

Status Report

Total Records: 30

Top 3 County Records		Top 3 Log Type Records		Top 3 Coal Records		Top 3 Member Records	
Marshall	30	Drillers Log	26	COLCHESTER	12	COLCHESTER COAL	12
		Survey Sample Study	3	SPRINGFIELD	7	TURNER MINE BLACK SHALE	8
		Survey Core Study	1	HOUCHIN CREEK	6	SPRINGFIELD COAL	7

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
BRUSH		237.7	237.7	237.7	1.0	1.0	1.0
MT. CARMEL	SANDSTONE	113.5	113.5	113.5	7.0	7.0	7.0
CARTHAGE	LIMESTONE	170.5	170.5	170.5	11.0	11.0	11.0
MACOUPIN	LIMESTONE	209.5	209.5	209.5	2.0	2.0	2.0
GIMLET	SANDSTONE	251.5	251.5	251.5	30.0	30.0	30.0
DANVILLE	COAL	307.3	271.0	334.0	3.5	3.0	4.3
COPPERAS CREEK	SANDSTONE	18.0	18.0	18.0	3.6	3.6	3.6
ANNA	SHALE	143.9	21.6	328.0	6.0	2.0	14.0
HERRIN	COAL	246.6	23.7	342.0	2.3	0.9	5.0
VERMILIONVILLE	SANDSTONE	33.1	33.1	33.1	5.2	5.2	5.2
CANTON	SHALE	42.5	38.3	46.6	37.2	28.3	46.0
TURNER MINE	SHALE	252.8	46.7	483.8	4.7	1.5	10.0
SPRINGFIELD	COAL	323.0	50.5	490.0	2.0	0.1	5.0
HANOVER	LIMESTONE	94.6	83.7	105.4	1.7	0.4	3.0
EXCELLO	SHALE	281.6	84.0	499.4	4.2	2.5	5.3
HOUCHIN CREEK	COAL	333.9	87.0	517.0	1.3	0.4	2.9
PLEASANTVIEW	SANDSTONE	91.0	91.0	91.0	59.9	59.9	59.9
PURINGTON	SHALE	154.8	150.9	158.7	18.6	17.2	19.9
LOWELL	COAL	536.2	536.2	536.2	0.3	0.3	0.3
OAK GROVE	LIMESTONE	162.2	142.6	181.7	5.2	0.3	10.0
MECCA QUARRY	SHALE	312.8	152.6	557.6	4.7	0.3	14.2
FRANCIS CREEK	SANDSTONE	331.5	155.9	562.0	11.7	3.1	17.7
COLCHESTER	COAL	343.4	170.2	575.0	2.3	0.5	5.0
BROWNING	SANDSTONE	205.4	205.4	205.4	5.2	5.2	5.2
ABINGDON	COAL	211.9	211.9	211.9	0.3	0.3	0.3
ISABEL	SANDSTONE	216.3	216.3	216.3	16.8	16.8	16.8
GREENBUSH	COAL	233.4	233.4	233.4	2.1	2.1	2.1
WILEY	COAL	242.8	242.8	242.8	0.7	0.7	0.7
HERMON	COAL	257.5	245.8	269.1	0.8	0.7	0.8
ROCK ISLAND	COAL	260.4	249.0	271.7	0.3	0.2	0.3

POPE CREEK	COAL	279.5	279.5	279.5	0.5	0.5	0.5
TARTER	COAL	284.3	284.3	284.3	0.1	0.1	0.1
BABYLON	SANDSTONE	289.5	289.5	289.5	5.5	5.5	5.5
				Net Coal	16.4		

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: 12321008000C **VERSION:** 1 **PROJECT:** NCRDS
COUNTY: MARSHALL **TWP/RNG:** 12N 9E **SECTION:** 2 **QUARTERS/FOOTAGES:** NW NW SE SE
QUADRANGLE: LACON **LONGITUDE:** -89.432071 **GEOLOGIST:** LOUCHIOS
CONFIDENTIAL: N **LATITUDE:** 41.049315 **DATE COLLECTED:** 8 / 9 / 2002
SURFACE ELEVATION (FT.): 510.0 **LOGGED (FT.):** 299.5 **LOG TYPE:** Survey Sample Study
SOURCE: ISGS IL29-BR1 **WELL TYPE:** Stratigraphic Test
COMMENT: CORRELATIONS BY C. P. WEIBEL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.0	SHELburn		UNCONSOLIDATED	10.0	0.0	
500.0	SHELburn		SHALE	6.0	10.0	COMPACTED
494.0	SHELburn		SANDSTONE/SHALE	2.0	16.0	INTERBEDDED
492.0	SHELburn	COPPERAS CREEK	SANDSTONE	3.6	18.0	
488.4	CARBONDALE	ANNA	BLACK SHALE	2.1	21.6	
486.3	CARBONDALE	HERRIN	COAL	0.9	23.7	
485.4	CARBONDALE		CLAYSTONE & SILTSTONE	0.8	24.6	
484.6	CARBONDALE		MUDSTONE	4.6	25.4	
480.0	CARBONDALE		CORE LOSS	0.8	30.0	
479.2	CARBONDALE		SANDSTONE	0.3	30.8	
478.9	CARBONDALE		SHALE	2.0	31.1	
476.9	CARBONDALE	VERMILIONVILLE	SANDSTONE	5.2	33.1	
471.7	CARBONDALE	CANTON	SHALE	46.0	38.3	
425.7	CARBONDALE		SHALE	6.6	84.3	
419.1	CARBONDALE	TURNER MINE	BLACK SHALE	6.2	90.9	
412.9	CARBONDALE		MUDSTONE	7.4	97.1	
405.5	CARBONDALE		SHALE	0.9	104.5	
404.6	CARBONDALE	HANOVER	LIMESTONE	0.4	105.4	

404.2	CARBONDALE	EXCELLO	SHALE	5.3	105.8	
398.9	CARBONDALE		SHALE	1.1	111.1	
397.8	CARBONDALE		LIMESTONE	3.3	112.2	
394.5	CARBONDALE		SILTSTONE	43.2	115.5	
351.3	CARBONDALE	PURINGTON	SHALE	17.2	158.7	
334.1	CARBONDALE	MECCA QUARRY	BLACK SHALE	14.2	175.9	
318.9	CARBONDALE	FRANCIS CREEK	SHALE	3.1	191.1	
316.8	CARBONDALE	COLCHESTER	COAL	2.5	193.2	
314.3	CARBONDALE		MUDSTONE	9.7	195.7	
304.6	CARBONDALE	BROWNING	SANDSTONE	5.2	205.4	
299.4	CARBONDALE		SHALE	5.5	210.6	
293.9	CARBONDALE		CHERT	0.2	216.1	
293.7	CARBONDALE	ISABEL	SANDSTONE	16.8	216.3	
276.9	CARBONDALE		SHALE	0.3	233.1	
276.6	CARBONDALE	GREENBUSH	COAL	2.1	233.4	
274.5	CARBONDALE		MUDSTONE	7.3	235.5	
267.2	CARBONDALE	WILEY	COAL	0.7	242.8	UNCERTAIN CORRELATION
266.5	TRADEWATER		CLAY & SHALE	19.4	243.5	
247.1	TRADEWATER		SHALE & SANDSTONE	6.2	262.9	
240.9	TRADEWATER	HERMON	COAL	0.7	269.1	UNCERTAIN CORRELATION
240.2	TRADEWATER		SHALE	1.9	269.8	
238.3	TRADEWATER	ROCK ISLAND	COAL	0.3	271.7	UNCERTAIN CORRELATION
238.0	TRADEWATER		SILTSTONE	3.3	272.0	
234.7	TRADEWATER		SILTSTONE & SHALE	0.6	275.3	INTERBEDDED
234.1	TRADEWATER		SHALE	3.6	275.9	
230.5	TRADEWATER	POPE CREEK	COAL	0.5	279.5	UNCERTAIN CORRELATION
230.0	TRADEWATER		MUDSTONE	2.3	280.0	
227.7	TRADEWATER		SHALE	2.0	282.3	
225.7	TRADEWATER	TARTER	COAL	0.1	284.3	UNCERTAIN CORRELATION
225.6	TRADEWATER		MUDSTONE	0.5	284.4	
225.1	TRADEWATER		SILTY SHALE	4.6	284.9	
220.5	TRADEWATER	BABYLON	SANDSTONE	5.5	289.5	
215.0	TRADEWATER		SHALE	4.5	295.0	NEW ALBANY SHALE; DEV- PENN UNCONFORMITY

