DATE COLLECTED:
SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 187.9 LOG TYPE: Survey Core Study
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG; CORE #4337

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
552.0	CARBONDALE	SPRING LAKE	COAL	0.8	77.0
551.2	CARBONDALE		UNCLASSIFIED	32.2	77.8
519.0	CARBONDALE	SPRINGFIELD	COAL	-	110.0
519.0	CARBONDALE		UNCLASSIFIED	19.0	110.0
500.0	CARBONDALE	HOUCHIN CREEK	COAL	2.1	129.0
497.9	CARBONDALE		UNCLASSIFIED	54.9	131.1
443.0	CARBONDALE	COLCHESTER	COAL	1.9	186.0

MAPID: 10500329000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 34 QUARTERS/FOOTAGES:
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.863579 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.024004 DATE COLLECTED:
SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 151.5 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
597.0	CARBONDALE	SPRING LAKE	COAL	1.0	38.0
596.0	CARBONDALE		UNCLASSIFIED	37.0	39.0
559.0	CARBONDALE	SPRINGFIELD	COAL	-	76.0
559.0	CARBONDALE		UNCLASSIFIED	20.0	76.0
539.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	96.0
538.0	CARBONDALE		UNCLASSIFIED	53.0	97.0
485.0	CARBONDALE	COLCHESTER	COAL	1.5	150.0

MAPID: 10500624000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 34 QUARTERS/FOOTAGES: SE NW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.869428 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.028387 DATE COLLECTED:
SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 139.5 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
510.0	CARBONDALE	COLCHESTER	COAL	2.5	137.0

MAPID: 10500865000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 34 QUARTERS/FOOTAGES: SE NW SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.869585 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.021184 DATE COLLECTED:
SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 150.0 LOG TYPE: Nuclear Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.0	CARBONDALE	COLCHESTER	COAL	2.0	148.0	

MAPID: 10581070000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 34 QUARTERS/FOOTAGES: SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.858892 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.020446 DATE COLLECTED:
SURFACE ELEVATION (FT.): 629.0 LOGGED (FT.): 106.0 LOG TYPE: Drillers Log
SOURCE: AMAX 99 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0	PLEISTOCENE		UNCONSOLIDATED	47.0	0.0	
582.0			UNKNOWN	44.4	47.0	
537.6			COAL	1.6	91.4	
536.0			UNKNOWN	13.0	93.0	COPIED FROM BOREHOLE SUMMARY

MAPID: 10500331000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 35 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.836167 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.018138 DATE COLLECTED:
SURFACE ELEVATION (FT.): 622.0 LOGGED (FT.): 278.3 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	
549.0	CARBONDALE	DANVILLE	COAL	2.5	73.0	
546.5	CARBONDALE		UNCLASSIFIED	30.5	75.5	
516.0	CARBONDALE	HERRIN	COAL	1.0	106.0	
515.0	CARBONDALE		UNCLASSIFIED	169.0	107.0	
346.0	CARBONDALE	COLCHESTER	COAL	2.3	276.0	

MAPID: 10581071000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 3E SECTION: 36 QUARTERS/FOOTAGES: SW SW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.832479 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.019124 DATE COLLECTED:

SURFACE ELEVATION (FT.): 624.0 LOGGED (FT.): 122.0 LOG TYPE: Drillers Log

SOURCE: AMAX 91 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
624.0	PLEISTOCENE		UNCONSOLIDATED	56.0	0.0	
568.0			UNKNOWN	17.0	56.0	
551.0	SHELBURN	DANVILLE	COAL	2.5	73.0	
548.5			UNKNOWN	35.5	75.5	
513.0	CARBONDALE	HERRIN	COAL	1.0	111.0	
512.0			UNKNOWN	10.0	112.0	COPIED FROM BOREHOLE SUMMARY

MAPID: 10500336000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 1 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: BLACKSTONE LONGITUDE: -88.704481 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.106073 DATE COLLECTED:

SURFACE ELEVATION (FT.): 725.0 LOGGED (FT.): 389.0 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	
547.0	CARBONDALE	DANVILLE	COAL	-	178.0	
547.0	CARBONDALE		UNCLASSIFIED	20.0	178.0	
527.0	CARBONDALE	HERRIN	COAL	-	198.0	
527.0	CARBONDALE		UNCLASSIFIED	128.0	198.0	
399.0	CARBONDALE	SPRINGFIELD	COAL	-	326.0	
399.0	CARBONDALE		UNCLASSIFIED	15.0	326.0	
384.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	341.0	
381.5	CARBONDALE		UNCLASSIFIED	43.5	343.5	
338.0	CARBONDALE	COLCHESTER	COAL	2.0	387.0	

MAPID: 10500161000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 3 QUARTERS/FOOTAGES: NW NW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.755332 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.105801 DATE COLLECTED:
SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 268.0 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	
519.0	CARBONDALE	HERRIN	COAL	1.5	116.0	
517.5	CARBONDALE		UNCLASSIFIED	87.5	117.5	
430.0	CARBONDALE	SPRINGFIELD	COAL	-	205.0	
430.0	CARBONDALE		UNCLASSIFIED	16.0	205.0	
414.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	221.0	
412.0	CARBONDALE		UNCLASSIFIED	43.0	223.0	
369.0	CARBONDALE	COLCHESTER	COAL	2.0	266.0	

MAPID: 10581072000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 5 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.776251 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.091288 DATE COLLECTED: 1 / 30 / 1970
SURFACE ELEVATION (FT.): 622.0 LOGGED (FT.): 155.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 57 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
622.0	PLEISTOCENE	SPRINGFIELD	UNCONSOLIDATED	36.0	0.0	
586.0	SHELBURN		SANDY SHALE	49.0	36.0	
537.0	SHELBURN		DARK SHALE	59.0	85.0	
478.0	CARBONDALE		COAL	2.5	144.0	SOFT
475.5	CARBONDALE		UNDERCLAY	6.5	146.5	
469.0	CARBONDALE		SHALE	2.0	153.0	

MAPID: 10500001000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 6 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.809656 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.105416 DATE COLLECTED:

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 70.5 LOG TYPE: Drillers Log

SOURCE: CHI. WIL. & VERMILION COAL 7 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	
608.0	PLEISTOCENE		CLAY	7.0	12.0	
601.0	PLEISTOCENE		SAND & GRAVEL	4.0	19.0	
597.0	PLEISTOCENE		CLAY	10.0	23.0	
587.0	CARBONDALE		SANDSTONE	15.0	33.0	
572.0	CARBONDALE		SHALE	14.0	48.0	BLUE
558.0	CARBONDALE	HERRIN	COAL	2.0	62.0	
556.0	CARBONDALE	HERRIN	COAL	2.3	64.0	
553.7	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	0.8	66.3	
553.0	CARBONDALE	HERRIN	COAL	0.5	67.0	
552.5	CARBONDALE	HERRIN	COAL	1.5	67.5	
551.0			UNDERCLAY	1.5	69.0	

MAPID: 10500001000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 6 QUARTERS/FOOTAGES: NE NW NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.809656 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.105416 DATE COLLECTED:

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 68.2 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
558.0	CARBONDALE	HERRIN	COAL	6.2	62.0	

MAPID: 10500007000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 6 QUARTERS/FOOTAGES: NW

QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.808576 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.102533 DATE COLLECTED: 0 / 0 / 1904

SURFACE ELEVATION (FT.): 625.0 LOGGED (FT.): 508.0 LOG TYPE: Drillers Log

SOURCE: C. S. CUMMING 1 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0	PLEISTOCENE		SOIL	2.5	0.0	
622.5	PLEISTOCENE		CLAY	6.0	2.5	YELLOW
616.5	PLEISTOCENE		CLAY	7.5	8.5	
609.0	PLEISTOCENE		CLAY	7.0	16.0	BLUE
602.0	MODESTO		SANDSTONE	4.0	23.0	
598.0	CARBONDALE	DANVILLE	COAL	2.7	27.0	
595.3	CARBONDALE		UNDERCLAY	9.0	29.7	
586.3	CARBONDALE		SANDSTONE	26.8	38.7	
559.6	CARBONDALE	HERRIN	COAL	4.7	65.4	
554.9	CARBONDALE		UNDERCLAY	12.9	70.1	
542.0	CARBONDALE		SANDSTONE	23.0	83.0	
519.0	CARBONDALE		SHALE	36.0	106.0	
483.0	CARBONDALE		COAL	0.2	142.0	CANNEL
482.8	CARBONDALE		SHALE	4.3	142.2	
478.5	CARBONDALE		SANDSTONE	2.5	146.5	
476.0	CARBONDALE		SHALE	1.0	149.0	
475.0	CARBONDALE		SHALE	4.1	150.0	
470.9	CARBONDALE		UNDERCLAY	1.5	154.1	
469.4	CARBONDALE	HANOVER	LIMESTONE	1.8	155.6	BLUE
467.6	CARBONDALE	EXCELLO	SHALE WITH LIMESTONE	1.6	157.4	
466.0	CARBONDALE	EXCELLO	SHALE	3.4	159.0	BLUE
462.6	CARBONDALE	HOUCHIN CREEK	COAL	0.4	162.4	
462.2	CARBONDALE		UNDERCLAY	2.2	162.8	
460.0	CARBONDALE		SHALE	17.8	165.0	
442.2	CARBONDALE	LOWELL	COAL	3.3	182.8	
439.0	CARBONDALE		SHALE	16.5	186.0	
422.5	CARBONDALE		SHALE	7.5	202.5	BLUE
415.0	CARBONDALE		SHALE	7.0	210.0	
408.0	CARBONDALE	COLCHESTER	COAL	0.5	217.0	NO. 2
407.5			UNDERCLAY	3.0	217.5	
404.5			UNDERCLAY	5.5	220.5	WITH CONCRETIONS
399.0			SHALE WITH LIMESTONE	36.0	226.0	
363.0			LIMESTONE	236.0	262.0	
127.0			SANDSTONE	10.0	498.0	ST. PETER

MAPID: 10500007000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 4E **SECTION:** 6 **QUARTERS/FOOTAGES:** NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.808576 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.102533 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 623.0 **LOGGED (FT.):** 217.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
596.0	CARBONDALE	DANVILLE	COAL	2.7	27.0	
593.3	CARBONDALE		UNCLASSIFIED	42.3	29.7	
551.0	CARBONDALE	HERRIN	COAL	4.7	72.0	
546.3	CARBONDALE		UNCLASSIFIED	77.3	76.7	
469.0	CARBONDALE	SPRINGFIELD	COAL	-	154.0	
469.0	CARBONDALE		UNCLASSIFIED	8.0	154.0	
461.0	CARBONDALE	HOUCHIN CREEK	COAL	0.4	162.0	
460.6	CARBONDALE		UNCLASSIFIED	19.6	162.4	
441.0	CARBONDALE	LOWELL	COAL	3.2	182.0	
437.8	CARBONDALE		UNCLASSIFIED	31.8	185.2	
406.0	CARBONDALE	COLCHESTER	COAL	0.5	217.0	

MAPID: 10500030000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 4E **SECTION:** 6 **QUARTERS/FOOTAGES:** SE/c SE NW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.809715 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.103486 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 75.0 **LOG TYPE:** Drillers Log
SOURCE: CHI. WIL. & VERMILION COAL 6 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	YELLOW
-	PLEISTOCENE		SAND & GRAVEL	2.0	14.0	
-	PLEISTOCENE		CLAY	10.0	16.0	
-	PLEISTOCENE		SAND	20.0	26.0	BROWN
-	CARBONDALE		SHALE	15.5	46.0	BLUE
-	CARBONDALE	HERRIN	COAL	2.8	61.5	
-	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	0.8	64.3	
-	CARBONDALE	HERRIN	CLAYSTONE & SILTSTONE	1.0	65.0	WITH COAL
-	CARBONDALE	HERRIN	COAL	2.0	66.0	
-	CARBONDALE		UNDERCLAY	5.0	68.0	
-	CARBONDALE		SANDY SHALE	2.0	73.0	

MAPID: 10500031000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 4E

SECTION: 6

QUARTERS/FOOTAGES: NE NW SE SE

QUADRANGLE: STREATOR SOUTH

LONGITUDE: -88.797662

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.094472

DATE COLLECTED:

SURFACE ELEVATION (FT.):

LOGGED (FT.): 234.8

LOG TYPE: Drillers Log

SOURCE: STREATOR CLAY MFG. CO.

WELL TYPE: Unknown well type

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	10.0	0.0	
-	PLEISTOCENE		HARD PAN	12.0	10.0	
-	PLEISTOCENE		SAND	5.0	22.0	HARD
-	CARBONDALE		SHALE	33.3	27.0	
-	CARBONDALE	HERRIN	COAL	5.3	60.3	
-	CARBONDALE		UNDERCLAY	2.0	65.5	NO GOOD
-	CARBONDALE		ROCK	11.8	67.5	
-	CARBONDALE		SHALE	17.2	79.3	
-	CARBONDALE		SHALE	1.4	96.5	
-	CARBONDALE		SHALE	8.0	97.9	
-	CARBONDALE	SPRINGFIELD	COAL	1.0	105.9	
-	CARBONDALE		SHALE	7.0	106.9	
-	CARBONDALE		ROCK	2.8	113.9	
-	CARBONDALE		SHALE	2.5	116.7	
-	CARBONDALE		SHALE	8.0	119.2	
-	CARBONDALE		SHALE	2.0	127.2	
-	CARBONDALE		SHALE	16.5	129.2	
-	CARBONDALE		SHALE	2.0	145.7	
-	CARBONDALE		ROCK	3.0	147.7	
-	CARBONDALE		SANDSTONE	6.8	150.7	
-	CARBONDALE		SHALE	2.0	157.4	
-	CARBONDALE		ROCK	0.7	159.4	
-	CARBONDALE		SHALE	0.3	160.1	
-	CARBONDALE	HOUCHIN CREEK	COAL	3.0	160.3	
-	CARBONDALE		UNDERCLAY	4.0	163.3	
-	CARBONDALE		SHALE	9.8	167.3	
-	CARBONDALE	LOWELL	COAL	1.0	177.1	
-	CARBONDALE		SHALE	18.0	178.1	
-	CARBONDALE		SHALE	6.3	196.1	
-	CARBONDALE		SHALE	18.8	202.4	
-			UNCLASSIFIED	13.5	221.3	

MAPID: 10500031000C VERSION: 2 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 6 QUARTERS/FOOTAGES: NE NW SE SE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.797662 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.094472 DATE COLLECTED:
SURFACE ELEVATION (FT.): 622.0 LOGGED (FT.): 178.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
562.0	CARBONDALE	HERRIN	COAL	5.2	60.0
556.8	CARBONDALE		UNCLASSIFIED	94.8	65.2
462.0	CARBONDALE	SPRINGFIELD	COAL	-	160.0
462.0	CARBONDALE		UNCLASSIFIED	17.0	160.0
445.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	177.0

MAPID: 10500221000C VERSION: 1 PROJECT: NCRDS99
COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 9 QUARTERS/FOOTAGES: 1100' S line, 1300' W line
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.771652 GEOLOGIST: MCCracken
CONFIDENTIAL: N LATITUDE: 41.080032 DATE COLLECTED: 4 / 24 / 1957
SURFACE ELEVATION (FT.): 627.0 LOGGED (FT.): 173.0 LOG TYPE: Drillers Log
SOURCE: DONAN ST-1 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
627.0	PLEISTOCENE		UNCONSOLIDATED	60.0	0.0
567.0	PLEISTOCENE		CLAY	24.8	60.0
542.2			SANDSTONE	45.7	84.8
496.5			SHALE	8.8	130.5
487.7			SANDSTONE	33.7	139.3

MAPID: 10500002000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 4E **SECTION:** 17 **QUARTERS/FOOTAGES:** SW SW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.793511 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.063713 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 600.0 **LOGGED (FT.):** 270.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
522.0	CARBONDALE	HERRIN	COAL	1.5	78.0
520.5	CARBONDALE		UNCLASSIFIED	99.5	79.5
421.0	CARBONDALE	SPRINGFIELD	COAL	-	179.0
421.0	CARBONDALE		UNCLASSIFIED	21.0	179.0
400.0	CARBONDALE	HOUCHIN CREEK	COAL	-	200.0
400.0	CARBONDALE		UNCLASSIFIED	22.0	200.0
378.0	CARBONDALE	LOWELL	COAL	2.5	222.0
375.5	CARBONDALE		UNCLASSIFIED	43.5	224.5
332.0	CARBONDALE	COLCHESTER	COAL	2.5	268.0

MAPID: 10581073000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 4E **SECTION:** 20 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE SE
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.776936 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.047474 **DATE COLLECTED:** 1 / 29 / 1970
SURFACE ELEVATION (FT.): 612.0 **LOGGED (FT.):** 178.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 54 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
612.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	8.0	0.0
604.0	PLEISTOCENE		UNCONSOLIDATED	26.0	8.0
578.0	SHELBURN		GRAY SHALE	43.0	34.0
535.0	SHELBURN		SANDSTONE	2.3	77.0
532.7	SHELBURN		COAL	0.6	79.3
532.1	SHELBURN		UNDERCLAY	6.1	79.9
526.0	SHELBURN		SANDY SHALE	69.0	86.0
457.0	SHELBURN		SANDSTONE	23.0	155.0

MAPID: 10581074000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 20 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NE
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.786571 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.054681 DATE COLLECTED: 1 / 29 / 1970
SURFACE ELEVATION (FT.): 612.0 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 55 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
612.0	PLEISTOCENE	DANVILLE	UNCONSOLIDATED	50.0	0.0	
562.0	SHELBURN		SANDY SHALE	48.0	50.0	
514.0	SHELBURN		COAL	0.3	98.0	BLOSSOM
513.7	SHELBURN		UNDERCLAY	7.7	98.3	
506.0	SHELBURN		MICACEOUS SHALE	42.0	106.0	

MAPID: 10500222000C VERSION: 1 PROJECT: NCRDS99
COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 28 QUARTERS/FOOTAGES: 1300' N line, 700' W line of SE NW NW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.772115 GEOLOGIST: MCCracken
CONFIDENTIAL: N LATITUDE: 41.042077 DATE COLLECTED: 4 / 18 / 1957
SURFACE ELEVATION (FT.): 613.0 LOGGED (FT.): 175.0 LOG TYPE: Drillers Log
SOURCE: DONAN ST-2 WELL TYPE: Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
613.0	PLEISTOCENE		UNCONSOLIDATED	36.5	0.0	
576.5			SANDSTONE	33.4	36.5	
543.1			BLACK SHALE	0.1	69.9	
543.0			CLAYSTONE & SILTSTONE	70.0	70.0	
473.0			SANDSTONE	35.0	140.0	

MAPID: 10521974000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 4E SECTION: 31 QUARTERS/FOOTAGES: 50' S line, 20' W line of SW
QUADRANGLE: STREATOR SOUTH LONGITUDE: -88.815328 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.017852 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 603.0 LOGGED (FT.): 324.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-20 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10581075000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 4E **SECTION:** 31 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW NW
QUADRANGLE: STREATOR SOUTH **LONGITUDE:** -88.815064 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.032039 **DATE COLLECTED:** 1 / 28 / 1970
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 128.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 53 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
620.0	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0
608.0	PLEISTOCENE		SAND	11.0	12.0
597.0	PLEISTOCENE		UNCONSOLIDATED	23.0	23.0
574.0	PLEISTOCENE		GRAVEL	7.0	46.0
567.0	PLEISTOCENE		UNCONSOLIDATED	61.0	53.0
506.0	CARBONDALE		SHALE	14.0	114.0

MAPID: 10521975000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 4E **SECTION:** 34 **QUARTERS/FOOTAGES:** 450' S line, 50' E line of SE
QUADRANGLE: BLACKSTONE **LONGITUDE:** -88.738816 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.019844 **DATE COLLECTED:** 0 / 0 / 1967
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 265.0 **LOG TYPE:**
SOURCE: HYDROCARBON SURVEY L-21 **WELL TYPE:** Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10570000000C **VERSION:** 1 **PROJECT:** NCRDS
COUNTY: LIVINGSTON **TWP/RNG:** 30N 5E **SECTION:** 2 **QUARTERS/FOOTAGES:** 500' S line, 2700' E line
QUADRANGLE: ODELL **LONGITUDE:** -88.613899 **GEOLOGIST:** LOUCHIOS
CONFIDENTIAL: N **LATITUDE:** 41.093107 **DATE COLLECTED:** 0 / 0 / 1978
SURFACE ELEVATION (FT.): 705.0 **LOGGED (FT.):** 190.0 **LOG TYPE:** Drillers Log
SOURCE: UTAH INTERNATIONAL 21394 **WELL TYPE:** Coal Test
COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
705.0			NO RECORD	162.0	0.0
543.0	SHELBURN		SANDSTONE	18.0	162.0
525.0	SHELBURN		SHALE	2.0	180.0
523.0	CARBONDALE	HERRIN	COAL	4.0	182.0
519.0	CARBONDALE		SHALE	4.0	186.0

MAPID: 10581076000C VERSION: 1 PROJECT: NCRDS0

COUNTY: LIVINGSTON TWP/RNG: 30N 5E SECTION: 2 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW NW

QUADRANGLE: ODELL LONGITUDE: -88.617997 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.107929 DATE COLLECTED:

SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 18.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 237 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
695.0	PLEISTOCENE		UNCONSOLIDATED	18.0	0.0	ABANDONED HOLE

MAPID: 10570001000C VERSION: 1 PROJECT: NCRDS

COUNTY: LIVINGSTON TWP/RNG: 30N 5E SECTION: 16 QUARTERS/FOOTAGES: 1540' S line, 900' E line

QUADRANGLE: BLACKSTONE LONGITUDE: -88.645901 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 41.066684 DATE COLLECTED: 0 / 0 / 1929

SURFACE ELEVATION (FT.): 730.0 LOGGED (FT.): 935.0 LOG TYPE: Drillers Log

SOURCE: UTAH INTERNATIONAL 32 WELL TYPE: Coal Test

COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
730.0			UNCLASSIFIED	213.0	0.0	
517.0	CARBONDALE	HERRIN	COAL	4.0	213.0	UNCERTAIN CORRELATION
513.0	CARBONDALE		UNCLASSIFIED	45.0	217.0	
468.0	CARBONDALE	SPRINGFIELD	COAL	3.0	262.0	UNCERTAIN CORRELATION
465.0	CARBONDALE		UNCLASSIFIED	155.0	265.0	
310.0	CARBONDALE	COLCHESTER	COAL	5.0	420.0	UNCERTAIN CORRELATION
305.0			UNCLASSIFIED	510.0	425.0	

MAPID: 10500793000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 5E SECTION: 29 QUARTERS/FOOTAGES: NE NW NW
QUADRANGLE: BLACKSTONE LONGITUDE: -88.677583 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.047248 DATE COLLECTED:
SURFACE ELEVATION (FT.): 678.0 LOGGED (FT.): 321.0 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
549.0	CARBONDALE	DANVILLE	COAL	1.5	129.0
547.5	CARBONDALE		UNCLASSIFIED	24.5	130.5
523.0	CARBONDALE	HERRIN	COAL	-	155.0
523.0	CARBONDALE		UNCLASSIFIED	101.0	155.0
422.0	CARBONDALE	SPRINGFIELD	COAL	-	256.0
422.0	CARBONDALE		UNCLASSIFIED	22.0	256.0
400.0	CARBONDALE	HOUCHIN CREEK	COAL	-	278.0
400.0	CARBONDALE		UNCLASSIFIED	41.0	278.0
359.0	CARBONDALE	COLCHESTER	COAL	2.0	319.0

MAPID: 10521976000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 5E SECTION: 31 QUARTERS/FOOTAGES: 40' S line, 15' W line of SW
QUADRANGLE: BLACKSTONE LONGITUDE: -88.700224 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.019168 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 293.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-22 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
-			UNCLASSIFIED	-	GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10500034000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 5E SECTION: 32 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: BLACKSTONE LONGITUDE: -88.663504 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.032661 DATE COLLECTED:
SURFACE ELEVATION (FT.): 675.0 LOGGED (FT.): 148.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
529.0	CARBONDALE	DANVILLE	COAL	2.0	146.0

MAPID: 10500673000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 5E SECTION: 34 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: BLACKSTONE LONGITUDE: -88.625149 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.019976 DATE COLLECTED:
SURFACE ELEVATION (FT.): 740.0 LOGGED (FT.): 413.5 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
526.0	CARBONDALE	DANVILLE	COAL	2.0	214.0
524.0	CARBONDALE		UNCLASSIFIED	26.0	216.0
498.0	CARBONDALE	HERRIN	COAL	-	242.0
498.0	CARBONDALE		UNCLASSIFIED	104.0	242.0
394.0	CARBONDALE	SPRINGFIELD	COAL	-	346.0
394.0	CARBONDALE		UNCLASSIFIED	14.0	346.0
380.0	CARBONDALE	HOUCHIN CREEK	COAL	-	360.0
380.0	CARBONDALE		UNCLASSIFIED	51.0	360.0
329.0	CARBONDALE	COLCHESTER	COAL	2.5	411.0

MAPID: 10500036000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 1 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: DWIGHT LONGITUDE: -88.4715 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.094583 DATE COLLECTED:
SURFACE ELEVATION (FT.): 648.0 LOGGED (FT.): 309.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
342.0	CARBONDALE	COLCHESTER	COAL	3.0	306.0

MAPID: 10500037000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 3 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: ODELL LONGITUDE: -88.509551 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.094081 DATE COLLECTED:
SURFACE ELEVATION (FT.): 655.0 LOGGED (FT.): 305.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
354.0	CARBONDALE	COLCHESTER	COAL	4.0	301.0

MAPID: 10570002000C VERSION: 1 PROJECT: NCRDS
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 3 QUARTERS/FOOTAGES: 500' S line, 370' E line
QUADRANGLE: ODELL LONGITUDE: -88.509702 GEOLOGIST: LOUCHIOS
CONFIDENTIAL: N LATITUDE: 41.094516 DATE COLLECTED: 0 / 0 / 1939
SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 1137.0 LOG TYPE: Drillers Log
SOURCE: UTAH INTERNATIONAL 37 WELL TYPE: Coal Test
COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
660.0			UNCLASSIFIED	289.0	0.0
371.0	CARBONDALE		SHALE	7.0	289.0
364.0	CARBONDALE		LIMESTONE	5.0	296.0
359.0	CARBONDALE	COLCHESTER	COAL	4.0	301.0
355.0			UNCLASSIFIED	832.0	305.0

MAPID: 10570003000C VERSION: 1 PROJECT: NCRDS
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 10 QUARTERS/FOOTAGES: 1990' N line, 520' W line
QUADRANGLE: ODELL LONGITUDE: -88.525588 GEOLOGIST: LOUCHIOS
CONFIDENTIAL: N LATITUDE: 41.087477 DATE COLLECTED: 0 / 0 / 1947
SURFACE ELEVATION (FT.): 665.0 LOGGED (FT.): 228.0 LOG TYPE: Drillers Log
SOURCE: UTAH INTERNATIONAL 38 WELL TYPE: Coal Test
COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
665.0			NO RECORD	141.0	0.0
524.0	CARBONDALE		SHALE	29.0	141.0
495.0	CARBONDALE		SANDSTONE	45.0	170.0
450.0	CARBONDALE	SPRINGFIELD	COAL	3.0	215.0
447.0	CARBONDALE		SHALE	10.0	218.0

MAPID: 10500274000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 13 QUARTERS/FOOTAGES: SW SW SW
QUADRANGLE: DWIGHT LONGITUDE: -88.488161 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.065281 DATE COLLECTED:
SURFACE ELEVATION (FT.): 647.0 LOGGED (FT.): 289.0 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
429.0	CARBONDALE	HOUCHIN CREEK	COAL	-	218.0
429.0	CARBONDALE		UNCLASSIFIED	27.0	218.0
402.0	CARBONDALE	LOWELL	COAL	1.0	245.0
401.0	CARBONDALE		UNCLASSIFIED	40.0	246.0
361.0	CARBONDALE	COLCHESTER	COAL	3.0	286.0

MAPID: 10500280000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 14 QUARTERS/FOOTAGES: SW SW SW

QUADRANGLE: ODELL LONGITUDE: -88.506913 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.064905 DATE COLLECTED:

SURFACE ELEVATION (FT.): 680.0 LOGGED (FT.): 337.5 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	
428.0	CARBONDALE	SPRINGFIELD	COAL	-	252.0	
428.0	CARBONDALE		UNCLASSIFIED	21.0	252.0	
407.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	273.0	
405.0	CARBONDALE		UNCLASSIFIED	14.0	275.0	
391.0	CARBONDALE	LOWELL	COAL	-	289.0	
391.0	CARBONDALE		UNCLASSIFIED	46.0	289.0	
345.0	CARBONDALE	COLCHESTER	COAL	2.5	335.0	

MAPID: 10500039000C VERSION: 1 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 16 QUARTERS/FOOTAGES: NE SE SE

QUADRANGLE: ODELL LONGITUDE: -88.52842 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.066538 DATE COLLECTED:

SURFACE ELEVATION (FT.): 685.0 LOGGED (FT.): 372.0 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Oil and Gas Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
315.0	CARBONDALE	COLCHESTER	COAL	2.0	370.0	

