

13700194000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 21 SWSWNW  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 633.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 12 / 5/1958  
 Drillers Log Coal Test LOGGED (FT.): 132.00  
 SOURCE: DONAN TP-18

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
633.00	PLEISTOCENE		UNCONSOLIDATED	50.00	0.00	
583.00			SHALE	31.50	50.00	
551.50			SHALE	2.17	81.50	DARK GRAY
549.30	CARBONDALE	HERRIN	COAL	2.33	83.70	
547.00	CARBONDALE		CLAYSTONE/SILTST	1.00	86.00	
546.00	CARBONDALE		LIMESTONE	0.42	87.00	
545.60	CARBONDALE		CLAYSTONE/SILTST	1.91	87.40	
543.70	CARBONDALE		LIMESTONE	1.50	89.30	
542.20	CARBONDALE		CLAYSTONE/SILTST	0.84	90.80	
541.30	CARBONDALE		LIMESTONE	2.83	91.70	
538.50	CARBONDALE		CLAYSTONE/SILTST	3.17	94.50	
535.30	CARBONDALE		LIMESTONE	1.66	97.70	
533.70	CARBONDALE		CLAYSTONE/SILTST	0.59	99.30	
533.10	CARBONDALE		BLACK SHALE	0.08	99.90	
533.00	CARBONDALE		CLAYSTONE/SILTST	6.25	100.00	
526.70	CARBONDALE		LIMESTONE	1.33	106.30	
525.40	CARBONDALE		CLAYSTONE/SILTST	1.75	107.60	
523.70	CARBONDALE		SHALY SS	10.17	109.30	
513.50	CARBONDALE		CLAYSTONE/SILTST	4.00	119.50	
509.50	CARBONDALE		LIMESTONE	0.25	123.50	
509.20	CARBONDALE		BLACK SHALE	1.00	123.80	
508.20	CARBONDALE		SHALE	0.50	124.80	COALY
507.70	CARBONDALE	SPRINGFIELD	COAL	4.37	125.30	COAL W/ PYRITE
503.40	CARBONDALE		UNDERCLAY	2.38	129.60	

13700195000C PROJECT: NCRDS96 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 15N - R 8W SECTION: 30 SNNWSW  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 665.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 11 /28/1958  
 Drillers Log Coal Test LOGGED (FT.): 191.00  
 SOURCE: DONAN TP-2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
665.00	PLEISTOCENE		UNCONSOLIDATED	105.00	0.00	
560.00			CLAYSTONE/SILTST	15.00	105.00	
545.00			SHALE	2.75	120.00	
542.20			LIMESTONE	0.25	122.80	
542.00			SHALE	0.67	123.00	
541.30			SANDSTONE	0.50	123.70	
540.80			SHALE	5.83	124.20	
535.00			CLAYSTONE/SILTST	6.33	130.00	
528.70			LIMESTONE	3.75	136.30	
524.90	CARBONDALE		CLAYSTONE/SILTST	1.67	140.10	
523.20	CARBONDALE	SPRINGFIELD	COAL	3.31	141.80	
519.90	CARBONDALE		UNDERCLAY	3.52	145.10	
516.40	CARBONDALE		CLAYSTONE/SILTST	3.17	148.60	
513.20	CARBONDALE		SHALE	4.83	151.80	
508.40	CARBONDALE		LIMESTONE	0.84	156.60	
507.60	CARBONDALE		SHALE	4.00	157.40	
503.60	CARBONDALE		CLAYSTONE/SILTST	0.33	161.40	
503.20	CARBONDALE		LIMESTONE	0.50	161.80	
502.70	CARBONDALE		CLAYSTONE/SILTST	8.92	162.30	
493.80	CARBONDALE		SHALE	0.08	171.20	COALY
493.70	CARBONDALE		CLAYSTONE/SILTST	7.00	171.30	
486.70	CARBONDALE		SHALE	12.75	178.30	W/SS&LS

13700196000C PROJECT: NCRDS96 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 15N - R 9W SECTION: 20 SESENW  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 634.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 12 / 3/1958  
 Drillers Log Coal Test LOGGED (FT.): 180.00  
 SOURCE: DONAN TP-6

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	

634.00	PLEISTOCENE		UNCONSOLIDATED	42.67	0.00
591.30	CARBONDALE		LIMESTONE	0.50	42.70
590.80	CARBONDALE		SHALE	11.00	43.20
579.80	CARBONDALE		CLAYSTONE/SILTST	29.75	54.20
550.10	CARBONDALE		BLACK SHALE	1.25	83.90
548.80	CARBONDALE		SHALE	1.41	85.20
547.40	CARBONDALE		LIMESTONE	0.92	86.60
546.50	CARBONDALE	HERRIN	COAL	1.39	87.50
545.10	CARBONDALE		UNDERCLAY	1.86	88.90
543.20	CARBONDALE		SANDSTONE	7.08	90.80
536.20	CARBONDALE		LIMESTONE	0.75	97.80
535.40	CARBONDALE		CLAYSTONE/SILTST	0.09	98.60
535.30	CARBONDALE		SANDSTONE	0.41	98.70
534.90	CARBONDALE		CLAYSTONE/SILTST	0.50	99.10
534.40	CARBONDALE		LIMESTONE	0.92	99.60
533.50	CARBONDALE		CLAYSTONE/SILTST	4.33	100.50
529.20	CARBONDALE		LIMESTONE	3.50	104.80
525.70	CARBONDALE		CLAYSTONE/SILTST	6.17	108.30
519.50	CARBONDALE		LIMESTONE	4.17	114.50
515.30	CARBONDALE		CLAYSTONE/SILTST	0.25	118.70
515.10	CARBONDALE	SPRINGFIELD	COAL	3.41	118.90
511.70	CARBONDALE		UNDERCLAY	2.67	122.30
509.00	CARBONDALE		SHALE	6.00	125.00
503.00	CARBONDALE		LIMESTONE	0.25	131.00
502.70	CARBONDALE		CLAYSTONE/SILTST	0.58	131.30
502.20	CARBONDALE		SHALE	4.50	131.80
497.70	CARBONDALE		CLAYSTONE/SILTST	12.67	136.30
485.00	CARBONDALE		CLAYSTONE/SILTST	31.00	149.00

1372066000C PROJECT: NCRDS96 QUADRANGLE: PLEASANT PLAINS  
COUNTY: MORGAN 16N - R 8W SECTION: 4 1980S 75E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 626.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 8 / 20/1970  
Drillers Log Coal Test LOGGED (FT.): 112.00  
SOURCE: COMMONWEALTH EDISON Q500

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THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
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626.00	PLEISTOCENE		UNCONSOLIDATED	88.00	0.00	
538.00	PLEISTOCENE		SHALE	17.00	88.00	
521.00	CARBONDALE	ST. DAVID	LIMESTONE	0.50	105.00	
520.50	CARBONDALE	TURNER MINE	BLACK SHALE	1.00	105.50	
519.50	CARBONDALE	SPRINGFIELD	COAL	4.80	106.50	
514.70	CARBONDALE		UNDERCLAY	0.70	111.30	

13720661000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
COUNTY: MORGAN 16N - R 8W SECTION: 5 5S 815E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 616.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 5 / 6/1970  
Drillers Log Coal Test LOGGED (FT.): 135.00  
SOURCE: COMMONWEALTH EDISON Q415P

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THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
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616.00	PLEISTOCENE		UNCONSOLIDATED	113.20	0.00	
502.80			LIMESTONE	2.20	113.20	
500.60			SANDY SHALE	19.60	115.40	

13720662000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
COUNTY: MORGAN 16N - R 8W SECTION: 9 1330N 5W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 618.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 0 / 0/1970  
Drillers Log Coal Test LOGGED (FT.): 140.00  
SOURCE: COMMONWEALTH EDISON Q367

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THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
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618.00	PLEISTOCENE		UNCONSOLIDATED	112.00	0.00	
506.00			SHALE	28.00	112.00	W/LIME BANDS

13720663000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 9 1660S 180W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 7 /29/1970  
 Drillers Log Coal Test LOGGED (FT.): 140.00  
 SOURCE: COMMONWEALTH EDISON Q2594