MAPID: 12321009000C VERSION: 1

PROJECT: NCRDS

COUNTY: MARSHALL TWP/RNG: 12N 9E SECTION: 2 QUARTERS/FOOTAGES: NW SW NE SE

QUADRANGLE: LACON LONGITUDE: -89.432076 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 41.051122 DATE COLLECTED: 8 / 14 / 2002

SURFACE ELEVATION (FT.): 610.0 LOGGED (FT.): 118.0 LOG TYPE: Survey Sample Study

SOURCE: ISGS IL29-BR2 WELL TYPE: Stratigraphic Test

COMMENT: CORRELATED BY C. P. WEIBEL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
610.0			LOESS	5.0	0.0
605.0			GLACIAL DRIFT	18.3	5.0
586.7			SAND	0.3	23.3
586.4			GLACIAL DRIFT	2.9	23.6
583.5			SAND	0.5	26.5
583.0			GLACIAL DRIFT	13.1	27.0
569.9			SILTSTONE	16.4	40.1
553.5			SHALE	57.8	56.5
495.7			MUDSTONE	1.7	114.3
494.0			SHALE	2.0	116.0

MAPID: 12321010000C VERSION: 1

PROJECT: NCRDS

COUNTY: MARSHALL TWP/RNG: 12N 9E SECTION: 23 QUARTERS/FOOTAGES: NW SE SW

QUADRANGLE: LACON LONGITUDE: -89.442791 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 41.005253 DATE COLLECTED: 8 / 21 / 2002

SURFACE ELEVATION (FT.): 460.0 LOGGED (FT.): 249.2 LOG TYPE: Survey Sample Study

SOURCE: ISGS IL29-BR3 WELL TYPE: Stratigraphic Test

COMMENT: CORRELATED BY C. P. WEIBEL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
460.0			SAND	23.0	0.0	
437.0	CARBONDALE		SHALE	8.4	23.0	
428.6	CARBONDALE		LIMESTONE	0.3	31.4	
428.3	CARBONDALE		SHALE & SANDSTONE	13.5	31.7	INTERBEDDED
414.8	CARBONDALE		BLACK SHALE	1.4	45.2	
413.4	CARBONDALE	CANTON	SHALE	28.3	46.6	
385.1	CARBONDALE	TURNER MINE	BLACK SHALE	3.2	74.9	
381.9	CARBONDALE	SPRINGFIELD	COAL	0.3	78.1	
381.6	CARBONDALE		MUDSTONE	2.1	78.4	
379.5	CARBONDALE		SHALE	3.2	80.5	
376.3	CARBONDALE	HANOVER	LIMESTONE	3.0	83.7	UNCERTAIN CORRELATION
376.0	CARBONDALE	EXCELLO	SHALE	3.0	84.0	
373.0	CARBONDALE	HOUCHIN CREEK	COAL	0.4	87.0	
372.6	CARBONDALE		MUDSTONE	3.6	87.4	
369.0	CARBONDALE	PLEASANTVIEW	SANDSTONE	15.0	91.0	
354.0	CARBONDALE	PLEASANTVIEW	SILTSTONE	44.9	106.0	
309.1	CARBONDALE	PURINGTON	SHALE	19.9	150.9	
289.2	CARBONDALE		SHALE	10.9	170.8	
278.3	CARBONDALE	OAK GROVE	LIMESTONE	0.3	181.7	
278.0	CARBONDALE	MECCA QUARRY	BLACK SHALE	4.3	182.0	
273.7	CARBONDALE	FRANCIS CREEK	SHALE	17.7	186.3	
256.0	CARBONDALE	COLCHESTER	COAL	0.5	204.0	
255.5	CARBONDALE		LIMESTONE	0.5	204.5	
255.0	CARBONDALE		MUDSTONE	2.2	205.0	
252.8	CARBONDALE		SILTSTONE	2.1	207.2	
250.7	CARBONDALE		SHALE	2.6	209.3	
248.1	CARBONDALE	ABINGDON	COAL	0.3	211.9	UNCERTAIN CORRELATION
247.8	CARBONDALE		SILTSTONE	5.1	212.2	
242.7			SHALE	11.8	217.3	
230.9			MUDSTONE	2.6	229.1	
228.3			SILTSTONE	1.7	231.7	
226.6			MUDSTONE	3.8	233.4	
222.8			SHALE	0.5	237.2	
222.3	TRADEWATER	BRUSH	COAL	1.0	237.7	UNCERTAIN CORRELATION
221.3	TRADEWATER		MUDSTONE	6.2	238.7	
215.1	TRADEWATER		SHALE	0.9	244.9	
214.2	TRADEWATER	HERMON	COAL	0.8	245.8	UNCERTAIN CORRELATION
213.4	TRADEWATER		SILTSTONE	2.4	246.6	
211.0	TRADEWATER	ROCK ISLAND	COAL	0.2	249.0	UNCERTAIN CORRELATION



MAPID: 12300038000C VERSION: 1

PROJECT: NCRDS87

COUNTY: MARSHALL TWP/RNG: 12N 9E SECTION: 26 QUARTERS/FOOTAGES: NW NE NW

QUADRANGLE: LACON LONGITUDE: -89.442001 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 41.001471 DATE COLLECTED: 12 / 17 / 1959

SURFACE ELEVATION (FT.): 446.9 LOGGED (FT.): 252.3 LOG TYPE: Survey Core Study

SOURCE: HYDRAULIC PRESS BRICK CO. WELL TYPE: Diamond Drill

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
446.9			UNCONSOLIDATED	43.0	0.0
403.9	CARBONDALE		GRAY SHALE	3.7	43.0
400.2	CARBONDALE	TURNER MINE	BLACK SHALE	3.8	46.7
396.4	CARBONDALE	SPRINGFIELD	COAL	0.1	50.5
396.3	CARBONDALE		BLACK SHALE	0.5	50.6
395.8	CARBONDALE		DARK SHALE	2.2	51.1
393.6	CARBONDALE		LIMESTONE	0.4	53.3
393.2	CARBONDALE		GRAY SHALE	0.1	53.7
393.1	CARBONDALE		LIMESTONE	0.4	53.8
392.7	CARBONDALE		GRAY SHALE	1.3	54.2
391.4	CARBONDALE		LIMESTONE	0.4	55.5
391.0	CARBONDALE		DARK SHALE	1.5	55.9
389.5	CARBONDALE		LIMESTONE	0.2	57.4
389.3	CARBONDALE		SHALE	6.9	57.6
382.4	CARBONDALE		SILTSTONE	5.1	64.5
377.3	CARBONDALE		SHALE	73.0	69.6
304.3	CARBONDALE	OAK GROVE	LIMESTONE	0.3	142.6
304.0	CARBONDALE	OAK GROVE	DARK SHALE	2.4	142.9
301.6	CARBONDALE	OAK GROVE	LIMESTONE	0.3	145.3
301.3	CARBONDALE	OAK GROVE	DARK SHALE	0.2	145.6
301.1	CARBONDALE	OAK GROVE	LIMESTONE	0.1	145.8
301.0	CARBONDALE	OAK GROVE	DARK SHALE	1.8	145.9
299.3	CARBONDALE	OAK GROVE	LIMESTONE	0.1	147.6
299.2	CARBONDALE	OAK GROVE	BLACK SHALE	3.0	147.7
296.2	CARBONDALE	OAK GROVE	DARK SHALE	0.8	150.7
295.4	CARBONDALE	OAK GROVE	BLACK SHALE	0.7	151.5
294.7	CARBONDALE	OAK GROVE	LIMESTONE	0.4	152.2
294.3	CARBONDALE	MECCA QUARRY	DARK SHALE	0.3	152.6
294.0	CARBONDALE		BLACK SHALE	3.0	152.9
291.0	CARBONDALE	FRANCIS CREEK	DARK SHALE	14.2	155.9
276.7	CARBONDALE	COLCHESTER	COAL	0.7	170.2
276.1			DARK SHALE	2.2	170.8
273.9			UNDERCLAY	1.9	173.0
272.0			LIMESTONE	0.3	174.9
271.7			UNDERCLAY	4.2	175.2
267.5			SHALE	2.2	179.4
265.3			COAL	0.2	181.6
265.1			UNDERCLAY	6.2	181.8
259.0			SILTSTONE	0.3	187.9