MAPID: 10500281000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 6E **SECTION:** 20 **QUARTERS/FOOTAGES:** SE SE SE
QUADRANGLE: ODELL **LONGITUDE:** -88.547945 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.050024 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 699.0 **LOGGED (FT.):** 362.3 **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	DANVILLE	COAL	2.0	167.0
530.0	CARBONDALE		UNCLASSIFIED	14.0	169.0
516.0	CARBONDALE	HERRIN	COAL	1.0	183.0
515.0	CARBONDALE		UNCLASSIFIED	96.0	184.0
419.0	CARBONDALE	SPRINGFIELD	COAL	-	280.0
419.0	CARBONDALE		UNCLASSIFIED	15.0	280.0
404.0	CARBONDALE	HOUCHIN CREEK	COAL	-	295.0
404.0	CARBONDALE		UNCLASSIFIED	65.0	295.0
339.0	CARBONDALE	COLCHESTER	COAL	2.3	360.0

MAPID: 10500279000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 6E **SECTION:** 23 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: ODELL **LONGITUDE:** -88.50711 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.050396 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 683.0 **LOGGED (FT.):** 352.5 **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
527.0	CARBONDALE	DANVILLE	COAL	2.0	156.0
525.0	CARBONDALE		UNCLASSIFIED	28.0	158.0
497.0	CARBONDALE	HERRIN	COAL	-	186.0
497.0	CARBONDALE		UNCLASSIFIED	75.0	186.0
422.0	CARBONDALE	SPRINGFIELD	COAL	-	261.0
422.0	CARBONDALE		UNCLASSIFIED	18.0	261.0
404.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	279.0
402.5	CARBONDALE		UNCLASSIFIED	69.5	280.5
333.0	CARBONDALE	COLCHESTER	COAL	2.5	350.0

MAPID: 10500815000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 24 QUARTERS/FOOTAGES: SE SE SE
QUADRANGLE: DWIGHT LONGITUDE: -88.471343 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.050624 DATE COLLECTED:
SURFACE ELEVATION (FT.): 670.0 LOGGED (FT.): 245.0 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	
427.0	CARBONDALE	COLCHESTER	COAL	2.0	243.0	

MAPID: 10500040000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 28 QUARTERS/FOOTAGES: SE SW SW
QUADRANGLE: ODELL LONGITUDE: -88.543373 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.035493 DATE COLLECTED:
SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 210.0 LOG TYPE: Drillers Log
SOURCE: WELL TYPE: Oil and Gas Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
488.0	CARBONDALE	HERRIN	COAL	3.0	207.0	

MAPID: 10521977000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 33 QUARTERS/FOOTAGES: 85' S line, 45' W line of SW
QUADRANGLE: ODELL LONGITUDE: -88.54689 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.020085 DATE COLLECTED: 0 / 0 / 1968
SURFACE ELEVATION (FT.): 718.0 LOGGED (FT.): 346.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY K-42 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10521978000C VERSION: 1 PROJECT: NCRDS96
COUNTY: LIVINGSTON TWP/RNG: 30N 6E SECTION: 35 QUARTERS/FOOTAGES: 4650' S line, 70' E line
QUADRANGLE: ODELL LONGITUDE: -88.508602 GEOLOGIST: C.KOROSE
CONFIDENTIAL: N LATITUDE: 41.022188 DATE COLLECTED: 0 / 0 / 1967
SURFACE ELEVATION (FT.): 703.0 LOGGED (FT.): 336.0 LOG TYPE:
SOURCE: HYDROCARBON SURVEY L-39 WELL TYPE: Coal Test
COMMENT: GEOPHYSICAL LOG- NO PICKS MADE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	-		GEOPHYSICAL LOG - NO PICKS MADE

MAPID: 10581077000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 3 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NE
QUADRANGLE: DWIGHT LONGITUDE: -88.411159 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.110421 DATE COLLECTED: 8 / 17 / 1970
SURFACE ELEVATION (FT.): 637.0 LOGGED (FT.): 172.5 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 246 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.0	PLEISTOCENE		UNCONSOLIDATED	147.0	0.0	
490.0	CARBONDALE		DARK SHALE	0.5	147.0	WITH SIDERITE
489.5	CARBONDALE		SANDY SHALE	7.5	147.5	
482.0	CARBONDALE		BLACK SHALE	4.0	155.0	
478.0	CARBONDALE		DARK SHALE	0.5	159.0	
477.5	CARBONDALE		SANDY LIMESTONE	0.5	159.5	
477.0	CARBONDALE		ARGILACEOUS SHALE	2.8	160.0	
474.2	CARBONDALE		CALCAREOUS SHALE	1.1	162.8	
473.2	CARBONDALE		SANDY SHALE	6.2	163.8	WITH SIDERITE
467.0	CARBONDALE		BLACK SHALE	0.5	170.0	
466.5	CARBONDALE		ARGILACEOUS SHALE	2.0	170.5	

MAPID: 10581078000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 5 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE NE
QUADRANGLE: DWIGHT LONGITUDE: -88.440028 GEOLOGIST: STRAAYER
CONFIDENTIAL: N LATITUDE: 41.101727 DATE COLLECTED: 8 / 18 / 1970
SURFACE ELEVATION (FT.): 639.0 LOGGED (FT.): 166.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE 247 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0	PLEISTOCENE		UNCONSOLIDATED	165.0	0.0	
474.0	CARBONDALE		UNDERCLAY	1.0	165.0	NO COAL

MAPID: 10581079000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 7E

SECTION: 5

QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE NE

QUADRANGLE: DWIGHT

LONGITUDE: -88.440028

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.101727

DATE COLLECTED: 8 / 18 / 1970

SURFACE ELEVATION (FT.): 639.0

LOGGED (FT.): 165.5

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

247

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.0	PLEISTOCENE		UNCONSOLIDATED	14.0	0.0	
625.0	PLEISTOCENE		CLAY & SHALE	32.0	14.0	
593.0	PLEISTOCENE		CLAY & SHALE	39.0	46.0	
554.0	PLEISTOCENE		CLAY & SHALE	16.0	85.0	GREY
538.0	PLEISTOCENE		GRAVEL	4.0	101.0	
534.0	PLEISTOCENE		CLAY & SHALE	19.0	105.0	
515.0	PLEISTOCENE		GRAVEL	41.5	124.0	

MAPID: 10581080000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 7E

SECTION: 8

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE NE

QUADRANGLE: DWIGHT

LONGITUDE: -88.439676

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.093819

DATE COLLECTED: 8 / 21 / 1970

SURFACE ELEVATION (FT.): 633.0

LOGGED (FT.): 226.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

249

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
633.0	PLEISTOCENE		UNCONSOLIDATED	159.0	0.0	
474.0	CARBONDALE		SHALE & SANDSTONE	11.0	159.0	
463.0	CARBONDALE		GRAY SANDSTONE	0.1	170.0	
462.9	CARBONDALE		CALCAREOUS SANDSTONE	0.2	170.1	
462.7	CARBONDALE		GRAY SANDSTONE	2.3	170.3	
460.5	CARBONDALE		GRAY SANDSTONE	0.1	172.5	
460.4	CARBONDALE		GRAY SANDSTONE	5.5	172.6	
454.9	CARBONDALE		SHALE & SANDSTONE	1.7	178.1	
453.2	CARBONDALE		SANDY SHALE	0.3	179.8	WITH SIDERITE
453.0	CARBONDALE		SHALE & SANDSTONE	9.0	180.0	
444.0	CARBONDALE		SANDY SHALE	10.5	189.0	WITH SIDERITE
433.5	CARBONDALE		GRAY SHALE	1.5	199.5	
432.0	CARBONDALE		SANDY SHALE	10.3	201.0	
421.7	CARBONDALE	COLCHESTER	COAL	2.8	211.3	
419.0	CARBONDALE	COLCHESTER	UNDERCLAY	0.3	214.0	
418.7	CARBONDALE	COLCHESTER	COAL	0.3	214.3	
418.5	CARBONDALE		UNDERCLAY	4.5	214.5	
414.0	CARBONDALE		LIMESTONE/UNDERCLAY	1.0	219.0	
413.0	CARBONDALE		UNDERCLAY	4.0	220.0	
409.0	CARBONDALE		GRAY SHALE	2.0	224.0	

MAPID: 10581081000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 8 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE NE
 QUADRANGLE: DWIGHT LONGITUDE: -88.439676 GEOLOGIST: STRAAYER
 CONFIDENTIAL: N LATITUDE: 41.093819 DATE COLLECTED: 8 / 21 / 1970
 SURFACE ELEVATION (FT.): 633.0 LOGGED (FT.): 226.0 LOG TYPE: Drillers Log
 SOURCE: AMAX 249 WELL TYPE: Coal Test
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
633.0	PLEISTOCENE		CLAY	105.0	0.0	
528.0	PLEISTOCENE		GRAVEL	54.0	105.0	
474.0	PLEISTOCENE		CLAY	17.0	159.0	
457.0	PLEISTOCENE		CLAY	35.0	176.0	
422.0	CARBONDALE	COLCHESTER	COAL	3.0	211.0	TOP ERODED
419.0	CARBONDALE	COLCHESTER	UNDERCLAY	0.3	214.0	
418.7	CARBONDALE	COLCHESTER	COAL	0.3	214.3	
418.5	CARBONDALE		UNDERCLAY	9.5	214.5	
409.0	CARBONDALE		SHALE	2.0	224.0	

MAPID: 10500041000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 9 QUARTERS/FOOTAGES: NW NW SW
 QUADRANGLE: DWIGHT LONGITUDE: -88.438117 GEOLOGIST: C.KOROSE
 CONFIDENTIAL: N LATITUDE: 41.085657 DATE COLLECTED:
 SURFACE ELEVATION (FT.): LOGGED (FT.): 322.0 LOG TYPE: Drillers Log
 SOURCE: C AND A RAILWAY WELL TYPE: Unknown well type
 COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCLASSIFIED	4.0	0.0	CINDER FILL
-	PLEISTOCENE		SOIL	2.0	4.0	
-	PLEISTOCENE		CLAY	10.0	6.0	YELLOW
-	PLEISTOCENE		CLAY	84.0	16.0	
-	PLEISTOCENE		GRAVEL	12.0	100.0	CEMENTED
-	PLEISTOCENE		CLAY	21.0	112.0	
-	CARBONDALE		SHALE	10.0	133.0	
-	CARBONDALE		UNDERCLAY/SHALE	15.0	143.0	
-	CARBONDALE		SANDSTONE	12.0	158.0	
-	CARBONDALE		SHALE	10.0	170.0	
-	CARBONDALE		SANDSTONE	58.0	180.0	
-	CARBONDALE	COLCHESTER	COAL	2.0	238.0	
-	TRADEWATER		UNDERCLAY	20.0	240.0	
-	TRADEWATER		SHALE	45.0	260.0	
-	TRADEWATER		SHALE	17.0	305.0	

MAPID: 10500041000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 7E **SECTION:** 9 **QUARTERS/FOOTAGES:** NW NW SW
QUADRANGLE: DWIGHT **LONGITUDE:** -88.438117 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.085657 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 640.0 **LOGGED (FT.):** 240.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
497.0	CARBONDALE	SPRINGFIELD	COAL	-	143.0
497.0	CARBONDALE		UNCLASSIFIED	95.0	143.0
402.0	CARBONDALE	COLCHESTER	COAL	2.0	238.0

MAPID: 10500816000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 7E **SECTION:** 12 **QUARTERS/FOOTAGES:** SE SE SE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.363221 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.081344 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 234.0 **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
486.0	CARBONDALE	SPRINGFIELD	COAL	-	146.0
486.0	CARBONDALE		UNCLASSIFIED	16.0	146.0
470.0	CARBONDALE	HOUCHIN CREEK	COAL	-	162.0
470.0	CARBONDALE		UNCLASSIFIED	69.0	162.0
401.0	CARBONDALE	COLCHESTER	COAL	3.0	231.0

MAPID: 10500817000C **VERSION:** 1 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 7E **SECTION:** 14 **QUARTERS/FOOTAGES:** SW SW SW
QUADRANGLE: DWIGHT **LONGITUDE:** -88.399065 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.066464 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 641.0 **LOGGED (FT.):** 270.0 **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
459.0	CARBONDALE	SPRINGFIELD	COAL	-	182.0
459.0	CARBONDALE		UNCLASSIFIED	28.0	182.0
431.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	210.0
430.0	CARBONDALE		UNCLASSIFIED	59.0	211.0
371.0	CARBONDALE	COLCHESTER	COAL	-	270.0

MAPID: 10581082000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 7E

SECTION: 14

QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NE

QUADRANGLE: DWIGHT

LONGITUDE: -88.390901

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.080067

DATE COLLECTED: 8 / 17 / 1970

SURFACE ELEVATION (FT.): 637.0

LOGGED (FT.): 172.5

LOG TYPE: Drillers Log

SOURCE: AMAX

246

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
637.0	PLEISTOCENE		UNKNOWN	36.0	0.0	
601.0	PLEISTOCENE		CLAY & SHALE	48.0	36.0	
553.0	PLEISTOCENE		GRAVEL	1.0	84.0	
552.0	PLEISTOCENE		CLAY & SHALE	38.0	85.0	AND BOULDERS
514.0	PLEISTOCENE		GRAVEL	22.0	123.0	
492.0	CARBONDALE		SHALE	10.0	145.0	
482.0	CARBONDALE		BLACK SHALE	4.5	155.0	
477.5	CARBONDALE		CALCAREOUS SANDSTONE	0.5	159.5	
477.0	CARBONDALE		SHALE	2.5	160.0	
474.5	CARBONDALE		CALCAREOUS SHALE	1.0	162.5	
473.5	CARBONDALE		SHALE WITH LIMESTONE	6.0	163.5	
467.5	CARBONDALE		BLACK SHALE	0.5	169.5	
467.0	CARBONDALE		SHALE	2.5	170.0	

MAPID: 10581083000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NW

QUADRANGLE: DWIGHT LONGITUDE: -88.439044 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.079247 DATE COLLECTED: 8 / 16 / 1970

SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 186.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 245 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0	PLEISTOCENE		UNCONSOLIDATED	90.0	0.0	
545.0			GRAY SHALE	37.5	90.0	
507.5	CARBONDALE		DARK SHALE	9.5	127.5	WITH SIDERITE
498.0	CARBONDALE		BLACK SHALE	3.0	137.0	
495.0	CARBONDALE		LIMESTONE	1.0	140.0	
494.0	CARBONDALE		SANDY SHALE	1.5	141.0	
492.5	CARBONDALE		CALCAREOUS SHALE	1.5	142.5	
491.0	CARBONDALE		GRAY SHALE	1.5	144.0	
489.5	CARBONDALE		BLACK SHALE	0.5	145.5	
489.0	CARBONDALE		GRAY SHALE	4.0	146.0	
485.0	CARBONDALE		SHALE	1.0	150.0	
484.0	CARBONDALE		SHALE & CLAYSTONE	2.0	151.0	
482.0	CARBONDALE		SANDY SHALE	10.0	153.0	
472.0	CARBONDALE		CALCAREOUS SANDSTONE	0.7	163.0	
471.3	CARBONDALE		SHALE & SANDSTONE	7.3	163.7	
464.0	CARBONDALE		CALCAREOUS SANDSTONE	1.0	171.0	
463.0	CARBONDALE		GRAY SHALE	1.0	172.0	WITH SIDERITE
462.0	CARBONDALE		GRAY SHALE	0.5	173.0	
461.5	CARBONDALE		SANDY SHALE	12.5	173.5	

MAPID: 10581084000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 16 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NW
 QUADRANGLE: DWIGHT LONGITUDE: -88.439044 GEOLOGIST: STRAAYER
 CONFIDENTIAL: N LATITUDE: 41.079247 DATE COLLECTED: 8 / 16 / 1970
 SURFACE ELEVATION (FT.): 635.0 LOGGED (FT.): 186.0 LOG TYPE: Drillers Log
 SOURCE: AMAX 245 WELL TYPE: Coal Test
 COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.0	PLEISTOCENE		CLAY	12.0	0.0	
623.0			SHALE	59.0	12.0	
564.0			SHALE	3.0	71.0	AND GRAVEL
561.0			SHALE	10.0	74.0	
551.0			ROCK	1.0	84.0	DRILLER REPORTS GRAVEL
550.0			SHALE	52.0	85.0	
498.0	CARBONDALE		BLACK SHALE	3.0	137.0	
495.0	CARBONDALE		LIMESTONE	1.0	140.0	
494.0	CARBONDALE		SHALE	8.0	141.0	
486.0	CARBONDALE		SHALE	4.0	149.0	
482.0	CARBONDALE		SHALE & SANDSTONE	18.0	153.0	
464.0	CARBONDALE		CALCAREOUS SANDSTONE	1.0	171.0	
463.0	CARBONDALE		SHALE & SANDSTONE	14.0	172.0	

MAPID: 10521321000C VERSION: 1

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 17 QUARTERS/FOOTAGES: SW SW SW
 QUADRANGLE: DWIGHT LONGITUDE: -88.456283 GEOLOGIST: JACOBSON,R
 CONFIDENTIAL: N LATITUDE: 41.065637 DATE COLLECTED:
 SURFACE ELEVATION (FT.): 657.0 LOGGED (FT.): 247.0 LOG TYPE: Nuclear Log
 SOURCE: WELL TYPE: Oil and Gas Test
 COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
523.0	CARBONDALE	SPRINGFIELD	COAL	-	134.0	
523.0	CARBONDALE		UNCLASSIFIED	23.0	134.0	
500.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	157.0	
498.5	CARBONDALE		UNCLASSIFIED	85.5	158.5	
413.0	CARBONDALE	COLCHESTER	COAL	3.0	244.0	

MAPID: 10581085000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 20 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NW

QUADRANGLE: DWIGHT LONGITUDE: -88.45743 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.064731 DATE COLLECTED: 8 / 20 / 1970

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 206.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 248 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.0	PLEISTOCENE		UNCONSOLIDATED	136.0	0.0	
524.0	CARBONDALE		DARK SHALE	39.0	136.0	WITH SIDERITE
485.0	CARBONDALE		BLACK SHALE	2.5	175.0	
482.5	CARBONDALE		CALCAREOUS SHALE	2.0	177.5	
480.5	CARBONDALE		ARGILACEOUS SHALE	0.5	179.5	
480.0	CARBONDALE		GRAY SHALE	4.0	180.0	
476.0	CARBONDALE		SHALE	3.3	184.0	
472.7	CARBONDALE		SILTY SHALE	7.3	187.3	
465.5	CARBONDALE		SANDY LIMESTONE	3.0	194.5	
462.5	CARBONDALE		SANDSTONE	8.5	197.5	

MAPID: 10581086000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 7E SECTION: 20 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NW

QUADRANGLE: DWIGHT LONGITUDE: -88.45743 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.064731 DATE COLLECTED: 8 / 20 / 1970

SURFACE ELEVATION (FT.): 660.0 LOGGED (FT.): 195.0 LOG TYPE: Drillers Log

SOURCE: AMAX 248 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.0	PLEISTOCENE		CLAY	15.0	0.0	
645.0	PLEISTOCENE		GRAVEL	2.0	15.0	
643.0			SHALE	47.0	17.0	
596.0			LIMESTONE	2.0	64.0	
594.0			GRAY SHALE	52.0	66.0	
542.0			UNKNOWN	3.0	118.0	DRILLER REPORTS PEA GRAVEL
539.0			GRAY SHALE	54.0	121.0	
485.0			BLACK SHALE	2.0	175.0	
483.0			GRAY SHALE	18.0	177.0	

MAPID: 10500044000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 1 QUARTERS/FOOTAGES:

QUADRANGLE: CAMPUS LONGITUDE: -88.260924

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.105198

DATE COLLECTED:

SURFACE ELEVATION (FT.): 610.0 LOGGED (FT.): 174.2

LOG TYPE: Survey Core Study

SOURCE: CHAS. CUMMINGS E

WELL TYPE: Coal Test

COMMENT: TWO SLIGHTLY DIFFERENT LOGS ON FILE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
610.0	PLEISTOCENE		SOIL	2.0	0.0	
608.0	PLEISTOCENE		CLAY	5.0	2.0	YELLOW
603.0	PLEISTOCENE		HARD PAN	23.0	7.0	
580.0	PLEISTOCENE		SILT	13.0	30.0	
567.0	PLEISTOCENE		HARD PAN	20.0	43.0	
547.0	CARBONDALE		LIMESTONE	4.0	63.0	
543.0	CARBONDALE		LIMESTONE	1.5	67.0	
541.5	CARBONDALE		LIMESTONE	2.0	68.5	
539.5	CARBONDALE		LIMESTONE	4.7	70.5	
534.8	CARBONDALE		SANDSTONE	2.3	75.2	
532.5	CARBONDALE		SHALE	2.1	77.5	
530.3	CARBONDALE		SHALE	2.8	79.7	
527.6	CARBONDALE		SHALE	0.5	82.4	
527.1	CARBONDALE	HOUCHIN CREEK	COAL	3.8	82.9	HARD
523.2	CARBONDALE		UNDERCLAY	8.8	86.8	SOFT
514.4	CARBONDALE		SANDSTONE	4.0	95.6	
510.4	CARBONDALE		SANDSTONE	27.6	99.6	WITH DIFFUSED CARBON
482.8	CARBONDALE		SHALE	21.7	127.2	
461.2	CARBONDALE	LOWELL	COAL	2.1	148.8	CONTAINS CARBON
459.1	CARBONDALE		UNDERCLAY	7.0	150.9	
452.1	CARBONDALE		SHALE	6.7	157.9	
445.4	CARBONDALE		SHALE	0.3	164.6	
445.1	CARBONDALE		SHALE	1.0	164.9	
444.1	CARBONDALE	COLCHESTER	COAL	0.3	165.9	BLACK
443.8			UNDERCLAY	6.0	166.2	
437.8			UNDERCLAY	2.0	172.2	

MAPID: 10500044000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 1

QUARTERS/FOOTAGES:

QUADRANGLE: CAMPUS

LONGITUDE: -88.260924

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 41.105198

DATE COLLECTED:

SURFACE ELEVATION (FT.): 610.0

LOGGED (FT.): 150.1

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
527.0	CARBONDALE	HOUCHIN CREEK	COAL	3.9	83.0	
523.1	CARBONDALE		UNCLASSIFIED	61.1	86.9	
462.0	CARBONDALE	COLCHESTER	COAL	2.1	148.0	

MAPID: 10500044000C VERSION: 3 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 1 QUARTERS/FOOTAGES:

QUADRANGLE: CAMPUS LONGITUDE: -88.260924 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.105198 DATE COLLECTED:

SURFACE ELEVATION (FT.): 610.0 LOGGED (FT.): 183.0 LOG TYPE: Drillers Log

SOURCE: CHAS. CUMMINGS WELL TYPE: Coal Test

COMMENT: TWO SLIGHTLY DIFFERENT LOGS ON FILE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
610.0	PLEISTOCENE		SOIL	2.0	0.0	
608.0	PLEISTOCENE		CLAY	5.0	2.0	YELLOW
603.0	PLEISTOCENE		HARD PAN	23.0	7.0	
580.0	PLEISTOCENE		SILT	13.0	30.0	
567.0	PLEISTOCENE		HARD PAN	20.0	43.0	
547.0	CARBONDALE		LIMESTONE	4.0	63.0	
543.0	CARBONDALE		LIMESTONE	1.5	67.0	
541.5	CARBONDALE		LIMESTONE	2.5	68.5	
539.0	CARBONDALE		LIMESTONE	4.7	71.0	
534.3	CARBONDALE		SANDSTONE	2.3	75.7	
532.0	CARBONDALE		SHALE	8.0	78.0	
524.0	CARBONDALE		LIMESTONE	0.3	86.0	
523.7	CARBONDALE		SHALE	2.2	86.3	
521.5	CARBONDALE		SHALE	2.8	88.5	
518.7	CARBONDALE		SHALE	0.5	91.3	
518.2	CARBONDALE	HOUCHIN CREEK	COAL	3.8	91.8	
514.4	CARBONDALE		UNDERCLAY	8.8	95.6	
505.6	CARBONDALE		LIMESTONE	4.0	104.4	
501.6	CARBONDALE		SANDSTONE	27.6	108.4	
474.0	CARBONDALE		SHALE	21.7	136.0	
452.3	CARBONDALE	LOWELL	COAL	2.1	157.7	
450.2	CARBONDALE		UNDERCLAY	7.0	159.8	
443.2	CARBONDALE		SHALE	6.7	166.8	
436.6	CARBONDALE	COLCHESTER	JACK	0.3	173.4	
436.2	CARBONDALE	COLCHESTER	CLOD	1.3	173.8	
435.0			UNDERCLAY	6.0	175.0	
429.0			UNDERCLAY	2.0	181.0	

MAPID: 10581087000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 1 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NW NW SW
QUADRANGLE: CAMPUS LONGITUDE: -88.270385 GEOLOGIST: STRAAYER
CONFIDENTIAL: N LATITUDE: 41.102829 DATE COLLECTED: 5 / 16 / 1971
SURFACE ELEVATION (FT.): 606.0 LOGGED (FT.): 135.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE RB44 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
606.0	PLEISTOCENE		CLAY	8.0	0.0	
598.0	CARBONDALE		GRAY SHALE	71.0	8.0	AND DRIFT
527.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	79.0	
525.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	81.0	
524.0	CARBONDALE		GRAY SHALE	8.0	82.0	
516.0	CARBONDALE		SANDSTONE	45.0	90.0	

MAPID: 10581088000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 1 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE SW
QUADRANGLE: CAMPUS LONGITUDE: -88.260927 GEOLOGIST: STRAAYER
CONFIDENTIAL: N LATITUDE: 41.105195 DATE COLLECTED: 5 / 17 / 1971
SURFACE ELEVATION (FT.): 608.0 LOGGED (FT.): 120.0 LOG TYPE: Drillers Log
SOURCE: AYRSHIRE RB46 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
608.0	PLEISTOCENE		UNCONSOLIDATED	2.0	0.0	
606.0	PLEISTOCENE		CLAY	9.0	2.0	
597.0	CARBONDALE		GRAY SHALE	57.0	11.0	AND DRIFT
540.0	CARBONDALE		SANDY SHALE	6.0	68.0	
534.0	CARBONDALE	EXCELLO	BLACK SHALE	3.0	74.0	
531.0	CARBONDALE		CLAYSTONE	3.0	77.0	
528.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	80.0	
525.0	CARBONDALE		GRAY SHALE	10.0	83.0	
515.0	CARBONDALE		SANDSTONE	27.0	93.0	HARD

MAPID: 10581089000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 1

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.261041

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.109612

DATE COLLECTED: 5 / 21 / 1971

SURFACE ELEVATION (FT.): 594.0

LOGGED (FT.): 126.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB50

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
594.0	PLEISTOCENE		CLAY	15.0	0.0
579.0	CARBONDALE		SHALE	58.0	15.0
521.0	CARBONDALE		ROCK	8.0	73.0
513.0	CARBONDALE		SHALE	5.0	81.0
508.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	86.0
505.0	CARBONDALE		UNDERCLAY	6.0	89.0
499.0	CARBONDALE		SILTY SHALE	14.0	95.0
485.0	CARBONDALE		SANDSTONE	6.0	109.0
479.0	CARBONDALE		SANDSTONE/SHALE	11.0	115.0

MAPID: 10581090000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 1

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.26081

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.100775

DATE COLLECTED: 5 / 24 / 1971

SURFACE ELEVATION (FT.): 599.0

LOGGED (FT.): 140.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB52

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
599.0	PLEISTOCENE		CLAY	14.0	0.0
585.0	CARBONDALE		SHALE	42.0	14.0
543.0	CARBONDALE		ROCK	1.0	56.0
542.0	CARBONDALE		SHALE	2.0	57.0
540.0	CARBONDALE		ROCK	2.0	59.0
538.0	CARBONDALE		SHALE	3.0	61.0
535.0	CARBONDALE		ROCK	1.0	64.0
534.0	CARBONDALE		SHALE	12.0	65.0
522.0	CARBONDALE		BLACK SHALE	4.0	77.0
518.0	CARBONDALE		SANDSTONE	5.0	81.0
513.0	CARBONDALE		SHALE & SANDSTONE	4.0	86.0
509.0	CARBONDALE		SANDSTONE	6.0	90.0
503.0	CARBONDALE		BLACK SHALE	8.0	96.0
495.0	CARBONDALE		GRAY SHALE	3.0	104.0
492.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	107.0
490.0	CARBONDALE		UNDERCLAY	3.0	109.0
487.0	CARBONDALE		SANDSTONE	6.0	112.0
481.0	CARBONDALE		SHALE	8.0	118.0
473.0	CARBONDALE		SANDSTONE/SHALE	14.0	126.0

MAPID: 10581091000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 1 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NW NW NW

QUADRANGLE: CAMPUS LONGITUDE: -88.270534 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.111649 DATE COLLECTED: 5 / 27 / 1971