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.00	PLEISTOCENE		UNCONSOLIDATED	119.00	0.00	
511.00			SHALE	21.00	119.00	W/LIME BANDS

13720664000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 9 2310S 2640W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 0 / 0/1970  
 Drillers Log Coal Test LOGGED (FT.): 140.00  
 SOURCE: COMMONWEALTH EDISON Q288C

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.00	PLEISTOCENE		UNCONSOLIDATED	135.00	0.00	
485.00			SHALE	5.00	135.00	

13720665000C PROJECT: NCRDS96 QUADRANGLE: PLEASANT PLAINS  
 COUNTY: MORGAN 16N - R 8W SECTION: 9 1320N 5E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 628.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 8 /20/1970  
 Drillers Log Coal Test LOGGED (FT.): 114.00  
 SOURCE: COMMONWEALTH EDISON Q375

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
628.00	PLEISTOCENE		UNCONSOLIDATED	80.00	0.00	
548.00	CARBONDALE		LIMESTONE	2.00	80.00	
546.00	CARBONDALE		SHALE	23.00	82.00	
523.00	CARBONDALE	ST. DAVID	LIMESTONE	0.50	105.00	
522.50	CARBONDALE	TURNER MINE	BLACK SHALE	3.00	105.50	
519.50	CARBONDALE	SPRINGFIELD	COAL	4.50	108.50	
515.00	CARBONDALE		UNDERCLAY	1.00	113.00	

13720666000C PROJECT: NCRDS96 QUADRANGLE: PLEASANT PLAINS  
 COUNTY: MORGAN 16N - R 8W SECTION: 16 2640N 5E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 635.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 8 /21/1970  
 Drillers Log Coal Test LOGGED (FT.): 145.00  
 SOURCE: COMMONWEALTH EDISON Q125

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.00	PLEISTOCENE		UNCONSOLIDATED	108.00	0.00	
527.00	CARBONDALE		SHALE	10.50	108.00	
516.50	CARBONDALE		LS & SH	5.50	118.50	
511.00	CARBONDALE		LIMESTONE	14.00	124.00	
497.00	CARBONDALE		COAL	1.00	138.00	
496.00	CARBONDALE		UNDERCLAY	6.00	139.00	

13720667000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 17 1320N 2640E

CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 635.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 7 /31/1970  
 Drillers Log Coal Test LOGGED (FT.): 111.00  
 SOURCE: COMMONWEALTH EDISON Q163

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
635.00	PLEISTOCENE		UNCONSOLIDATED	65.00	0.00	
	CARBONDALE	HERRIN	SH/COAL	2.00	65.00	
	CARBONDALE		SHALE	6.00	67.00	
	CARBONDALE		LIMESTONE	9.00	73.00	
	CARBONDALE		SH WITH LS	13.00	82.00	
	CARBONDALE		SHALE	8.00	95.00	
	CARBONDALE	ST. DAVID	LIMESTONE	1.00	103.00	
	CARBONDALE	TURNER MINE	BLACK SHALE	1.50	104.00	
	CARBONDALE	SPRINGFIELD	COAL	0.50	105.50	BONE
	CARBONDALE	SPRINGFIELD	COAL	4.50	106.00	
	CARBONDALE		UNDERCLAY	0.50	110.50	

13720668000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 17 1320S 1320E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 638.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 8 / 1/1970  
 Drillers Log Coal Test LOGGED (FT.): 119.00  
 SOURCE: COMMONWEALTH EDISON Q65

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.00	PLEISTOCENE		UNCONSOLIDATED	58.00	0.00	
580.00	CARBONDALE		SHALE	13.00	58.00	
567.00	CARBONDALE	ANNA	BLACK SHALE	2.00	71.00	
565.00	CARBONDALE	HERRIN	COAL	2.00	73.00	
563.00	CARBONDALE		LS W/ SH	19.00	75.00	
544.00	CARBONDALE		SHALE	16.00	94.00	
528.00	CARBONDALE	ST. DAVID	LIMESTONE	1.00	110.00	
527.00	CARBONDALE	TURNER MINE	BLACK SHALE	1.50	111.00	
525.50	CARBONDALE	SPRINGFIELD	COAL	5.80	112.50	.7
519.70	CARBONDALE		UNDERCLAY	0.70	118.30	

13720669000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 17 2640N 50E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 638.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 7 /29/1970  
 Drillers Log Coal Test LOGGED (FT.): 123.00  
 SOURCE: COMMONWEALTH EDISON Q117

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.00	PLEISTOCENE		UNCONSOLIDATED	74.00	0.00	
564.00	CARBONDALE	ANNA	BLACK SHALE	4.00	74.00	
560.00	CARBONDALE	HERRIN	COAL	2.00	78.00	
558.00	CARBONDALE		SHALE	3.00	80.00	
555.00	CARBONDALE		LIMESTONE	5.00	83.00	
550.00	CARBONDALE		SHALE	28.50	88.00	
521.50	CARBONDALE	TURNER MINE	BLACK SHALE	2.00	116.50	
519.50	CARBONDALE	SPRINGFIELD	COAL	4.00	118.50	
515.50	CARBONDALE		UNDERCLAY	0.50	122.50	

13720670000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 18  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 632.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 5 / 0/1970  
 Drillers Log Coal Test LOGGED (FT.): 108.00  
 SOURCE: COMMONWEALTH EDISON Q180

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
632.00	PLEISTOCENE		UNCONSOLIDATED	83.90	0.00	

548.10	CARBONDALE		LIMESTONE	2.00	83.90
546.10	CARBONDALE		SHALE	15.10	85.90
531.00	CARBONDALE	ST. DAVID	LIMESTONE	0.80	101.00
530.20	CARBONDALE	TURNER MINE	DARK SHALE	1.50	101.80
528.70	CARBONDALE	SPRINGFIELD	COAL	3.00	103.30
525.70	CARBONDALE		UNDERCLAY	1.70	106.30

13720671000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
COUNTY: MORGAN 16N - R 8W SECTION: 21 2640N 50W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 635.0 GEOLOGIST: MCCracken DATE COLLECTED: 5 /13/1970  
Drillers Log Coal Test LOGGED (FT.): 135.00  
SOURCE: COMMONWEALTH EDISON U577 ORIGINAL LOG VERY FAINT

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
635.00	PLEISTOCENE		UNCONSOLIDATED	53.50	0.00	
581.50			SHALE	1.50	53.50	
580.00			LIMESTONE	0.50	55.00	
579.50			SHALE	28.70	55.50	
550.80	CARBONDALE	ANNA	BLACK SHALE	1.30	84.20	
549.50	CARBONDALE	HERRIN	COAL	2.10	85.50	
547.40	CARBONDALE		SHALE	36.60	87.60	
510.80	CARBONDALE	ST. DAVID	BLACK LIMESTONE	0.50	124.20	
510.30	CARBONDALE	TURNER MINE	BLACK SHALE	1.60	124.70	
508.70	CARBONDALE	SPRINGFIELD	COAL	4.40	126.30	
504.30	CARBONDALE		SHALE	4.30	130.70	

13720672000C PROJECT: NCRDS96 QUADRANGLE: PLEASANT PLAINS  
COUNTY: MORGAN 16N - R 8W SECTION: 21 5N 5E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 638.0 GEOLOGIST: MCCracken DATE COLLECTED: 4 /25/1970  
Drillers Log Coal Test LOGGED (FT.): 135.00  
SOURCE: COMMONWEALTH EDISON U625 ORIGINAL LOG IS FAINT

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
638.00	PLEISTOCENE		UNCONSOLIDATED	50.00	0.00	
588.00			SHALE	34.00	50.00	
554.00	CARBONDALE	ANNA	BLACK SHALE	1.00	84.00	
553.00	CARBONDALE	HERRIN	COAL	2.50	85.00	
550.50	CARBONDALE		SHALE	41.00	87.50	
509.50	CARBONDALE	ST. DAVID	LIMESTONE	1.00	128.50	
508.50	CARBONDALE	SPRINGFIELD	COAL	4.00	129.50	
504.50	CARBONDALE		UNDERCLAY	1.50	133.50	