258.7	DARK SHALE	8.9	188.2
249.8	COAL	1.3	197.1
248.5	UNDERCLAY	11.8	198.4
236.6	BLACK SHALE	2.8	210.3
233.9	DARK SHALE	22.6	213.0
211.3	COAL	0.8	235.6
210.5	UNDERCLAY	4.6	236.4
205.9	SILTSTONE	2.0	241.0
203.9	DARK SHALE	1.7	243.0
202.2	COAL	0.1	244.7
202.1	DARK SHALE	0.4	244.8
201.7	COAL	0.2	245.2
201.6	UNDERCLAY	3.3	245.3
198.3	SILTSTONE	1.1	248.6
197.2	SANDSTONE	2.6	249.7
194.6	UNCLASSIFIED	0.0	252.3

MAPID: 12320267000C **VERSION:** 1 **PROJECT:** AVAIL02
COUNTY: MARSHALL **TWP/RNG:** 13N 8E **SECTION:** 30 **QUARTERS/FOOTAGES:** 1110' S line, 1715' W line of SW
QUADRANGLE: CASTLETON **LONGITUDE:** -89.633339 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.078793 **DATE COLLECTED:** 3 / 16 / 1977
SURFACE ELEVATION (FT.): 810.0 **LOGGED (FT.):** 205.5 **LOG TYPE:** Drillers Log
SOURCE: ALBRECHT WELL DRILLING 20267 **WELL TYPE:** Water Well
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		UNIT OVERBURDEN COMMENT
810.0			UNKNOWN	204.0	0.0	
606.0	CARBONDALE	COLCHESTER	COAL	1.5	204.0	DEPTH AND THICKNESS FROM LOG

MAPID: 12320267000C **VERSION:** 2 **PROJECT:** AVAIL02
COUNTY: MARSHALL **TWP/RNG:** 13N 8E **SECTION:** 30 **QUARTERS/FOOTAGES:** 1110' S line, 1715' W line of SW
QUADRANGLE: CASTLETON **LONGITUDE:** -89.633339 **GEOLOGIST:** PHILLIPS
CONFIDENTIAL: N **LATITUDE:** 41.078793 **DATE COLLECTED:** 3 / 16 / 1977
SURFACE ELEVATION (FT.): 810.0 **LOGGED (FT.):** 205.5 **LOG TYPE:** Drillers Log
SOURCE: ALBRECHT WELL DRILLING 20267 **WELL TYPE:** Water Well
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		UNIT OVERBURDEN COMMENT
810.0			UNKNOWN	204.0	0.0	
606.0	CARBONDALE	COLCHESTER	COAL	1.5	204.0	DEPTH AND THICKNESS FROM LOG

MAPID: 12300008000C VERSION: 1

PROJECT: NCRDS87

COUNTY: MARSHALL TWP/RNG: 29N 1E SECTION: 5 QUARTERS/FOOTAGES: SW NE

QUADRANGLE: VARNA LONGITUDE: -89.13196 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 41.009305 DATE COLLECTED: 0 / 0 / 1893

SURFACE ELEVATION (FT.): 730.0 LOGGED (FT.): 505.0 LOG TYPE: Drillers Log

SOURCE: DELVIN COAL CO. WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
730.0			UNCONSOLIDATED	68.0	0.0	
662.0	MODESTO		LIMESTONE	3.0	68.0	
659.0	MODESTO		SHALE	28.0	71.0	
631.0	MODESTO		LIMESTONE	3.0	99.0	
628.0	MODESTO		UNCLASSIFIED	15.0	102.0	
613.0	MODESTO		LIMESTONE	7.5	117.0	
605.5	MODESTO		GRAY SHALE	5.5	124.5	
600.0	MODESTO		LIMESTONE	2.0	130.0	
598.0	MODESTO		UNCLASSIFIED	16.0	132.0	
582.0	MODESTO		LIMESTONE	7.0	148.0	
575.0	MODESTO		UNCLASSIFIED	28.0	155.0	
547.0	MODESTO		BLACK SHALE	2.0	183.0	
545.0	MODESTO		GRAY SHALE	1.0	185.0	
544.0	MODESTO		LIMESTONE	13.0	186.0	
531.0	MODESTO		UNCLASSIFIED	17.0	199.0	
514.0	MODESTO		LIMESTONE	5.0	216.0	
509.0	MODESTO		GRAY SHALE	14.0	221.0	
495.0	MODESTO		SANDSTONE	14.0	235.0	
481.0	MODESTO		GRAY SHALE	30.0	249.0	
451.0	MODESTO		BLACK SHALE	3.0	279.0	
448.0	MODESTO		GRAY SHALE	6.0	282.0	
442.0	CARBONDALE	DANVILLE	COAL	4.3	288.0	UNCERTAIN CORRELATION
437.7	CARBONDALE		UNDERCLAY	8.8	292.3	
429.0	CARBONDALE		GRAY SHALE	16.5	301.0	
412.5	CARBONDALE		LIMESTONE	1.5	317.5	
411.0	CARBONDALE		BLACK SHALE	4.0	319.0	
407.0	CARBONDALE		GRAY SHALE	5.0	323.0	
402.0	CARBONDALE	ANNA	BLACK SHALE	14.0	328.0	
388.0	CARBONDALE	HERRIN	COAL	2.0	342.0	UNCERTAIN CORRELATION
386.0	CARBONDALE		UNDERCLAY	5.0	344.0	
381.0	CARBONDALE		GRAY SHALE	17.0	349.0	
364.0	CARBONDALE		UNDERCLAY	4.0	366.0	
360.0	CARBONDALE		UNCLASSIFIED	124.0	370.0	
236.0	CARBONDALE		GRAY SHALE	5.0	494.0	
231.0	CARBONDALE	COLCHESTER	COAL	2.5	499.0	
228.5	SPOON		UNDERCLAY	3.5	501.5	

MAPID: 12370000000C VERSION: 1

PROJECT: NCRDS

COUNTY: MARSHALL TWP/RNG: 29N 1E SECTION: 7 QUARTERS/FOOTAGES: 4170' S line, 1760' E line

QUADRANGLE: LA ROSE LONGITUDE: -89.15018 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 40.997017 DATE COLLECTED: 0 / 0 / 1894

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 327.0 LOG TYPE: Drillers Log

SOURCE: UTAH INTERNATIONAL 6 WELL TYPE: Coal Test

COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.0			NO RECORD	51.0	0.0	
639.0			SHALE	25.0	51.0	
614.0			DARK SHALE	7.0	76.0	
607.0			BLACK SHALE	1.0	83.0	
606.0			SHALE	5.0	84.0	
601.0			LIMESTONE	2.0	89.0	
599.0			SHALE	15.0	91.0	
584.0			LIMESTONE	2.0	106.0	
582.0			SHALE	9.0	108.0	
573.0			RED SHALE	1.0	117.0	
572.0			SHALE	1.0	118.0	
571.0			DARK SHALE	6.0	119.0	
565.0			LIMESTONE	7.0	125.0	
558.0			SHALE	9.0	132.0	
549.0			LIMESTONE	10.0	141.0	
539.0			SHALE	1.0	151.0	
538.0			RED SHALE	1.0	152.0	
537.0			SHALE	1.0	153.0	
536.0			DARK SHALE	4.0	154.0	
532.0			SANDSTONE	1.0	158.0	
531.0			DARK SHALE	3.0	159.0	
528.0			RED SHALE	1.0	162.0	
527.0			LIMESTONE	3.0	163.0	
524.0			RED SHALE	1.0	166.0	
523.0			SHALE	7.0	167.0	
516.0			SHALE	12.0	174.0	INTERBEDDED