SURFACE ELEVATION (FT.): 606.0 LOGGED (FT.): 140.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB55 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
606.0	PLEISTOCENE		CLAY	12.0	0.0	
594.0	CARBONDALE		GRAY SHALE	59.0	12.0	AND DRIFT
535.0	CARBONDALE		BLACK SHALE	7.0	71.0	
528.0	CARBONDALE	HOUCHIN CREEK	COAL	6.0	78.0	
522.0	CARBONDALE		GRAY SHALE	2.0	84.0	
520.0	CARBONDALE		LIMESTONE	1.0	86.0	
519.0	CARBONDALE		SANDSTONE	9.0	87.0	
510.0	CARBONDALE		GRAY SHALE	3.0	96.0	
507.0	CARBONDALE	LOWELL	COAL	3.0	99.0	
504.0	CARBONDALE		GRAY SHALE	5.0	102.0	
499.0	CARBONDALE		SANDSTONE	33.0	107.0	

MAPID: 10581092000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 1 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NE

QUADRANGLE: CAMPUS LONGITUDE: -88.261151 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.114032 DATE COLLECTED: 5 / 28 / 1971

SURFACE ELEVATION (FT.): 603.0 LOGGED (FT.): 146.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB57 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
603.0	PLEISTOCENE		CLAY	15.0	0.0
588.0	PLEISTOCENE		CLAY & SHALE	8.0	15.0
580.0	PLEISTOCENE		SAND & GRAVEL	2.0	23.0
578.0			SHALE	11.0	25.0
567.0			ROCK	3.0	36.0
564.0			SHALE	1.0	39.0
563.0			ROCK	1.0	40.0
562.0			SHALE	6.0	41.0
556.0			SHALE WITH LIMESTONE	1.0	47.0
555.0	CARBONDALE		SHALE	9.0	48.0
546.0	CARBONDALE		ROCK	1.0	57.0
545.0	CARBONDALE		SILTY SHALE	7.0	58.0
538.0	CARBONDALE		LIMESTONE	1.0	65.0
537.0	CARBONDALE		SILTY SHALE	2.0	66.0
535.0	CARBONDALE		SHALE	6.0	68.0
529.0	CARBONDALE		SANDSTONE	6.0	74.0
523.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	80.0
521.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	82.0
520.0	CARBONDALE		UNDERCLAY	4.0	83.0
516.0	CARBONDALE		CALCAREOUS SANDSTONE	3.0	87.0
513.0	CARBONDALE		LIMESTONE	4.0	90.0
509.0	CARBONDALE		SILTY SHALE	11.0	94.0
498.0	CARBONDALE		BLACK SHALE	3.0	105.0
495.0	CARBONDALE		GRAY SHALE	2.5	108.0
492.5	CARBONDALE	LOWELL	COAL	3.5	110.5
489.0	CARBONDALE		UNDERCLAY	7.0	114.0
482.0	CARBONDALE		LIMESTONE	4.0	121.0
478.0	CARBONDALE		SILTY SHALE	10.0	125.0
468.0	CARBONDALE		SANDSTONE/SHALE	11.0	135.0

MAPID: 10581093000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 1

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE SE

QUADRANGLE: CAMPUS

LONGITUDE: -88.251425

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.105359

DATE COLLECTED: 4 / 23 / 1971

SURFACE ELEVATION (FT.): 609.0

LOGGED (FT.): 113.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB32

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
609.0	PLEISTOCENE		CLAY	14.0	0.0
595.0			SHALE	48.0	14.0
547.0			ROCK	3.0	62.0
544.0			SHALE	5.0	65.0
539.0			LIMESTONE	1.0	70.0
538.0			SHALE	4.0	71.0
534.0			LIMESTONE AND SANDSTONE	3.0	75.0
531.0			SILTY SHALE	2.0	78.0
529.0			SANDSTONE/SHALE	12.0	80.0
517.0	CARBONDALE	HOUCHIN CREEK	LIMESTONE	1.0	92.0
516.0	CARBONDALE		DARK SHALE	1.0	93.0
515.0	CARBONDALE		BLACK SHALE	3.0	94.0
512.0	CARBONDALE		GRAY SHALE	2.0	97.0
510.0	CARBONDALE		COAL	4.0	99.0
506.0	CARBONDALE		UNDERCLAY	5.0	103.0
501.0	CARBONDALE		SHALE & SANDSTONE	5.0	108.0

MAPID: 10581094000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1' S line, 1' W line of SW SE SE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.275007 **GEOLOGIST:** STRAAYER
CONFIDENTIAL: N **LATITUDE:** 41.096149 **DATE COLLECTED:** 5 / 23 / 1971
SURFACE ELEVATION (FT.): 610.0 **LOGGED (FT.):** 160.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE RB51 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
610.0	PLEISTOCENE		CLAY	14.0	0.0
596.0	CARBONDALE		SHALE	49.0	14.0
547.0	CARBONDALE		SHALE	4.0	63.0 AND GRAVEL
543.0	CARBONDALE		SHALE	19.0	67.0
524.0	CARBONDALE		BLACK SHALE	3.0	86.0
521.0	CARBONDALE		GRAY SHALE	1.0	89.0
520.0	CARBONDALE	HOUCHIN CREEK	COAL	5.0	90.0
515.0	CARBONDALE		UNDERCLAY	2.0	95.0
513.0	CARBONDALE		SHALE & SANDSTONE	19.0	97.0
494.0	CARBONDALE		SANDSTONE	5.0	116.0
489.0	CARBONDALE		SHALE & SANDSTONE	10.0	121.0
479.0	CARBONDALE		SHALE	17.0	131.0
462.0	CARBONDALE		SILTY SHALE	12.0	148.0

MAPID: 10581095000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 2 **QUARTERS/FOOTAGES:** 1' S line, 1' W line of SW NW NE SW
QUADRANGLE: CAMPUS **LONGITUDE:** -88.284691 **GEOLOGIST:** STRAAYER
CONFIDENTIAL: N **LATITUDE:** 41.102553 **DATE COLLECTED:** 5 / 25 / 1971
SURFACE ELEVATION (FT.): 607.0 **LOGGED (FT.):** 135.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE RB53 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
607.0	PLEISTOCENE		CLAY	14.0	0.0
593.0	CARBONDALE		SHALE	46.0	14.0
547.0	CARBONDALE		SILTY SHALE	13.0	60.0
534.0	CARBONDALE		CALCAREOUS SHALE	7.0	73.0
527.0	CARBONDALE		SHALE	4.0	80.0
523.0	CARBONDALE		LIMESTONE	1.0	84.0
522.0	CARBONDALE		GRAY SHALE	2.0	85.0
520.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	87.0
518.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	89.0
515.0	CARBONDALE		UNDERCLAY	5.0	92.0
510.0	CARBONDALE		SANDSTONE/SHALE	29.0	97.0
481.0	CARBONDALE		SILTY SHALE	9.0	126.0

MAPID: 10581096000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 2

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SW SW NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.277653

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.107071

DATE COLLECTED: 5 / 26 / 1971

SURFACE ELEVATION (FT.): 608.0

LOGGED (FT.): 146.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB54

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
608.0	PLEISTOCENE		CLAY	15.0	0.0
593.0	CARBONDALE		SHALE	45.0	15.0
548.0	CARBONDALE		ROCK	1.0	60.0
547.0	CARBONDALE		SHALE	3.0	61.0
544.0	CARBONDALE		ROCK	1.0	64.0
543.0	CARBONDALE		SILTY SHALE	17.0	65.0
526.0	CARBONDALE		LIMESTONE	5.0	82.0
521.0	CARBONDALE		SHALE	8.0	87.0
513.0	CARBONDALE		LIMESTONE	1.0	95.0
512.0	CARBONDALE		GRAY SHALE	3.0	96.0
509.0	CARBONDALE		BLACK SHALE	2.0	99.0
507.0	CARBONDALE	LOWELL	COAL	4.0	101.0
503.0	CARBONDALE		UNDERCLAY	6.0	105.0
497.0	CARBONDALE		SILTY SHALE	2.0	111.0
495.0	CARBONDALE		SANDSTONE	2.0	113.0
493.0	CARBONDALE		SANDSTONE/SHALE	4.0	115.0
489.0	CARBONDALE		SHALE & SANDSTONE	27.0	119.0

MAPID: 10581097000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 2 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NE

QUADRANGLE: CAMPUS LONGITUDE: -88.280222 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.113582 DATE COLLECTED: 5 / 27 / 1971

SURFACE ELEVATION (FT.): 606.0 LOGGED (FT.): 140.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB56 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
606.0	PLEISTOCENE		CLAY	15.0	0.0
591.0	CARBONDALE		SHALE	40.0	15.0
551.0	CARBONDALE		SILTY SHALE	18.0	55.0
533.0	CARBONDALE		LIMESTONE	1.0	73.0
532.0	CARBONDALE		SHALE	4.0	74.0
528.0	CARBONDALE		SILTY SHALE	10.0	78.0
518.0	CARBONDALE		BLACK SHALE	2.0	88.0
516.0	CARBONDALE		DARK SHALE	1.0	90.0
515.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	91.0
514.0	CARBONDALE		GRAY SHALE	2.0	92.0
512.0	CARBONDALE		SILTY SHALE	4.0	94.0
508.0	CARBONDALE		LIMESTONE & SHALE	4.0	98.0
504.0	CARBONDALE		SHALE & SANDSTONE	4.0	102.0
500.0	CARBONDALE		SHALE	3.0	106.0
497.0	CARBONDALE		LIMESTONE	1.0	109.0
496.0	CARBONDALE		GRAY SHALE	3.0	110.0
493.0	CARBONDALE		BLACK SHALE	3.0	113.0
490.0	CARBONDALE		GRAY SHALE	1.0	116.0
489.0	CARBONDALE	LOWELL	COAL	3.0	117.0
486.0	CARBONDALE		UNDERCLAY	6.0	120.0
480.0	CARBONDALE		SHALE & SANDSTONE	14.0	126.0

MAPID: 10581098000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 2

QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW SE

QUADRANGLE: CAMPUS

LONGITUDE: -88.279983

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.104828

DATE COLLECTED: 6 / 10 / 1971

SURFACE ELEVATION (FT.): 608.7

LOGGED (FT.): 146.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB65

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
608.7	PLEISTOCENE		CLAY	14.0	0.0	
594.7	CARBONDALE		SHALE	41.0	14.0	
553.7	CARBONDALE		SILTY SHALE	19.0	55.0	
534.7	CARBONDALE		SHALE WITH LIMESTONE	1.0	74.0	
533.7	CARBONDALE		SANDSTONE	2.0	75.0	
531.7	CARBONDALE		CALCAREOUS SHALE	1.0	77.0	
530.7	CARBONDALE		SHALE	3.0	78.0	
527.7	CARBONDALE		LIMESTONE	1.0	81.0	
526.7	CARBONDALE		GRAY SHALE	1.0	82.0	
525.7	CARBONDALE		BLACK SHALE	1.0	83.0	
524.7	CARBONDALE		UNKNOWN	9.0	84.0	CORE #1 WITH 2.3 FEET OF COAL
515.7	CARBONDALE		UNDERCLAY	7.0	93.0	
508.7	CARBONDALE		LIMESTONE	1.0	100.0	
507.7	CARBONDALE		SANDSTONE/SHALE	17.0	101.0	
490.7	CARBONDALE		SHALE & SANDSTONE	28.0	118.0	

MAPID: 10581099000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 3

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE SE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.289633

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.106798

DATE COLLECTED: 6 / 9 / 1971

SURFACE ELEVATION (FT.): 609.8

LOGGED (FT.): 146.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB64

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
609.8	PLEISTOCENE		CLAY	14.0	0.0
595.8	CARBONDALE		SHALE	65.0	14.0
530.8	CARBONDALE		SHALE WITH LIMESTONE	2.0	79.0
528.8	CARBONDALE		GRAY SHALE	8.0	81.0
520.8	CARBONDALE		BLACK SHALE	2.0	89.0
518.8	CARBONDALE	HOUCHIN CREEK	COAL	2.0	91.0
516.8	CARBONDALE		UNDERCLAY	6.0	93.0
510.8	CARBONDALE		SANDSTONE	1.0	99.0
509.8	CARBONDALE		SHALE	3.0	100.0
506.8	CARBONDALE		LIMESTONE	1.0	103.0
505.8	CARBONDALE		SANDSTONE/SHALE	4.0	104.0
501.8	CARBONDALE		SANDSTONE	2.0	108.0
499.8	CARBONDALE		SHALE & SANDSTONE	15.0	110.0
484.8	CARBONDALE		SILTY SHALE	21.0	125.0

MAPID: 10581100000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 4 **QUARTERS/FOOTAGES:** 1' N line, 1' W line of NW NW SE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.318736 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.104095 **DATE COLLECTED:** 6 / 24 / 1971
SURFACE ELEVATION (FT.): 613.0 **LOGGED (FT.):** 146.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE RB73 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
613.0	PLEISTOCENE		CLAY	15.0	0.0	
598.0	CARBONDALE		SHALE	40.0	15.0	
558.0	CARBONDALE		SILTY SHALE	5.0	55.0	
553.0	CARBONDALE		SHALE	11.0	60.0	
542.0	CARBONDALE		UNKNOWN	2.0	71.0	DRILLER REPORTS LOOSE SAND AND GRAVEL
540.0	CARBONDALE		SHALE WITH LIMESTONE	7.0	73.0	
533.0	CARBONDALE		UNKNOWN	1.0	80.0	DRILLER REPORTS LOOSE SAND AND GRAVEL
532.0	CARBONDALE		SHALE	9.0	81.0	
523.0	CARBONDALE		BLACK SHALE	7.0	90.0	
516.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	97.0	
513.0	CARBONDALE		UNDERCLAY	1.0	100.0	
512.0	CARBONDALE		LIMESTONE	4.0	101.0	
508.0	CARBONDALE		SHALE & SANDSTONE	1.0	105.0	
507.0	CARBONDALE		SHALE	8.0	106.0	
499.0	CARBONDALE		SHALE & SANDSTONE	16.0	114.0	
483.0	CARBONDALE		LIMESTONE	16.0	130.0	

MAPID: 10500045000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 5 **QUARTERS/FOOTAGES:** NW NW NE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.337174 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.111085 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 100.5 **LOG TYPE:** Drillers Log
SOURCE: CHAS. CUMMINGS D **WELL TYPE:** Unknown well type
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	1.0	0.0	
-	PLEISTOCENE		CLAY	9.0	1.0	YELLOW
-	PLEISTOCENE		HARD PAN	1.0	10.0	
-	PLEISTOCENE		SAND	2.0	11.0	
-	PLEISTOCENE		HARD PAN	57.0	13.0	
-			ROCK	3.0	70.0	
-			SHALE	6.5	73.0	
-			SHALE	7.6	79.5	
-			COAL	2.8	87.1	
-			UNDERCLAY	10.7	89.8	

MAPID: 10500045000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 5

QUARTERS/FOOTAGES: NW NW NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.337174

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 41.111085

DATE COLLECTED:

SURFACE ELEVATION (FT.): 609.0

LOGGED (FT.): 86.8

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.0	CARBONDALE	HOUCHIN CREEK	COAL	2.8	84.0	

MAPID: 10581101000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 5 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW NW

QUADRANGLE: CAMPUS LONGITUDE: -88.347754 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.103635 DATE COLLECTED:

SURFACE ELEVATION (FT.): 611.8 LOGGED (FT.): 196.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB71 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
611.8	PLEISTOCENE		CLAY	14.0	0.0
597.8	CARBONDALE		SHALE	21.0	14.0
576.8	CARBONDALE		ROCK	2.0	35.0
574.8	CARBONDALE		SHALE	17.0	37.0
557.8	CARBONDALE		LIMESTONE & SHALE	1.0	54.0
556.8	CARBONDALE		SHALE	2.0	55.0 GRAVELLY
554.8	CARBONDALE		LIMESTONE	1.0	57.0
553.8	CARBONDALE		SHALE	5.0	58.0
548.8	CARBONDALE		SILTY SHALE	3.0	63.0
545.8	CARBONDALE		GRAY SHALE	8.0	66.0
537.8	CARBONDALE		BLACK SHALE	1.0	74.0 LIMY
536.8	CARBONDALE		SANDSTONE/LIMESTONE	2.0	75.0
534.8	CARBONDALE	EXCELLO	BLACK SHALE	1.0	77.0
533.8	CARBONDALE	HOUCHIN CREEK	COAL	1.0	78.0
532.8	CARBONDALE		SHALE	6.0	79.0
526.8	CARBONDALE		LIMESTONE	1.0	85.0
525.8	CARBONDALE		SANDSTONE/SHALE	1.0	86.0
524.8	CARBONDALE		SANDSTONE/LIMESTONE	1.0	87.0
523.8	CARBONDALE		LIMESTONE	5.0	88.0
518.8	CARBONDALE		SILTY SHALE	7.0	93.0
511.8	CARBONDALE		SHALE WITH LIMESTONE	1.0	100.0
510.8	CARBONDALE		GRAY SHALE	10.0	101.0
500.8	CARBONDALE		DARK SHALE	7.0	111.0
493.8	CARBONDALE		LIMESTONE	1.0	118.0
492.8	CARBONDALE		DARK SHALE	3.0	119.0
489.8	CARBONDALE		BLACK SHALE	12.0	122.0
477.8	CARBONDALE		SHALE	2.0	134.0
475.8	CARBONDALE		SILTY SHALE	4.0	136.0
471.8	CARBONDALE		COAL	1.0	140.0
470.8	CARBONDALE		BLACK SHALE	2.0	141.0
468.8	CARBONDALE		GRAY SHALE	1.0	143.0
467.8	CARBONDALE		COAL	1.0	144.0
466.8	CARBONDALE		SILTY SHALE	5.0	145.0
461.8	CARBONDALE		SHALE & SANDSTONE	6.0	150.0
455.8	CARBONDALE		SANDSTONE	2.0	156.0
453.8	CARBONDALE		SHALE & SANDSTONE	1.0	158.0
452.8	CARBONDALE	COLCHESTER	COAL	3.0	159.0
449.8	CARBONDALE		SHALE WITH LIMESTONE	4.0	162.0
445.8	CARBONDALE		COAL	1.0	166.0

444.8	CARBONDALE	SHALE WITH LIMESTONE	1.0	167.0
443.8	CARBONDALE	COAL	1.0	168.0
442.8	CARBONDALE	SHALE	2.5	169.0
440.3	CARBONDALE	LIMESTONE	3.5	171.5
436.8	CARBONDALE	SHALE	5.0	175.0
431.8	CARBONDALE	SANDSTONE	1.0	180.0
430.8	CARBONDALE	SHALE	15.0	181.0

MAPID: 10581102000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 9 **QUARTERS/FOOTAGES:** 1' S line, 1' E line of SE NW NE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.313388 **GEOLOGIST:** STRAAYER
CONFIDENTIAL: N **LATITUDE:** 41.09195 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 613.8 **LOGGED (FT.):** 145.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE RB70 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
613.8	PLEISTOCENE		CLAY	14.0	0.0
599.8	CARBONDALE		SHALE	71.0	14.0
528.8	CARBONDALE		ROCK	7.0	85.0
521.8	CARBONDALE		BLACK SHALE	2.0	92.0
519.8	CARBONDALE		CALCAREOUS SHALE	1.0	94.0
518.8	CARBONDALE		SHALE	4.0	95.0
514.8	CARBONDALE		SILTY SHALE	7.0	99.0
507.8	CARBONDALE		GRAY SHALE	3.0	106.0
504.8	CARBONDALE		BLACK SHALE	2.0	109.0
502.8	CARBONDALE	HOUCHIN CREEK	COAL	3.0	111.0
499.8	CARBONDALE		UNDERCLAY	3.0	114.0
496.8	CARBONDALE		LIMESTONE	1.0	117.0
495.8	CARBONDALE		SHALE	1.0	118.0
494.8	CARBONDALE		LIMESTONE	1.0	119.0
493.8	CARBONDALE		SILTY SHALE	25.0	120.0

MAPID: 10581103000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 10

QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.29408

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.095862

DATE COLLECTED: 6 / 8 / 1971

SURFACE ELEVATION (FT.): 612.0

LOGGED (FT.): 125.5

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB63

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
612.0	PLEISTOCENE		CLAY	14.0	0.0
598.0	CARBONDALE		SHALE	42.0	14.0
556.0	CARBONDALE		SILTY SHALE	23.0	56.0
533.0	CARBONDALE		SHALE WITH LIMESTONE	3.0	79.0
530.0	CARBONDALE		SHALE	3.0	82.0
527.0	CARBONDALE		LIMESTONE & SHALE	1.0	85.0
526.0	CARBONDALE		SHALE	2.0	86.0
524.0	CARBONDALE		SHALE WITH LIMESTONE	2.0	88.0
522.0	CARBONDALE		GRAY SHALE	1.0	90.0
521.0	CARBONDALE		BLACK SHALE	1.0	91.0
520.0	CARBONDALE		GRAY SHALE	1.0	92.0
519.0	CARBONDALE	HOUCHIN CREEK	COAL	2.8	93.0
516.2	CARBONDALE		UNDERCLAY	7.8	95.8
508.5	CARBONDALE		SILTY SHALE	2.0	103.5
506.5	CARBONDALE		LIMESTONE	1.0	105.5
505.5	CARBONDALE		SHALE & SANDSTONE	19.0	106.5

MAPID: 10581104000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 10 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE SE

QUADRANGLE: CAMPUS LONGITUDE: -88.293578 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.081252 DATE COLLECTED:

SURFACE ELEVATION (FT.): 613.0 LOGGED (FT.): 146.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB69 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
613.0	PLEISTOCENE		CLAY	14.0	0.0	
599.0	CARBONDALE		SHALE	49.0	14.0	
550.0	CARBONDALE		SILTY SHALE	13.0	63.0	
537.0	CARBONDALE		ROCK	2.0	76.0	
535.0	CARBONDALE		SHALE	3.0	78.0	
532.0	CARBONDALE		LIMESTONE & SHALE	1.0	81.0	
531.0	CARBONDALE		SILTY SHALE	5.0	82.0	
526.0	CARBONDALE		SILTY SHALE	1.0	87.0	AND GRAVEL
525.0	CARBONDALE		SHALE	4.0	88.0	
521.0	CARBONDALE		CALCAREOUS SHALE	1.0	92.0	
520.0	CARBONDALE		SHALE	6.0	93.0	
514.0	CARBONDALE		LIMESTONE	1.0	99.0	
513.0	CARBONDALE		GRAY SHALE	4.0	100.0	
509.0	CARBONDALE		BLACK SHALE	3.0	104.0	
506.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	107.0	
505.0	CARBONDALE		UNDERCLAY	8.0	108.0	
497.0	CARBONDALE		LIMESTONE	1.0	116.0	
496.0	CARBONDALE		SANDSTONE/SHALE	9.0	117.0	
487.0	CARBONDALE		SILTY SHALE	2.0	126.0	
485.0	CARBONDALE		LIMESTONE	1.0	128.0	
484.0	CARBONDALE		SANDSTONE	2.0	129.0	
482.0	CARBONDALE		SHALE & SANDSTONE	7.0	131.0	
475.0	CARBONDALE		CALCAREOUS SHALE	1.0	138.0	
474.0	CARBONDALE		SHALE & SANDSTONE	3.0	139.0	
471.0	CARBONDALE		LIMESTONE	0.5	142.0	
470.5	CARBONDALE		SHALE & SANDSTONE	3.5	142.5	

MAPID: 10581105000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 10

QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NE NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.303818

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.095709

DATE COLLECTED: 6 / 7 / 1971

SURFACE ELEVATION (FT.): 610.0

LOGGED (FT.): 146.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB62

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
610.0	PLEISTOCENE		CLAY	14.0	0.0
596.0	CARBONDALE		SHALE	16.0	14.0
580.0	CARBONDALE		SILTY SHALE	15.0	30.0
565.0	CARBONDALE		SHALE	15.0	45.0
550.0	CARBONDALE		SILTY SHALE	19.0	60.0
531.0	CARBONDALE		LIMESTONE & SHALE	1.0	79.0
530.0	CARBONDALE		SHALE	2.0	80.0 AND GRAVEL
528.0	CARBONDALE		SHALE	1.0	82.0
527.0	CARBONDALE		LIMESTONE	1.0	83.0
526.0	CARBONDALE		ROCK	10.0	84.0
516.0	CARBONDALE		SILTY SHALE	3.0	94.0
513.0	CARBONDALE		LIMESTONE	3.0	97.0
510.0	CARBONDALE		SANDSTONE/SHALE	16.0	100.0
494.0	CARBONDALE		SILTY SHALE	30.0	116.0

MAPID: 10581106000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 11

QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE SE

QUADRANGLE: CAMPUS

LONGITUDE: -88.274263

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.0816

DATE COLLECTED: 5 / 19 / 1971

SURFACE ELEVATION (FT.): 617.0

LOGGED (FT.): 126.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB49

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
617.0	PLEISTOCENE		CLAY	15.0	0.0
602.0	CARBONDALE		SHALE	33.0	15.0
569.0	CARBONDALE		ROCK	1.0	48.0
568.0	CARBONDALE		SHALE	31.0	49.0
537.0	CARBONDALE		ROCK	1.0	80.0
536.0	CARBONDALE		SHALE	2.0	81.0
534.0	CARBONDALE		LIMESTONE	2.0	83.0
532.0	CARBONDALE		SHALE	11.0	85.0
521.0	CARBONDALE		LIMESTONE	1.0	96.0
520.0	CARBONDALE		SHALE	1.0	97.0
519.0	CARBONDALE		BLACK SHALE	1.0	98.0
518.0	CARBONDALE		GRAY SHALE	3.0	99.0
515.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	102.0
514.0	CARBONDALE		UNDERCLAY	6.0	103.0
508.0	CARBONDALE		SHALE & SANDSTONE	17.0	109.0

MAPID: 10581107000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 11 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NE NE SW

QUADRANGLE: CAMPUS LONGITUDE: -88.279344 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.086975 DATE COLLECTED: 6 / 1 / 1971

SURFACE ELEVATION (FT.): 613.0 LOGGED (FT.): 155.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB59 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
613.0	PLEISTOCENE		CLAY	14.0	0.0	
599.0	CARBONDALE		SHALE	7.0	14.0	
592.0	CARBONDALE		SHALE	6.0	21.0	WITH GRAVEL
586.0	CARBONDALE		SHALE	22.0	27.0	
564.0	CARBONDALE		SILTY SHALE	7.0	49.0	
557.0	CARBONDALE		SHALE WITH LIMESTONE	11.0	56.0	
546.0	CARBONDALE		UNKNOWN	1.0	67.0	DRILLER REPORTS SAND AND GRAVEL
545.0	CARBONDALE		SILTY SHALE	20.0	68.0	
525.0	CARBONDALE		LIMESTONE	0.5	88.0	
524.5	CARBONDALE		SILTY SHALE	2.5	88.5	
522.0	CARBONDALE		SANDSTONE/LIMESTONE	2.0	91.0	
520.0	CARBONDALE		SHALE & SANDSTONE	6.0	93.0	
514.0	CARBONDALE		SILTY SHALE	4.0	99.0	
510.0	CARBONDALE		SANDSTONE	1.0	103.0	HARD
509.0	CARBONDALE		GRAY SHALE	3.0	104.0	
506.0	CARBONDALE	EXCELLO	BLACK SHALE	1.0	107.0	
505.0	CARBONDALE	EXCELLO	DARK SHALE	2.0	108.0	
503.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	110.0	
502.0	CARBONDALE		UNDERCLAY	6.0	111.0	
496.0	CARBONDALE		SILTY SHALE	3.0	117.0	
493.0	CARBONDALE		LIMESTONE	1.0	120.0	
492.0	CARBONDALE		SANDSTONE/SHALE	34.0	121.0	

MAPID: 10581108000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 11

QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.288754

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.081342

DATE COLLECTED: 5 / 29 / 1971

SURFACE ELEVATION (FT.): 615.0

LOGGED (FT.): 146.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB58

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
615.0	PLEISTOCENE		CLAY	15.0	0.0
600.0	CARBONDALE		SHALE	8.0	15.0
592.0	CARBONDALE		SILTY SHALE	29.0	23.0
563.0	CARBONDALE		SHALE	6.0	52.0
557.0	CARBONDALE		SILTY SHALE	6.0	58.0
551.0	CARBONDALE		SHALE	4.0	64.0
547.0	CARBONDALE		LIMESTONE	0.5	68.0
546.5	CARBONDALE		SILTY SHALE	7.5	68.5
539.0	CARBONDALE		SHALE	6.0	76.0 WITH GRAVEL
533.0	CARBONDALE		SILTY SHALE	5.0	82.0
528.0	CARBONDALE		LIMESTONE	0.5	87.0
527.5	CARBONDALE		SHALE	4.5	87.5
523.0	CARBONDALE		SHALE & SANDSTONE	6.0	92.0
517.0	CARBONDALE		GRAY SHALE	4.0	98.0
513.0	CARBONDALE	EXCELLO	BLACK SHALE	3.0	102.0
510.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	105.0
508.0	CARBONDALE		UNDERCLAY	7.0	107.0
501.0	CARBONDALE		SILTY SHALE	6.0	114.0
495.0	CARBONDALE		SHALE & SANDSTONE	26.0	120.0

MAPID: 10581109000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 11

QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE SE

QUADRANGLE: CAMPUS

LONGITUDE: -88.269443

GEOLOGIST: STRAAYER

CONFIDENTIAL: N

LATITUDE: 41.081683

DATE COLLECTED:

SURFACE ELEVATION (FT.): 616.3

LOGGED (FT.): 146.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB68

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
616.3	PLEISTOCENE		CLAY	14.0	0.0
602.3	CARBONDALE		SHALE	24.0	14.0
578.3	CARBONDALE		LIMESTONE & SHALE	2.0	38.0
576.3	CARBONDALE		SHALE	23.0	40.0
553.3	CARBONDALE		CALCAREOUS SHALE	2.0	63.0
551.3	CARBONDALE		SHALE	5.0	65.0
546.3	CARBONDALE		ROCK	1.0	70.0
545.3	CARBONDALE		SHALE	7.0	71.0
538.3	CARBONDALE		LIMESTONE & SHALE	1.0	78.0
537.3	CARBONDALE		SILTY SHALE	5.0	79.0
532.3	CARBONDALE		LIMESTONE & SHALE	1.0	84.0
531.3	CARBONDALE		GRAY SHALE	4.0	85.0
527.3	CARBONDALE		BLACK SHALE	3.0	89.0
524.3	CARBONDALE		GRAY SHALE	6.0	92.0
518.3	CARBONDALE		CALCAREOUS SHALE	1.0	98.0
517.3	CARBONDALE		LIMESTONE	1.0	99.0
516.3	CARBONDALE		CALCAREOUS SHALE	2.0	100.0
514.3	CARBONDALE		GRAY SHALE	2.0	102.0
512.3	CARBONDALE	EXCELLO	BLACK SHALE	4.0	104.0
508.3	CARBONDALE	HOUCHIN CREEK	COAL	2.0	108.0
506.3	CARBONDALE		UNDERCLAY	2.3	110.0
504.0	CARBONDALE		LIMESTONE	6.8	112.3
497.3	CARBONDALE		SANDSTONE/SHALE	12.0	119.0
485.3	CARBONDALE		SILTY SHALE	15.0	131.0

MAPID: 10581110000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 11 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NE SE

QUADRANGLE: CAMPUS LONGITUDE: -88.26986 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.088945 DATE COLLECTED: 5 / 18 / 1971

SURFACE ELEVATION (FT.): 602.0 LOGGED (FT.): 137.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB48 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
602.0	PLEISTOCENE		UNCONSOLIDATED	2.0	0.0	
600.0	PLEISTOCENE		CLAY	6.0	2.0	
594.0	PLEISTOCENE		UNCONSOLIDATED	4.0	8.0	
590.0	CARBONDALE		GRAY SHALE	70.0	12.0	AND DRIFT
520.0	CARBONDALE		SANDY SHALE	6.0	82.0	
514.0	CARBONDALE		LIMESTONE	1.0	88.0	
513.0	CARBONDALE		SHALE	5.0	89.0	GREEN
508.0	CARBONDALE		BLACK SHALE	2.0	94.0	
506.0	CARBONDALE		SANDY SHALE	3.0	96.0	
503.0	CARBONDALE	HOUCHIN CREEK	COAL	4.0	99.0	
499.0	CARBONDALE		GRAY SHALE	9.0	103.0	
490.0	CARBONDALE		SANDSTONE	25.0	112.0	

MAPID: 10500046000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 12 QUARTERS/FOOTAGES:

QUADRANGLE: CAMPUS LONGITUDE: -88.260219 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.089038 DATE COLLECTED:

SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 188.3 LOG TYPE: Drillers Log

SOURCE: C. S. CUMMING 19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE	LOWELL	SOIL	1.5	0.0	YELLOW
613.5	PLEISTOCENE		CLAY	5.0	1.5	
608.5	PLEISTOCENE		HARD PAN	76.0	6.5	
532.5	CARBONDALE		SHALE	5.0	82.5	
527.5	CARBONDALE		SANDSTONE	8.1	87.5	
519.4	CARBONDALE		SHALE	3.1	95.6	
516.3	CARBONDALE		SHALE	1.8	98.7	
514.6	CARBONDALE		UNDERCLAY	3.3	100.4	
511.2	CARBONDALE		SHALE	10.0	103.8	
501.2	CARBONDALE		COAL	3.7	113.8	
497.6	CARBONDALE		UNDERCLAY	2.4	117.4	
495.2	CARBONDALE		SANDSTONE	20.7	119.8	
474.5	CARBONDALE		SANDSTONE	7.0	140.5	
467.5	CARBONDALE		SHALE	36.0	147.5	
431.5	CARBONDALE	COLCHESTER	COAL	3.0	183.5	
428.5			UNDERCLAY	1.8	186.5	

MAPID: 10500046000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 12 QUARTERS/FOOTAGES:

QUADRANGLE: CAMPUS LONGITUDE: -88.260219 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.089038 DATE COLLECTED:

SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 186.0 LOG TYPE: Drillers Log

SOURCE:

COMMENT: GOOD LOG

WELL TYPE: Coal Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
516.0	CARBONDALE	SPRINGFIELD	COAL	-	99.0	
516.0	CARBONDALE		UNCLASSIFIED	15.0	99.0	
501.0	CARBONDALE	HOUCHIN CREEK	COAL	3.5	114.0	
497.5	CARBONDALE		UNCLASSIFIED	65.5	117.5	
432.0	CARBONDALE	COLCHESTER	COAL	3.0	183.0	

MAPID: 10581111000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE NE

QUADRANGLE: CAMPUS LONGITUDE: -88.251845 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.090038 DATE COLLECTED:

SURFACE ELEVATION (FT.): 611.0 LOGGED (FT.): 222.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB20 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
611.0	PLEISTOCENE		CLAY	17.0	0.0
594.0	CARBONDALE		SHALE & SANDSTONE	23.0	17.0
571.0	CARBONDALE		SANDSTONE/SHALE	47.0	40.0
524.0	CARBONDALE		SHALE	9.0	87.0
515.0	CARBONDALE		SANDSTONE/SHALE	11.0	96.0
504.0	CARBONDALE		GRAY SHALE	3.0	107.0
501.0	CARBONDALE		BLACK SHALE	2.0	110.0
499.0	CARBONDALE	HOUCHIN CREEK	COAL	4.0	112.0
495.0	CARBONDALE		UNDERCLAY	4.0	116.0
491.0	CARBONDALE		SHALE	13.0	120.0
478.0	CARBONDALE		SANDSTONE/SHALE	14.0	133.0
464.0	CARBONDALE		SHALE & SANDSTONE	27.0	147.0
437.0	CARBONDALE		SHALE	6.0	174.0
431.0	CARBONDALE		SILTY SHALE	19.0	180.0
412.0	CARBONDALE	COLCHESTER	COAL	3.0	199.0
409.0	CARBONDALE		UNDERCLAY	3.0	202.0
406.0	CARBONDALE		SANDSTONE	1.5	205.0
404.5	CARBONDALE		SHALE	8.5	206.5
396.0	CARBONDALE		LIMESTONE	1.0	215.0
395.0	CARBONDALE		SHALE & SANDSTONE	6.0	216.0

MAPID: 10581112000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE SW SE

QUADRANGLE: CAMPUS LONGITUDE: -88.257318 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.081729 DATE COLLECTED: 5 / 16 / 1971

SURFACE ELEVATION (FT.): 615.0 LOGGED (FT.): 126.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB43 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
615.0	PLEISTOCENE		CLAY	14.0	0.0	
601.0	CARBONDALE		SHALE	33.0	14.0	
568.0	CARBONDALE		SHALE	5.0	47.0	AND GRAVEL
563.0	CARBONDALE		SHALE	16.0	52.0	
547.0	CARBONDALE		ROCK	2.0	68.0	
545.0	CARBONDALE		SILTY SHALE	23.0	70.0	
522.0	CARBONDALE		BLACK SHALE	1.0	93.0	
521.0	CARBONDALE		GRAY SHALE	3.0	94.0	
518.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	97.0	
515.0	CARBONDALE		UNDERCLAY	5.0	100.0	
510.0	CARBONDALE		SILTY SHALE	6.0	105.0	
504.0	CARBONDALE		SANDSTONE/SHALE	2.0	111.0	
502.0	CARBONDALE		SANDSTONE	1.0	113.0	
501.0	CARBONDALE		LIMESTONE	2.0	114.0	
499.0	CARBONDALE		SANDSTONE/SHALE	10.0	116.0	

MAPID: 10581113000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 12 QUARTERS/FOOTAGES: 1' N line, 1' E line of NE NW NE

QUADRANGLE: CAMPUS LONGITUDE: -88.2559 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.096433 DATE COLLECTED: 5 / 17 / 1971

SURFACE ELEVATION (FT.): 608.0 LOGGED (FT.): 140.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB45 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
608.0	PLEISTOCENE		CLAY	14.0	0.0
594.0	CARBONDALE		SHALE	31.0	14.0
563.0	CARBONDALE		ROCK	2.0	45.0
561.0	CARBONDALE		SHALE	22.0	47.0
539.0	CARBONDALE		ROCK	2.0	69.0
537.0	CARBONDALE		SILTY SHALE	3.0	71.0
534.0	CARBONDALE		SILTY SHALE	1.0	74.0
533.0	CARBONDALE		DARK SHALE	6.0	75.0
527.0	CARBONDALE	TURNER MINE	BLACK SHALE	3.5	81.0
523.5	CARBONDALE	SPRINGFIELD	COAL	0.5	84.5
523.0	CARBONDALE		GRAY SHALE	6.0	85.0
517.0	CARBONDALE		LIMESTONE & SHALE	1.0	91.0
516.0	CARBONDALE		GRAY SHALE	10.0	92.0
506.0	CARBONDALE	EXCELLO	BLACK SHALE	3.0	102.0
503.0	CARBONDALE		GRAY SHALE	4.0	105.0
499.0	CARBONDALE	HOUCHIN CREEK	COAL	3.5	109.0
495.5	CARBONDALE		UNDERCLAY	4.5	112.5
491.0	CARBONDALE		SILTY SHALE	13.0	117.0
478.0	CARBONDALE		LIMESTONE	0.5	130.0
477.5	CARBONDALE		SHALE & SANDSTONE	9.5	130.5

MAPID: 10581114000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 12 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW SE

QUADRANGLE: CAMPUS LONGITUDE: -88.259742 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.081721 DATE COLLECTED:

SURFACE ELEVATION (FT.): 617.0 LOGGED (FT.): 180.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB25 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
617.0	PLEISTOCENE	HOUCHIN CREEK	CLAY	16.0	0.0	
601.0	PLEISTOCENE		BOULDER	0.5	16.0	
600.5	PLEISTOCENE		SAND/CLAY	22.5	16.5	SHALY
578.0	PLEISTOCENE		GRAVEL	6.0	39.0	
572.0	PLEISTOCENE		SAND/CLAY	8.0	45.0	SHALEY
564.0	PLEISTOCENE		GRAVEL	3.0	53.0	
561.0	CARBONDALE		SHALE	10.0	56.0	
551.0	CARBONDALE		ROCK	2.0	66.0	
549.0	CARBONDALE		GRAY SHALE	8.0	68.0	
541.0	CARBONDALE		DARK SHALE	2.0	76.0	
539.0	CARBONDALE		COAL	4.0	78.0	
535.0	CARBONDALE		UNDERCLAY	4.0	82.0	
531.0	CARBONDALE		LIMESTONE	1.0	86.0	
530.0	CARBONDALE		SANDY SHALE	19.0	87.0	
511.0	CARBONDALE		LIMESTONE	10.0	106.0	
501.0	CARBONDALE	COLCHESTER	SANDSTONE	7.0	116.0	
494.0	CARBONDALE		SANDY SHALE	23.0	123.0	
471.0	CARBONDALE		SHALE	16.0	146.0	
455.0	CARBONDALE		COAL	3.0	162.0	
452.0	CARBONDALE		UNDERCLAY	2.0	165.0	
450.0	CARBONDALE		SILTY SHALE	8.0	167.0	
442.0	CARBONDALE		SANDY SHALE	1.0	175.0	
441.0	CARBONDALE		SHALE	4.0	176.0	

MAPID: 10581115000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NW SW

QUADRANGLE: CAMPUS LONGITUDE: -88.268992 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.070775 DATE COLLECTED: 5 / 15 / 1971

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 155.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB41 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		SOIL	14.0	0.0	
606.0	CARBONDALE		SHALE	34.0	14.0	
572.0	CARBONDALE		SHALE	17.0	48.0	AND LOOSE SAND
555.0	CARBONDALE		SILTY SHALE	15.0	65.0	
540.0	CARBONDALE		CALCAREOUS SHALE	1.0	80.0	
539.0	CARBONDALE		SILTY SHALE	27.0	81.0	
512.0	CARBONDALE		BLACK SHALE	2.0	108.0	
510.0	CARBONDALE		SHALE	0.5	110.0	AND PYRITE
509.5	CARBONDALE		SHALE	3.5	110.5	
506.0	CARBONDALE		LIMESTONE	0.5	114.0	
505.5	CARBONDALE		GRAY SHALE	4.5	114.5	
501.0	CARBONDALE		DARK SHALE	3.0	119.0	
498.0	CARBONDALE		GRAY SHALE	1.0	122.0	
497.0	CARBONDALE	HOUCHIN CREEK	COAL	4.0	123.0	
493.0	CARBONDALE		UNDERCLAY	6.0	127.0	
487.0	CARBONDALE		SILTY SHALE	5.0	133.0	
482.0	CARBONDALE		SHALE & SANDSTONE	9.0	138.0	
473.0	CARBONDALE		LIMESTONE AND SANDSTONE	1.0	147.0	
472.0	CARBONDALE		SHALE & SANDSTONE	7.0	148.0	

MAPID: 10581116000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE SW

QUADRANGLE: CAMPUS LONGITUDE: -88.259341 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.06712 DATE COLLECTED: 8 / 25 / 1970

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 140.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 251 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		UNCONSOLIDATED	83.0	0.0	
537.0	CARBONDALE		GRAY SHALE	9.0	83.0	
528.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.0	92.0	SOFT
527.0	CARBONDALE	TURNER MINE	BLACK SHALE	4.0	93.0	
523.0	CARBONDALE	SPRINGFIELD	COAL WITH SHALE	1.0	97.0	
522.0	CARBONDALE		UNDERCLAY	2.0	98.0	
520.0	CARBONDALE		LIMESTONE	0.8	100.0	
519.2	CARBONDALE		GRAY SHALE	2.2	100.8	
517.0	CARBONDALE		BLACK SHALE	1.0	103.0	SOFT
516.0	CARBONDALE		GRAY SHALE	4.0	104.0	
512.0	CARBONDALE		DARK SHALE	2.0	108.0	
510.0	CARBONDALE	HOUCHIN CREEK	COAL	3.2	110.0	
506.8	CARBONDALE		UNDERCLAY	5.8	113.2	
501.0	CARBONDALE		SANDY SHALE	4.0	119.0	
497.0	CARBONDALE		COAL	0.2	123.0	
496.8	CARBONDALE		UNDERCLAY	0.8	123.2	
496.0	CARBONDALE		CALCAREOUS SANDSTONE	3.0	124.0	
493.0	CARBONDALE		SANDY SHALE	4.0	127.0	
489.0	CARBONDALE		LIMESTONE	0.5	131.0	
488.5	CARBONDALE		SHALY SANDSTONE	2.0	131.5	
486.5	CARBONDALE		SHALE WITH LIMESTONE	0.5	133.5	
486.0	CARBONDALE		SANDY SHALE	1.0	134.0	
485.0	CARBONDALE		CALCAREOUS SANDSTONE	0.5	135.0	
484.5	CARBONDALE		SHALY SANDSTONE	1.0	135.5	
483.5	CARBONDALE		CALCAREOUS SANDSTONE	0.5	136.5	
483.0	CARBONDALE		SHALY SANDSTONE	2.0	137.0	
481.0	CARBONDALE		SHALE	1.0	139.0	

MAPID: 10581117000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NE SE

QUADRANGLE: BUCKINGHAM LONGITUDE: -88.249887 GEOLOGIST: STRAAYER

CONFIDENTIAL: N LATITUDE: 41.070765 DATE COLLECTED: 5 / 15 / 1971

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 135.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE RB39 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		SOIL	13.0	0.0	
607.0	CARBONDALE		SHALE	26.0	13.0	
581.0	CARBONDALE		SILTY SHALE	19.0	39.0	
562.0	CARBONDALE		CALCAREOUS SHALE	4.0	58.0	
558.0	CARBONDALE		SILTY SHALE	17.0	62.0	
541.0	CARBONDALE		SANDSTONE	3.0	79.0	AND GRAVEL
538.0	CARBONDALE		SHALE	5.0	82.0	
533.0	CARBONDALE		CALCAREOUS SHALE	2.0	87.0	
531.0	CARBONDALE		SHALE	2.0	89.0	
529.0	CARBONDALE		CALCAREOUS SHALE	1.0	91.0	
528.0	CARBONDALE		CALCAREOUS SHALE	2.0	92.0	
526.0	CARBONDALE		CALCAREOUS SHALE	1.0	94.0	
525.0	CARBONDALE		SHALE	3.0	95.0	
522.0	CARBONDALE		LIMESTONE	1.0	98.0	
521.0	CARBONDALE		GRAY SHALE	1.0	99.0	
520.0	CARBONDALE		BLACK SHALE	2.0	100.0	GUMMY
518.0	CARBONDALE		GRAY SHALE	3.0	102.0	
515.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	105.0	
512.0	CARBONDALE		UNDERCLAY	4.0	108.0	
508.0	CARBONDALE		SILTY SHALE	3.0	112.0	
505.0	CARBONDALE		SANDSTONE	4.0	115.0	
501.0	CARBONDALE		SANDSTONE/SHALE	8.0	119.0	
493.0	CARBONDALE		SANDSTONE	1.0	127.0	
492.0	CARBONDALE		SANDSTONE/SHALE	7.0	128.0	

MAPID: 10581118000C VERSION: 1 PROJECT: NCRDS02
COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 13 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SW SW
QUADRANGLE: CAMPUS LONGITUDE: -88.268846 GEOLOGIST: PHILLIPS
CONFIDENTIAL: N LATITUDE: 41.067138 DATE COLLECTED: 8 / 24 / 1970
SURFACE ELEVATION (FT.): 621.0 LOGGED (FT.): 121.1 LOG TYPE: Drillers Log
SOURCE: AMAX 250 WELL TYPE: Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
621.0	PLEISTOCENE		CLAY	27.0	0.0
594.0	PLEISTOCENE		GRAVEL	3.0	27.0
591.0	PLEISTOCENE		CLAY	35.0	30.0
556.0	PLEISTOCENE		GRAVEL	19.0	65.0
537.0	CARBONDALE		GRAY SHALE	18.0	84.0
519.0	CARBONDALE		BLACK SHALE	15.0	102.0 HARD
504.0	CARBONDALE	HOUCHIN CREEK	COAL WITH SHALE	1.3	117.0
502.7	CARBONDALE	HOUCHIN CREEK	COAL	0.7	118.3
502.0	CARBONDALE		GRAY SHALE	2.0	119.0
500.0	CARBONDALE		COAL	0.1	121.0

MAPID: 10500832000C VERSION: 1 PROJECT: RJJ-NCILL
COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 20 QUARTERS/FOOTAGES: NE NE NE
QUADRANGLE: CAMPUS LONGITUDE: -88.327885 GEOLOGIST: JACOBSON,R
CONFIDENTIAL: N LATITUDE: 41.065481 DATE COLLECTED:
SURFACE ELEVATION (FT.): 626.0 LOGGED (FT.): 235.0 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
480.0	CARBONDALE	SPRINGFIELD	COAL	-	146.0
480.0	CARBONDALE		UNCLASSIFIED	9.0	146.0
471.0	CARBONDALE	HOUCHIN CREEK	COAL	-	155.0
471.0	CARBONDALE		UNCLASSIFIED	77.0	155.0
394.0	CARBONDALE	COLCHESTER	COAL	3.0	232.0

MAPID: 10581119000C

VERSION: 1

COUNTY: LIVINGSTON

QUADRANGLE: CAMPUS

CONFIDENTIAL: N

SURFACE ELEVATION (FT.): 622.0

SOURCE: AYRSHIRE

COMMENT: BOX 44

TWP/RNG: 30N 8E

LONGITUDE: -88.307031

LATITUDE: 41.055663

LOGGED (FT.): 190.0

255

SECTION: 21

QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NE SE

GEOLOGIST: PHILLIPS

DATE COLLECTED: 8 / 31 / 1970

LOG TYPE: Drillers Log

WELL TYPE: Coal Test

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
622.0	PLEISTOCENE		UNCONSOLIDATED	147.0	0.0
475.0	CARBONDALE		SANDY SHALE	3.0	147.0
472.0	CARBONDALE		DARK SHALE	1.0	150.0
471.0	CARBONDALE		SANDY LIMESTONE	1.0	151.0
470.0	CARBONDALE		GRAY SHALE	3.0	152.0
467.0	CARBONDALE		CALCAREOUS SANDSTONE	1.0	155.0
466.0	CARBONDALE		SANDY SHALE	13.0	156.0
453.0	CARBONDALE		SANDSTONE	2.0	169.0
451.0	CARBONDALE		GRAY SHALE	19.0	171.0

MAPID: 10500047000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: NW SE SE

QUADRANGLE: CAMPUS

LONGITUDE: -88.291345

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.054971

DATE COLLECTED: 0 / 0 / 1898

SURFACE ELEVATION (FT.): 626.0

LOGGED (FT.): 295.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 2

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
626.0	PLEISTOCENE		SANDY CLAY	5.0	0.0	
621.0	PLEISTOCENE		SAND & GRAVEL	5.0	5.0	
616.0	PLEISTOCENE		CLAY	15.0	10.0	
601.0	PLEISTOCENE		SAND & GRAVEL	5.0	25.0	
596.0	PLEISTOCENE		CLAY	30.0	30.0	
566.0	PLEISTOCENE		SAND & GRAVEL	6.0	60.0	
560.0	PLEISTOCENE		HARD PAN	11.0	66.0	
549.0	PLEISTOCENE		HARD PAN	7.0	77.0	
542.0	PLEISTOCENE		HARD PAN	3.0	84.0	
539.0	PLEISTOCENE		GRAVEL	4.0	87.0	
535.0	CARBONDALE		SHALE	7.0	91.0	
528.0	CARBONDALE	HERRIN	COAL	5.3	98.0	GOOD
522.7	CARBONDALE		SHALE	0.2	103.3	
522.5	CARBONDALE		SANDY SHALE	18.5	103.5	
504.0	CARBONDALE		SANDY SHALE	13.0	122.0	
491.0	CARBONDALE		COAL	0.2	135.0	
490.8	CARBONDALE		SANDY SHALE	10.8	135.2	
480.0	CARBONDALE		SHALE WITH LIMESTONE	24.0	146.0	
456.0	CARBONDALE		SHALE	4.0	170.0	
452.0	CARBONDALE		SHALE	2.0	174.0	
450.0	CARBONDALE		SHALE	0.3	176.0	
449.7	CARBONDALE		SHALE	1.7	176.3	
448.0	CARBONDALE		LIMESTONE	2.0	178.0	
446.0	CARBONDALE		SHALY LIMESTONE	2.0	180.0	
444.0	CARBONDALE		SHALE	6.0	182.0	
438.0	CARBONDALE		SHALE	0.3	188.0	
437.7	CARBONDALE		COAL	0.6	188.3	
437.2	CARBONDALE		SHALE	1.2	188.8	
436.0	CARBONDALE	LOWELL	COAL	1.2	190.0	
434.8	CARBONDALE		SHALE	0.8	191.2	
434.0	CARBONDALE		COAL	3.0	192.0	
431.0	CARBONDALE		UNDERCLAY	5.0	195.0	
426.0	CARBONDALE	OAK GROVE	SHALY LIMESTONE	3.0	200.0	
423.0	CARBONDALE	OAK GROVE	SHALE WITH LIMESTONE	1.0	203.0	
422.0	CARBONDALE	OAK GROVE	LIMESTONE	1.0	204.0	GREEN
421.0	CARBONDALE	FRANCIS CREEK	SHALE	7.0	205.0	
414.0	CARBONDALE	FRANCIS CREEK	SHALE	7.8	212.0	
406.2	CARBONDALE	CARDIFF	COAL	12.2	219.8	
394.0	CARBONDALE		SHALE	1.0	232.0	

393.0	CARBONDALE		SHALE	0.8	233.0	
392.2	CARBONDALE	COLCHESTER	COAL	0.3	233.8	
391.9	CARBONDALE	COLCHESTER	SHALE	0.9	234.1	
391.0	CARBONDALE	COLCHESTER	COAL	1.0	235.0	
390.0	CARBONDALE	COLCHESTER	COAL	2.0	236.0	
388.0	CARBONDALE	COLCHESTER	SHALE	1.5	238.0	
386.5	CARBONDALE	COLCHESTER	COAL	0.5	239.5	
386.0	TRADEWATER		SHALE	4.0	240.0	
382.0	TRADEWATER		SHALE WITH LIMESTONE	4.5	244.0	
377.5	TRADEWATER		LIMESTONE	2.0	248.5	DARK
375.5	TRADEWATER		LIMESTONE	4.2	250.5	
371.3	TRADEWATER		COAL	1.2	254.7	
370.2	TRADEWATER		SHALE	4.2	255.8	
366.0	TRADEWATER		SANDY SHALE	4.0	260.0	
362.0	TRADEWATER		SHALE	5.5	264.0	
356.5	TRADEWATER		SHALE	1.0	269.5	
355.5	TRADEWATER		COAL	0.5	270.5	BONY
355.0	TRADEWATER		SHALE	3.0	271.0	
352.0	TRADEWATER		SANDY SHALE	2.0	274.0	
350.0	TRADEWATER		COAL	2.0	276.0	
348.0	TRADEWATER		SHALE	3.5	278.0	
344.5	TRADEWATER		COAL	0.5	281.5	
344.0	TRADEWATER		SANDY SHALE	8.0	282.0	
336.0	TRADEWATER		SHALE	0.3	290.0	
335.7	TRADEWATER		LIMESTONE	0.3	290.3	
335.5	TRADEWATER		CONGLOMERATE	0.3	290.5	
335.2	TRADEWATER		LIMESTONE	4.3	290.8	

MAPID: 10500047000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 22 **QUARTERS/FOOTAGES:** NW SE SE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.291345 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.054971 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 628.0 **LOGGED (FT.):** 239.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.) UNIT OVERBURDEN	COMMENT
530.0	CARBONDALE	DANVILLE	COAL	5.3	98.0
524.7			UNCLASSIFIED	76.7	103.3
448.0	CARBONDALE	HOUCHIN CREEK	COAL	2.5	180.0
445.5			UNCLASSIFIED	36.5	182.5
409.0	CARBONDALE	LOWELL	COAL	-	219.0
409.0			UNCLASSIFIED	17.0	219.0
392.0	CARBONDALE	COLCHESTER	COAL	3.0	236.0

MAPID: 10500048000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: SE/c SE SE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.29848

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.053049

DATE COLLECTED: 0 / 0 / 1895

SURFACE ELEVATION (FT.): 630.0

LOGGED (FT.): 253.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 2B

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0			UNCLASSIFIED	195.0	0.0	
435.0	CARBONDALE	LOWELL	COAL	5.0	195.0	GOOD
430.0	CARBONDALE		UNDERCLAY	20.7	200.0	
409.3	CARBONDALE	CARDIFF	COAL	2.7	220.7	
406.7	CARBONDALE	CARDIFF	SHALE	0.4	223.3	
406.2	CARBONDALE	CARDIFF	COAL	0.3	223.8	
406.0	CARBONDALE	CARDIFF	SHALE	0.3	224.0	
405.7	CARBONDALE	CARDIFF	COAL	0.7	224.3	GOOD BUT WITH SULFUR
405.0	CARBONDALE	CARDIFF	SHALE	0.1	225.0	
404.9	CARBONDALE	CARDIFF	COAL	3.2	225.1	GOOD
401.7	CARBONDALE	CARDIFF	COAL	0.4	228.3	
401.3	CARBONDALE	CARDIFF	COAL	0.5	228.7	FAIR
400.8	CARBONDALE	CARDIFF	COAL	0.2	229.2	SULFUR
400.7	CARBONDALE	CARDIFF	COAL	3.5	229.3	NOT TOO GOOD
397.2	CARBONDALE	CARDIFF	COAL	0.3	232.8	
396.9	CARBONDALE		UNDERCLAY	1.4	233.1	
395.5	CARBONDALE		SANDSTONE	0.7	234.5	
394.8	CARBONDALE		SANDY SHALE	1.4	235.2	
393.4	CARBONDALE	COLCHESTER	COAL	3.5	236.6	GOOD
389.9	CARBONDALE	COLCHESTER	SHALE	1.8	240.1	
388.1	CARBONDALE	COLCHESTER	COAL	0.5	241.9	
387.6			SHALE	10.6	242.4	

MAPID: 10500049000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: SE/c NW NW SE