13720673000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
COUNTY: MORGAN 16N - R 8W SECTION: 21 5N 2640W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: MCCracken DATE COLLECTED: 8 /22/1970  
Drillers Log Coal Test LOGGED (FT.): 134.00  
SOURCE: COMMONWEALTH EDISON U621

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
640.00	PLEISTOCENE		UNCONSOLIDATED	75.00	0.00	
565.00	CARBONDALE		SHALE	14.00	75.00	
551.00	CARBONDALE	HERRIN	BKSH & COAL	2.00	89.00	
549.00	CARBONDALE		SHALE	2.00	91.00	
547.00	CARBONDALE		LIMESTONE	3.50	93.00	
543.50	CARBONDALE		SHALE	30.50	96.50	
513.00	CARBONDALE	ST. DAVID	LIMESTONE	0.50	127.00	
512.50	CARBONDALE	TURNER MINE	BLACK SHALE	0.50	127.50	
512.00	CARBONDALE	SPRINGFIELD	COAL	0.50	128.00	BONE
511.50	CARBONDALE	SPRINGFIELD	COAL	4.50	128.50	
507.00	CARBONDALE		UNDERCLAY	1.00	133.00	

13720674000C PROJECT: NCRDS96 QUADRANGLE: PLEASANT PLAINS  
 COUNTY: MORGAN 16N - R 8W SECTION: 21 2310N 1320E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 8 / 3/1970  
 Drillers Log Coal Test LOGGED (FT.): 138.00  
 SOURCE: COMMONWEALTH EDISON U523C

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.00	PLEISTOCENE		UNCONSOLIDATED	65.00	0.00	
575.00			SHALE	24.00	65.00	
551.00	CARBONDALE	HERRIN	BKSH & COAL	2.00	89.00	
549.00	CARBONDALE		SHALE	10.00	91.00	
539.00	CARBONDALE		LIMESTONE	3.00	101.00	
536.00	CARBONDALE		SHALE	6.00	104.00	
530.00	CARBONDALE		LIMESTONE	10.00	110.00	
520.00	CARBONDALE		SHALE	11.00	120.00	
509.00	CARBONDALE	TURNER MINE	BLACK SHALE	1.50	131.00	
507.50	CARBONDALE	SPRINGFIELD	COAL	4.50	132.50	
503.00	CARBONDALE		UNDERCLAY	1.00	137.00	

13720675000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 21 5N 5W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 638.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 5 / 6/1970  
 Drillers Log Coal Test LOGGED (FT.): 130.00  
 SOURCE: COMMONWEALTH EDISON U617

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.00	PLEISTOCENE		UNCONSOLIDATED	54.00	0.00	
584.00			SHALE	20.00	54.00	
564.00	CARBONDALE	ANNA	BLACK SHALE	5.90	74.00	
558.10	CARBONDALE	HERRIN	COAL	3.30	79.90	
554.80	CARBONDALE		SHALE	8.50	83.20	
546.30	CARBONDALE		LIMESTONE	1.30	91.70	
545.00	CARBONDALE		SHALE	3.70	93.00	
541.30	CARBONDALE		LIMESTONE	1.00	96.70	
540.30	CARBONDALE		SHALE	23.70	97.70	
516.60	CARBONDALE	ST. DAVID	LIMESTONE	0.80	121.40	
515.80	CARBONDALE	TURNER MINE	BLACK SHALE	0.30	122.20	
515.50	CARBONDALE	SPRINGFIELD	COAL	6.20	122.50	
509.30	CARBONDALE		UNDERCLAY	1.30	128.70	

13720676000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 28 2640N 1320W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 650.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 7 / 30/1970  
 Drillers Log Coal Test LOGGED (FT.): 140.00  
 SOURCE: COMMONWEALTH EDISON U319

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
650.00	PLEISTOCENE		UNCONSOLIDATED	78.00	0.00	
572.00			SHALE	7.00	78.00	
565.00	CARBONDALE	HERRIN	COAL	2.00	85.00	
563.00	CARBONDALE		SHALE	5.00	87.00	
558.00	CARBONDALE		LIMESTONE	7.00	92.00	
551.00	CARBONDALE		SHALE	22.00	99.00	
529.00	CARBONDALE	ST. DAVID	LIMESTONE	5.00	121.00	
524.00	CARBONDALE	SPRINGFIELD	COAL	1.50	126.00	
522.50	CARBONDALE		SHALE	12.50	127.50	

13720677000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 8W SECTION: 28 1320N 2640E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 638.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 7 / 31/1970  
 Drillers Log Coal Test LOGGED (FT.): 112.00  
 SOURCE: COMMONWEALTH EDISON U371

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
638.00	PLEISTOCENE		UNCONSOLIDATED	35.00	0.00	
603.00			SHALE	32.00	35.00	
571.00	CARBONDALE	ANNA	BLACK SHALE	1.00	67.00	
570.00	CARBONDALE		SHALE	4.00	68.00	
566.00	CARBONDALE		LIMESTONE	6.00	72.00	
560.00	CARBONDALE		SHALE	29.00	78.00	
531.00	CARBONDALE	SPRINGFIELD	COAL	4.00	107.00	
527.00	CARBONDALE		UNDERCLAY	1.00	111.00	

13720678000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
COUNTY: MORGAN 16N - R 8W SECTION: 20 50S 2358W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 610.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 5 / 7/1970  
Drillers Log Coal Test LOGGED (FT.): 130.00  
SOURCE: COMMONWEALTH EDISON U412BA

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
610.00	PLEISTOCENE		UNCONSOLIDATED	66.10	0.00	
543.90	CARBONDALE		SHALE	17.80	66.10	
526.10	CARBONDALE	ST. DAVID	LIMESTONE	0.40	83.90	
525.70	CARBONDALE	TURNER MINE	BLACK SHALE	1.60	84.30	
524.10	CARBONDALE	SPRINGFIELD	COAL	2.80	85.90	
521.30	CARBONDALE		SHALE	5.80	88.70	
515.50	CARBONDALE	EXCELLO	BLACK SHALE	1.60	94.50	
513.90	CARBONDALE	HOUCHIN CREEK	COAL	0.10	96.10	
513.80	CARBONDALE		CLAYSTONE & SH	4.10	96.20	
509.70	CARBONDALE		SHALE	6.00	100.30	
503.70	CARBONDALE		SANDSTONE	4.20	106.30	
499.50	CARBONDALE		LIMESTONE	2.40	110.50	
497.10	CARBONDALE		SANDY SHALE	17.10	112.90	

13720679000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
COUNTY: MORGAN 16N - R 8W SECTION: 28 5N 1320W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 7 / 31/1970  
Drillers Log Coal Test LOGGED (FT.): 106.00  
SOURCE: COMMONWEALTH EDISON U419

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.00	PLEISTOCENE		UNCONSOLIDATED	60.00	0.00	
560.00	CARBONDALE		SHALE	5.00	60.00	
555.00	CARBONDALE		LIMESTONE	11.00	65.00	
544.00	CARBONDALE		SHALE	20.00	76.00	
524.00	CARBONDALE	ST. DAVID	LIMESTONE	3.50	96.00	
520.50	CARBONDALE	TURNER MINE	BLACK SHALE	1.00	99.50	
519.50	CARBONDALE	SPRINGFIELD	COAL	4.50	100.50	
515.00	CARBONDALE		UNDERCLAY	1.00	105.00	

13720680000C PROJECT: NCRDS96 QUADRANGLE: PRENTICE  
COUNTY: MORGAN 16N - R 8W SECTION: 31 2640N 1980E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 641.0 GEOLOGIST: MCCrackEN DATE COLLECTED: 5 / 0/1970  
Drillers Log Coal Test LOGGED (FT.): 142.00  
SOURCE: COMMONWEALTH EDISON U106

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
641.00	PLEISTOCENE		UNCONSOLIDATED	128.00	0.00	
513.00			SHALE	14.00	128.00	

13720773000C PROJECT: NCRDS95 QUADRANGLE: NEW BERLIN  
 COUNTY: MORGAN 14N - R 8W SECTION: 28 2510S 1000E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 680.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 4 /28/1981  
 Drillers Log Coal Test LOGGED (FT.): 368.00  
 SOURCE: UTAH INTERNATIONAL MOR-81-01