MAPID: 12370001000C VERSION: 1

PROJECT: NCRDS

COUNTY: MARSHALL TWP/RNG: 29N 1E SECTION: 7 QUARTERS/FOOTAGES: 4170' S line, 1760' E line

QUADRANGLE: LA ROSE LONGITUDE: -89.15018 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 40.997017 DATE COLLECTED: 0 / 0 / 1894

SURFACE ELEVATION (FT.): 690.0 LOGGED (FT.): 327.0 LOG TYPE: Drillers Log

SOURCE: UTAH INTERNATIONAL 6 WELL TYPE: Coal Test

COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
504.0			SANDY SHALE	10.0	186.0	
494.0			SHALE	18.0	196.0	
476.0			SANDSTONE	3.0	214.0	
473.0			SHALE	61.0	217.0	INTERBEDDED
412.0			DARK SHALE	5.0	278.0	
407.0			SHALE	1.0	283.0	
406.0	SHELBURN	DANVILLE	COAL	3.0	284.0	
403.0	SHELBURN		CLAYSTONE	15.0	287.0	
388.0	SHELBURN		LIMESTONE	4.0	302.0	
384.0	SHELBURN		SHALE	3.5	306.0	
380.5	SHELBURN		LIMESTONE	0.5	309.5	
380.0	SHELBURN		BLACK SHALE	9.0	310.0	
371.0	SHELBURN		SHALE	1.0	319.0	
370.0	CARBONDALE	HERRIN	COAL	1.4	320.0	
368.6			CLAYSTONE	5.6	321.4	

MAPID: 12370002000C VERSION: 1

PROJECT: NCRDS

COUNTY: MARSHALL TWP/RNG: 29N 1E SECTION: 8 QUARTERS/FOOTAGES: 2400' N line, 1300' W line

QUADRANGLE: LA ROSE LONGITUDE: -89.139031 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 40.993312 DATE COLLECTED: 0 / 0 / 1894

SURFACE ELEVATION (FT.): 720.0 LOGGED (FT.): 320.0 LOG TYPE: Drillers Log

SOURCE: UTAH INTERNATIONAL 7 WELL TYPE: Coal Test

COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
720.0			NO RECORD	66.5	0.0
653.5			SHALE	3.5	66.5
650.0			BLACK SHALE	1.0	70.0
649.0			SHALE	1.0	71.0
648.0			BLACK SHALE	5.0	72.0
643.0			RED SHALE	7.0	77.0
636.0			LIMESTONE	6.0	84.0
630.0			DARK SHALE	3.0	90.0
627.0			LIMESTONE	7.0	93.0
620.0			RED SHALE	4.0	100.0
616.0			SHALE	5.0	104.0
611.0			RED SHALE	3.0	109.0
608.0			SHALE	1.0	112.0
607.0			LIMESTONE	1.0	113.0
606.0			SHALE	2.0	114.0
604.0			LIMESTONE	3.0	116.0
601.0			SHALE	8.0	119.0
593.0			LIMESTONE	20.0	127.0
573.0			SHALE	4.0	147.0
569.0			LIMESTONE	2.0	151.0
567.0			SHALE	12.0	153.0
555.0			LIMESTONE	5.0	165.0
550.0			SANDY SHALE	46.0	170.0
504.0			SANDSTONE	6.0	216.0
498.0			SANDY SHALE	37.0	222.0
461.0			BLACK SHALE	11.0	259.0
450.0			DARK SHALE	1.0	270.0
449.0	SHELBURN	DANVILLE	COAL	3.8	271.0
445.2	SHELBURN		CLAYSTONE	17.2	274.8
428.0	SHELBURN		SHALE	7.5	292.0
420.5	SHELBURN		BLACK SHALE	15.0	299.5
405.5	CARBONDALE	HERRIN	COAL	2.4	314.5
403.1	CARBONDALE		CLAYSTONE	3.1	316.9

MAPID: 12320711000C VERSION: 1

PROJECT: NCRDS99

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 3 QUARTERS/FOOTAGES: 2640' N line, 1' W line of NW

QUADRANGLE: WENONA LONGITUDE: -89.105328 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.097138 DATE COLLECTED: 12 / 29 / 1935

SURFACE ELEVATION (FT.): LOGGED (FT.): 39.6 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 14 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	8.0	0.0	
-	PLEISTOCENE		GRAVEL	5.0	8.0	SANDY
-	BOND		BLACK SHALE	11.5	13.0	HARD
-	BOND		SANDSTONE	0.5	24.5	
-	BOND		BLACK SHALE	8.5	25.0	HARD
-	BOND		BLACK SHALE	2.5	33.5	HARD
-	BOND		BLACK SHALE	2.0	36.0	
-	BOND		BLACK SHALE	0.7	38.0	
-	BOND		COAL	0.9	38.7	SOFT

MAPID: 12320712000C VERSION: 1

PROJECT: NCRDS99

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 3 QUARTERS/FOOTAGES: 1' S line, 2640' E line

QUADRANGLE: WENONA LONGITUDE: -89.095682 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.087119 DATE COLLECTED: 12 / 29 / 1935

SURFACE ELEVATION (FT.): LOGGED (FT.): 43.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 21 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	10.0	0.0	SANDY
-	BOND		BLACK SHALE	6.5	10.0	
-	BOND		SANDSTONE	1.5	16.5	
-	BOND		BLACK SHALE	25.0	18.0	HARD

MAPID: 12320713000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: MARSHALL **TWP/RNG:** 30N 1E **SECTION:** 3 **QUARTERS/FOOTAGES:** 1' S line, 1' E line
QUADRANGLE: WENONA **LONGITUDE:** -89.08606 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.086755 **DATE COLLECTED:** 12 / 29 / 1935
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 29.3 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY 22 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	9.0	0.0	SANDY
-	PLEISTOCENE		GRAVEL	1.5	9.0	
-	PLEISTOCENE		CLAY	11.5	10.5	RED
-	BOND		BLACK SHALE	2.3	22.0	HARD
-	BOND		SANDSTONE	5.0	24.3	HARD

MAPID: 12320714000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: MARSHALL **TWP/RNG:** 30N 1E **SECTION:** 4 **QUARTERS/FOOTAGES:** 1320' S line, 2640' E line
QUADRANGLE: WENONA **LONGITUDE:** -89.115014 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.091284 **DATE COLLECTED:** 12 / 29 / 1935
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 21.5 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY 10 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	11.0	0.0	
-	BOND		SHALE	3.0	11.0	SOFT
-	BOND		SHALE	7.5	14.0	SOFT
-	BOND		SANDSTONE	0.0	21.5	GRAVELLY

MAPID: 12320715000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: MARSHALL **TWP/RNG:** 30N 1E **SECTION:** 4 **QUARTERS/FOOTAGES:** 650' S line, 2640' E line
QUADRANGLE: WENONA **LONGITUDE:** -89.115032 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.089436 **DATE COLLECTED:** 12 / 29 / 1935
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 12.0 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY 11 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		UNCONSOLIDATED	12.0	0.0	

MAPID: 12320717000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: MARSHALL **TWP/RNG:** 30N 1E **SECTION:** 8 **QUARTERS/FOOTAGES:** 2640' N line, 1' W line
QUADRANGLE: VARNA **LONGITUDE:** -89.143554 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.080955 **DATE COLLECTED:** 12 / 29 / 1935
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 57.2 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY 17 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	8.0	0.0	
-	PLEISTOCENE		SAND	1.0	8.0	
-	PLEISTOCENE		CLAY	7.0	9.0	GRAVELLY
-	BOND		BLACK SHALE	35.0	16.0	SOFT
-	BOND		SANDSTONE	1.1	51.0	
-	BOND		BLACK SHALE	1.4	52.1	
-	BOND		BLACK SHALE	2.5	53.5	
-	BOND		COAL	1.2	56.0	SOFT