QUADRANGLE: CAMPUS

LONGITUDE: -88.296318

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.058546

DATE COLLECTED: 11 / 0 / 1898

SURFACE ELEVATION (FT.): 624.0

LOGGED (FT.): 250.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 3

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
624.0	PLEISTOCENE		SOIL	2.0	0.0	
622.0	PLEISTOCENE		SANDY CLAY	6.0	2.0	
616.0	PLEISTOCENE		CLAY	32.0	8.0	
584.0	PLEISTOCENE		CLAY	8.0	40.0	
576.0	PLEISTOCENE		SAND	3.0	48.0	
573.0	PLEISTOCENE		CLAY	17.0	51.0	
556.0	PLEISTOCENE		SAND	7.0	68.0	
549.0	PLEISTOCENE		HARD PAN	15.0	75.0	
534.0	CARBONDALE		SHALE WITH LIMESTONE	23.0	90.0	
511.0	CARBONDALE		SHALE	17.0	113.0	
494.0	CARBONDALE		SHALE	2.0	130.0	
492.0	CARBONDALE		SHALE	0.6	132.0	
491.4	CARBONDALE		COAL	0.3	132.6	
491.2	CARBONDALE		SHALE	1.2	132.8	
490.0	CARBONDALE		SHALE WITH LIMESTONE	7.0	134.0	
483.0	CARBONDALE		SHALE	4.0	141.0	
479.0	CARBONDALE		SHALE	2.0	145.0	
477.0	CARBONDALE		SHALE	0.3	147.0	
476.7	CARBONDALE		COAL	0.3	147.3	
476.3	CARBONDALE		SHALE	5.3	147.7	
471.0	CARBONDALE		SHALE WITH LIMESTONE	3.0	153.0	
468.0	CARBONDALE		SANDY SHALE	20.0	156.0	
448.0	CARBONDALE		SANDY SHALE	12.0	176.0	
436.0	CARBONDALE		SANDY SHALE	6.0	188.0	
430.0	CARBONDALE		SHALE	22.0	194.0	BLUE
408.0	CARBONDALE		SHALE	14.9	216.0	
393.1	CARBONDALE	CARDIFF	COAL	0.4	230.9	
392.7	CARBONDALE	CARDIFF	PYRITE	0.1	231.3	
392.6	CARBONDALE	CARDIFF	COAL	2.4	231.4	
390.2	CARBONDALE	CARDIFF	SHALE	0.2	233.8	
390.0	CARBONDALE	CARDIFF	COAL	0.3	234.0	
389.7	CARBONDALE	CARDIFF	SHALE	1.5	234.3	
388.2	CARBONDALE	CARDIFF	COAL	0.4	235.8	
387.7			SHALE	5.8	236.3	
382.0			SHALE	8.0	242.0	

MAPID: 10500050000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: SE/c NE SW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.303376

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.054802

DATE COLLECTED: 0 / 0 / 1899

SURFACE ELEVATION (FT.): 628.0

LOGGED (FT.): 236.8

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 10

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
628.0	PLEISTOCENE		CLAY	60.0	0.0
568.0	PLEISTOCENE		CLAY & GRAVEL	10.0	60.0
558.0	PLEISTOCENE		GRAVEL	16.0	70.0
542.0			ROCK	3.0	86.0
539.0			SHALE	19.0	89.0
520.0			ROCK	2.0	108.0
518.0	CARBONDALE		UNDERCLAY	4.0	110.0
514.0	CARBONDALE		SHALE	7.0	114.0
507.0	CARBONDALE		COAL	1.0	121.0
506.0	CARBONDALE		SHALE	2.0	122.0
504.0	CARBONDALE		SANDY SHALE	5.0	124.0
499.0	CARBONDALE		SHALE	16.0	129.0
483.0	CARBONDALE		SANDY SHALE	21.0	145.0
462.0	CARBONDALE		SHALE	2.0	166.0
460.0	CARBONDALE		SHALE	2.6	168.0
457.4	CARBONDALE	HOUCHIN CREEK	COAL	0.9	170.6
456.5	CARBONDALE		SHALE WITH LIMESTONE	6.5	171.5
450.0	CARBONDALE		LIMESTONE	2.0	178.0
448.0	CARBONDALE		SHALE	2.0	180.0
446.0	CARBONDALE		SHALE	1.5	182.0
444.5	CARBONDALE		SHALE	1.5	183.5
443.0	CARBONDALE		UNDERCLAY	2.0	185.0
441.0	CARBONDALE		SHALE	3.5	187.0
437.5	CARBONDALE	LOWELL	COAL	3.5	190.5
434.0	CARBONDALE		UNDERCLAY	8.0	194.0
426.0	CARBONDALE		SHALE	2.0	202.0
424.0	CARBONDALE		SHALE	3.0	204.0
421.0	CARBONDALE		SHALE	7.4	207.0
413.6	CARBONDALE	CARDIFF	COAL	0.6	214.4
413.0	CARBONDALE	CARDIFF	COAL	6.0	215.0
407.0	CARBONDALE	CARDIFF	SHALE	1.5	221.0
405.5	CARBONDALE	CARDIFF	COAL	2.0	222.5
403.5	CARBONDALE		SHALE	1.5	224.5
402.0	CARBONDALE		PYRITE	2.0	226.0
400.0	CARBONDALE		SHALE	1.8	228.0
398.2	CARBONDALE		SHALE	2.5	229.8
395.7	CARBONDALE	COLCHESTER	COAL	3.5	232.3
392.2			SHALE	1.0	235.8

MAPID: 10500051000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: SE/c NW SW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.305782

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.054768

DATE COLLECTED: 2 / 0 / 1899

SURFACE ELEVATION (FT.): 626.0

LOGGED (FT.): 237.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO.

16

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
626.0	PLEISTOCENE		CLAY	42.0	0.0	
584.0	PLEISTOCENE		CLAY	33.0	42.0	BLUE
551.0	PLEISTOCENE		GRAVEL	4.0	75.0	
547.0	PLEISTOCENE		CLAY	5.0	79.0	
542.0	PLEISTOCENE		GRAVEL	3.0	84.0	
539.0	PLEISTOCENE		UNCONSOLIDATED	2.0	87.0	SHELLS
537.0	PLEISTOCENE		SAND	2.0	89.0	WITH COAL
535.0	PLEISTOCENE		CLAY	4.0	91.0	BROWN
531.0	PLEISTOCENE		GRAVEL	9.0	95.0	WITH GRAVEL
522.0	PLEISTOCENE		SAND & GRAVEL	20.0	104.0	
502.0	PLEISTOCENE		GRAVEL	11.0	124.0	
491.0	PLEISTOCENE		GRAVEL	3.0	135.0	
488.0	PLEISTOCENE		GRAVEL	5.0	138.0	
483.0	PLEISTOCENE		CLAY	2.0	143.0	BROWN
481.0	PLEISTOCENE		SAND & GRAVEL	3.0	145.0	
478.0	PLEISTOCENE		UNCONSOLIDATED	1.0	148.0	
477.0	PLEISTOCENE		SAND	1.0	149.0	
476.0	CARBONDALE		SHALE	20.0	150.0	
456.0	CARBONDALE		SANDSTONE	3.0	170.0	
453.0	CARBONDALE		SANDY SHALE	25.0	173.0	
428.0	CARBONDALE		SHALE	7.0	198.0	BLUE
421.0	CARBONDALE		SHALE	14.0	205.0	
407.0	CARBONDALE		SHALE	8.2	219.0	BLUE
398.8	CARBONDALE	COLCHESTER	COAL	3.3	227.2	
395.5			SHALE	2.5	230.5	
393.0			UNDERCLAY	3.0	233.0	
390.0			UNDERCLAY	0.5	236.0	WHITE
389.5			LIMESTONE	0.5	236.5	

MAPID: 10500052000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: NE SE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.289249

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.062295

DATE COLLECTED: 0 / 0 / 1902

SURFACE ELEVATION (FT.): 621.0

LOGGED (FT.): 231.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO.

20

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
621.0	PLEISTOCENE		SOIL	2.0	0.0	
619.0	PLEISTOCENE		CLAY	8.0	2.0	YELLOW
611.0	PLEISTOCENE		CLAY	28.0	10.0	BLUE
583.0	PLEISTOCENE		GRAVEL	2.0	38.0	
581.0	PLEISTOCENE		CLAY	10.0	40.0	BLUE
571.0	PLEISTOCENE		SAND & GRAVEL	12.0	50.0	
559.0	PLEISTOCENE		CLAY	18.0	62.0	BLUE
541.0	CARBONDALE		SHALE	1.0	80.0	
540.0	CARBONDALE		SHALE	7.0	81.0	
533.0	CARBONDALE		SHALE	30.0	88.0	BLUE
503.0	CARBONDALE		SHALE	5.3	118.0	BLUE
497.7	CARBONDALE	HOUCHIN CREEK	COAL	0.5	123.3	
497.2	CARBONDALE		SHALE	6.2	123.8	
491.0	CARBONDALE		SHALE	6.0	130.0	
485.0	CARBONDALE	LOWELL	COAL	3.4	136.0	BONY
481.6	CARBONDALE		SHALE	0.6	139.4	
481.0	CARBONDALE		SHALE	19.0	140.0	
462.0	CARBONDALE		SHALY SANDSTONE	11.0	159.0	
451.0	CARBONDALE		SHALE	47.0	170.0	BLUE
404.0	CARBONDALE	COLCHESTER	COAL	3.5	217.0	
400.5			SHALE	2.0	220.5	
398.5			SHALE	1.0	222.5	
397.5			COAL	0.5	223.5	
397.0			SHALE	1.0	224.0	
396.0			SHALE	6.0	225.0	

MAPID: 10500052000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 22 **QUARTERS/FOOTAGES:** NE SE NE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.289249 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.062295 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 620.0 **LOGGED (FT.):** 220.5 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
484.0	CARBONDALE	LOWELL	COAL	3.4	136.0	
480.6	CARBONDALE		UNCLASSIFIED	77.6	139.4	
403.0	CARBONDALE	COLCHESTER	COAL	3.5	217.0	

MAPID: 10500053000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 22 **QUARTERS/FOOTAGES:** SE/c NW SW NE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.296481 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.062189 **DATE COLLECTED:** 0 / 0 / 1902
SURFACE ELEVATION (FT.): 624.0 **LOGGED (FT.):** 232.0 **LOG TYPE:** Drillers Log
SOURCE: CARDIFF COAL CO. 22 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
624.0	PLEISTOCENE		SOIL	2.0	0.0	
622.0	PLEISTOCENE		SANDY CLAY	4.0	2.0	YELLOW
618.0	PLEISTOCENE		CLAY	80.0	6.0	BLUE
538.0	PLEISTOCENE		SAND	10.7	86.0	GRAVEL
527.3	PLEISTOCENE		GRAVEL	2.3	96.7	
525.0	CARBONDALE		SHALE	2.0	99.0	BLUE
523.0	CARBONDALE		SHALE	20.5	101.0	BLUE
502.5	CARBONDALE	EXCELLO	SHALE	3.2	121.5	
499.3	CARBONDALE	HOUCHIN CREEK	COAL	0.8	124.7	
498.6	CARBONDALE		SHALE	12.6	125.4	
486.0	CARBONDALE		SHALE	2.5	138.0	
483.5	CARBONDALE		SHALE	0.8	140.5	
482.7	CARBONDALE	LOWELL	COAL	0.5	141.3	
482.2	CARBONDALE		SHALE	0.3	141.8	
482.0	CARBONDALE		SHALE	8.0	142.0	
474.0	CARBONDALE		SANDSTONE	20.0	150.0	
454.0	CARBONDALE		SHALE	22.0	170.0	BLUE
432.0	CARBONDALE		SHALE	32.3	192.0	BLUE
399.7	CARBONDALE	COLCHESTER	COAL	3.3	224.3	
396.3			SHALE	0.3	227.7	
396.0			UNDERCLAY	2.5	228.0	
393.5			SHALE	1.0	230.5	
392.5			SANDSTONE	0.5	231.5	

MAPID: 10500054000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: SE/c NW NE SE

QUADRANGLE: CAMPUS

LONGITUDE: -88.291503

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.058616

DATE COLLECTED: 0 / 0 / 1903

SURFACE ELEVATION (FT.): 624.0

LOGGED (FT.): 247.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 23

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
624.0	PLEISTOCENE		SOIL	2.0	0.0	
622.0	PLEISTOCENE		CLAY	8.0	2.0	YELLOW
614.0	PLEISTOCENE		CLAY	22.0	10.0	BLUE
592.0	PLEISTOCENE		CLAY	48.0	32.0	
544.0	PLEISTOCENE		GRAVEL	3.0	80.0	
541.0	PLEISTOCENE		GRAVEL	1.0	83.0	
540.0	CARBONDALE		SHALE	2.0	84.0	BLUE
538.0	CARBONDALE		SHALE	4.0	86.0	
534.0	CARBONDALE		SANDY SHALE	17.0	90.0	
517.0	CARBONDALE		SHALE	33.0	107.0	
484.0	CARBONDALE	HOUCHIN CREEK	COAL	0.7	140.0	
483.3	CARBONDALE		LIMESTONE	2.3	140.7	
481.0	CARBONDALE		LIMESTONE	1.0	143.0	
480.0	CARBONDALE		SHALE	4.0	144.0	
476.0	CARBONDALE		LIMESTONE	0.7	148.0	
475.3	CARBONDALE		SHALE	3.3	148.7	
472.0	CARBONDALE		SHALE	2.0	152.0	
470.0	CARBONDALE	LOWELL	COAL	2.0	154.0	
468.0	CARBONDALE		SHALE	6.0	156.0	
462.0	CARBONDALE		LIMESTONE	0.5	162.0	
461.5	CARBONDALE		SHALE	6.5	162.5	
455.0	CARBONDALE		SHALE	2.0	169.0	
453.0	CARBONDALE		SANDY SHALE	29.0	171.0	
424.0	CARBONDALE		SHALE	23.0	200.0	BLUE
401.0	CARBONDALE		SHALE	18.5	223.0	BLUE
382.5	CARBONDALE	COLCHESTER	COAL	3.5	241.5	
379.0			SHALE	2.0	245.0	

MAPID: 10500055000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: SE/c NW NE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.301137

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.058476

DATE COLLECTED:

SURFACE ELEVATION (FT.): 622.0

LOGGED (FT.): 274.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 29

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
622.0	PLEISTOCENE		UNCONSOLIDATED	13.0	0.0	
609.0	PLEISTOCENE		CLAY	5.0	13.0	
604.0	PLEISTOCENE		CLAY	22.0	18.0	BLUE
582.0	PLEISTOCENE		SAND/CLAY	15.0	40.0	
567.0	PLEISTOCENE		SAND	25.0	55.0	
542.0	PLEISTOCENE		GRAVEL	2.0	80.0	
540.0	PLEISTOCENE		GRAVEL	8.0	82.0	
532.0	PLEISTOCENE		GRAVEL	15.0	90.0	
517.0	PLEISTOCENE		SAND	7.0	105.0	
510.0	PLEISTOCENE		GRAVEL	4.0	112.0	
506.0	CARBONDALE		SHALE	10.0	116.0	
496.0	CARBONDALE		SHALE	5.0	126.0	
491.0	CARBONDALE		SHALE	23.0	131.0	
468.0	CARBONDALE		SANDY SHALE	6.0	154.0	
462.0	CARBONDALE		SANDSTONE	11.0	160.0	
451.0	CARBONDALE		SANDY SHALE	37.0	171.0	
414.0	CARBONDALE		SANDY SHALE	3.0	208.0	
411.0	CARBONDALE		SHALE	20.0	211.0	
391.0	CARBONDALE		SHALE	3.5	231.0	
387.5	CARBONDALE	COLCHESTER	COAL	2.3	234.5	
385.2	TRADEWATER		SHALE	2.2	236.8	
383.0	TRADEWATER		SHALE	0.7	239.0	
382.3	TRADEWATER		SHALE	2.3	239.7	
380.0	TRADEWATER		SANDSTONE	2.0	242.0	
378.0	TRADEWATER		SANDY SHALE	10.0	244.0	
368.0	TRADEWATER		COAL	0.5	254.0	
367.5	TRADEWATER		SHALE	9.5	254.5	
358.0	TRADEWATER		SHALE	5.0	264.0	
353.0	TRADEWATER		SANDSTONE	3.0	269.0	
350.0	TRADEWATER		SHALE	2.0	272.0	

MAPID: 10500056000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: SE/c NW NW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.305952

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.058405

DATE COLLECTED: 0 / 0 / 1903

SURFACE ELEVATION (FT.): 627.0

LOGGED (FT.): 240.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 30

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.0	PLEISTOCENE		SOIL	2.0	0.0	
625.0	PLEISTOCENE		CLAY	13.0	2.0	YELLOW
612.0	PLEISTOCENE		CLAY	23.0	15.0	BLUE
589.0	PLEISTOCENE		CLAY	18.0	38.0	
571.0	PLEISTOCENE		GRAVEL	12.0	56.0	
559.0	PLEISTOCENE		SAND & GRAVEL	10.0	68.0	
549.0	PLEISTOCENE		CLAY	12.0	78.0	
537.0	PLEISTOCENE		CLAY	6.0	90.0	BLUE
531.0	PLEISTOCENE		SANDY CLAY	3.0	96.0	
528.0	PLEISTOCENE		SAND	3.0	99.0	
525.0	PLEISTOCENE		SANDY CLAY	5.0	102.0	
520.0	PLEISTOCENE		SAND	6.0	107.0	
514.0	CARBONDALE		SANDY SHALE	6.0	113.0	
508.0	CARBONDALE		CONGLOMERATE	3.0	119.0	
505.0	CARBONDALE		SHALE	3.0	122.0	BLUE
502.0	CARBONDALE		SHALE	6.0	125.0	BLUE
496.0	CARBONDALE		SHALE	5.0	131.0	BLUE
491.0	CARBONDALE	EXCELLO	SHALE	1.3	136.0	
489.7	CARBONDALE	HOUCHIN CREEK	COAL	0.9	137.3	BONY
488.7	CARBONDALE		SHALE	12.8	138.3	
476.0	CARBONDALE		SHALE	1.0	151.0	
475.0	CARBONDALE	LOWELL	COAL	1.3	152.0	
473.7	CARBONDALE		SHALE	25.7	153.3	
448.0	CARBONDALE		SHALE	32.0	179.0	BLUE
416.0	CARBONDALE		SHALE	23.1	211.0	BLUE
392.9	CARBONDALE	COLCHESTER	COAL	3.1	234.1	
389.8			UNDERCLAY	0.3	237.2	
389.6			SHALE	2.6	237.4	

MAPID: 10581120000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 22 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW SW NW

QUADRANGLE: CAMPUS LONGITUDE: -88.307371 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.062932 DATE COLLECTED: 8 / 30 / 1970

SURFACE ELEVATION (FT.): 624.0 LOGGED (FT.): 166.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 254 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
624.0	PLEISTOCENE		UNCONSOLIDATED	105.8	0.0	
518.2	CARBONDALE	HERRIN	COAL	1.3	105.8	TOP ERODED
517.0	CARBONDALE		UNDERCLAY	3.0	107.0	
514.0	CARBONDALE		SANDY SHALE	5.5	110.0	
508.5	CARBONDALE		LIMESTONE	1.5	115.5	
507.0	CARBONDALE		SANDY SHALE	1.0	117.0	
506.0	CARBONDALE		GRAY SHALE	17.0	118.0	
489.0	CARBONDALE	TURNER MINE	BLACK SHALE	3.3	135.0	
485.7	CARBONDALE	SPRINGFIELD	COAL	0.8	138.3	
485.0	CARBONDALE		GRAY SHALE	9.5	139.0	
475.5	CARBONDALE		LIMESTONE	0.5	148.5	
475.0	CARBONDALE		SHALE	2.5	149.0	BLUE
472.5	CARBONDALE	EXCELLO	BLACK SHALE	2.5	151.5	
470.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	154.0	
468.5	CARBONDALE		GRAY SHALE	5.5	155.5	
463.0	CARBONDALE		LIMESTONE	0.5	161.0	
462.5	CARBONDALE		GRAY SHALE	1.5	161.5	
461.0	CARBONDALE		SHALY SANDSTONE	3.0	163.0	

MAPID: 10581121000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.302379

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.059371

DATE COLLECTED: 9 / 2 / 1970

SURFACE ELEVATION (FT.): 625.0

LOGGED (FT.): 206.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

256

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
625.0	PLEISTOCENE		UNCONSOLIDATED	117.0	0.0
508.0	CARBONDALE		GRAY SHALE	15.0	117.0
493.0	CARBONDALE	TURNER MINE	BLACK SHALE	2.0	132.0
491.0	CARBONDALE	SPRINGFIELD	COAL	0.7	134.0
490.3	CARBONDALE		UNDERCLAY	7.3	134.7
483.0	CARBONDALE		LIMESTONE	1.5	142.0
481.5	CARBONDALE		SHALE WITH LIMESTONE	2.5	143.5
479.0	CARBONDALE	EXCELLO	BLACK SHALE	1.0	146.0
478.0	CARBONDALE	HOUCHIN CREEK	COAL	1.8	147.0
476.2	CARBONDALE		UNDERCLAY	9.5	148.8
466.7	CARBONDALE		LIMESTONE	2.3	158.3
464.5	CARBONDALE		SHALE	13.5	160.5
451.0	CARBONDALE		SHALE WITH LIMESTONE	13.0	174.0
438.0	CARBONDALE		SHALE	9.0	187.0
429.0	CARBONDALE		SANDY SHALE	10.0	196.0

MAPID: 10581122000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 22

QUARTERS/FOOTAGES: 1' N line, 1' E line of NE SE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.288085

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.063224

DATE COLLECTED: 9 / 11 / 1970

SURFACE ELEVATION (FT.): 621.0

LOGGED (FT.): 221.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

260

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
621.0	PLEISTOCENE		UNCONSOLIDATED	82.0	0.0	
539.0	CARBONDALE		SHALE	3.0	82.0	
536.0	CARBONDALE		SANDY LIMESTONE	2.0	85.0	
534.0	CARBONDALE		SANDY DARK SHALE	8.0	87.0	
526.0	CARBONDALE		DARK SHALE	29.0	95.0	
497.0	CARBONDALE	TURNER MINE	BLACK SHALE	1.8	124.0	
495.2	CARBONDALE	SPRINGFIELD	COAL	1.0	125.8	
494.2	CARBONDALE		UNDERCLAY	4.3	126.8	
490.0	CARBONDALE		LIMESTONE	1.5	131.0	
488.5	CARBONDALE		MICACEOUS SHALE	1.5	132.5	WHITE
487.0	CARBONDALE		LIMESTONE	0.5	134.0	
486.5	CARBONDALE		DARK SHALE	1.0	134.5	
485.5	CARBONDALE		BLACK SHALE	0.5	135.5	
485.0	CARBONDALE		GRAY SHALE	3.0	136.0	
482.0	CARBONDALE		DARK SHALE	0.5	139.0	
481.5	CARBONDALE		GRAY SHALE	0.8	139.5	
480.7	CARBONDALE	HOUCHIN CREEK	COAL	2.5	140.3	
478.2	CARBONDALE		UNDERCLAY	2.3	142.8	
476.0	CARBONDALE		GRAY SHALE	1.0	145.0	
475.0	CARBONDALE		SANDY SHALE	8.0	146.0	
467.0	CARBONDALE		SHALE & SANDSTONE	12.0	154.0	
455.0	CARBONDALE		MICACEOUS SHALE	4.0	166.0	
451.0	CARBONDALE		DARK SHALE	2.0	170.0	
449.0	CARBONDALE		GRAY SHALE	49.0	172.0	

MAPID: 10500057000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c NW SW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.286527

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.055033

DATE COLLECTED: 11 / 0 / 1898

SURFACE ELEVATION (FT.): 626.0

LOGGED (FT.): 243.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 4

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
626.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
624.0	PLEISTOCENE		CLAY	8.0	2.0	
616.0	PLEISTOCENE		SAND	2.0	10.0	
614.0	PLEISTOCENE		GRAVEL	4.0	12.0	
610.0	PLEISTOCENE		CLAY	14.0	16.0	BLUE
596.0	PLEISTOCENE		SAND	3.0	30.0	
593.0	PLEISTOCENE		CLAY	3.0	33.0	
590.0	PLEISTOCENE		CLAY	21.0	36.0	
569.0	PLEISTOCENE		GRAVEL	3.0	57.0	
566.0	PLEISTOCENE		CLAY	2.0	60.0	
564.0	PLEISTOCENE		GRAVEL	5.0	62.0	FINE
559.0	PLEISTOCENE		SAND	5.0	67.0	FINE
554.0	PLEISTOCENE		HARD PAN	8.0	72.0	
546.0	PLEISTOCENE		SAND	2.0	80.0	
544.0	CARBONDALE		SHALE	7.0	82.0	
537.0	CARBONDALE		SHALE	6.4	89.0	
530.6	CARBONDALE	HERRIN	COAL	0.2	95.4	
530.4	CARBONDALE	HERRIN	PYRITE	0.1	95.6	
530.3	CARBONDALE	HERRIN	COAL	0.8	95.7	
529.6	CARBONDALE	HERRIN	COAL	0.3	96.4	
529.2	CARBONDALE	HERRIN	COAL	5.3	96.8	
524.0	CARBONDALE		SHALE	1.0	102.0	
523.0	CARBONDALE		SHALE	10.0	103.0	
513.0	CARBONDALE		SHALE	8.0	113.0	
505.0	CARBONDALE		LIMESTONE	0.4	121.0	
504.6	CARBONDALE		SHALE	7.6	121.4	
497.0	CARBONDALE		SHALE	10.0	129.0	
487.0	CARBONDALE		SHALE	16.0	139.0	
471.0	CARBONDALE		SHALE	5.0	155.0	
466.0	CARBONDALE		SHALE	8.5	160.0	BLUE
457.5	CARBONDALE	EXCELLO	BLACK SHALE	2.3	168.5	
455.2	CARBONDALE	HOUCHIN CREEK	COAL	0.2	170.8	
455.0	CARBONDALE	HOUCHIN CREEK	SHALE	0.2	171.0	LIGHT
454.8	CARBONDALE	HOUCHIN CREEK	COAL	0.8	171.2	
454.0	CARBONDALE		SHALE	0.2	172.0	
453.8	CARBONDALE		SHALE	2.8	172.2	LIGHT
451.0	CARBONDALE		LIMESTONE	6.0	175.0	
445.0	CARBONDALE		SHALE	2.0	181.0	
443.0	CARBONDALE		BLACK SHALE	3.8	183.0	

439.2	CARBONDALE	LOWELL	COAL	3.2	186.8	
436.0	CARBONDALE		SHALE	3.0	190.0	LIGHT
433.0	CARBONDALE		SHALE	2.0	193.0	LIGHT
431.0	CARBONDALE		LIMESTONE	1.0	195.0	
430.0	CARBONDALE		SHALE	4.0	196.0	LIGHT
426.0	CARBONDALE		SHALE	2.0	200.0	LIGHT
424.0	CARBONDALE		SHALE	1.0	202.0	LIGHT
423.0	CARBONDALE		SHALE	16.5	203.0	
406.5	CARBONDALE	CARDIFF	COAL	0.3	219.5	
406.2	CARBONDALE	CARDIFF	COAL	12.2	219.8	
394.0	CARBONDALE		SHALE	1.0	232.0	
393.0	CARBONDALE		SHALE	1.0	233.0	
392.0	CARBONDALE		SHALE	1.0	234.0	
391.0	CARBONDALE		LIMESTONE	1.6	235.0	
389.4	CARBONDALE	COLCHESTER	COAL	0.5	236.6	
388.9	CARBONDALE	COLCHESTER	COAL	2.9	237.1	
386.0	CARBONDALE	COLCHESTER	SHALE	0.3	240.0	LIGHT
385.7	CARBONDALE	COLCHESTER	COAL	0.5	240.3	
385.2	TRADEWATER		SHALE	0.3	240.8	
385.0	TRADEWATER		UNDERCLAY	2.0	241.0	

MAPID: 10500058000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c SW SW NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.286755