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
680.00			UNKNOWN	26.00	0.00	
654.00			SHALE	24.00	26.00	
630.00			SH WITH LS	2.00	50.00	
628.00			GRAY SHALE	1.00	52.00	
627.00			BLACK SHALE	3.00	53.00	
624.00			SHALE	6.00	56.00	
618.00			SH WITH LS	2.00	62.00	
616.00			SH & SS	17.00	64.00	
599.00			GRAY SHALE	14.00	81.00	
585.00			SANDY SHALE	15.00	95.00	
570.00			SANDY SHALE	14.00	110.00	
556.00			SANDY SHALE	10.00	124.00	
546.00			SHALE	9.00	134.00	
537.00			GRAY SHALE	2.00	143.00	
535.00			BLACK SHALE	2.00	145.00	
533.00			DARK CLAYSTONE	7.00	147.00	
526.00			SH WITH LS	3.00	154.00	
523.00			SHALE	5.00	157.00	
518.00			GRAY SHALE	4.00	162.00	
514.00			LIMESTONE	4.00	166.00	
510.00			GRAY SHALE	12.00	170.00	
498.00			SANDY SHALE	5.00	182.00	
493.00			GRAY SHALE	3.00	187.00	
490.00			BLACK SHALE	2.00	190.00	
488.00			SANDY SHALE	4.00	192.00	
484.00			SHALE	4.00	196.00	
480.00			LIMESTONE	4.00	200.00	
476.00			GRAY SHALE	4.00	204.00	
472.00			BLACK SHALE	1.00	208.00	
471.00	CARBONDALE	HERRIN	COAL	1.30	209.00	
469.70	CARBONDALE	HERRIN	COAL W/PYRITE	0.30	210.30	
469.40	CARBONDALE	HERRIN	COAL	3.90	210.60	
465.50	CARBONDALE		UNDERCLAY	6.50	214.50	
459.00	CARBONDALE		GRAY SHALE	1.00	221.00	
458.00	CARBONDALE		SHALE	5.00	222.00	
453.00	CARBONDALE		LIMESTONE	2.00	227.00	
451.00	CARBONDALE		SH WITH LS	1.00	229.00	
450.00	CARBONDALE	TURNER MINE	BLACK SHALE	2.00	230.00	
448.00	CARBONDALE		SHALE	3.00	232.00	
445.00	CARBONDALE		SANDY SHALE	14.00	235.00	
431.00	CARBONDALE		SHALE	5.00	249.00	
426.00	CARBONDALE		SANDY SHALE	32.00	254.00	
394.00	CARBONDALE		SHALE	14.50	286.00	
379.50	CARBONDALE		SANDY SHALE	9.50	300.50	
370.00	CARBONDALE		SHALE	24.00	310.00	
346.00	CARBONDALE		GRAY SHALE	1.00	334.00	
345.00	CARBONDALE		LIMESTONE	2.00	335.00	
343.00	CARBONDALE	MECCA QUARRY	BLACK SHALE	3.50	337.00	
339.50	CARBONDALE	COLCHESTER	COAL	2.20	340.50	
337.30	SPOON		UNDERCLAY	1.30	342.70	
336.00	SPOON		CLAYSTONE & LS	2.00	344.00	
334.00	SPOON		GRAY SHALE	3.00	346.00	
331.00	SPOON		LIMESTONE	2.00	349.00	
329.00	SPOON		GRAY SHALE	11.00	351.00	
318.00	SPOON		SH WITH LS	3.00	362.00	
315.00	SPOON		GRAY SHALE	3.00	365.00	

13720803000C PROJECT: NCRDS91 QUADRANGLE: FRANKLIN  
 COUNTY: MORGAN 13N - R 9W SECTION: 5 2100N 45E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 680.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 7/1981  
 Drillers Log Coal Test LOGGED (FT.): 305.00  
 SOURCE: PHILLIPS COAL CO. MO-72 TOTAL DEPTH UNREADABLE-LOOKS LIKE 305'

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
680.00			UNCLASSIFIED	285.50	0.00	
394.50	CARBONDALE	COLCHESTER	COAL	0.60	285.50	
393.90	CARBONDALE	COLCHESTER	SHALE	0.40	286.10	PARTING
393.50	CARBONDALE	COLCHESTER	COAL	0.40	286.50	

13720804000C PROJECT: NCRDS91 QUADRANGLE: FRANKLIN  
 COUNTY: MORGAN 13N - R 9W SECTION: 11 SESENW  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 665.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 3/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-60

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
665.00			UNCLASSIFIED	180.20	0.00	
484.80	CARBONDALE	HERRIN	COAL	0.90	180.20	
483.90	CARBONDALE	HERRIN	SHALE	0.40	181.10	PARTING
483.50	CARBONDALE	HERRIN	COAL	1.40	181.50	

13720805000C PROJECT: NCRDS91 QUADRANGLE: FRANKLIN  
 COUNTY: MORGAN 13N - R 9W SECTION: 15 1450S 1100W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 651.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 5/1981  
 Drillers Log Coal Test LOGGED (FT.): 321.00  
 SOURCE: PHILLIPS COAL CO. MO-65 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
651.00			UNCLASSIFIED	125.40	0.00	
525.60	CARBONDALE	HERRIN	COAL	0.60	125.40	
525.00	CARBONDALE	HERRIN	SHALE	0.30	126.00	PARTING
524.70	CARBONDALE	HERRIN	COAL	1.60	126.30	
523.10	CARBONDALE	HERRIN	SHALE	0.50	127.90	PARTING
522.60	CARBONDALE	HERRIN	COAL	1.30	128.40	
522.60			UNCLASSIFIED	126.40	129.70	
394.90	CARBONDALE	COLCHESTER	COAL	2.50	256.10	
394.90			UNCLASSIFIED	39.20	258.60	
353.20	SPOON		COAL	1.20	297.80	
353.20			UNCLASSIFIED	5.10	299.00	
346.90	SPOON		COAL	2.50	304.10	
346.90			UNCLASSIFIED	6.30	306.60	
338.10	SPOON		COAL	1.10	312.90	

13720806000C PROJECT: NCRDS91 QUADRANGLE: FRANKLIN  
 COUNTY: MORGAN 13N - R 9W SECTION: 17 325S 2225E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 642.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 6/1981  
 Drillers Log Coal Test LOGGED (FT.): 254.00  
 SOURCE: PHILLIPS COAL CO. MO-68 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
642.00			UNCLASSIFIED	230.20	0.00	
411.80	CARBONDALE	COLCHESTER	COAL	2.80	230.20	

13720807000C PROJECT: NCRDS91 QUADRANGLE: FRANKLIN  
 COUNTY: MORGAN 13N - R 9W SECTION: 26 250S 1100E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 612.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 4/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-63 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
612.00			UNCLASSIFIED	234.00	0.00	
378.00	CARBONDALE	COLCHESTER	COAL	2.60	234.00	
378.00			UNCLASSIFIED	44.80	236.60	
330.60	SPOON		COAL	1.40	281.40	
329.20	SPOON		SHALE	0.60	282.80	PARTING
328.60	SPOON		COAL	0.60	283.40	
328.60			UNCLASSIFIED	4.40	284.00	

323.60 SPOON COAL 2.70 288.40

13720808000C PROJECT: NCRDS91 QUADRANGLE: FRANKLIN  
COUNTY: MORGAN 13N - R 9W SECTION: 33 250N 650W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 5/1981  
Drillers Log Coal Test LOGGED (FT.): 301.00  
SOURCE: PHILLIPS COAL CO. MO-66 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.00			UNCLASSIFIED	235.90	0.00	
384.10	CARBONDALE	COLCHESTER	COAL	2.50	235.90	
384.10			UNCLASSIFIED	40.20	238.40	
341.40	SPOON		COAL	2.70	278.60	

13720809000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
COUNTY: MORGAN 13N - R10W SECTION: 1 1000S 1500W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 680.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 7/1981  
Drillers Log Coal Test LOGGED (FT.): 310.00  
SOURCE: PHILLIPS COAL CO. MO-73 EXACT DAY UNREADABLE EITHER 7TH OR 8TH