MAPID: 12320718000C **VERSION:** 1 **PROJECT:** NCRDS99
COUNTY: MARSHALL **TWP/RNG:** 30N 1E **SECTION:** 8 **QUARTERS/FOOTAGES:** 2640' N line, 2390' E line
QUADRANGLE: VARNA **LONGITUDE:** -89.133298 **GEOLOGIST:** C KOROSE
CONFIDENTIAL: N **LATITUDE:** 41.080717 **DATE COLLECTED:** 12 / 29 / 1935
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 35.9 **LOG TYPE:** Drillers Log
SOURCE: PITTSBURG & MIDWAY 18 **WELL TYPE:** Coal Test
COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	28.0	0.0	SANDY
-	BOND		BLACK SHALE	4.0	28.0	
-	BOND		BLACK SHALE	1.2	32.0	
-	BOND		COAL	2.8	33.2	HARD

MAPID: 12320448000C **VERSION:** 1 **PROJECT:** AVAIL
COUNTY: MARSHALL **TWP/RNG:** 30N 1E **SECTION:** 9 **QUARTERS/FOOTAGES:** 100' S line, 25' W line of NW NW
QUADRANGLE: WENONA **LONGITUDE:** -89.124517 **GEOLOGIST:** CHENOWETH
CONFIDENTIAL: N **LATITUDE:** 41.084115 **DATE COLLECTED:** 6 / 19 / 1986
SURFACE ELEVATION (FT.): **LOGGED (FT.):** 66.0 **LOG TYPE:** Drillers Log
SOURCE: **WELL TYPE:** Water Well
COMMENT: POOR LOG (COAL MAY BE IN DRIFT)

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			COAL	4.0	30.0	

MAPID: 12320719000C VERSION: 1

PROJECT: NCRDS99

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 9 QUARTERS/FOOTAGES: 650' N line, 2640' E line

QUADRANGLE: WENONA LONGITUDE: -89.115045 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.08585 DATE COLLECTED: 12 / 29 / 1935

SURFACE ELEVATION (FT.): LOGGED (FT.): 36.0 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 12 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-			UNCLASSIFIED	19.7	0.0	
-	BOND		COAL	2.1	19.7	"FAULTY" COAL
-			UNCLASSIFIED	14.3	21.8	

MAPID: 12320720000C VERSION: 1

PROJECT: NCRDS99

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 9 QUARTERS/FOOTAGES: NE

QUADRANGLE: WENONA LONGITUDE: -89.110216 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.083832 DATE COLLECTED: 12 / 29 / 1935

SURFACE ELEVATION (FT.): LOGGED (FT.): 12.8 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 13 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	7.0	0.0	
-	BOND		SANDSTONE	0.9	7.0	
-	BOND		BLACK SHALE	2.1	7.9	SOFT
-	BOND		BLACK SHALE	1.5	10.0	
-	BOND		COAL	1.3	11.5	

MAPID: 12320721000C VERSION: 1

PROJECT: NCRDS99

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 9 QUARTERS/FOOTAGES:

QUADRANGLE: WENONA LONGITUDE: -89.114993 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.080193 DATE COLLECTED: 12 / 29 / 1935

SURFACE ELEVATION (FT.): LOGGED (FT.): 41.5 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 15 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	5.0	0.0	
-	PLEISTOCENE		CLAY	20.0	5.0	SANDY
-	PLEISTOCENE		SAND	7.5	25.0	
-	BOND		BLACK SHALE	7.5	32.5	
-	BOND		COAL	1.5	40.0	HARD

MAPID: 12320722000C VERSION: 1

PROJECT: NCRDS99

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 9 QUARTERS/FOOTAGES: 2640' N line, 1320' E line

QUADRANGLE: WENONA LONGITUDE: -89.110217 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.080283 DATE COLLECTED: 12 / 29 / 1935

SURFACE ELEVATION (FT.): LOGGED (FT.): 58.3 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 16 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		SOIL	11.0	0.0	
-	BOND		BLACK SHALE	10.0	11.0	
-	BOND		SANDSTONE	1.5	21.0	
-	BOND		BLACK SHALE	35.5	22.5	HARD
-	BOND		COAL	0.3	58.0	

MAPID: 12300012000C VERSION: 1

PROJECT: AVAIL

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 13 QUARTERS/FOOTAGES: NE

QUADRANGLE: WENONA LONGITUDE: -89.052547 GEOLOGIST: CHENOWETH

CONFIDENTIAL: N LATITUDE: 41.06813 DATE COLLECTED: 2 / 0 / 1890

SURFACE ELEVATION (FT.): 696.0 LOGGED (FT.): 640.0 LOG TYPE: Drillers Log

SOURCE: WENONA COAL CO WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
696.0	PLEISTOCENE		SOIL	10.0	0.0	SOIL & YELLOW CLAY
686.0	PLEISTOCENE		CLAY	46.0	10.0	
640.0	PLEISTOCENE		SAND	10.0	56.0	
630.0	PLEISTOCENE		CLAY	34.0	66.0	HARDPAN
596.0	PLEISTOCENE		CLAY	3.0	100.0	RED
593.0	BOND		SHALE	3.0	103.0	SOFT CLAY SHALE (WEATHERED BEDROCK)
590.0	BOND		LIMESTONE	1.5	106.0	
588.5	BOND		SHALE	6.0	107.5	BROWN
582.5	BOND	MT. CARMEL	SANDSTONE	7.0	113.5	
575.5	BOND		CARBONACEOUS SHALE	13.0	120.5	
562.5	BOND		SHALE	4.0	133.5	DARK, CLAYEY
558.5	BOND		LIMESTONE	13.0	137.5	
545.5	BOND		GRAY SHALE	3.5	150.5	
542.0	BOND		BLACK SHALE	3.0	154.0	
539.0	BOND		COAL	0.5	157.0	
538.5	BOND		GRAY SHALE	11.0	157.5	
527.5	BOND		BLUE SHALE	2.0	168.5	
525.5	BOND	CARTHAGE	LIMESTONE	11.0	170.5	HALL LIMESTONE
514.5	MODESTO		BROWN SHALE	8.0	181.5	
506.5	MODESTO		SHALE & CLAYSTONE	6.0	189.5	
500.5	MODESTO		SANDSTONE	2.0	195.5	
498.5	MODESTO		SHALE & CLAYSTONE	4.0	197.5	
494.5	MODESTO		BROWN SHALE	2.0	201.5	
492.5	MODESTO		BLUE SHALE	6.0	203.5	
486.5	MODESTO	MACOUPIN	LIMESTONE	2.0	209.5	
484.5	MODESTO		BLUE SHALE	4.0	211.5	
480.5	MODESTO		GRAY SHALE	17.0	215.5	
463.5	MODESTO		BLUE SHALE	5.0	232.5	
458.5	MODESTO		BROWN SHALE	14.0	237.5	
444.5	MODESTO	GIMLET	SANDSTONE	30.0	251.5	BLUE
414.5	MODESTO		GRAY SHALE	14.0	281.5	
400.5	MODESTO		DARK SHALE	38.0	295.5	
362.5	CARBONDALE	DANVILLE	COAL	3.3	333.5	
359.2	CARBONDALE		UNDERCLAY	10.0	336.8	
349.2	CARBONDALE		SANDY SHALE	8.0	346.8	
341.2	CARBONDALE		SHALE	18.0	354.8	
323.2	CARBONDALE		BLACK SHALE	3.0	372.8	
320.2	CARBONDALE		DARK SHALE	2.0	375.8	
318.2	CARBONDALE		BROWN SHALE	3.0	377.8	