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.060505

DATE COLLECTED: 11 / 0 / 1898

SURFACE ELEVATION (FT.): 622.0

LOGGED (FT.): 258.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 5

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
622.0	PLEISTOCENE		CLAY	4.0	0.0	
618.0	PLEISTOCENE		SAND	2.0	4.0	
616.0	PLEISTOCENE		GRAVEL	2.0	6.0	
614.0	PLEISTOCENE		CLAY	12.0	8.0	BLUE
602.0	PLEISTOCENE		SAND	4.0	20.0	
598.0	PLEISTOCENE		CLAY	32.0	24.0	
566.0	PLEISTOCENE		HARD PAN	9.0	56.0	
557.0	PLEISTOCENE		GRAVEL	2.0	65.0	
555.0	PLEISTOCENE		CLAY	8.0	67.0	BLUE
547.0	PLEISTOCENE		SAND	3.0	75.0	
544.0	PLEISTOCENE		CLAY	2.0	78.0	BLUE
542.0	PLEISTOCENE		BOULDER	0.5	80.0	
541.5	PLEISTOCENE		CLAY	1.5	80.5	BLUE
540.0	CARBONDALE		SHALE	8.0	82.0	
532.0	CARBONDALE		SHALE	16.0	90.0	
516.0	CARBONDALE		SHALE	16.5	106.0	
499.5	CARBONDALE	EXCELLO	BLACK SHALE	2.5	122.5	
497.0	CARBONDALE	HOUCHIN CREEK	COAL	0.5	125.0	
496.5	CARBONDALE		SHALE	2.5	125.5	LIGHT
494.0	CARBONDALE		SHALE	5.0	128.0	
489.0	CARBONDALE		SHALE	2.0	133.0	
487.0	CARBONDALE		SHALE	2.2	135.0	
484.8	CARBONDALE	LOWELL	COAL	3.3	137.2	
481.5	CARBONDALE		SHALE	0.5	140.5	BROWN
481.0	CARBONDALE		SHALE	2.0	141.0	LIGHT
479.0	CARBONDALE		SHALE	3.0	143.0	LIGHT
476.0	CARBONDALE		SANDSTONE	18.7	146.0	
457.3	CARBONDALE		LIMESTONE	1.0	164.7	
456.3	CARBONDALE		SANDSTONE	2.3	165.7	
454.0	CARBONDALE		SHALE	21.0	168.0	
433.0	CARBONDALE		SHALE	20.0	189.0	
413.0	CARBONDALE		SHALE	16.0	209.0	
397.0	CARBONDALE		SHALE	1.5	225.0	BLUE
395.5	CARBONDALE	COLCHESTER	COAL	3.0	226.5	
392.5	TRADEWATER		SHALE	3.5	229.5	LIGHT
389.0	TRADEWATER		SHALE	2.0	233.0	
387.0	TRADEWATER		LIMESTONE	4.0	235.0	
383.0	TRADEWATER		LIMESTONE	2.0	239.0	
381.0	TRADEWATER		SHALE	3.0	241.0	

378.0	TRADEWATER	COAL	0.2	244.0
377.8	TRADEWATER	SHALE	3.8	244.2
374.0	TRADEWATER	SANDSTONE	10.0	248.0

MAPID: 10500059000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c SW NE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.281757

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.056913

DATE COLLECTED: 12 / 0 / 1898

SURFACE ELEVATION (FT.): 626.0

LOGGED (FT.): 241.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 6

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
626.0	PLEISTOCENE		SAND	5.0	0.0	
621.0	PLEISTOCENE		CLAY	15.0	5.0	BLUE
606.0	PLEISTOCENE		CLAY	13.0	20.0	
593.0	PLEISTOCENE		CLAY	19.0	33.0	
574.0	PLEISTOCENE		GRAVEL	14.0	52.0	
560.0	PLEISTOCENE		GRAVEL	19.0	66.0	
541.0	CARBONDALE		ROCK	1.0	85.0	SHELLROCK NOTED
540.0	CARBONDALE		SHALE	2.0	86.0	
538.0	CARBONDALE		UNCLASSIFIED	0.5	88.0	
537.5	CARBONDALE	HERRIN	COAL	5.0	88.5	VERY SOFT
532.5	CARBONDALE		SHALE	7.5	93.5	LIGHT
525.0	CARBONDALE		SHALE	2.0	101.0	
523.0	CARBONDALE		SANDSTONE	10.0	103.0	
513.0	CARBONDALE		LIMESTONE	1.0	113.0	
512.0	CARBONDALE		LIMESTONE	4.0	114.0	
508.0	CARBONDALE		LIMESTONE	2.0	118.0	
506.0	CARBONDALE		SANDSTONE	14.0	120.0	
492.0	CARBONDALE		SHALE	9.0	134.0	
483.0	CARBONDALE		SHALE	24.0	143.0	
459.0	CARBONDALE		SHALE	2.0	167.0	
457.0	CARBONDALE	HOUCHIN CREEK	COAL	0.9	169.0	
456.1	CARBONDALE	HOUCHIN CREEK	SHALE	3.6	169.9	LIGHT
452.5	CARBONDALE	HOUCHIN CREEK	COAL	0.2	173.5	
452.3	CARBONDALE		SHALE	0.3	173.7	LIGHT
452.0	CARBONDALE		SHALE	2.0	174.0	
450.0	CARBONDALE		LIMESTONE	3.0	176.0	
447.0	CARBONDALE		SHALE	1.5	179.0	
445.5	CARBONDALE		SHALE	4.5	180.5	LIGHT
441.0	CARBONDALE		SHALE	0.5	185.0	LIGHT
440.5	CARBONDALE	LOWELL	COAL	2.0	185.5	
438.5	CARBONDALE		SHALE	1.0	187.5	LIGHT
437.5	CARBONDALE		UNDERCLAY	7.5	188.5	
430.0	CARBONDALE		UNDERCLAY	5.0	196.0	
425.0	CARBONDALE		SHALE	9.0	201.0	
416.0	CARBONDALE		SHALE	8.5	210.0	BLUE
407.5	CARBONDALE	CARDIFF	COAL	11.5	218.5	LAST 4 FEET NOT GOOD
396.0	CARBONDALE		SHALE	1.5	230.0	
394.5	CARBONDALE	COLCHESTER	COAL	3.0	231.5	
391.5			SHALE	1.5	234.5	

390.0

SHALE

5.0

236.0

LIGHT

MAPID: 10500060000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c NW SW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.286527

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.055033

DATE COLLECTED: 12 / 0 / 1898

SURFACE ELEVATION (FT.): 628.0

LOGGED (FT.): 233.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 7

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
628.0	PLEISTOCENE		SAND	4.0	0.0	
624.0	PLEISTOCENE		CLAY	50.0	4.0	
574.0	PLEISTOCENE		SAND	3.0	54.0	FINE
571.0	PLEISTOCENE		SAND	8.0	57.0	
563.0	PLEISTOCENE		GRAVEL	18.0	65.0	
545.0	CARBONDALE		ROCK	5.5	83.0	SHELLROCK NOTED
539.5	CARBONDALE	HERRIN	COAL	2.5	88.5	
537.0	CARBONDALE	HERRIN	ROCK	1.5	91.0	GRAVEL
535.5	CARBONDALE	HERRIN	COAL	1.5	92.5	
534.0	CARBONDALE		SHALE	10.0	94.0	
524.0	CARBONDALE		SHALE	8.0	104.0	
516.0	CARBONDALE		LIMESTONE	3.0	112.0	
513.0	CARBONDALE		SHALE	4.0	115.0	
509.0	CARBONDALE		SHALE	15.0	119.0	
494.0	CARBONDALE		SHALE	32.0	134.0	
462.0	CARBONDALE		SHALE	0.5	166.0	
461.5	CARBONDALE		BLACK SHALE	2.8	166.5	
458.7	CARBONDALE	LOWELL	COAL	0.4	169.3	
458.3	CARBONDALE	LOWELL	PYRITE	0.3	169.7	
458.0	CARBONDALE	LOWELL	COAL	0.7	170.0	
457.3	CARBONDALE		UNDERCLAY	2.3	170.7	
455.0	CARBONDALE		LIMESTONE	3.0	173.0	
452.0	CARBONDALE		SHALE	5.0	176.0	
447.0	CARBONDALE		BLACK SHALE	3.0	181.0	
444.0	CARBONDALE		UNCLASSIFIED	1.0	184.0	
443.0	CARBONDALE		BLACK SHALE	0.5	185.0	
442.5	CARBONDALE		UNDERCLAY	15.0	185.5	
427.5	CARBONDALE		SHALE	0.8	200.5	
426.7	CARBONDALE	CARDIFF	COAL	4.7	201.3	
422.0	CARBONDALE	CARDIFF	SHALE	5.5	206.0	
416.5	CARBONDALE	CARDIFF	COAL	3.0	211.5	
413.5	CARBONDALE	CARDIFF	PYRITE	0.5	214.5	WITH MIXED COAL
413.0	CARBONDALE	CARDIFF	COAL	3.8	215.0	
409.2	CARBONDALE		SHALE	4.2	218.8	
405.0	CARBONDALE		SANDSTONE	5.5	223.0	
399.5	CARBONDALE	COLCHESTER	COAL	3.2	228.5	
396.3			SHALE	1.3	231.7	LIGHT

MAPID: 10500061000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c SW NW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.2866

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.056857

DATE COLLECTED: 0 / 0 / 1898

SURFACE ELEVATION (FT.): 623.0

LOGGED (FT.): 231.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 8

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
623.0	PLEISTOCENE		CLAY	40.0	0.0	
583.0	PLEISTOCENE		CLAY	11.0	40.0	
572.0	PLEISTOCENE		GRAVEL	22.0	51.0	
550.0	PLEISTOCENE		GRAVEL	5.0	73.0	
545.0	CARBONDALE		ROCK	17.0	78.0	SHELLROCK NOTED
528.0	CARBONDALE		SHALE	7.0	95.0	
521.0	CARBONDALE		SHALE	24.0	102.0	
497.0	CARBONDALE		SHALE	12.5	126.0	
484.5	CARBONDALE		SHALE	10.0	138.5	BLUE
474.5	CARBONDALE		SHALE	11.0	148.5	
463.5	CARBONDALE	EXCELLO	BLACK SHALE	2.2	159.5	
461.3	CARBONDALE	HOUCHIN CREEK	COAL	0.9	161.7	
460.4	CARBONDALE		UNDERCLAY	5.4	162.6	
455.0	CARBONDALE		LIMESTONE	1.5	168.0	
453.5	CARBONDALE		UNDERCLAY	2.5	169.5	
451.0	CARBONDALE		SHALE	2.0	172.0	
449.0	CARBONDALE		BLACK SHALE	2.0	174.0	
447.0	CARBONDALE		ROCK	0.5	176.0	
446.5	CARBONDALE		BLACK SHALE	1.2	176.5	
445.3	CARBONDALE	LOWELL	COAL	2.0	177.7	
443.3	CARBONDALE		UNDERCLAY	0.3	179.7	
443.0	CARBONDALE		UNDERCLAY	13.0	180.0	
430.0	CARBONDALE		SHALE	1.0	193.0	LIGHT
429.0	CARBONDALE		SHALE	1.0	194.0	
428.0	CARBONDALE		SHALE	5.0	195.0	
423.0	CARBONDALE	CARDIFF	COAL	4.3	200.0	
418.7	CARBONDALE	CARDIFF	SHALE	0.8	204.3	DARK GRAY
417.8	CARBONDALE	CARDIFF	COAL	2.3	205.2	
415.5	CARBONDALE	CARDIFF	SHALE	0.5	207.5	LIGHT
415.0	CARBONDALE	CARDIFF	COAL	2.4	208.0	
412.6	CARBONDALE		SHALE	9.6	210.4	
403.0	CARBONDALE		SHALE	6.5	220.0	BLUE
396.5	CARBONDALE	COLCHESTER	COAL	3.0	226.5	
393.5			SHALE	1.5	229.5	BROWN

MAPID: 10500062000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c SW SW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.28645

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.053209

DATE COLLECTED: 12 / 0 / 1898

SURFACE ELEVATION (FT.): 628.0

LOGGED (FT.): 236.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 9

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
628.0	PLEISTOCENE		CLAY	45.0	0.0	
583.0	PLEISTOCENE		SAND	3.0	45.0	
580.0	PLEISTOCENE		CLAY	4.0	48.0	
576.0	PLEISTOCENE		SAND	6.0	52.0	
570.0	PLEISTOCENE		GRAVEL	6.0	58.0	
564.0	PLEISTOCENE		GRAVEL	9.0	64.0	
555.0	PLEISTOCENE		GRAVEL	12.0	73.0	
543.0	CARBONDALE		SHALE	15.0	85.0	
528.0	CARBONDALE		SHALE	35.0	100.0	
493.0	CARBONDALE		SHALE	3.0	135.0	BLUE
490.0	CARBONDALE		SHALE	8.0	138.0	
482.0	CARBONDALE		BLACK SHALE	2.0	146.0	
480.0	CARBONDALE		SANDSTONE	1.0	148.0	
479.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	149.0	
478.0	CARBONDALE		UNDERCLAY	8.0	150.0	
470.0	CARBONDALE		SHALE	1.5	158.0	
468.5	CARBONDALE		BLACK SHALE	2.5	159.5	
466.0	CARBONDALE		ROCK	0.5	162.0	GRAY
465.5	CARBONDALE		BLACK SHALE	0.5	162.5	
465.0	CARBONDALE	LOWELL	COAL	2.0	163.0	
463.0	CARBONDALE		UNDERCLAY	10.0	165.0	
453.0	CARBONDALE		SHALE	12.0	175.0	
441.0	CARBONDALE		SANDSTONE	7.0	187.0	
434.0	CARBONDALE		SHALE	2.0	194.0	
432.0	CARBONDALE		SHALE	17.0	196.0	
415.0	CARBONDALE		SHALE	8.0	213.0	
407.0	CARBONDALE		SANDSTONE	11.3	221.0	
395.7	CARBONDALE	COLCHESTER	COAL	2.8	232.3	
393.0			SHALE	1.0	235.0	

MAPID: 10500063000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.279333

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.05694

DATE COLLECTED: 0 / 0 / 1899

SURFACE ELEVATION (FT.): 629.0

LOGGED (FT.): 239.5

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 11

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0	PLEISTOCENE		GLACIAL DRIFT	25.0	0.0	
604.0	PLEISTOCENE		CLAY	7.0	25.0	BLUE
597.0	PLEISTOCENE		CLAY	33.0	32.0	
564.0	PLEISTOCENE		GRAVEL	3.0	65.0	
561.0	MODESTO		ROCK	2.0	68.0	
559.0	MODESTO		SHALE	17.0	70.0	
542.0	CARBONDALE	DANVILLE	COAL	2.0	87.0	
540.0	CARBONDALE		SHALE	6.0	89.0	
534.0	CARBONDALE		ROCK	4.0	95.0	
530.0	CARBONDALE	HERRIN	COAL	1.0	99.0	
529.0	CARBONDALE		SANDSTONE	14.0	100.0	
515.0	CARBONDALE		SHALE	16.0	114.0	LIGHT
499.0	CARBONDALE		SHALE	2.0	130.0	LIGHT
497.0	CARBONDALE		SHALE	3.0	132.0	
494.0	CARBONDALE		SHALE	4.0	135.0	
490.0	CARBONDALE		SHALE	11.0	139.0	
479.0	CARBONDALE		SHALE	17.0	150.0	
462.0	CARBONDALE		SHALE	1.5	167.0	
460.5	CARBONDALE	EXCELLO	BLACK SHALE	1.5	168.5	
459.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	170.0	
458.0	CARBONDALE		UNDERCLAY	2.0	171.0	
456.0	CARBONDALE		LIMESTONE	1.5	173.0	
454.5	CARBONDALE		UNDERCLAY	3.5	174.5	
451.0	CARBONDALE		SHALE	1.0	178.0	
450.0	CARBONDALE		SHALE	5.0	179.0	LIGHT
445.0	CARBONDALE		SHALE	2.0	184.0	
443.0	CARBONDALE	LOWELL	COAL	3.5	186.0	
439.5	CARBONDALE		UNDERCLAY	4.5	189.5	
435.0	CARBONDALE	OAK GROVE	LIMESTONE	1.0	194.0	
434.0	CARBONDALE		UNDERCLAY	6.0	195.0	
428.0	CARBONDALE		SHALE	3.0	201.0	
425.0	CARBONDALE	FRANCIS CREEK	SHALE	5.0	204.0	
420.0	CARBONDALE	FRANCIS CREEK	SHALE	12.5	209.0	BLUE
407.5	CARBONDALE	CARDIFF	COAL	12.5	221.5	
395.0	CARBONDALE		SHALE	0.5	234.0	STREAKED WITH COAL
394.5	CARBONDALE		SHALE	1.0	234.5	LIGHT
393.5	CARBONDALE	COLCHESTER	COAL	3.0	235.5	
390.5			SHALE	1.0	238.5	LIGHT

MAPID: 10500063000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE NE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.279333

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 41.05694

DATE COLLECTED:

SURFACE ELEVATION (FT.): 630.0

LOGGED (FT.): 239.0

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
543.0	CARBONDALE	DANVILLE	COAL	2.0	87.0	
541.0	CARBONDALE		UNCLASSIFIED	10.0	89.0	
531.0	CARBONDALE	HERRIN	COAL	1.0	99.0	
530.0	CARBONDALE		UNCLASSIFIED	70.0	100.0	
460.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	170.0	
459.0	CARBONDALE		UNCLASSIFIED	15.0	171.0	
444.0	CARBONDALE	LOWELL	COAL	3.5	186.0	
440.5	CARBONDALE		UNCLASSIFIED	46.5	189.5	
394.0	CARBONDALE	COLCHESTER	COAL	3.0	236.0	

MAPID: 10500064000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c SE SE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.279179

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.053287

DATE COLLECTED: 0 / 0 / 1902

SURFACE ELEVATION (FT.): 629.0

LOGGED (FT.): 242.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 21

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.0	PLEISTOCENE		SOIL	2.0	0.0	
627.0	PLEISTOCENE		CLAY	8.0	2.0	YELLOW
619.0	PLEISTOCENE		CLAY	13.0	10.0	BLUE
606.0	PLEISTOCENE		CLAY	35.0	23.0	BLUE
571.0	PLEISTOCENE		CLAY	3.0	58.0	BLUE
568.0	PLEISTOCENE		GRAVEL	4.0	61.0	
564.0	PLEISTOCENE		CLAY	4.0	65.0	
560.0	PLEISTOCENE		SAND	12.0	69.0	
548.0	PLEISTOCENE		GRAVEL	5.0	81.0	
543.0	CARBONDALE	HERRIN	COAL	1.0	86.0	TOP ERODED
542.0	CARBONDALE		SHALE	24.0	87.0	
518.0	CARBONDALE		SHALE	41.0	111.0	
477.0	CARBONDALE		SHALE	4.0	152.0	
473.0	CARBONDALE	EXCELLO	SHALE	2.3	156.0	
470.7	CARBONDALE	HOUCHIN CREEK	COAL	0.8	158.3	
470.0	CARBONDALE		SHALE	2.0	159.0	LIGHT
468.0	CARBONDALE		SHALE	6.0	161.0	LIGHT
462.0	CARBONDALE		SHALE	2.0	167.0	
460.0	CARBONDALE		SHALE	3.0	169.0	LIGHT
457.0	CARBONDALE	LOWELL	COAL	3.0	172.0	
454.0	CARBONDALE		SHALE	2.0	175.0	
452.0	CARBONDALE		SANDSTONE	2.0	177.0	
450.0	CARBONDALE		SHALE	8.0	179.0	LIGHT
442.0	CARBONDALE		SHALE	13.0	187.0	
429.0	CARBONDALE		SANDSTONE	7.0	200.0	
422.0	CARBONDALE		SHALE	2.2	207.0	
419.8	CARBONDALE	CARDIFF	COAL	0.3	209.2	
419.5	CARBONDALE	CARDIFF	COAL	4.2	209.5	
415.3	CARBONDALE		SANDSTONE	21.3	213.7	
394.0	CARBONDALE	COLCHESTER	COAL	3.0	235.0	
391.0			UNDERCLAY	4.0	238.0	

MAPID: 10500065000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 23 QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: CAMPUS LONGITUDE: -88.279714 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.066074 DATE COLLECTED: 0 / 0 / 1902

SURFACE ELEVATION (FT.): 619.0 LOGGED (FT.): 216.0 LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 24 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
619.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
617.0	PLEISTOCENE		CLAY	8.0	2.0	YELLOW
609.0	PLEISTOCENE		CLAY	30.0	10.0	BLUE
579.0	PLEISTOCENE		SAND	5.0	40.0	
574.0	PLEISTOCENE		CLAY	14.0	45.0	BLUE
560.0	PLEISTOCENE		GRAVEL	2.0	59.0	
558.0	PLEISTOCENE		CLAY	2.0	61.0	BLUE
556.0	PLEISTOCENE		GRAVEL	3.0	63.0	
553.0	PLEISTOCENE		CLAY	14.0	66.0	BLUE
539.0	CARBONDALE		SHALE	27.0	80.0	
512.0	CARBONDALE	HOUCHIN CREEK	COAL	1.5	107.0	
510.5	CARBONDALE		SHALE	12.5	108.5	LIGHT
498.0	CARBONDALE		SHALE	2.0	121.0	
496.0	CARBONDALE		SHALE	3.0	123.0	LIGHT
493.0	CARBONDALE	LOWELL	COAL	0.8	126.0	
492.2	CARBONDALE		SHALE	3.3	126.8	LIGHT
489.0	CARBONDALE		SHALE	1.0	130.0	LIGHT
488.0	CARBONDALE		SANDSTONE	17.0	131.0	
471.0	CARBONDALE		SHALE	6.0	148.0	
465.0	CARBONDALE		SHALE	17.0	154.0	BLUE
448.0	CARBONDALE		SHALE	39.5	171.0	BLUE
408.5	CARBONDALE	COLCHESTER	COAL	3.3	210.5	
405.2			SHALE	1.0	213.8	
404.2			LIMESTONE	0.3	214.8	
403.8			UNDERCLAY	0.8	215.2	

MAPID: 10500065000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: NE NE NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.279714

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 41.066074

DATE COLLECTED:

SURFACE ELEVATION (FT.): 623.0

LOGGED (FT.): 214.3

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
497.0	CARBONDALE	LOWELL	COAL	0.8	126.0	
496.2	CARBONDALE		UNCLASSIFIED	84.2	126.8	
412.0	CARBONDALE	COLCHESTER	COAL	3.3	211.0	

MAPID: 10500066000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c NW NW NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.286983

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.065977

DATE COLLECTED: 0 / 0 / 1902

SURFACE ELEVATION (FT.): 619.0

LOGGED (FT.): 221.5

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 25

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
619.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
617.0	PLEISTOCENE		CLAY	2.0	2.0	
615.0	PLEISTOCENE		GRAVEL	2.0	4.0	
613.0	PLEISTOCENE		CLAY	4.0	6.0	YELLOW
609.0	PLEISTOCENE		CLAY	20.0	10.0	
589.0	PLEISTOCENE		CLAY	26.0	30.0	SOFT BLUE
563.0	PLEISTOCENE		CLAY	12.0	56.0	BLUE
551.0	PLEISTOCENE		GRAVEL	3.0	68.0	
548.0	PLEISTOCENE		CLAY	7.0	71.0	
541.0	PLEISTOCENE		GRAVEL	2.0	78.0	
539.0	CARBONDALE		SHALE	1.0	80.0	
538.0	CARBONDALE		SHALE	32.0	81.0	
506.0	CARBONDALE		SHALE	2.0	113.0	
504.0	CARBONDALE	HOUCHIN CREEK	COAL	2.3	115.0	
501.7	CARBONDALE		SHALE	11.7	117.3	LIGHT
490.0	CARBONDALE		SHALE	3.0	129.0	
487.0	CARBONDALE	LOWELL	COAL	0.8	132.0	
486.2	CARBONDALE		SHALE	12.2	132.8	LIGHT
474.0	CARBONDALE		SANDSTONE	15.0	145.0	
459.0	CARBONDALE		SANDY SHALE	23.0	160.0	
436.0	CARBONDALE		SANDY SHALE	30.0	183.0	
406.0	CARBONDALE		SHALE	3.5	213.0	BLUE
402.5	CARBONDALE	COLCHESTER	COAL	3.5	216.5	
399.0			SHALE	1.5	220.0	

MAPID: 10500067000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: SE/c NE NE SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.27941

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.058767

DATE COLLECTED: 0 / 0 / 1903

SURFACE ELEVATION (FT.): 625.0

LOGGED (FT.): 270.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 31

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
625.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
623.0	PLEISTOCENE		GRAVEL	3.0	2.0	
620.0	PLEISTOCENE		CLAY	4.0	5.0	YELLOW
616.0	PLEISTOCENE		CLAY	11.0	9.0	BLUE
605.0	PLEISTOCENE		CLAY	14.0	20.0	
591.0	PLEISTOCENE		CLAY	7.0	34.0	
584.0	PLEISTOCENE		GRAVEL	19.0	41.0	
565.0	PLEISTOCENE		SAND	17.0	60.0	
548.0	PLEISTOCENE		GRAVEL	3.0	77.0	
545.0	PLEISTOCENE		SAND	5.0	80.0	
540.0	CARBONDALE		SHALE	5.0	85.0	BLUE
535.0	CARBONDALE		SHALE	28.0	90.0	LIGHT
507.0	CARBONDALE		SHALE	0.9	118.0	
506.1	CARBONDALE	HOUCHIN CREEK	BONE COAL	1.8	118.9	
504.3	CARBONDALE		SHALE	10.3	120.7	LIGHT
494.0	CARBONDALE		SHALE	3.0	131.0	BLUE
491.0	CARBONDALE	LOWELL	COAL	2.3	134.0	MIXED WITH SHALE
488.7	CARBONDALE		SHALE	3.7	136.3	LIGHT
485.0	CARBONDALE		CALCAREOUS SHALE	5.0	140.0	
480.0	CARBONDALE		SHALE	18.0	145.0	LIGHT
462.0	CARBONDALE		SANDSTONE	40.0	163.0	
422.0	CARBONDALE		SHALE	15.0	203.0	LIGHT
407.0	CARBONDALE	COLCHESTER	COAL	3.1	218.0	
403.9	TRADEWATER		SHALE	0.9	221.1	
403.0	TRADEWATER		SHALE	17.0	222.0	LIGHT
386.0	TRADEWATER		SANDSTONE	10.0	239.0	
376.0	TRADEWATER		SHALE	5.0	249.0	WHITE
371.0	TRADEWATER		SHALE	6.0	254.0	LIGHT
365.0	TRADEWATER		SHALE	5.0	260.0	BLUE
360.0	TRADEWATER		SHALE	2.0	265.0	
358.0	TRADEWATER		BONE COAL	0.5	267.0	
357.5	TRADEWATER		SHALE	2.5	267.5	LIGHT

MAPID: 10581123000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 23 QUARTERS/FOOTAGES: 1' S line, 1' W line of SW SE SE

QUADRANGLE: CAMPUS LONGITUDE: -88.27308 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.052439 DATE COLLECTED: 9 / 3 / 1970

SURFACE ELEVATION (FT.): 631.0 LOGGED (FT.): 248.8 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 257 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
631.0	PLEISTOCENE		UNCONSOLIDATED	94.0	0.0	
537.0	CARBONDALE	ANNA	BLACK SHALE	2.5	94.0	
534.5	CARBONDALE	HERRIN	COAL	7.0	96.5	
527.5	CARBONDALE		UNDERCLAY	3.0	103.5	
524.5	CARBONDALE		SHALE	6.5	106.5	
518.0	CARBONDALE		LIMESTONE	1.5	113.0	
516.5	CARBONDALE		SHALE	11.5	114.5	
505.0	CARBONDALE		LIMESTONE	2.0	126.0	
503.0	CARBONDALE		GRAY SHALE	10.3	128.0	
492.7	CARBONDALE		GRAY SHALE	8.0	138.3	
484.7	CARBONDALE		DARK SHALE	10.0	146.3	
474.7	CARBONDALE		GRAY SHALE	4.0	156.3	
470.7	CARBONDALE	EXCELLO	DARK SHALE	2.0	160.3	
468.7	CARBONDALE	EXCELLO	BLACK SHALE	1.0	162.3	SOFT
467.7	CARBONDALE	EXCELLO	BLACK SHALE	1.5	163.3	
466.2	CARBONDALE	HOUCHIN CREEK	COAL	1.5	164.8	
464.7	CARBONDALE		UNDERCLAY	6.0	166.3	
458.7	CARBONDALE		CALCAREOUS SANDSTONE	0.5	172.3	
458.2	CARBONDALE		LIMESTONE	1.5	172.8	
456.7	CARBONDALE		GRAY SHALE	4.0	174.3	
452.7	CARBONDALE		BLACK SHALE	2.5	178.3	
450.2	CARBONDALE	LOWELL	COAL	4.0	180.8	
446.2	CARBONDALE		UNDERCLAY	5.5	184.8	
440.7	CARBONDALE		LIMESTONE	1.0	190.3	
439.7	CARBONDALE		GRAY SHALE	6.0	191.3	
433.7	CARBONDALE		DARK SHALE	9.5	197.3	
424.2	CARBONDALE	CARDIFF	COAL	2.0	206.8	
422.2	CARBONDALE	CARDIFF	SHALE	1.0	208.8	PARTING
421.2	CARBONDALE	CARDIFF	COAL	7.5	209.8	
413.7	CARBONDALE	CARDIFF	SHALE	1.0	217.3	PARTING
412.7	CARBONDALE	CARDIFF	COAL	2.0	218.3	
410.7	CARBONDALE		GRAY SHALE	6.0	220.3	
404.7	CARBONDALE		GRAY SHALE	6.0	226.3	
398.7	CARBONDALE		CALCAREOUS SANDSTONE	4.5	232.3	
394.2	CARBONDALE		SHALE	1.3	236.8	
393.0	CARBONDALE		CALCAREOUS SANDSTONE	0.3	238.0	
392.7	CARBONDALE		SHALE	2.0	238.3	

390.7	CARBONDALE	COLCHESTER	COAL	1.0	240.3
389.7	CARBONDALE		UNDERCLAY	6.0	241.3
383.7	CARBONDALE		LIMESTONE	1.5	247.3

MAPID: 10581124000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 23 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SW SW