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
680.00			UNCLASSIFIED	157.40	0.00	
522.60	CARBONDALE	HERRIN	COAL	4.50	157.40	NAME AND THKNNESS UNRELIABLE-BAD LOG COPY
522.60			UNCLASSIFIED	123.80	161.90	
394.30	CARBONDALE	COLCHESTER	COAL	1.00	285.70	THCKNESS GUESSED DUE TO BAD LOG COPY

13720810000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
COUNTY: MORGAN 13N - R10W SECTION: 5 200N 1800E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 688.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 3/1981  
Drillers Log Coal Test LOGGED (FT.): 270.00  
SOURCE: PHILLIPS COAL CO. MO-59 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
688.00			UNCLASSIFIED	246.50	0.00	
441.50	CARBONDALE	COLCHESTER	COAL	2.60	246.50	

13720811000C PROJECT: EIA-DOE QUADRANGLE: NORTONVILLE \* ALTERNATE DESCRIPTION ON FILE \*  
COUNTY: MORGAN 13N - R10W SECTION: 10 150N 1300E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 687.0 GEOLOGIST: JACOBSON DATE COLLECTED: 9 / 23/1981  
Drillers Log Coal Test LOGGED (FT.): 277.00  
SOURCE: PHILLIPS COAL CO. MO-91 ELECTRIC LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
687.00			UNCLASSIFIED	115.60	0.00	
571.40	CARBONDALE	HERRIN	COAL	1.90	115.60	

13720811000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE \* ALTERNATE DESCRIPTION ON FILE \*  
COUNTY: MORGAN 13N - R10W SECTION: 10 150N 1300E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 687.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 23/1981

Drillers Log Coal Test LOGGED (FT.): 277.00  
 SOURCE: PHILLIPS COAL CO. MO-91 SEE LOG FOR HERRIN HORIZON INFO

				THICKNESS (FT.)		
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
687.00			UNCLASSIFIED	115.60	0.00	
571.40	CARBONDALE	DANVILLE	COAL	1.90	115.60	ONLY LOGGED COAL, LOG STATES ' #6 ? '
571.40			UNCLASSIFIED	145.40	117.50	
424.10	CARBONDALE	COLCHESTER	COAL	2.50	262.90	

13720812000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
 COUNTY: MORGAN 13N - R10W SECTION: 10 50N 10W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 670.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 23/1981  
 Drillers Log Coal Test LOGGED (FT.): 255.00  
 SOURCE: PHILLIPS COAL CO. MO-92 ONLY LOGGED COAL

				THICKNESS (FT.)		
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
670.00			UNCLASSIFIED	232.70	0.00	
437.30	CARBONDALE	COLCHESTER	COAL	2.60	232.70	

13720813000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
 COUNTY: MORGAN 13N - R10W SECTION: 11 1500N 800E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 682.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 6/1981  
 Drillers Log Coal Test LOGGED (FT.): 255.00  
 SOURCE: PHILLIPS COAL CO. MO-69 ONLY LOGGED COAL

				THICKNESS (FT.)		
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
682.00			UNCLASSIFIED	215.70	0.00	
466.30	CARBONDALE	COLCHESTER	COAL	2.30	215.70	
466.30			UNCLASSIFIED	15.50	218.00	
448.50	SPOON		COAL	1.60	233.50	
447.90	SPOON		SHALE	0.40	234.10	PARTING
446.50	SPOON		COAL	0.50	235.50	

13720814000C PROJECT: EIA-DOE QUADRANGLE: NORTONVILLE \* ALTERNATE DESCRIPTION ON FILE \*  
 COUNTY: MORGAN 13N - R10W SECTION: 13 1900S 100E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 652.0 GEOLOGIST: JACOBSON DATE COLLECTED: 9 / 7/1981  
 Drillers Log Coal Test LOGGED (FT.): 260.00  
 SOURCE: PHILLIPS COAL CO. MO-71 ELECTRIC LOG

				THICKNESS (FT.)		
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
652.00			UNCLASSIFIED	110.60	0.00	
541.40	CARBONDALE	HERRIN	COAL	1.60	110.60	

13720814000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE \* ALTERNATE DESCRIPTION ON FILE \*  
 COUNTY: MORGAN 13N - R10W SECTION: 13 1900S 100E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 652.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 7/1981  
 Drillers Log Coal Test LOGGED (FT.): 260.00  
 SOURCE: PHILLIPS COAL CO. MO-71 ONLY LOGGED COAL

				THICKNESS (FT.)		
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
652.00			UNCLASSIFIED	110.60	0.00	

541.40	CARBONDALE	HERRIN	COAL	1.60	110.60	ONLY LOG'D COAL, NAME ILLEGIBLE-ASSUMED 5
541.40			UNCLASSIFIED	134.40	112.20	
405.40	CARBONDALE	COLCHESTER	COAL	2.60	246.60	

13720815000C PROJECT: NCRDS91 QUADRANGLE: MANCHESTER  
COUNTY: MORGAN 13N - R10W SECTION: 19 1000N 3500W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 675.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 5/1981  
Drillers Log Coal Test LOGGED (FT.): 258.00  
SOURCE: PHILLIPS COAL CO. MO-64 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
675.00			UNCLASSIFIED	205.00	0.00	
470.00	CARBONDALE	COLCHESTER	COAL	2.30	205.00	
470.00			UNCLASSIFIED	44.50	207.30	
423.20	SPOON		COAL	2.20	251.80	ONLY LOGGED COAL, LOG LISTS '2.2P'

13720816000C PROJECT: NCRDS91 QUADRANGLE: MANCHESTER  
COUNTY: MORGAN 13N - R11W SECTION: 1 900S 50E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 660.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 21/1981  
Drillers Log Coal Test LOGGED (FT.): 252.00  
SOURCE: PHILLIPS COAL CO. MO-52 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
660.00			UNCLASSIFIED	203.00	0.00	
457.00	CARBONDALE	COLCHESTER	COAL	2.40	203.00	

13720817000C PROJECT: NCRDS91 QUADRANGLE: MANCHESTER  
COUNTY: MORGAN 13N - R11W SECTION: 13 2200S 700W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 680.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 30/1981  
Drillers Log Coal Test LOGGED (FT.): 238.00  
SOURCE: PHILLIPS COAL CO. MO-57 SEE LOG FOR DANVILLE HORIZON INFO

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
680.00			UNCLASSIFIED	116.40	0.00	
563.60	CARBONDALE	HERRIN	COAL	1.30	116.40	
562.30	CARBONDALE	HERRIN	SHALE	0.40	117.70	PARTING
561.90	CARBONDALE	HERRIN	COAL	2.10	118.10	
561.90			UNCLASSIFIED	27.20	120.20	
532.60	CARBONDALE	HOUCHIN CREEK	COAL	3.70	147.40	
532.60			UNCLASSIFIED	2.10	151.10	
526.80	CARBONDALE	KERTON CREEK	COAL	3.20	153.20	
526.80			UNCLASSIFIED	37.80	156.40	
485.80	CARBONDALE	COLCHESTER	COAL	2.20	194.20	

13720818000C PROJECT: NCRDS91 QUADRANGLE: MANCHESTER  
COUNTY: MORGAN 13N - R11W SECTION: 13 1000N 300E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 685.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 7/1981  
Drillers Log Coal Test LOGGED (FT.): 258.00  
SOURCE: PHILLIPS COAL CO. MO-70 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
685.00			UNCLASSIFIED	138.20	0.00	
546.80	CARBONDALE	HERRIN	COAL	1.00	138.20	
545.80	CARBONDALE	HERRIN	SHALE	0.40	139.20	PARTING
545.40	CARBONDALE	HERRIN	COAL	2.00	139.60	

545.40			UNCLASSIFIED	24.50	141.60	
518.90	CARBONDALE	HOUCHIN CREEK	COAL	1.70	166.10	COMPANY CALLED THIS THE #4B
518.90			UNCLASSIFIED	3.00	167.80	
514.20	CARBONDALE	KERTON CREEK	COAL	2.30	170.80	
514.20			UNCLASSIFIED	58.00	173.10	
453.90	CARBONDALE	COLCHESTER	COAL	2.50	231.10	