315.2	CARBONDALE		LIMESTONE	4.0	380.8	"FLINT ROCK".CHERT NODULES
311.2	CARBONDALE		DARK SHALE	4.0	384.8	
307.2	CARBONDALE		UNDERCLAY	2.8	388.8	
304.3	CARBONDALE		BROWN SHALE	0.3	391.7	
304.0	CARBONDALE		UNDERCLAY	4.7	392.0	
299.3	CARBONDALE		SANDY SHALE	3.5	396.7	
295.8	CARBONDALE		SHALE	1.7	400.2	
294.2	CARBONDALE		SANDSTONE	15.5	401.8	
278.7	CARBONDALE		GRAY SHALE	5.7	417.3	
273.0	CARBONDALE		SHALE	1.5	423.0	"DARK SLATE WITH IRON BANDS"
271.5	CARBONDALE		GRAY SHALE	21.5	424.5	WITH SULFUR BALLS
250.0	CARBONDALE		BLACK SHALE	4.0	446.0	
246.0	CARBONDALE		GRAY SHALE	15.7	450.0	
230.3	CARBONDALE		BLACK SHALE	3.5	465.7	
226.8	CARBONDALE		BLUE SHALE	6.0	469.2	
220.8	CARBONDALE		LIMESTONE & SHALE	1.1	475.2	LIMESTONE IN 2 BANDS
219.7	CARBONDALE		SHALE	4.0	476.3	DARK SOAPSTONE
215.7	CARBONDALE		LIMESTONE	1.0	480.3	
214.7	CARBONDALE		SHALE	2.5	481.3	
212.2	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	483.8	
207.2	CARBONDALE	SPRINGFIELD	COAL	1.2	488.8	UPPER 5" CANNEL
206.1	CARBONDALE		UNDERCLAY	6.0	489.9	
200.1	CARBONDALE		LIMESTONE	1.0	495.9	
199.1	CARBONDALE		DARK SHALE	2.5	496.9	
196.6	CARBONDALE	EXCELLO	BLACK SHALE	5.0	499.4	
191.6	CARBONDALE	HOUCHIN CREEK	COAL	1.2	504.4	
190.4	CARBONDALE		UNDERCLAY	6.4	505.6	
184.0	CARBONDALE		LIMESTONE	2.0	512.0	
182.0	CARBONDALE		SHALE	22.2	514.0	
159.8	CARBONDALE	LOWELL	COAL	0.3	536.2	POOR
159.5	CARBONDALE		SANDSTONE	4.5	536.5	WITH SULFUR & 1" COAL
155.0	CARBONDALE		DARK SHALE	13.0	541.0	
142.0	CARBONDALE		PYRITE	3.5	554.0	"HARD SULPHUR ROCK"
138.5	CARBONDALE	MECCA QUARRY	BLACK SHALE	4.5	557.5	
134.0	CARBONDALE	FRANCIS CREEK	GRAY SHALE	11.7	562.0	
122.3	CARBONDALE	COLCHESTER	COAL	2.7	573.7	
119.7			UNDERCLAY	3.8	576.3	
115.9			SANDSTONE	9.8	580.1	
106.2			GRAY SHALE	2.0	589.8	
104.2			DARK SHALE	5.0	591.8	
99.2			ROCK	1.5	596.8	
97.7			COAL	1.0	598.3	
96.7			UNDERCLAY	5.8	599.3	
90.9			DARK SHALE	1.8	605.1	
89.2			DARK SHALE	2.0	606.8	
87.2			ROCK	0.6	608.8	
86.6			GRAY SHALE	1.5	609.4	

85.1	SHALE	4.3	610.9	"SOAPSTONE"
80.8	ROCK	1.3	615.2	
79.4	SHALE	2.7	616.6	"SOAPSTONE"
76.8	COAL	0.9	619.2	
75.8	UNDERCLAY	5.3	620.2	
70.5	SHALE	9.6	625.5	"SOAPSTONE & HARD BAND"
60.9	GRAY SHALE	0.3	635.1	
60.6	COAL	1.1	635.4	
59.5	UNDERCLAY	1.5	636.5	
58.0	COAL	1.2	638.0	

MAPID: 12300013000C VERSION: 1

PROJECT: NCRDS87

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 13 QUARTERS/FOOTAGES: NE

QUADRANGLE: WENONA LONGITUDE: -89.052547

GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 41.06813

DATE COLLECTED: 0 / 0 / 1890

SURFACE ELEVATION (FT.): 696.0

LOGGED (FT.): 640.1

LOG TYPE: Drillers Log

SOURCE: WINONA SHAFT

WELL TYPE: Mine Shaft

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
696.0	PLEISTOCENE		UNCONSOLIDATED	106.0	0.0
590.0	MODESTO		LIMESTONE	1.5	106.0
588.5	MODESTO		SHALE	6.0	107.5
582.5	MODESTO		SANDSTONE	7.0	113.5
575.5	MODESTO		SHALE	17.0	120.5
558.5	MODESTO		LIMESTONE	13.0	137.5
545.5	MODESTO		GRAY SHALE	3.5	150.5
542.0	MODESTO		BLACK SHALE	3.0	154.0
539.0	MODESTO		COAL	0.5	157.0
538.5	MODESTO		SHALE	13.0	157.5
525.5	MODESTO		LIMESTONE	11.0	170.5
514.5	MODESTO		SHALE	14.0	181.5
500.5	MODESTO		SANDSTONE	2.0	195.5
498.5	MODESTO		SHALE	12.0	197.5
486.5	MODESTO		LIMESTONE	2.0	209.5
484.5	MODESTO		SHALE	40.0	211.5
444.5	MODESTO		SANDSTONE	30.0	251.5
414.5	MODESTO		GRAY SHALE	14.0	281.5
400.5	MODESTO		DARK SHALE	38.0	295.5
362.5	CARBONDALE	DANVILLE	COAL	3.3	333.5
359.2	CARBONDALE		UNDERCLAY	10.0	336.8
349.2	CARBONDALE		UNCLASSIFIED	70.5	346.8
278.7	CARBONDALE		SANDSTONE	5.7	417.3
273.0	CARBONDALE		GRAY SHALE	23.0	423.0
250.0	CARBONDALE		BLACK SHALE	4.0	446.0
246.0	CARBONDALE		GRAY SHALE	15.7	450.0
230.3	CARBONDALE		BLACK SHALE	3.5	465.7
226.8	CARBONDALE		SHALE	6.0	469.2
220.8	CARBONDALE		LIMESTONE	1.1	475.2
219.7	CARBONDALE		UNCLASSIFIED	4.0	476.3
215.7	CARBONDALE		LIMESTONE	1.0	480.3
214.7	CARBONDALE		DARK SHALE	2.5	481.3
212.2	CARBONDALE	TURNER MINE	BLACK SHALE	5.0	483.8
207.2	CARBONDALE	SPRINGFIELD	COAL	1.2	488.8
206.1	CARBONDALE		UNDERCLAY	6.0	489.9
200.1	CARBONDALE		LIMESTONE	1.0	495.9
199.1	CARBONDALE		DARK SHALE	2.5	496.9
196.6	CARBONDALE	EXCELLO	BLACK SHALE	5.0	499.4
191.6	CARBONDALE	HOUCHIN CREEK	COAL	1.2	504.4

190.4	CARBONDALE		UNDERCLAY	6.4	505.6
184.0	CARBONDALE		LIMESTONE	2.0	512.0
182.0	CARBONDALE		SHALE	22.2	514.0
159.8	CARBONDALE	LOWELL	COAL	0.3	536.2
159.5	CARBONDALE		SANDSTONE	4.5	536.5
155.0	CARBONDALE		SHALE	13.0	541.0
142.0	CARBONDALE		UNCLASSIFIED	3.6	554.0
138.4	CARBONDALE	MECCA QUARRY	BLACK SHALE	4.4	557.6
134.0	CARBONDALE	FRANCIS CREEK	GRAY SHALE	11.7	562.0
122.3	CARBONDALE	COLCHESTER	COAL	2.7	573.7
119.7			UNDERCLAY	3.8	576.3
115.9			SANDSTONE	9.8	580.1
106.2			GRAY SHALE	2.0	589.8
104.2			DARK SHALE	5.0	591.8
99.2			UNCLASSIFIED	1.4	596.8
97.7			COAL	1.0	598.3
96.7			UNDERCLAY	5.8	599.3
91.0			DARK SHALE	3.8	605.0
87.2			UNCLASSIFIED	0.6	608.8
86.7			GRAY SHALE	1.5	609.3
85.2			UNCLASSIFIED	8.3	610.8
76.8			COAL	0.9	619.2
75.9			UNDERCLAY	5.3	620.1
70.6			UNCLASSIFIED	9.6	625.4
61.0			GRAY SHALE	0.3	635.0
60.7			COAL	1.1	635.3
59.6			CLAYSTONE	1.5	636.4
58.1			COAL	1.2	637.9
56.9			LIMESTONE	1.0	639.1