QUADRANGLE: CAMPUS

LONGITUDE: -88.282781

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.052336

DATE COLLECTED: 9 / 5 / 1970

SURFACE ELEVATION (FT.): 631.0

LOGGED (FT.): 258.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 258

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
631.0	PLEISTOCENE		UNCONSOLIDATED	87.0	0.0	
544.0	CARBONDALE		SANDY SHALE	3.0	87.0	
541.0	CARBONDALE		CALCAREOUS SANDSTONE	1.0	90.0	
540.0	CARBONDALE		LIMESTONE	1.0	91.0	
539.0	CARBONDALE		SHALE & SANDSTONE	8.0	92.0	HARD
531.0	CARBONDALE		SHALE & SANDSTONE	24.0	100.0	GREY
507.0	CARBONDALE		DARK SHALE	4.0	124.0	
503.0	CARBONDALE		SANDY SHALE	2.0	128.0	
501.0	CARBONDALE		DARK SHALE	19.0	130.0	
482.0	CARBONDALE		GRAY SHALE	5.0	149.0	
477.0	CARBONDALE		DARK SHALE	3.0	154.0	
474.0	CARBONDALE	EXCELLO	BLACK SHALE	2.5	157.0	
471.5	CARBONDALE	HOUCHIN CREEK	COAL	1.0	159.5	
470.5	CARBONDALE		UNDERCLAY	1.5	160.5	
469.0	CARBONDALE		SHALE & SANDSTONE	1.0	162.0	
468.0	CARBONDALE		GRAY SHALE	3.0	163.0	
465.0	CARBONDALE		LIMESTONE AND SANDSTONE	1.5	166.0	
463.5	CARBONDALE		GRAY SHALE	2.5	167.5	
461.0	CARBONDALE		DARK SHALE	1.0	170.0	
460.0	CARBONDALE		LIMESTONE	1.0	171.0	
459.0	CARBONDALE		BLACK SHALE	2.5	172.0	
456.5	CARBONDALE	LOWELL	COAL	3.0	174.5	
453.5	CARBONDALE		DARK SHALE	0.5	177.5	
453.0	CARBONDALE		GRAY SHALE	2.0	178.0	
451.0	CARBONDALE		SANDY SHALE	1.5	180.0	
449.5	CARBONDALE		GRAY SHALE	3.5	181.5	
446.0	CARBONDALE		SANDY SHALE	5.0	185.0	
441.0	CARBONDALE		GRAY SANDSTONE	1.0	190.0	
440.0	CARBONDALE		DARK SHALE	47.0	191.0	
393.0	CARBONDALE		CALCAREOUS SHALE	7.5	238.0	DARK GREY
385.5	CARBONDALE	COLCHESTER	COAL	0.5	245.5	
385.0	CARBONDALE		CLAYSTONE	0.5	246.0	DARK GREY
384.5	CARBONDALE		COAL	2.8	246.5	
381.7	CARBONDALE		CALCAREOUS SHALE	0.8	249.3	BLACK
381.0	CARBONDALE		GRAY SHALE	8.0	250.0	

MAPID: 10581125000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 23 QUARTERS/FOOTAGES: 1' S line, 1' E line of SE SE SW

QUADRANGLE: CAMPUS LONGITUDE: -88.277934 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.052386 DATE COLLECTED: 9 / 8 / 1970

SURFACE ELEVATION (FT.): 631.0 LOGGED (FT.): 226.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 259 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
631.0	PLEISTOCENE		UNCONSOLIDATED	85.5	0.0	
545.5	CARBONDALE		BLACK SHALE	4.5	85.5	
541.0	CARBONDALE		GRAY SHALE	2.0	90.0	
539.0	CARBONDALE		SANDY SHALE	1.0	92.0	
538.0	CARBONDALE		SANDSTONE	2.0	93.0	HARD
536.0	CARBONDALE		SANDY SHALE	15.0	95.0	
521.0	CARBONDALE		SHALE & SANDSTONE	6.0	110.0	
515.0	CARBONDALE		SANDY SHALE	11.0	116.0	
504.0	CARBONDALE		DARK SHALE	32.0	127.0	
472.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	159.0	
470.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	161.0	
469.0	CARBONDALE		UNDERCLAY	3.0	162.0	
466.0	CARBONDALE		LIMESTONE	1.5	165.0	
464.5	CARBONDALE		GRAY SHALE	3.5	166.5	
461.0	CARBONDALE		LIMESTONE	0.5	170.0	
460.5	CARBONDALE		DARK SHALE	0.5	170.5	
460.0	CARBONDALE		BLACK SHALE	0.5	171.0	
459.5	CARBONDALE		GRAY SHALE	1.5	171.5	
458.0	CARBONDALE		DARK SHALE	1.0	173.0	
457.0	CARBONDALE		GRAY SHALE	1.0	174.0	
456.0	CARBONDALE	LOWELL	COAL	3.5	175.0	
452.5	CARBONDALE		UNDERCLAY	4.5	178.5	
448.0	CARBONDALE		SANDY LIMESTONE	3.0	183.0	
445.0	CARBONDALE		GRAY SHALE	5.0	186.0	
440.0	CARBONDALE		DARK SHALE	2.0	191.0	
438.0	CARBONDALE		SANDY SHALE	8.0	193.0	
430.0	CARBONDALE		DARK SHALE	4.5	201.0	
425.5	CARBONDALE		SHALE & SANDSTONE	4.5	205.5	
421.0	CARBONDALE		DARK SHALE	3.0	210.0	
418.0	CARBONDALE	CARDIFF	COAL	4.5	213.0	
413.5	CARBONDALE		UNDERCLAY	1.5	217.5	
412.0	CARBONDALE		SANDY DARK SHALE	7.0	219.0	

MAPID: 10581126000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 23

QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.278535

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.067003

DATE COLLECTED: 9 / 3 / 1970

SURFACE ELEVATION (FT.): 621.0

LOGGED (FT.): 186.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

261

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
621.0	PLEISTOCENE		UNCONSOLIDATED	85.0	0.0	
536.0			DARK SHALE	24.0	85.0	
512.0			BLACK SHALE	3.0	109.0	
509.0			COAL	1.0	112.0	
508.0	CARBONDALE		GRAY SHALE	13.0	113.0	
495.0			COAL	2.0	126.0	
493.0			DARK SHALE	8.0	128.0	
485.0			SHALE & SANDSTONE	4.0	136.0	
481.0			SHALE	46.0	140.0	

MAPID: 10558129000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 24 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW SW

QUADRANGLE: CAMPUS LONGITUDE: -88.26854 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.059806 DATE COLLECTED: 9 / 18 / 1970

SURFACE ELEVATION (FT.): 625.0 LOGGED (FT.): 236.3 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 264 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
625.0	PLEISTOCENE		UNCONSOLIDATED	90.0	0.0
535.0	CARBONDALE		SHALE & SANDSTONE	38.0	90.0
497.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	128.0
495.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	130.0
494.0	CARBONDALE		UNDERCLAY	1.0	131.0
493.0	CARBONDALE		LIMESTONE	1.5	132.0
491.5	CARBONDALE		SHALE	4.5	133.5
487.0	CARBONDALE		LIMESTONE	1.0	138.0
486.0	CARBONDALE		BLACK SHALE	1.5	139.0
484.5	CARBONDALE		DARK SHALE	3.5	140.5
481.0	CARBONDALE		BLACK SHALE	1.8	144.0
479.2	CARBONDALE	LOWELL	COAL	1.3	145.8
478.0	CARBONDALE		UNDERCLAY	5.8	147.0
472.2	CARBONDALE		GRAY SHALE	9.0	152.8
463.2	CARBONDALE		LIMESTONE	1.0	161.8
462.2	CARBONDALE		SHALE & SANDSTONE	3.0	162.8
459.2	CARBONDALE		GRAY SHALE	6.0	165.8
453.2	CARBONDALE		SANDY SHALE	1.0	171.8
452.2	CARBONDALE		GRAY SHALE	50.0	172.8 HARD
402.2	CARBONDALE	COLCHESTER	COAL	3.3	222.8
399.0	CARBONDALE		GRAY SHALE	7.8	226.0
391.2	CARBONDALE		DARK SHALE	2.5	233.8

MAPID: 10581127000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 24

QUARTERS/FOOTAGES: 1' S line, 1' E line of SE NW NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.263941

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.063466

DATE COLLECTED: 5 / 31 / 1971

SURFACE ELEVATION (FT.): 620.0

LOGGED (FT.): 180.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

RB36

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		CLAY	12.0	0.0	
608.0	PLEISTOCENE		UNCONSOLIDATED	61.0	12.0	AND GREY SHALE
547.0	CARBONDALE		LIMESTONE	2.0	73.0	
545.0	CARBONDALE		GRAY SHALE	6.0	75.0	AND DRIFT
539.0	CARBONDALE		LIMESTONE	2.0	81.0	
537.0	CARBONDALE		DARK SHALE	32.0	83.0	
505.0	CARBONDALE		BLACK SHALE	3.0	115.0	
502.0	CARBONDALE		COAL	3.0	118.0	#4?
499.0	CARBONDALE		GRAY SHALE	4.0	121.0	
495.0	CARBONDALE		DARK SHALE	5.0	125.0	
490.0	CARBONDALE		COAL	6.0	130.0	LOWELL?
484.0	CARBONDALE		SANDY SHALE	31.0	136.0	
453.0	CARBONDALE		GRAY SHALE	13.0	167.0	

MAPID: 10581128000C

VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 24

QUARTERS/FOOTAGES: 1' S line, 1' W line of SW NW NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.268693

GEOLOGIST: PHILLIPS

CONFIDENTIAL: N

LATITUDE: 41.063474

DATE COLLECTED: 8 / 28 / 1970

SURFACE ELEVATION (FT.): 624.0

LOGGED (FT.): 146.0

LOG TYPE: Drillers Log

SOURCE: AYRSHIRE

252

WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
624.0	PLEISTOCENE		UNCONSOLIDATED	97.0	0.0	
527.0	CARBONDALE		DARK SHALE	8.0	97.0	
519.0	CARBONDALE		SANDY SHALE	11.0	105.0	
508.0	CARBONDALE		DARK SHALE	6.5	116.0	
501.5	CARBONDALE	EXCELLO	BLACK SHALE	0.5	122.5	SOFT
501.0	CARBONDALE		BLACK SHALE	2.0	123.0	
499.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	125.0	
498.0	CARBONDALE		UNDERCLAY	1.5	126.0	
496.5	CARBONDALE		LIMESTONE	0.5	127.5	
496.0	CARBONDALE		GRAY SHALE	2.0	128.0	
494.0	CARBONDALE		DARK SHALE	1.0	130.0	
493.0	CARBONDALE		GRAY SHALE	5.5	131.0	
487.5	CARBONDALE		DARK SHALE	1.0	136.5	
486.5	CARBONDALE	LOWELL	COAL	3.3	137.5	
483.2	CARBONDALE		UNDERCLAY	4.3	140.8	
479.0	CARBONDALE		CALCAREOUS SANDSTONE	1.0	145.0	

MAPID: 10581130000C VERSION: 1

PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 25 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NW SW

QUADRANGLE: CAMPUS LONGITUDE: -88.268032 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.045171 DATE COLLECTED: 9 / 17 / 1970

SURFACE ELEVATION (FT.): 631.0 LOGGED (FT.): 223.5 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 263 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
631.0	PLEISTOCENE		UNCONSOLIDATED	94.0	0.0	
537.0	CARBONDALE		DARK SHALE	26.0	94.0	
511.0	CARBONDALE		SANDY SHALE	18.0	120.0	
493.0	CARBONDALE		CALCAREOUS SHALE	2.0	138.0	
491.0	CARBONDALE		BLACK SHALE	3.0	140.0	
488.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	143.0	
487.0	CARBONDALE		UNDERCLAY	4.0	144.0	
483.0	CARBONDALE		SHALY LIMESTONE	4.0	148.0	
479.0	CARBONDALE		LIMESTONE	0.5	152.0	
478.5	CARBONDALE		GRAY SHALE	4.5	152.5	HARD
474.0	CARBONDALE		DARK SHALE	1.0	157.0	
473.0	CARBONDALE		LIMESTONE	0.5	158.0	
472.5	CARBONDALE		DARK SHALE	1.0	158.5	
471.5	CARBONDALE		LIMESTONE	0.5	159.5	BLACKL
471.0	CARBONDALE		BLACK SHALE	0.5	160.0	
470.5	CARBONDALE	LOWELL	COAL	1.5	160.5	
469.0	CARBONDALE		GRAY SHALE	8.5	162.0	HARD
460.5	CARBONDALE		SANDY LIMESTONE	2.0	170.5	
458.5	CARBONDALE		GRAY SHALE	7.0	172.5	HARD
451.5	CARBONDALE		DARK SHALE	9.0	179.5	
442.5	CARBONDALE		SHALY SANDSTONE	1.0	188.5	
441.5	CARBONDALE		GRAY SHALE	4.0	189.5	HARD
437.5	CARBONDALE		SHALE & SANDSTONE	2.0	193.5	
435.5	CARBONDALE		GRAY SHALE	1.0	195.5	HAD
434.5	CARBONDALE		SHALE & SANDSTONE	5.0	196.5	
429.5	CARBONDALE		SHALE	2.0	201.5	
427.5	CARBONDALE		SANDY SHALE	1.0	203.5	
426.5	CARBONDALE		SHALE	4.0	204.5	
422.5	CARBONDALE		SANDY SHALE	15.0	208.5	

MAPID: 10581132000C VERSION: 1 PROJECT: NCRDS02

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 25 QUARTERS/FOOTAGES: 1' N line, 1' W line of NW NE NW

QUADRANGLE: CAMPUS LONGITUDE: -88.263471 GEOLOGIST: PHILLIPS

CONFIDENTIAL: N LATITUDE: 41.052472 DATE COLLECTED: 9 / 15 / 1970

SURFACE ELEVATION (FT.): 620.0 LOGGED (FT.): 217.0 LOG TYPE: Drillers Log

SOURCE: AYRSHIRE 262 WELL TYPE: Coal Test

COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.0	PLEISTOCENE		UNCONSOLIDATED	87.0	0.0	
533.0	CARBONDALE		DARK SHALE	25.0	87.0	
508.0	CARBONDALE		SANDSTONE	1.0	112.0	
507.0	CARBONDALE		SHALE	4.0	113.0	
503.0	CARBONDALE		SANDSTONE	0.5	117.0	
502.5	CARBONDALE		SHALE	3.5	117.5	
499.0	CARBONDALE		SANDSTONE	1.0	121.0	
498.0	CARBONDALE		SHALE	10.0	122.0	
488.0	CARBONDALE		BLACK SHALE	2.3	132.0	
485.7	CARBONDALE	HOUCHIN CREEK	COAL	1.3	134.3	
484.5	CARBONDALE		UNDERCLAY	3.0	135.5	
481.5	CARBONDALE		LIMESTONE	1.5	138.5	
480.0	CARBONDALE		CALCAREOUS SHALE	1.5	140.0	
478.5	CARBONDALE		LIMESTONE	1.5	141.5	
477.0	CARBONDALE		MICACEOUS SHALE	2.0	143.0	
475.0	CARBONDALE		DARK SHALE	1.0	145.0	
474.0	CARBONDALE		BLACK SHALE	1.5	146.0	
472.5	CARBONDALE		LIMESTONE	0.5	147.5	BLACK
472.0	CARBONDALE		BLACK SHALE	1.3	148.0	
470.7	CARBONDALE	LOWELL	COAL	2.3	149.3	
468.5	CARBONDALE		UNDERCLAY	5.5	151.5	
463.0	CARBONDALE		SANDY SHALE	4.0	157.0	
459.0	CARBONDALE		GRAY SHALE	56.0	161.0	HARD

MAPID: 10500068000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 26

QUARTERS/FOOTAGES: SE/c NE NW NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.27427

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.05151

DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 630.0

LOGGED (FT.): 250.3

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 17

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		CLAY	24.0	0.0	BLUE
606.0	PLEISTOCENE		CLAY	56.0	24.0	BLUE
550.0	CARBONDALE		SANDSTONE	3.0	80.0	
547.0	CARBONDALE		BLACK SHALE	2.0	83.0	MIXED WITH COAL
545.0	CARBONDALE	HERRIN	COAL	3.5	85.0	
541.5	CARBONDALE		SANDSTONE	16.5	88.5	
525.0	CARBONDALE		SANDSTONE	35.0	105.0	
490.0	CARBONDALE		BLACK SHALE	10.0	140.0	
480.0	CARBONDALE		SHALE	10.0	150.0	LIGHT
470.0	CARBONDALE		BLACK SHALE	3.0	160.0	
467.0	CARBONDALE		SHALE	18.0	163.0	
449.0	CARBONDALE	LOWELL	COAL	3.0	181.0	
446.0	CARBONDALE		SHALE	1.0	184.0	LIGHT
445.0	CARBONDALE		UNDERCLAY	21.0	185.0	
424.0	CARBONDALE	CARDIFF	COAL	8.9	206.0	
415.1	CARBONDALE	CARDIFF	SHALE	5.0	214.9	
410.1	CARBONDALE	CARDIFF	COAL	1.3	219.9	
408.8	CARBONDALE		SANDSTONE	1.2	221.2	
407.7	CARBONDALE		UNDERCLAY	4.0	222.3	
403.7	CARBONDALE		SANDSTONE	2.0	226.3	
401.7	CARBONDALE		SHALE	6.0	228.3	
395.7	CARBONDALE		SANDSTONE	6.0	234.3	
389.7	CARBONDALE	COLCHESTER	CLAYSTONE & SILTSTONE	1.5	240.3	WITH COAL
388.2	CARBONDALE	COLCHESTER	SHALE	1.5	241.8	
386.7	CARBONDALE	COLCHESTER	UNDERCLAY	0.8	243.3	
385.9	CARBONDALE	COLCHESTER	BLACK SHALE	0.3	244.1	WITH COAL
385.7	CARBONDALE	COLCHESTER	COAL	0.5	244.3	
385.2			SHALE	0.5	244.8	LIGHT
384.7			SANDY SHALE	5.0	245.3	

MAPID: 10500069000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 26

QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.269427

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.051557

DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 628.0

LOGGED (FT.): 237.5

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 18

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
628.0	PLEISTOCENE		CLAY	40.0	0.0	BLUE
588.0	PLEISTOCENE		CLAY	7.0	40.0	BLUE
581.0	PLEISTOCENE		CLAY	40.0	47.0	LOG SAYS 20' THICK
541.0	CARBONDALE		SANDSTONE	20.0	87.0	
521.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	107.0	
520.0	CARBONDALE	HOUCHIN CREEK	SHALE	0.5	108.0	
519.5	CARBONDALE	HOUCHIN CREEK	COAL	0.5	108.5	
519.0	CARBONDALE	HOUCHIN CREEK	BLACK SHALE	1.0	109.0	
518.0	CARBONDALE	HOUCHIN CREEK	SHALE	1.5	110.0	
516.5	CARBONDALE	HOUCHIN CREEK	COAL	0.5	111.5	
516.0	CARBONDALE	HOUCHIN CREEK	SHALE	1.5	112.0	
514.5	CARBONDALE	HOUCHIN CREEK	COAL	0.5	113.5	
514.0	CARBONDALE	HOUCHIN CREEK	COAL W/ PYRITE	7.0	114.0	WITH SULFUR
507.0	CARBONDALE		BLACK SHALE	1.0	121.0	
506.0	CARBONDALE		SHALE	1.0	122.0	
505.0	CARBONDALE		BLACK SHALE	7.0	123.0	
498.0	CARBONDALE		SHALE	5.0	130.0	
493.0	CARBONDALE		SHALE	5.0	135.0	WITH SLATE
488.0	CARBONDALE		SHALE	6.0	140.0	
482.0	CARBONDALE		SHALE	12.0	146.0	
470.0	CARBONDALE		BLACK SHALE	3.0	158.0	
467.0	CARBONDALE		SANDSTONE	5.0	161.0	
462.0	CARBONDALE		SHALE	5.0	166.0	
457.0	CARBONDALE	LOWELL	COAL	3.0	171.0	WITH SLATE
454.0	CARBONDALE		UNDERCLAY	2.0	174.0	
452.0	CARBONDALE		SHALE	20.0	176.0	LIGHT
432.0	CARBONDALE		SHALE	2.0	196.0	LOG STATES THIS LITHO AS SLIP
430.0	CARBONDALE		SHALE	9.0	198.0	LIGHT
421.0	CARBONDALE	CARDIFF	COAL	3.0	207.0	WITH SHALE
418.0	CARBONDALE	CARDIFF	COAL	7.0	210.0	
411.0	CARBONDALE		SANDSTONE	9.0	217.0	
402.0	CARBONDALE		SANDSTONE	3.0	226.0	
399.0	CARBONDALE	COLCHESTER	COAL	0.5	229.0	
398.5	CARBONDALE	COLCHESTER	COAL	2.0	229.5	
396.5	CARBONDALE	COLCHESTER	PYRITE	0.5	231.5	
396.0	CARBONDALE	COLCHESTER	COAL	0.5	232.0	WITH SULFUR
395.5	CARBONDALE	COLCHESTER	COAL	0.5	232.5	
395.0			UNDERCLAY	0.5	233.0	
394.5			SANDSTONE	4.0	233.5	

MAPID: 10500069000C VERSION: 2 PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 26 QUARTERS/FOOTAGES: NE NE NE

QUADRANGLE: CAMPUS LONGITUDE: -88.269427 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.051557 DATE COLLECTED:

SURFACE ELEVATION (FT.): 631.0 LOGGED (FT.): 232.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
522.0	CARBONDALE	DANVILLE	COAL	-	109.0	
522.0	CARBONDALE		UNCLASSIFIED	62.0	109.0	
460.0	CARBONDALE	HOUCHIN CREEK	COAL	3.0	171.0	
457.0	CARBONDALE		UNCLASSIFIED	55.0	174.0	
402.0	CARBONDALE	COLCHESTER	COAL	3.5	229.0	

MAPID: 10500070000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 26 QUARTERS/FOOTAGES: SE/c NE NE NE

QUADRANGLE: CAMPUS LONGITUDE: -88.269427 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.051557 DATE COLLECTED: 0 / 0 / 1900

SURFACE ELEVATION (FT.): 630.0 LOGGED (FT.): 247.0 LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		CLAY	86.0	0.0	BLUE
544.0	CARBONDALE		SANDSTONE	14.0	86.0	
530.0	CARBONDALE		SHALE	40.0	100.0	
490.0	CARBONDALE		BLACK SHALE	4.0	140.0	
486.0	CARBONDALE		SHALE	15.0	144.0	
471.0	CARBONDALE	LOWELL	COAL	3.0	159.0	
468.0	CARBONDALE		SANDSTONE	8.0	162.0	
460.0	CARBONDALE		SHALE	10.0	170.0	
450.0	CARBONDALE		SHALE	12.0	180.0	LIGHT
438.0	CARBONDALE	CARDIFF	COAL	5.0	192.0	
433.0	CARBONDALE		SANDSTONE	7.0	197.0	
426.0	CARBONDALE	COLCHESTER	COAL	2.5	204.0	
423.5	TRADEWATER		SANDSTONE	12.0	206.5	
411.5	TRADEWATER		SANDSTONE	26.0	218.5	
385.5	TRADEWATER		COAL	0.1	244.5	
385.4	TRADEWATER		SANDSTONE	2.4	244.6	

MAPID: 10500071000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 26

QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.269375

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.049731

DATE COLLECTED: 0 / 0 / 1902

SURFACE ELEVATION (FT.): 630.0

LOGGED (FT.): 260.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 26

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
628.0	PLEISTOCENE		CLAY	14.0	2.0	YELLOW
614.0	PLEISTOCENE		CLAY	24.0	16.0	BLUE
590.0	PLEISTOCENE		CLAY	25.0	40.0	
565.0	PLEISTOCENE		GRAVEL	7.0	65.0	
558.0	PLEISTOCENE		CLAY	15.0	72.0	BLUE
543.0	PLEISTOCENE		BOULDER	3.0	87.0	
540.0	CARBONDALE		SHALE	10.0	90.0	
530.0	CARBONDALE		SHALE	38.0	100.0	
492.0	CARBONDALE		SHALE	2.0	138.0	
490.0	CARBONDALE	HOUCHIN CREEK	COAL	1.3	140.0	
488.7	CARBONDALE		SHALE	1.8	141.3	
487.0	CARBONDALE		LIMESTONE	0.5	143.0	
486.5	CARBONDALE		SHALE	1.5	143.5	LIGHT
485.0	CARBONDALE		LIMESTONE	2.0	145.0	
483.0	CARBONDALE		SHALE	6.0	147.0	
477.0	CARBONDALE	LOWELL	COAL	3.5	153.0	
473.5	CARBONDALE		SHALE	8.5	156.5	LIGHT
465.0	CARBONDALE		SHALE	4.0	165.0	LIGHT
461.0	CARBONDALE		SHALE	5.0	169.0	
456.0	CARBONDALE		SHALE	3.0	174.0	
453.0	CARBONDALE		SHALE	13.0	177.0	
440.0	CARBONDALE		SANDSTONE	8.0	190.0	
432.0	CARBONDALE		SANDSTONE	21.8	198.0	
410.2	CARBONDALE	COLCHESTER	COAL	1.2	219.8	
409.0	TRADEWATER		SHALE	0.5	221.0	
408.5	TRADEWATER		SHALE	12.5	221.5	BLUE
396.0	TRADEWATER		SHALE	5.7	234.0	DARK BROWN
390.3	TRADEWATER		COAL	0.7	239.7	
389.7	TRADEWATER		SANDSTONE	3.5	240.3	STREAKED WITH COAL
386.2	TRADEWATER		SHALE	2.2	243.8	LIGHT
384.0	TRADEWATER		SHALE	2.0	246.0	
382.0	TRADEWATER		SHALE	0.5	248.0	
381.5	TRADEWATER		SHALE	0.5	248.5	
381.0	TRADEWATER		SHALE	1.0	249.0	
380.0	TRADEWATER		SHALE	6.0	250.0	BLUE
374.0	TRADEWATER		SANDSTONE	4.0	256.0	

MAPID: 10500071000C

VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 26

QUARTERS/FOOTAGES: SE NE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.269375

GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N

LATITUDE: 41.049731

DATE COLLECTED:

SURFACE ELEVATION (FT.): 633.0

LOGGED (FT.): 220.3

LOG TYPE: Drillers Log

SOURCE:

WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.0	CARBONDALE	LOWELL	COAL	3.5	153.0	
476.5	CARBONDALE		UNCLASSIFIED	62.5	156.5	
414.0	CARBONDALE	COLCHESTER	COAL	1.3	219.0	

MAPID: 10500072000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 26

QUARTERS/FOOTAGES: SE/c NW NW NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.276693

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.051485

DATE COLLECTED: 0 / 0 / 1902

SURFACE ELEVATION (FT.): 628.0

LOGGED (FT.): 259.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 27

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
628.0	PLEISTOCENE		SOIL	2.0	0.0	
626.0	PLEISTOCENE		CLAY	12.0	2.0	YELLOW
614.0	PLEISTOCENE		CLAY	46.0	14.0	BLUE
568.0	PLEISTOCENE		GRAVEL	8.0	60.0	
560.0	PLEISTOCENE		CLAY	4.0	68.0	
556.0	PLEISTOCENE		SAND	8.5	72.0	
547.5	PLEISTOCENE		BOULDER	0.7	80.5	LIMESTONE BOULDER
546.8	PLEISTOCENE		GRAVEL	0.8	81.2	
546.0	PLEISTOCENE		BOULDER	4.0	82.0	
542.0	CARBONDALE		SHALE	24.0	86.0	
518.0	CARBONDALE		SHALE	38.0	110.0	
480.0	CARBONDALE	HOUCHIN CREEK	COAL	1.1	148.0	
478.9	CARBONDALE		SHALE	8.9	149.1	
470.0	CARBONDALE		SHALE	4.5	158.0	
465.5	CARBONDALE	LOWELL	COAL	2.8	162.5	
462.7	CARBONDALE		SHALE	6.8	165.3	LIGHT
456.0	CARBONDALE		SHALE	4.0	172.0	
452.0	CARBONDALE		SHALE	7.0	176.0	
445.0	CARBONDALE		SHALE	22.0	183.0	
423.0	CARBONDALE		SHALE	14.8	205.0	DARK BLUE
408.2	CARBONDALE		SHALE	3.3	219.8	
405.0	CARBONDALE		SHALE	1.0	223.0	
404.0	CARBONDALE		SANDSTONE	1.0	224.0	
403.0	CARBONDALE	COLCHESTER	COAL	1.2	225.0	
401.8	TRADEWATER		SHALE	2.8	226.2	
399.0	TRADEWATER		SANDSTONE	11.0	229.0	
388.0	TRADEWATER		SHALE	1.6	240.0	
386.4	TRADEWATER		COAL	0.2	241.6	
386.2	TRADEWATER		COAL	2.8	241.8	REDDISH BROWN
383.5	TRADEWATER		ROCK	1.0	244.5	BLUE
382.5	TRADEWATER		SHALE	3.5	245.5	BLUE
379.0	TRADEWATER		SHALE	2.5	249.0	BLUE
376.5	TRADEWATER		CARBONACEOUS SHALE	0.5	251.5	
376.0	TRADEWATER		SHALE	7.0	252.0	

MAPID: 10500073000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 26

QUARTERS/FOOTAGES: SE/c NE NE NE

QUADRANGLE: CAMPUS

LONGITUDE: -88.269427

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.051557

DATE COLLECTED:

SURFACE ELEVATION (FT.): 633.0

LOGGED (FT.): 233.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 28

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
633.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
631.0	PLEISTOCENE		CLAY	11.0	2.0	YELLOW
620.0	PLEISTOCENE		CLAY	55.0	13.0	BLUE
565.0	PLEISTOCENE		GRAVEL	4.0	68.0	
561.0	PLEISTOCENE		CLAY	16.0	72.0	
545.0	PLEISTOCENE		GRAVEL	6.0	88.0	
539.0	CARBONDALE		SHALE	11.0	94.0	LIGHT
528.0	CARBONDALE		SHALE	50.0	105.0	DARK BLUE
478.0	CARBONDALE		SHALE	2.6	155.0	
475.4	CARBONDALE	HOUCHIN CREEK	COAL	1.1	157.6	
474.3	CARBONDALE		SHALE	3.3	158.7	BLUE
471.0	CARBONDALE		LIMESTONE	2.0	162.0	
469.0	CARBONDALE		SHALE	4.0	164.0	BLUE
465.0	CARBONDALE		SHALE	4.8	168.0	DARK BLUE
460.2	CARBONDALE	LOWELL	COAL	3.3	172.8	
456.9	CARBONDALE		SHALE	7.9	176.1	LIGHT BLUE
449.0	CARBONDALE		SHALE	10.0	184.0	LIGHT
439.0	CARBONDALE		SHALE	6.0	194.0	BLUE
433.0	CARBONDALE	CARDIFF	COAL	1.3	200.0	
431.7	CARBONDALE	CARDIFF	PYRITE	0.2	201.3	
431.5	CARBONDALE	CARDIFF	COAL	5.5	201.5	
426.0	CARBONDALE	CARDIFF	COAL	3.1	207.0	
422.9	CARBONDALE		SHALE	0.4	210.1	
422.5	CARBONDALE		SANDSTONE	17.2	210.5	
405.3	CARBONDALE	COLCHESTER	COAL	2.7	227.7	
402.7			SHALE	0.5	230.3	RDSH
402.2			SHALE	2.2	230.8	LIGHT

MAPID: 10500074000C VERSION: 1 PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 27 QUARTERS/FOOTAGES: SE/c NW NW NE

QUADRANGLE: CAMPUS LONGITUDE: -88.296001 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.051267 DATE COLLECTED: 0 / 0 / 1898

SURFACE ELEVATION (FT.): 632.0 LOGGED (FT.): 261.0 LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. A(1) WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0			UNCLASSIFIED	216.0	0.0	
416.0			SHALE	1.0	216.0	
415.0			SHALE	11.0	217.0	
404.0			SANDSTONE	2.0	228.0	
402.0			SHALE	1.0	230.0	
401.0			COAL	0.7	231.0	
400.3			SANDSTONE	4.3	231.7	LOG SAYS 4.58 THICK
396.0			COAL	0.6	236.0	
395.4			SANDSTONE	3.4	236.6	WITH THIN COAL PARTINGS
392.0			SANDSTONE	7.0	240.0	
385.0			COAL	4.0	247.0	
381.0			CLAYSTONE & SILTSTONE	1.0	251.0	GRAY
380.0			COAL	1.0	252.0	
379.0			UNDERCLAY	7.0	253.0	
372.0			SHALE	1.0	260.0	

MAPID: 10500075000C

VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 27

QUARTERS/FOOTAGES: SE/c NW NW NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.305611

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.051142

DATE COLLECTED: 9 / 0 / 1908

SURFACE ELEVATION (FT.): 627.0

LOGGED (FT.): 135.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO.