13720819000C PROJECT: NCRDS91 QUADRANGLE: MANCHESTER  
COUNTY: MORGAN 13N - R11W SECTION: 24 70N 730E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 685.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /23/1981  
Drillers Log Coal Test LOGGED (FT.): 198.00  
SOURCE: PHILLIPS COAL CO. MO-90 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
-----						
685.00			UNCLASSIFIED	189.20	0.00	
495.80	CARBONDALE	COLCHESTER	COAL	2.60	189.20	

13720820000C PROJECT: NCRDS91 QUADRANGLE: MANCHESTER  
COUNTY: MORGAN 13N - R11W SECTION: 25 10N 200E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 641.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 4/1981  
Drillers Log Coal Test LOGGED (FT.): 221.00  
SOURCE: PHILLIPS COAL CO. MO-62

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
-----						
641.00			UNCLASSIFIED	170.00	0.00	
471.00	CARBONDALE	COLCHESTER	COAL	0.60	170.00	
470.40	CARBONDALE	COLCHESTER	SHALE	0.40	170.60	PARTING
470.00	CARBONDALE	COLCHESTER	COAL	1.70	171.00	THICKNESS ILLEGIBLE-ASSUMED 1.7'

13720821000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
COUNTY: MORGAN 13N - R10W SECTION: 14 SESWNW  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 652.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /24/1981  
Drillers Log Coal Test LOGGED (FT.): 250.00  
SOURCE: PHILLIPS COAL CO. MO-94 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
-----						
652.00			UNCLASSIFIED	232.00	0.00	
420.00	CARBONDALE	COLCHESTER	COAL	2.60	232.00	

13720822000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
COUNTY: MORGAN 13N - R10W SECTION: 17 NWNSE  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 660.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /25/1981  
Drillers Log Coal Test LOGGED (FT.): 101.00  
SOURCE: PHILLIPS COAL CO. MO-99

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
-----						
660.00			UNCLASSIFIED	0.00	0.00	
660.00			UNCLASSIFIED	101.00		NO COAL FOUND

13720823000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE

COUNTY: MORGAN 13N - R10W SECTION: 22 SWSNW  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /24/1981  
 Drillers Log Coal Test LOGGED (FT.): 220.00  
 SOURCE: PHILLIPS COAL CO. MO-93 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.00			UNCLASSIFIED	182.70	0.00	
457.30	CARBONDALE	COLCHESTER	COAL	2.50	182.70	

13720824000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 14N - R 9W SECTION: 3 86N 105E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 665.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /18/1981  
 Drillers Log Coal Test LOGGED (FT.): 286.00  
 SOURCE: PHILLIPS COAL CO. MO-39 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
665.00			UNCLASSIFIED	131.60	0.00	
533.40	CARBONDALE	HERRIN	COAL	0.80	131.60	
532.60	CARBONDALE	HERRIN	SHALE	0.60	132.40	PARTING
532.00	CARBONDALE	HERRIN	COAL	1.00	133.00	
532.00			UNCLASSIFIED	134.90	134.00	
396.10	CARBONDALE	COLCHESTER	COAL	2.40	268.90	

13720825000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 14N - R 9W SECTION: 4 45S 2450W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 671.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 / 9/1981  
 Drillers Log Coal Test LOGGED (FT.): 294.00  
 SOURCE: PHILLIPS COAL CO. MO-75 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
671.00			UNCLASSIFIED	122.10	0.00	
548.90	CARBONDALE	DANVILLE	COAL	1.70	122.10	
548.90			UNCLASSIFIED	25.70	123.80	
521.50	CARBONDALE	HERRIN	COAL	1.90	149.50	
521.50			UNCLASSIFIED	131.00	151.40	
388.60	CARBONDALE	COLCHESTER	COAL	2.40	282.40	

13720826000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 14N - R 9W SECTION: 6 325S 110E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /11/1981  
 Drillers Log Coal Test LOGGED (FT.): 299.00  
 SOURCE: PHILLIPS COAL CO. MO-78 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.00			UNCLASSIFIED	233.70	0.00	
406.30	CARBONDALE	COLCHESTER	COAL	2.40	233.70	
406.30			UNCLASSIFIED	8.50	236.10	
395.40	SPOON		COAL	1.10	244.60	

13720827000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 14N - R 9W SECTION: 11 675S 840E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /12/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-80 SEE LOG FOR DANVILLE HORIZON INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.00			UNCLASSIFIED	184.30	0.00	
505.70	CARBONDALE	HERRIN	COAL	1.60	184.30	
504.10	CARBONDALE	HERRIN	SHALE	0.70	185.90	PARTING
503.40	CARBONDALE	HERRIN	COAL	1.00	186.60	

13720828000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
COUNTY: MORGAN 14N - R 9W SECTION: 16 2000S 2100W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 10 / 1981  
Drillers Log Coal Test LOGGED (FT.): 321.00  
SOURCE: PHILLIPS COAL CO. MO-77 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.00			UNCLASSIFIED	301.80	0.00	
388.20	CARBONDALE	COLCHESTER	COAL	2.50	301.80	

13720829000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
COUNTY: MORGAN 14N - R 9W SECTION: 20 2450N 45W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 691.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 9 / 1981  
Drillers Log Coal Test LOGGED (FT.): 303.00  
SOURCE: PHILLIPS COAL CO. MO-74 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
691.00			UNCLASSIFIED	150.10	0.00	
540.90	CARBONDALE	DANVILLE	COAL	1.70	150.10	
540.90			UNCLASSIFIED	24.70	151.80	
514.50	CARBONDALE	HERRIN	COAL	2.60	176.50	

13720830000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
COUNTY: MORGAN 14N - R 9W SECTION: 24 2400N 1450W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 694.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 12 / 1981  
Drillers Log Coal Test LOGGED (FT.): 300.00  
SOURCE: PHILLIPS COAL CO. MO-82 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
694.00			UNCLASSIFIED	193.80	0.00	
500.20	CARBONDALE	HERRIN	COAL	1.10	193.80	
499.10	CARBONDALE	HERRIN	SHALE	0.40	194.90	PARTING
498.70	CARBONDALE	HERRIN	COAL	3.60	195.30	

13720831000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
COUNTY: MORGAN 14N - R 9W SECTION: 28 2225S 35W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 702.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 4 / 1981  
Drillers Log Coal Test LOGGED (FT.): 302.00  
SOURCE: PHILLIPS COAL CO. MO-61 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
702.00			UNCLASSIFIED	180.20	0.00	
521.80	CARBONDALE	HERRIN	COAL	3.20	180.20	

13720832000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
 COUNTY: MORGAN 14N - R 9W SECTION: 30 36S 115E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 693.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /21/1981  
 Drillers Log Coal Test LOGGED (FT.): 309.00  
 SOURCE: PHILLIPS COAL CO. MO-86 SEE LOG FOR DANVILLE HORIZON INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
693.00			UNCLASSIFIED	173.90	0.00	
519.10	CARBONDALE	HERRIN	COAL	1.60	173.90	
517.50	CARBONDALE	HERRIN	SHALE	0.80	175.50	PARTING
516.70	CARBONDALE	HERRIN	COAL	1.60	176.30	
516.70			UNCLASSIFIED	41.50	177.90	
473.60	CARBONDALE	HOUCHIN CREEK	COAL	1.60	219.40	
473.60			UNCLASSIFIED	68.50	221.00	
403.50	CARBONDALE	COLCHESTER	COAL	2.50	289.50	

13720833000C PROJECT: NCRDS91 QUADRANGLE: FRANKLIN  
 COUNTY: MORGAN 14N - R 9W SECTION: 34 2550N 1525E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 686.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 / 6/1981  
 Drillers Log Coal Test LOGGED (FT.): 321.00  
 SOURCE: PHILLIPS COAL CO. MO-67

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
686.00			UNCLASSIFIED	204.40	0.00	
481.60	CARBONDALE	HERRIN	COAL	0.70	204.40	
480.90	CARBONDALE	HERRIN	SHALE	0.50	205.10	PARTING
480.40	CARBONDALE	HERRIN	COAL	3.20	205.60	

13720834000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 14N - R10W SECTION: 4 38S 60W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 629.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /29/1981  
 Drillers Log Coal Test LOGGED (FT.): 300.00  
 SOURCE: PHILLIPS COAL CO. MO-104 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
629.00			UNCLASSIFIED	270.60	0.00	
358.40			COAL	3.40	270.60	