MAPID: 12300015000C VERSION: 1

PROJECT: AVAIL

COUNTY: MARSHALL TWP/RNG: 30N 1E SECTION: 24 QUARTERS/FOOTAGES: NW SE NE

QUADRANGLE: WENONA LONGITUDE: -89.051231 GEOLOGIST: CHENOWETH

CONFIDENTIAL: N LATITUDE: 41.052545 DATE COLLECTED:

SURFACE ELEVATION (FT.): 695.0 LOGGED (FT.): 1865.0 LOG TYPE: Drillers Log

SOURCE: WENONA CITY WELL TYPE: Water Well

COMMENT: POOR LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
695.0	PLEISTOCENE		UNCONSOLIDATED	10.0	0.0	"FILL"
685.0	PLEISTOCENE		UNCONSOLIDATED	40.0	10.0	"BROWN MUD"
645.0	PLEISTOCENE		UNCONSOLIDATED	20.0	50.0	"MUDDY GRAVEL"
625.0	PLEISTOCENE		UNCONSOLIDATED	20.0	70.0	BROWN MUD
605.0	PLEISTOCENE		UNCONSOLIDATED	20.0	90.0	REDDISH MUD
585.0	PLEISTOCENE		UNCONSOLIDATED	2.0	110.0	LIME SHELL
583.0	PLEISTOCENE		UNCONSOLIDATED	26.0	112.0	BLUE MUD
557.0			LIMESTONE	10.0	138.0	LIME
547.0			COAL	2.0	148.0	
545.0			SHALE	35.0	150.0	"BROWN MUD"-UNDERCLAY & SHALE?
510.0			SHALE	10.0	185.0	PINK MUD
500.0			LIMESTONE	5.0	195.0	
495.0			GRAY SHALE	40.0	200.0	LIGHT MUD
455.0			LIMESTONE	20.0	240.0	LIME SHELL
435.0			GRAY SHALE	30.0	260.0	LIGHT MUD
405.0			BLACK SHALE	44.0	290.0	
361.0	CARBONDALE	DANVILLE	COAL	3.0	334.0	
358.0	CARBONDALE		SHALE	13.0	337.0	LIGHT CLAY, MUDDY
345.0	CARBONDALE		LIMESTONE	3.0	350.0	
342.0	CARBONDALE		SHALE	22.0	353.0	LIGHT CLAY, MUDDY
320.0	CARBONDALE		BLACK SHALE	11.0	375.0	
309.0	CARBONDALE		MICACEOUS SHALE	14.0	386.0	
295.0	CARBONDALE		SANDY LIMESTONE	10.0	400.0	
285.0	CARBONDALE		MICACEOUS SHALE	35.0	410.0	
250.0	CARBONDALE		BLACK SHALE	10.0	445.0	
240.0	CARBONDALE		GRAY SHALE	10.0	455.0	
230.0	CARBONDALE		BLACK SHALE	5.0	465.0	
225.0	CARBONDALE		SHALE	10.0	470.0	BROWN SHALE, 1' LIME
215.0	CARBONDALE	TURNER MINE	BLACK SHALE	10.0	480.0	BLACK SLATE
205.0	CARBONDALE	SPRINGFIELD	COAL	-	490.0	
205.0	CARBONDALE		SHALE	10.0	490.0	LIGHT CLAY
195.0	CARBONDALE		DARK SHALE	17.0	500.0	
178.0	CARBONDALE	HOUCHIN CREEK	COAL	1.0	517.0	
177.0	CARBONDALE		SHALE	10.0	518.0	
167.0	CARBONDALE		LIMESTONE	3.0	528.0	
164.0	CARBONDALE		BLACK SHALE	6.0	531.0	BLACK SLATE
158.0	CARBONDALE		DARK SHALE	13.0	537.0	
145.0	CARBONDALE		GRAY SHALE	17.0	550.0	LIGHT MUD
128.0	CARBONDALE		GRAY SHALE	3.0	567.0	LIGHT SHALE

125.0	CARBONDALE		SANDSTONE	5.0	570.0	
120.0	CARBONDALE	COLCHESTER	GRAY SHALE	5.0	575.0	SAMPLE SET- COAL,UNDERCLAY,SHALE
115.0			SANDY DARK SHALE	10.0	580.0	DARK SHALE, GRIT IN IT
105.0			GRAY SHALE	22.0	590.0	590-595 LIMESTONE, 595-600 COAL-UNDERCLY
83.0			BLACK SHALE	22.0	612.0	
61.0	SILURIAN		LIMESTONE	11.0	634.0	
50.0	SILURIAN		LIMESTONE	100.0	645.0	SAMPLE SET-DOLOMITE; GRAY
-50.0			GRAY SHALE	10.0	745.0	
-60.0			LIMESTONE	45.0	755.0	
-105.0			SHALE	5.0	800.0	MUD SEAMS IN LINE
-110.0			LIMESTONE	5.0	805.0	
-115.0			SHALE	25.0	810.0	
-140.0			LIMESTONE	195.0	835.0	WATER AT 935, FILL UP 400'
-335.0			LIMESTONE	42.0	1030.0	SOFT LIME, WATER IN IT
-377.0			LIMESTONE	78.0	1072.0	
-455.0			SHALE	30.0	1150.0	BLUE SHALE, SEAMS LIME
-485.0			SHALE	75.0	1180.0	BLUE SHALE
-560.0			LIMESTONE	30.0	1255.0	
-590.0			LIMESTONE & SHALE	40.0	1285.0	SEAMY LIME, MUD
-630.0			LIMESTONE	385.0	1325.0	DRY
-1015.0			SANDSTONE	155.0	1710.0	

MAPID: 12320716000C VERSION: 1

PROJECT: NCRDS99

COUNTY: MARSHALL TWP/RNG: 30N 1W SECTION: 7 QUARTERS/FOOTAGES: 2640' N line, 660' E line

QUADRANGLE: HENRY LONGITUDE: -89.261305 GEOLOGIST: C KOROSE

CONFIDENTIAL: N LATITUDE: 41.07897 DATE COLLECTED: 12 / 29 / 1935

SURFACE ELEVATION (FT.): LOGGED (FT.): 39.9 LOG TYPE: Drillers Log

SOURCE: PITTSBURG & MIDWAY 19 WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
-	PLEISTOCENE		CLAY	9.0	0.0	SANDY
-	PLEISTOCENE		GRAVEL	2.0	9.0	
-	PLEISTOCENE		CLAY	7.0	11.0	RED
-	BOND		BLACK SHALE	9.0	18.0	
-	BOND		ROCK	1.5	27.0	DRILL- NOTE:"GRAVEL"
-	BOND		BLACK SHALE	9.5	28.5	
-	BOND		COAL	1.9	38.0	SHALEY, SOFT

MAPID: 12300017000C VERSION: 1

PROJECT: NCRDS87

COUNTY: MARSHALL TWP/RNG: 30N 1W SECTION: 9 QUARTERS/FOOTAGES: SE NW

QUADRANGLE: VARNA LONGITUDE: -89.232673 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 41.081424 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 549.7 LOGGED (FT.): 398.0 LOG TYPE: Drillers Log