1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
625.0	PLEISTOCENE		CLAY	3.0	2.0	
622.0	PLEISTOCENE		CLAY	9.0	5.0	
613.0	PLEISTOCENE		CLAY	46.0	14.0	BLUE
567.0	PLEISTOCENE		CLAY	10.0	60.0	
557.0	PLEISTOCENE		CLAY	15.0	70.0	BLUE
542.0	PLEISTOCENE		BOULDER	0.7	85.0	
541.3	PLEISTOCENE		GRAVEL	9.3	85.7	
532.0	PLEISTOCENE		SAND	3.0	95.0	
529.0	PLEISTOCENE		CLAY	8.0	98.0	
521.0	PLEISTOCENE		SAND	9.0	106.0	
512.0	PLEISTOCENE		CLAY	5.0	115.0	
507.0	PLEISTOCENE		SAND	8.0	120.0	
499.0	PLEISTOCENE		GRAVEL	1.0	128.0	
498.0	PLEISTOCENE		CLAY	2.0	129.0	
496.0	PLEISTOCENE		GRAVEL	2.0	131.0	
494.0			SHALE	2.0	133.0	BLUE

MAPID: 10500076000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 27

QUARTERS/FOOTAGES: 1' N line, 1' W line

QUADRANGLE: CAMPUS

LONGITUDE: -88.306849

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.052023

DATE COLLECTED: 9 / 0 / 1898

SURFACE ELEVATION (FT.): 627.0

LOGGED (FT.): 310.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 1

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
625.0	PLEISTOCENE		CLAY	5.0	2.0	
620.0	PLEISTOCENE		CLAY	7.0	7.0	
613.0	PLEISTOCENE		CLAY	46.0	14.0	BLUE
567.0	PLEISTOCENE		SAND	3.0	60.0	
564.0	PLEISTOCENE		SAND	2.0	63.0	
562.0	PLEISTOCENE		CLAY	6.0	65.0	BLUE
556.0	PLEISTOCENE		GRAVEL	2.0	71.0	
554.0	PLEISTOCENE		CLAY	9.0	73.0	BLUE
545.0	PLEISTOCENE		SAND	1.0	82.0	
544.0	PLEISTOCENE		CLAY	2.0	83.0	BLUE
542.0	PLEISTOCENE		BOULDER	0.4	85.0	LIMESTONE BOULDER
541.6	PLEISTOCENE		HARD PAN	1.6	85.4	
540.0	PLEISTOCENE		HARD PAN	8.0	87.0	
532.0	PLEISTOCENE		SAND	3.0	95.0	
529.0	PLEISTOCENE		CLAY	1.0	98.0	
528.0	PLEISTOCENE		SAND	13.0	99.0	
515.0	PLEISTOCENE		SAND	15.0	112.0	
500.0	PLEISTOCENE		SAND	4.0	127.0	
496.0	CARBONDALE		SHALE	6.0	131.0	BLUE
490.0	CARBONDALE		SHALE	1.5	137.0	BLUE
488.5	CARBONDALE	EXCELLO	SHALE	2.0	138.5	
486.5	CARBONDALE		UNDERCLAY	6.0	140.5	
480.5	CARBONDALE		UNDERCLAY	6.5	146.5	
474.0	CARBONDALE		SHALE	2.5	153.0	
471.5	CARBONDALE		SHALE	0.6	155.5	LIGHT
470.9	CARBONDALE	LOWELL	COAL	0.8	156.1	
470.1	CARBONDALE		SHALE	1.1	156.9	
469.0	CARBONDALE		UNDERCLAY	9.0	158.0	
460.0	CARBONDALE		SHALE	24.0	167.0	
436.0	CARBONDALE		SHALE	10.0	191.0	
426.0	CARBONDALE		SHALE	20.0	201.0	
406.0	CARBONDALE		SHALE	9.0	221.0	DARK BLUE
397.0	CARBONDALE	CARDIFF	COAL	1.8	230.0	
395.2	CARBONDALE	CARDIFF	SHALE	1.2	231.8	MIXED WITH COAL
394.0	CARBONDALE	CARDIFF	SHALE	0.3	233.0	LIGHT
393.7	CARBONDALE	CARDIFF	SHALE	1.0	233.3	MIXED WITH COAL
392.7	CARBONDALE		UNDERCLAY	2.7	234.3	
390.0	CARBONDALE		SHALE	2.0	237.0	

388.0	CARBONDALE		SHALE	3.0	239.0	LIGHT
385.0	CARBONDALE		LIMESTONE	2.0	242.0	
383.0	CARBONDALE		SHALE	2.0	244.0	
381.0	CARBONDALE	COLCHESTER	COAL	0.7	246.0	NO. 2
380.3	CARBONDALE	COLCHESTER	COAL	0.3	246.7	
380.0	CARBONDALE	COLCHESTER	SHALE	0.7	247.0	
379.3	CARBONDALE	COLCHESTER	COAL	0.2	247.7	
379.2	TRADEWATER		SHALE	1.2	247.8	
378.0	TRADEWATER		LIMESTONE	2.0	249.0	
376.0	TRADEWATER		LIMESTONE	2.0	251.0	
374.0	TRADEWATER		SANDSTONE	3.0	253.0	
371.0	TRADEWATER		ROCK	1.0	256.0	DARK
370.0	TRADEWATER		SHALE	17.0	257.0	LIGHT
353.0	TRADEWATER		SHALE	4.0	274.0	
349.0	TRADEWATER		COAL	0.4	278.0	
348.6	TRADEWATER		SHALE	2.6	278.4	LIGHT
346.0	ORDOVICIAN		LIMESTONE	2.0	281.0	
344.0	ORDOVICIAN		SHALE	1.0	283.0	LIGHT
343.0	ORDOVICIAN		CONGLOMERATE	3.0	284.0	
340.0	ORDOVICIAN		LIMESTONE	1.0	287.0	
339.0	ORDOVICIAN		LIMESTONE	12.0	288.0	
327.0	ORDOVICIAN		LIMESTONE	10.0	300.0	

MAPID: 10500076000C VERSION: 2

PROJECT: NCRDS87

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 27 QUARTERS/FOOTAGES: 1' N line, 1' W line

QUADRANGLE: CAMPUS LONGITUDE: -88.306849 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 41.052023 DATE COLLECTED: 9 / 0 / 1898

SURFACE ELEVATION (FT.): 627.0 LOGGED (FT.): 310.0 LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.0			UNCONSOLIDATED	131.0	0.0	
496.0			SHALE	7.5	131.0	
488.5			BLACK SHALE	2.0	138.5	
486.5			UNDERCLAY	12.5	140.5	
474.0			BLACK SHALE	2.5	153.0	
471.5			SHALE	0.6	155.5	
470.9			COAL	0.8	156.1	
470.1			DARK SHALE	1.1	156.9	
469.0			UNDERCLAY	9.0	158.0	
460.0			UNCLASSIFIED	34.0	167.0	
426.0			GRAY SHALE	20.0	201.0	
406.0			DARK SHALE	9.0	221.0	
397.0			COAL	1.8	230.0	
395.2			BLACK SHALE	1.2	231.8	MIXED WITH COAL
394.0			SHALE	0.3	233.0	
393.7			BLACK SHALE	1.0	233.3	MIXED WITH COAL
392.7			UNDERCLAY	2.7	234.3	
390.0			SHALE	5.0	237.0	
385.0			LIMESTONE	2.0	242.0	
383.0			DARK SHALE	2.0	244.0	
381.0	CARBONDALE	COLCHESTER	COAL WITH SHALE PARTINGS	1.8	246.0	
379.2			SHALE	1.2	247.8	
378.0			UNCLASSIFIED	2.0	249.0	
376.0			LIMESTONE	2.0	251.0	
374.0			SANDSTONE	3.0	253.0	
371.0			UNCLASSIFIED	1.0	256.0	
370.0			SHALE	17.0	257.0	
353.0			BLACK SHALE	4.0	274.0	
349.0			COAL	0.4	278.0	
348.6			SHALE	2.6	278.4	
346.0			LIMESTONE	2.0	281.0	
344.0			SHALE	1.0	283.0	
343.0			CONGLOMERATE	3.0	284.0	TOP OF MISS?
340.0			LIMESTONE	23.0	287.0	

MAPID: 10500077000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 27

QUARTERS/FOOTAGES: SE/c NW NE NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.300808

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.051204

DATE COLLECTED: 0 / 0 / 1899

SURFACE ELEVATION (FT.): 627.0

LOGGED (FT.): 232.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 12

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.0	PLEISTOCENE		CLAY	45.0	0.0	
582.0	PLEISTOCENE		CLAY	15.0	45.0	
567.0	PLEISTOCENE		GRAVEL	25.0	60.0	
542.0	CARBONDALE		ROCK	3.0	85.0	SHELLROCK NOTED
539.0	CARBONDALE		SHALE	27.0	88.0	
512.0	CARBONDALE		ROCK	2.0	115.0	GRAVEL
510.0	CARBONDALE		SHALE	29.0	117.0	
481.0	CARBONDALE		SANDSTONE	4.0	146.0	
477.0	CARBONDALE		SHALE	15.0	150.0	
462.0	CARBONDALE		SHALE	3.0	165.0	
459.0	CARBONDALE	EXCELLO	BLACK SHALE	3.5	168.0	
455.5	CARBONDALE		PYRITE	0.3	171.5	
455.2	CARBONDALE	HOUCHIN CREEK	COAL	1.1	171.8	
454.2	CARBONDALE		LIMESTONE	6.2	172.8	
448.0	CARBONDALE		LIMESTONE	1.0	179.0	
447.0	CARBONDALE		SHALE	1.5	180.0	
445.5	CARBONDALE		SHALE	1.0	181.5	LIGHT
444.5	CARBONDALE		SHALE	1.5	182.5	
443.0	CARBONDALE		BLACK SHALE	2.5	184.0	
440.5	CARBONDALE	LOWELL	COAL	3.5	186.5	
437.0	CARBONDALE		SHALE	1.0	190.0	
436.0	CARBONDALE		UNDERCLAY	5.0	191.0	
431.0	CARBONDALE		LIMESTONE	1.5	196.0	
429.5	CARBONDALE		UNDERCLAY	4.5	197.5	
425.0	CARBONDALE		SHALE	2.0	202.0	
423.0	CARBONDALE		SHALE	7.5	204.0	
415.5	CARBONDALE		SHALE	0.5	211.5	
415.0	CARBONDALE	CARDIFF	COAL	3.0	212.0	
412.0	CARBONDALE	CARDIFF	PYRITE	0.2	215.0	
411.8	CARBONDALE	CARDIFF	COAL	1.3	215.2	LOG SAYS 1.17' THICK
410.5	CARBONDALE	CARDIFF	SHALE	0.3	216.5	LIGHT
410.2	CARBONDALE	CARDIFF	COAL	1.7	216.8	
408.5	CARBONDALE	CARDIFF	SHALE	3.0	218.5	WITH COAL PARTINGS
405.5	CARBONDALE	CARDIFF	COAL	3.5	221.5	GOOD
402.0	CARBONDALE		SHALE	2.0	225.0	WITH COAL PARTINGS
400.0	CARBONDALE		ROCK	0.7	227.0	CONGLOMERATE
399.3	CARBONDALE		SHALE	0.3	227.7	LIGHT
399.0	CARBONDALE		SHALE	0.2	228.0	
398.8	CARBONDALE	COLCHESTER	COAL	3.2	228.2	

395.7

SHALE

0.7

231.3

MAPID: 10500078000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 27

QUARTERS/FOOTAGES: SE/c NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.301894

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.048485

DATE COLLECTED: 1 / 0 / 1899

SURFACE ELEVATION (FT.): 632.0

LOGGED (FT.): 251.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 13

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.0	PLEISTOCENE		CLAY	33.0	0.0	
599.0	PLEISTOCENE		CLAY	12.0	33.0	
587.0	PLEISTOCENE		CLAY	20.0	45.0	BLUE
567.0	PLEISTOCENE		GRAVEL	5.0	65.0	
562.0	PLEISTOCENE		CLAYSTONE & SHALE	10.0	70.0	SOAPSTONE NOTED
552.0	PLEISTOCENE		CLAY	2.0	80.0	
550.0	PLEISTOCENE		GRAVEL	3.0	82.0	
547.0	PLEISTOCENE		CLAY	5.0	85.0	
542.0	PLEISTOCENE		BOULDER	1.0	90.0	LIMESTONE NOTED
541.0	PLEISTOCENE		GRAVEL	5.0	91.0	
536.0	PLEISTOCENE		BOULDER	1.0	96.0	LIMESTONE NOTED
535.0	PLEISTOCENE		GRAVEL	3.0	97.0	
532.0	PLEISTOCENE		GRAVEL	5.0	100.0	BLUE
527.0	PLEISTOCENE		CLAYSTONE & SHALE	8.0	105.0	SOAPSTONE NOTED
519.0	PLEISTOCENE		SAND	1.0	113.0	
518.0	PLEISTOCENE		GRAVEL	4.0	114.0	
514.0	PLEISTOCENE		CLAYSTONE & SHALE	2.0	118.0	SOAPSTONE NOTED
512.0	PLEISTOCENE		GRAVEL	4.0	120.0	
508.0	CARBONDALE		SHALE	8.0	124.0	
500.0	CARBONDALE		SANDSTONE	6.0	132.0	
494.0	CARBONDALE		SHALE	5.0	138.0	
489.0	CARBONDALE		SHALE	4.0	143.0	
485.0	CARBONDALE		SHALE	4.0	147.0	
481.0	CARBONDALE		SHALE	1.0	151.0	
480.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	152.0	
478.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	154.0	
477.0	CARBONDALE		UNDERCLAY	8.0	155.0	
469.0	CARBONDALE		SHALE	2.0	163.0	
467.0	CARBONDALE		UNCLASSIFIED	1.0	165.0	"HYDRAULIC ROCK" NOTED
466.0	CARBONDALE		SHALE	0.5	166.0	
465.5	CARBONDALE	LOWELL	COAL	1.7	166.5	
463.8	CARBONDALE		LIMESTONE	2.3	168.2	
461.5	CARBONDALE		UNDERCLAY	9.5	170.5	
452.0	CARBONDALE		SHALE	6.0	180.0	LIGHT
446.0	CARBONDALE		SHALE	21.0	186.0	
425.0	CARBONDALE		SHALE	23.0	207.0	
402.0	CARBONDALE		SANDSTONE	14.2	230.0	
387.8	CARBONDALE	COLCHESTER	COAL	3.0	244.2	
384.8			SHALE	0.8	247.2	

384.0

UNDERCLAY

3.0

248.0

MAPID: 10500079000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON

TWP/RNG: 30N 8E

SECTION: 27

QUARTERS/FOOTAGES: SW NW NW

QUADRANGLE: CAMPUS

LONGITUDE: -88.30553

GEOLOGIST: C.KOROSE

CONFIDENTIAL: N

LATITUDE: 41.049343

DATE COLLECTED:

SURFACE ELEVATION (FT.): 631.0

LOGGED (FT.): 239.0

LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 14

WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
631.0	PLEISTOCENE		SOIL	2.0	0.0	BLACK
629.0	PLEISTOCENE		SOIL	4.0	2.0	YELLOW
625.0	PLEISTOCENE		CLAY	16.0	6.0	BLUE
609.0	PLEISTOCENE		CLAY	4.0	22.0	BLUE
605.0	PLEISTOCENE		CLAY	44.0	26.0	BLUE
561.0	PLEISTOCENE		SAND	10.0	70.0	
551.0	PLEISTOCENE		CLAY	4.0	80.0	BLUE
547.0	PLEISTOCENE		CLAY	1.0	84.0	
546.0	PLEISTOCENE		BOULDER	1.0	85.0	LIMESTONE NOTED
545.0	PLEISTOCENE		HARD PAN	2.0	86.0	
543.0	PLEISTOCENE		HARD PAN	5.0	88.0	
538.0	PLEISTOCENE		SAND	4.0	93.0	
534.0	PLEISTOCENE		SAND	16.0	97.0	
518.0	PLEISTOCENE		CLAY	1.0	113.0	
517.0	PLEISTOCENE		SAND	12.0	114.0	
505.0	PLEISTOCENE		SAND	1.0	126.0	
504.0	CARBONDALE		SHALE	11.0	127.0	LIGHT
493.0	CARBONDALE		SHALE	13.0	138.0	
480.0	CARBONDALE		SHALE	18.0	151.0	
462.0	CARBONDALE		SHALE	7.0	169.0	
455.0	CARBONDALE	EXCELLO	BLACK SHALE	2.0	176.0	
453.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	178.0	
452.0	CARBONDALE		UNDERCLAY	10.0	179.0	
442.0	CARBONDALE		BLACK SHALE	1.7	189.0	
440.3	CARBONDALE	LOWELL	COAL	3.6	190.7	
436.7	CARBONDALE		SHALE	11.8	194.3	LIGHT
425.0	CARBONDALE		SHALE	1.0	206.0	
424.0	CARBONDALE		SHALE	12.0	207.0	
412.0	CARBONDALE	CARDIFF	COAL	3.5	219.0	
408.5	CARBONDALE	CARDIFF	SHALE	0.5	222.5	LIGHT
408.0	CARBONDALE	CARDIFF	COAL	1.0	223.0	
407.0	CARBONDALE	CARDIFF	SHALE	2.0	224.0	
405.0	CARBONDALE	CARDIFF	SHALE	1.0	226.0	
404.0	CARBONDALE	CARDIFF	COAL	3.3	227.0	
400.7	CARBONDALE		SHALE	4.7	230.3	
396.0	CARBONDALE	COLCHESTER	COAL	3.0	235.0	
393.0			SHALE	1.0	238.0	LIGHT

MAPID: 10500079000C **VERSION:** 2 **PROJECT:** RJJ-NCILL
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 27 **QUARTERS/FOOTAGES:** SW NW NW
QUADRANGLE: CAMPUS **LONGITUDE:** -88.30553 **GEOLOGIST:** JACOBSON,R
CONFIDENTIAL: N **LATITUDE:** 41.049343 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): 632.0 **LOGGED (FT.):** 238.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Coal Test
COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
454.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	178.0	
453.0	CARBONDALE		UNCLASSIFIED	11.0	179.0	
442.0	CARBONDALE	LOWELL	COAL	3.6	190.0	
438.4	CARBONDALE		UNCLASSIFIED	41.4	193.6	
397.0	CARBONDALE	COLCHESTER	COAL	3.0	235.0	

MAPID: 10500080000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 27 **QUARTERS/FOOTAGES:** SE/c NW
QUADRANGLE: CAMPUS **LONGITUDE:** -88.301894 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.048485 **DATE COLLECTED:**
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 236.0 **LOG TYPE:** Drillers Log
SOURCE: STAR COAL CO. **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	55.0	0.0	
-	PLEISTOCENE		SILT	5.0	55.0	
-	PLEISTOCENE		CLAY	33.5	60.0	
-	PLEISTOCENE		GRAVEL	6.5	93.5	
-	CARBONDALE		SHALE	1.0	100.0	
-	CARBONDALE	EXCELLO	SANDSTONE	5.3	101.0	
-	CARBONDALE		BLACK SHALE	70.7	106.3	
-	CARBONDALE		BLACK SHALE	3.0	176.9	
-	CARBONDALE		BLACK SHALE	1.5	179.9	MIXED WITH COAL
-	CARBONDALE		UNDERCLAY	2.5	181.4	
-	CARBONDALE	LOWELL	SHALE	9.6	183.9	
-	CARBONDALE		SHALE	3.0	193.5	
-	CARBONDALE		COAL	3.8	196.5	
-	CARBONDALE		UNDERCLAY	4.0	200.3	
-	CARBONDALE		SHALE	6.5	204.3	
-	CARBONDALE	CARDIFF	ROCK	1.0	210.8	HARD
-	CARBONDALE		SHALE	10.3	211.8	DARK
-	CARBONDALE		COAL	3.5	222.0	
-	CARBONDALE		CLAYSTONE & SILTSTONE	1.8	225.5	
-	CARBONDALE		COAL	7.5	227.3	
-	CARBONDALE		UNDERCLAY	1.3	234.8	

MAPID: 10500492000C **VERSION:** 1 **PROJECT:** NCRDS96
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 27 **QUARTERS/FOOTAGES:** NW/c SW SE NW
QUADRANGLE: CAMPUS **LONGITUDE:** -88.300581 **GEOLOGIST:** C.KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.045796 **DATE COLLECTED:** 1 / 0 / 1899
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 87.0 **LOG TYPE:** Drillers Log
SOURCE: CARDIFF COAL CO. 15 **WELL TYPE:** Dry Hole
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
636.0	PLEISTOCENE		CLAY	27.0	0.0	
609.0	PLEISTOCENE		CLAY	10.0	27.0	BLUE
599.0	PLEISTOCENE		CLAY	29.0	37.0	BLUE
570.0	PLEISTOCENE		BOULDER	2.0	66.0	LIMESTONE BOULDER
568.0	PLEISTOCENE		GRAVEL	4.0	68.0	
564.0	PLEISTOCENE		CLAY	13.0	72.0	
551.0			ROCK	2.0	85.0	SHELLROCK NOTED

MAPID: 10581133000C **VERSION:** 1 **PROJECT:** NCRDS02
COUNTY: LIVINGSTON **TWP/RNG:** 30N 8E **SECTION:** 27 **QUARTERS/FOOTAGES:** 1' N line, 1' E line of NE SE NE
QUADRANGLE: CAMPUS **LONGITUDE:** -88.28751 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.048655 **DATE COLLECTED:** 9 / 19 / 1970
SURFACE ELEVATION (FT.): 636.0 **LOGGED (FT.):** 126.0 **LOG TYPE:** Drillers Log
SOURCE: AYRSHIRE 265 **WELL TYPE:** Coal Test
COMMENT: BOX 44

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
636.0	PLEISTOCENE		UNCONSOLIDATED	86.0	0.0	
550.0	CARBONDALE		SANDY SHALE	4.0	86.0	
546.0	CARBONDALE		SANDSTONE	3.0	90.0	HARD
543.0	CARBONDALE		SANDSTONE	7.0	93.0	SOFT
536.0	CARBONDALE		SHALE WITH LIMESTONE	4.0	100.0	
532.0	CARBONDALE		SHALE	2.0	104.0	
530.0	CARBONDALE		LIMESTONE	1.0	106.0	
529.0	CARBONDALE		SANDY SHALE	3.0	107.0	
526.0	CARBONDALE		LIMESTONE	0.5	110.0	
525.5	CARBONDALE		SANDY SHALE	3.5	110.5	
522.0	CARBONDALE		SHALE & SANDSTONE	12.0	114.0	

MAPID: 10500081000C VERSION: 1

PROJECT: NCRDS96

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 28 QUARTERS/FOOTAGES: SE

QUADRANGLE: CAMPUS LONGITUDE: -88.311136 GEOLOGIST: C.KOROSE

CONFIDENTIAL: N LATITUDE: 41.041162 DATE COLLECTED: 0 / 0 / 1896

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 242.1 LOG TYPE: Drillers Log

SOURCE: CARDIFF COAL CO. 32 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.0	PLEISTOCENE		UNCONSOLIDATED	85.0	0.0	
555.0	CARBONDALE		SANDSTONE	15.0	85.0	
540.0	CARBONDALE		SANDSTONE	5.0	100.0	
535.0	CARBONDALE		SANDSTONE	10.0	105.0	
525.0	CARBONDALE		SANDSTONE	7.0	115.0	WITH DRIFT COAL
518.0	CARBONDALE		SANDSTONE	30.0	122.0	
488.0	CARBONDALE	EXCELLO	BLACK SHALE	5.0	152.0	
483.0	CARBONDALE	HOUCHIN CREEK	COAL	2.0	157.0	
481.0	CARBONDALE		PYRITE	2.0	159.0	
479.0	CARBONDALE		UNDERCLAY	4.0	161.0	
475.0	CARBONDALE		SANDSTONE	4.0	165.0	
471.0	CARBONDALE	LOWELL	COAL	2.5	169.0	
468.5	CARBONDALE		UNDERCLAY	5.0	171.5	
463.5	CARBONDALE		SANDSTONE	2.0	176.5	
461.5	CARBONDALE		BLACK SHALE	3.0	178.5	
458.5	CARBONDALE		SANDSTONE	2.0	181.5	
456.5	CARBONDALE		BLACK SHALE	5.0	183.5	
451.5	CARBONDALE		SANDSTONE	13.0	188.5	
438.5	CARBONDALE		BLACK SHALE	7.0	201.5	
431.5	CARBONDALE		SANDSTONE	15.0	208.5	
416.5	CARBONDALE	CARDIFF	COAL	1.9	223.5	
414.6	CARBONDALE	CARDIFF	BLACK SHALE	3.0	225.4	
411.6	CARBONDALE	CARDIFF	COAL	4.3	228.4	
407.3	CARBONDALE	CARDIFF	SANDSTONE	4.0	232.7	
403.3	CARBONDALE	CARDIFF	COAL	5.4	236.7	

MAPID: 10500081000C VERSION: 2

PROJECT: RJJ-NCILL

COUNTY: LIVINGSTON TWP/RNG: 30N 8E SECTION: 28 QUARTERS/FOOTAGES: SE

QUADRANGLE: CAMPUS LONGITUDE: -88.311136 GEOLOGIST: JACOBSON,R

CONFIDENTIAL: N LATITUDE: 41.041162 DATE COLLECTED:

SURFACE ELEVATION (FT.): 640.0 LOGGED (FT.): 171.5 LOG TYPE: Drillers Log

SOURCE: WELL TYPE: Coal Test

COMMENT: GOOD LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
471.0	CARBONDALE	LOWELL	COAL	2.5	169.0	