13720835000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 14N - R10W SECTION: 8 1521N 30E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /11/1981  
 Drillers Log Coal Test LOGGED (FT.): 271.00  
 SOURCE: PHILLIPS COAL CO. MO-79 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.00			UNCLASSIFIED	99.90	0.00	
540.10	CARBONDALE	DANVILLE	COAL	2.30	99.90	
540.10			UNCLASSIFIED	22.00	102.20	
515.80	CARBONDALE	HERRIN	COAL	2.60	124.20	
513.20	CARBONDALE	HERRIN	SHALE	0.60	126.80	PARTING
512.60	CARBONDALE	HERRIN	COAL	1.90	127.40	
512.60			UNCLASSIFIED	20.80	129.30	
489.90	CARBONDALE	HOUCHIN CREEK	COAL	3.60	150.10	COMPANY CALLED THIS THE #4B
489.90			UNCLASSIFIED	1.80	153.70	
484.50	CARBONDALE	KERTON CREEK	COAL	2.40	155.50	

484.50 UNCLASSIFIED 52.70 157.90  
 429.40 CARBONDALE COLCHESTER COAL 2.60 210.60

13720836000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 14N - R10W SECTION: 9 NWNENW  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /25/1981  
 Drillers Log Coal Test LOGGED (FT.): 258.00  
 SOURCE: PHILLIPS COAL CO. MO-98 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.00			UNCLASSIFIED	139.20	0.00	
500.80	CARBONDALE	DANVILLE	COAL	2.50	139.20	
500.80			UNCLASSIFIED	20.70	141.70	
477.60	CARBONDALE	HERRIN	COAL	3.20	162.40	
474.40	CARBONDALE	HERRIN	SHALE	0.40	165.60	PARTING
474.00	CARBONDALE	HERRIN	COAL	1.70	166.00	
474.00			UNCLASSIFIED	29.30	167.70	
443.00	CARBONDALE	HOUCHIN CREEK	COAL	1.80	197.00	
443.00			UNCLASSIFIED	4.00	198.80	
437.20	CARBONDALE	HOUCHIN CREEK	COAL	0.80	202.80	
437.20			UNCLASSIFIED	2.40	203.60	
434.00	CARBONDALE	KERTON CREEK	COAL	5.00	206.00	
434.00			UNCLASSIFIED	33.40	211.00	
395.60	CARBONDALE	COLCHESTER	COAL	2.60	244.40	

13720837000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 14N - R10W SECTION: 12 12N 25E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /21/1981  
 Drillers Log Coal Test LOGGED (FT.): 265.00  
 SOURCE: PHILLIPS COAL CO. MO-87 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.00			UNCLASSIFIED	228.80	0.00	
411.20	CARBONDALE	COLCHESTER	COAL	2.20	228.80	

13720838000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 14N - R10W SECTION: 13 35N 95E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 660.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /21/1981  
 Drillers Log Coal Test LOGGED (FT.): 320.00  
 SOURCE: PHILLIPS COAL CO. MO-84 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.00			UNCLASSIFIED	91.80	0.00	
568.20	CARBONDALE	DANVILLE	COAL	1.80	91.80	
568.20			UNCLASSIFIED	159.60	93.60	
406.80	CARBONDALE	COLCHESTER	COAL	2.20	253.20	
406.80			UNCLASSIFIED	35.10	255.40	
369.50	SPOON		COAL	2.30	290.50	
369.50			UNCLASSIFIED	6.00	292.80	
361.20	SPOON		COAL	2.40	298.80	

13720839000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 14N - R10W SECTION: 16 14N 30W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 665.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /21/1981  
 Drillers Log Coal Test LOGGED (FT.): 245.00  
 SOURCE: PHILLIPS COAL CO. MO-83 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
665.00			UNCLASSIFIED	88.00	0.00	
577.00	CARBONDALE	DANVILLE	COAL	1.90	88.00	
577.00			UNCLASSIFIED	22.70	89.90	
552.40	CARBONDALE	HERRIN	COAL	1.00	112.60	
552.40			UNCLASSIFIED	120.70	113.60	
430.70	CARBONDALE	COLCHESTER	COAL	2.10	234.30	

13720840000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
COUNTY: MORGAN 14N - R10W SECTION: 16 NWNWNW  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 658.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /22/1981  
Drillers Log Coal Test LOGGED (FT.): 321.00  
SOURCE: PHILLIPS COAL CO. MO-89 ONLY LOGGED COAL

							THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT	
658.00			UNCLASSIFIED	113.20	0.00		
544.80	CARBONDALE	HERRIN	COAL	1.30	113.20	ONLY LOGGED COAL, NAME WAS #4? IN LOG	
544.80			UNCLASSIFIED	126.70	114.50		
416.80	CARBONDALE	COLCHESTER	COAL	2.50	241.20		

13720841000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
COUNTY: MORGAN 14N - R10W SECTION: 17 185S 210W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 635.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /10/1981  
Drillers Log Coal Test LOGGED (FT.): 286.00  
SOURCE: PHILLIPS COAL CO. MO-81 ONLY LOGGED COAL

							THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT	
635.00			UNCLASSIFIED	203.80	0.00		
431.20	CARBONDALE	COLCHESTER	COAL	2.60	203.80		

13720842000C PROJECT: NCRDS91 QUADRANGLE: NORTONVILLE  
COUNTY: MORGAN 14N - R10W SECTION: 27 200S 87W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 682.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /21/1981  
Drillers Log Coal Test LOGGED (FT.): 276.00  
SOURCE: PHILLIPS COAL CO. MO-85 ONLY LOGGED COAL

							THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT	
682.00			UNCLASSIFIED	144.00	0.00		
538.00	CARBONDALE	DANVILLE	COAL	3.20	144.00		
538.00			UNCLASSIFIED	111.50	147.20		
423.30	CARBONDALE	COLCHESTER	COAL	2.40	258.70		

13720843000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
COUNTY: MORGAN 14N - R10W SECTION: 30 1500S 33E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 660.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /10/1981  
Drillers Log Coal Test LOGGED (FT.): 315.00  
SOURCE: PHILLIPS COAL CO. MO-76 ONLY LOGGED COAL

							THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT	
660.00			UNCLASSIFIED	246.40	0.00		
413.60	CARBONDALE	COLCHESTER	COAL	3.00	246.40		
413.60			UNCLASSIFIED	29.90	249.40		
380.70	SPOON		COAL	2.30	279.30		

380.70 UNCLASSIFIED 2.80 281.60  
 375.60 SPOON COAL 1.30 284.40

13720844000C PROJECT: NCRDS91 QUADRANGLE: LYNNVILLE  
 COUNTY: MORGAN 14N - R11W SECTION: 1 2690S 2600E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 622.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /22/1981  
 Drillers Log Coal Test LOGGED (FT.): 242.00  
 SOURCE: PHILLIPS COAL CO. MO-53 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
622.00			UNCLASSIFIED	190.40	0.00	
431.60	CARBONDALE	COLCHESTER	COAL	2.20	190.40	
431.60			UNCLASSIFIED	26.90	192.60	
402.50	SPOON		COAL	1.20	219.50	ONLY LOGGED COAL, RECORD LISTED "1.2'P"

13720845000C PROJECT: NCRDS91 QUADRANGLE: LYNNVILLE  
 COUNTY: MORGAN 14N - R11W SECTION: 13 20S 150W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /21/1981  
 Drillers Log Coal Test LOGGED (FT.): 249.00  
 SOURCE: PHILLIPS COAL CO. MO-50 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.00			UNCLASSIFIED	191.00	0.00	
429.00	CARBONDALE	COLCHESTER	COAL	2.30	191.00	

13720846000C PROJECT: NCRDS91 QUADRANGLE: LYNNVILLE  
 COUNTY: MORGAN 14N - R11W SECTION: 18 30S 677E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 645.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /25/1981  
 Drillers Log Coal Test LOGGED (FT.): 247.00  
 SOURCE: PHILLIPS COAL CO. MO-97 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.00			UNCLASSIFIED	203.40	0.00	
441.60	CARBONDALE	COLCHESTER	COAL	2.30	203.40	