SOURCE: CHERRY OPTION SYNDICATE WELL TYPE: Coal Test

COMMENT:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
549.7			UNCONSOLIDATED	143.0	0.0	
406.7	CARBONDALE		SANDSTONE	24.0	143.0	
382.7	CARBONDALE		DARK SHALE	3.0	167.0	
379.7	CARBONDALE		SANDSTONE	17.0	170.0	
362.7	CARBONDALE		DARK SHALE	6.0	187.0	
356.7	CARBONDALE		SANDSTONE	9.0	193.0	
347.7	CARBONDALE		DARK SHALE	5.0	202.0	
342.7	CARBONDALE	TURNER MINE	BLACK SHALE	1.5	207.0	
341.2	CARBONDALE		SHALE	2.0	208.5	
339.2	CARBONDALE		LIMESTONE	0.5	210.5	
338.7	CARBONDALE		SHALE	8.5	211.0	
330.2	CARBONDALE	EXCELLO	BLACK SHALE	2.5	219.5	
327.7	CARBONDALE	HOUCHIN CREEK	COAL	0.0	222.0	
327.7	CARBONDALE		UNDERCLAY	3.0	222.0	
324.7	CARBONDALE		SHALE	29.5	225.0	
295.2	CARBONDALE		BLACK SHALE	1.5	254.5	
293.7	CARBONDALE		DARK SHALE	8.0	256.0	
285.7	CARBONDALE		SHALE	39.2	264.0	
246.5	CARBONDALE	COLCHESTER	COAL	2.6	303.2	UNCERTAIN CORRELATION
243.9			UNDERCLAY	4.0	305.8	
239.9			SHALE	18.3	309.8	
221.7			DARK SHALE	17.0	328.0	
204.7			SHALE	17.0	345.0	
187.7			UNDERCLAY	3.0	362.0	
184.7			SHALE	18.0	365.0	
166.7			DARK SHALE	4.0	383.0	
162.7			SHALE	9.3	387.0	
153.4			COAL	0.4	396.3	
153.0			UNDERCLAY	1.3	396.7	

MAPID: 12370003000C VERSION: 1

PROJECT: NCRDS

COUNTY: MARSHALL TWP/RNG: 30N 1W SECTION: 15 QUARTERS/FOOTAGES: 1180' N line, 2120' W line

QUADRANGLE: VARNA LONGITUDE: -89.212578 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 41.069441 DATE COLLECTED: 0 / 0 / 1971

SURFACE ELEVATION (FT.): 650.0 LOGGED (FT.): 638.0 LOG TYPE: Drillers Log

SOURCE: UTAH INTERNATIONAL 02C178 WELL TYPE: Coal Test

COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
650.0			NO RECORD	205.0	0.0
445.0			BLACK SHALE	28.0	205.0
417.0	CARBONDALE	HERRIN	COAL	5.0	233.0
412.0			BLACK SHALE	14.0	238.0
398.0			DARK SHALE	9.0	252.0
389.0			BLACK SHALE	4.0	261.0
385.0			DARK SHALE	80.0	265.0
305.0			BLACK SHALE	5.0	345.0
300.0	CARBONDALE	SPRINGFIELD	COAL	4.0	350.0
296.0			SHALE	6.0	354.0
290.0			LIMESTONE	11.0	360.0
279.0	CARBONDALE	COLCHESTER	COAL	3.0	371.0
276.0			BLACK SHALE	4.0	374.0
272.0			DARK SHALE	13.0	378.0
259.0			SHALE	11.0	391.0
248.0			DARK SHALE	78.0	402.0
170.0			BLACK SHALE	10.0	480.0
160.0			DARK SHALE	148.0	490.0

MAPID: 12370004000C VERSION: 1

PROJECT: NCRDS

COUNTY: MARSHALL TWP/RNG: 30N 1W SECTION: 28 QUARTERS/FOOTAGES: 2540' S line, 960' E line

QUADRANGLE: VARNA LONGITUDE: -89.223701 GEOLOGIST: LOUCHIOS

CONFIDENTIAL: N LATITUDE: 41.035595 DATE COLLECTED: 0 / 0 / 1949

SURFACE ELEVATION (FT.): 724.0 LOGGED (FT.): 910.0 LOG TYPE: Drillers Log

SOURCE: UTAH INTERNATIONAL 03C125 WELL TYPE: Coal Test

COMMENT: CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
724.0			NO RECORD	106.0	0.0	
618.0			DARK SHALE	9.0	106.0	
609.0			RED SHALE	10.0	115.0	
599.0			DARK SHALE	6.0	125.0	
593.0			UNCLASSIFIED	1.0	131.0	
592.0			GREEN SHALE	78.0	132.0	
514.0			RED SHALE	25.0	210.0	
489.0			GREEN SHALE	70.0	235.0	
419.0			BLACK SHALE	10.0	305.0	
409.0	CARBONDALE	SPRINGFIELD	COAL	5.0	315.0	UNCERTAIN CORRELATION
404.0	CARBONDALE		SHALE	7.0	320.0	
397.0	CARBONDALE		SANDY SHALE	14.0	327.0	
383.0	CARBONDALE	COLCHESTER	COAL	4.0	341.0	UNCERTAIN CORRELATION
379.0			BLACK SHALE	20.0	345.0	
359.0			GREEN SHALE	55.0	365.0	
304.0			BLACK SHALE	165.0	420.0	
139.0			COAL	2.0	585.0	
137.0			BLACK SHALE	43.0	587.0	
94.0			SHALE	13.0	630.0	
81.0			LIMESTONE	267.0	643.0	

MAPID: 12300021000C VERSION: 1

PROJECT: NCRDS87

COUNTY: MARSHALL TWP/RNG: 30N 2W SECTION: 18 QUARTERS/FOOTAGES: NE NW NE

QUADRANGLE: LACON LONGITUDE: -89.379575 GEOLOGIST: WEIBEL

CONFIDENTIAL: N LATITUDE: 41.066105 DATE COLLECTED: 0 / 0 / 1905

SURFACE ELEVATION (FT.): 458.4 LOGGED (FT.): 347.0 LOG TYPE: Drillers Log

SOURCE: CHERRY OPTION SYNDICATE WELL TYPE: Coal Test

COMMENT: LOCATION IMPRECISE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)	
				UNIT	OVERBURDEN COMMENT
458.4			UNCONSOLIDATED	73.0	0.0
385.4	CARBONDALE		SHALE	9.0	73.0
376.4	CARBONDALE	ANNA	BLACK SHALE	2.0	82.0
374.4	CARBONDALE		SHALE	62.5	84.0
311.9	CARBONDALE		LIMESTONE	0.5	146.5
311.4	CARBONDALE		DARK SHALE	8.5	147.0
302.9	CARBONDALE	TURNER MINE	BLACK SHALE	2.5	155.5
300.4	CARBONDALE		UNDERCLAY	3.0	158.0
297.4	CARBONDALE		SHALE	7.4	161.0
290.0	CARBONDALE	HOUCHIN CREEK	COAL	2.9	168.4
287.1	CARBONDALE		UNDERCLAY	4.0	171.3
283.1	CARBONDALE		SHALE	34.7	175.3
248.4	CARBONDALE		SANDSTONE	23.0	210.0
225.4	CARBONDALE		BLACK SHALE	0.5	233.0
224.9	CARBONDALE		UNDERCLAY	2.0	233.5
222.9	CARBONDALE		SHALE	15.5	235.5
207.4	CARBONDALE	MECCA QUARRY	BLACK SHALE	0.7	251.0
206.7	CARBONDALE	COLCHESTER	COAL	0.8	251.7
205.9			UNDERCLAY	1.5	252.5
204.4			SHALE	5.0	254.0
199.4			DARK SHALE	6.5	259.0
192.9			BLACK SHALE	0.5	265.5
192.4			UNDERCLAY	3.0	266.0
189.4			SHALE	2.0	269.0
187.4			SANDSTONE	8.0	271.0
179.4			SHALE	36.0	279.0
143.4			UNCLASSIFIED	2.0	315.0
141.4			SHALE	25.0	317.0
116.4			DARK SHALE	4.0	342.0
112.4			SHALE	1.0	346.0
111.4			LIMESTONE	0.0	347.0