13720847000C PROJECT: NCRDS91 QUADRANGLE: MANCHESTER  
 COUNTY: MORGAN 14N - R11W SECTION: 25 120S 316W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 639.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /21/1981  
 Drillers Log Coal Test LOGGED (FT.): 252.00  
 SOURCE: PHILLIPS COAL CO. MO-51 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
639.00			UNCLASSIFIED	201.60	0.00	
437.40	CARBONDALE	COLCHESTER	COAL	2.80	201.60	

13720848000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 15N - R 9W SECTION: 11 850N 1225E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /19/1981  
 Drillers Log Coal Test LOGGED (FT.): 243.00

SOURCE: PHILLIPS COAL CO. MO-45 ONLY LOGGED COAL

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ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.00			UNCLASSIFIED	201.30	0.00	
418.70	CARBONDALE	COLCHESTER	COAL	2.60	201.30	

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13720849000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 15N - R 9W SECTION: 13 80S 65W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /29/1981  
 Drillers Log Coal Test LOGGED (FT.): 243.00  
 SOURCE: PHILLIPS COAL CO. MO-56 ONLY LOGGED COAL

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ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
620.00			UNCLASSIFIED	77.30	0.00	
542.70	CARBONDALE	HERRIN	COAL	1.00	77.30	
541.70	CARBONDALE	HERRIN	SHALE	0.40	78.30	PARTING
541.30	CARBONDALE	HERRIN	COAL	1.30	78.70	
541.30			UNCLASSIFIED	145.80	80.00	
394.20	CARBONDALE	COLCHESTER	COAL	2.80	225.80	

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13720850000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 15N - R 9W SECTION: 19 98N 87E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /17/1981  
 Drillers Log Coal Test LOGGED (FT.): 254.00  
 SOURCE: PHILLIPS COAL CO. MO-38 ONLY LOGGED COAL

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ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.00			UNCLASSIFIED	102.40	0.00	
527.60	CARBONDALE	HERRIN	COAL	1.70	102.40	
527.60			UNCLASSIFIED	136.60	104.10	
389.30	CARBONDALE	COLCHESTER	COAL	2.40	240.70	

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13720851000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 15N - R 9W SECTION: 21 725N 1900E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 645.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /29/1981  
 Drillers Log Coal Test LOGGED (FT.): 252.00  
 SOURCE: PHILLIPS COAL CO. MO-55 ONLY LOGGED COAL

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ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
645.00			UNCLASSIFIED	98.60	0.00	
546.40	CARBONDALE	HERRIN	COAL	0.80	98.60	
546.40			UNCLASSIFIED	138.80	99.40	
406.80	CARBONDALE	COLCHESTER	COAL	2.50	238.20	

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13720852000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 15N - R10W SECTION: 6 80S 230E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 613.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /18/1981  
 Drillers Log Coal Test LOGGED (FT.): 252.00  
 SOURCE: PHILLIPS COAL CO. MO-41 ONLY LOGGED COAL

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ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	

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613.00			UNCLASSIFIED	204.30	0.00	
408.70	CARBONDALE	COLCHESTER	COAL	0.40	204.30	
408.30	CARBONDALE	COLCHESTER	SHALE	0.50	204.70	PARTING
407.80	CARBONDALE	COLCHESTER	COAL	1.40	205.20	

13720853000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 15N - R10W SECTION: 11 143N 645E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 627.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /18/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-40 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
627.00			UNCLASSIFIED	193.20	0.00	
433.80	CARBONDALE	COLCHESTER	COAL	2.40	193.20	

13720854000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 15N - R10W SECTION: 32 210S 610E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /24/1981  
 Drillers Log Coal Test LOGGED (FT.): 253.00  
 SOURCE: PHILLIPS COAL CO. MO-95 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
620.00			UNCLASSIFIED	73.30	0.00	
546.70	CARBONDALE	HERRIN	COAL	1.00	73.30	
546.70			UNCLASSIFIED	121.90	74.30	
423.80	CARBONDALE	COLCHESTER	COAL	2.50	196.20	

13720855000C PROJECT: NCRDS91 QUADRANGLE: LYNNVILLE  
 COUNTY: MORGAN 15N - R11W SECTION: 16 40S 1050E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /20/1981  
 Drillers Log Coal Test LOGGED (FT.): 176.00  
 SOURCE: PHILLIPS COAL CO. MO-48 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
580.00			UNCLASSIFIED	126.40	0.00	
453.60	CARBONDALE	COLCHESTER	COAL	2.40	126.40	

13720856000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 15N - R10W SECTION: 24 825N 700W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /30/1981  
 Drillers Log Coal Test LOGGED (FT.): 244.00  
 SOURCE: PHILLIPS COAL CO. MO-58 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
620.00			UNCLASSIFIED	174.40	0.00	
445.60	CARBONDALE	COLCHESTER	COAL	0.70	174.40	
444.90	CARBONDALE	COLCHESTER	SHALE	0.40	175.10	PARTING
444.50	CARBONDALE	COLCHESTER	COAL	1.40	175.50	
444.50			UNCLASSIFIED	32.10	176.90	
411.00	SPOON		COAL	1.30	209.00	

13720857000C PROJECT: NCRDS91 QUADRANGLE: LYNNVILLE  
 COUNTY: MORGAN 15N - R11W SECTION: 17 15S 1125W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 590.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /22/1981  
 Drillers Log Coal Test LOGGED (FT.): 175.00  
 SOURCE: PHILLIPS COAL CO. MO-54 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
590.00			UNCLASSIFIED	125.90	0.00	
464.10	CARBONDALE	COLCHESTER	COAL	2.50	125.90	

13720858000C PROJECT: NCRDS91 QUADRANGLE: LYNNVILLE  
 COUNTY: MORGAN 15N - R11W SECTION: 32 45N 2400W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 618.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /21/1981  
 Drillers Log Coal Test LOGGED (FT.): 189.00  
 SOURCE: PHILLIPS COAL CO. MO-49

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
618.00			UNCLASSIFIED	157.60	0.00	
460.40	CARBONDALE	COLCHESTER	COAL	1.10	157.60	
459.30	CARBONDALE	COLCHESTER	SHALE	0.40	158.70	PARTING
458.90	CARBONDALE	COLCHESTER	COAL	1.00	159.10	

13720859000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 9W SECTION: 11 50N 425E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /19/1981  
 Drillers Log Coal Test LOGGED (FT.): 302.00  
 SOURCE: PHILLIPS COAL CO. MO-44 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
620.00			UNCLASSIFIED	200.50	0.00	
419.50	CARBONDALE	COLCHESTER	COAL	1.30	200.50	
418.20	CARBONDALE	COLCHESTER	SHALE	0.40	201.80	PARTING
417.80	CARBONDALE	COLCHESTER	COAL	1.00	202.20	
417.80			UNCLASSIFIED	55.50	203.20	
361.30	SPOON		COAL	2.20	258.70	

13720860000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 9W SECTION: 13 880S 1200E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 619.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /18/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-42 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
619.00			UNCLASSIFIED	207.00	0.00	
412.00	CARBONDALE	COLCHESTER	COAL	2.60	207.00	

13720861000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R10W SECTION: 2 1320S 90W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 601.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /16/1981  
 Drillers Log Coal Test LOGGED (FT.): 281.00  
 SOURCE: PHILLIPS COAL CO. MO-34 ONLY LOGGED COAL

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						THICKNESS (FT.)

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
601.00			UNCLASSIFIED	186.50	0.00	
414.50	CARBONDALE	COLCHESTER	COAL	2.30	186.50	

13720862000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 16N - R10W SECTION: 7 2500S 70E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 560.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /17/1981  
Drillers Log Coal Test LOGGED (FT.): 246.00  
SOURCE: PHILLIPS COAL CO. MO-36 ONLY LOGGED COAL

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
560.00			UNCLASSIFIED	126.90	0.00	
433.10	CARBONDALE	COLCHESTER	COAL	2.50	126.90	
433.10			UNCLASSIFIED	37.00	129.40	
393.60	SPOON		COAL	0.90	166.40	

13720863000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 16N - R10W SECTION: 19 20N 365W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 595.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /17/1981  
Drillers Log Coal Test LOGGED (FT.): 250.00  
SOURCE: PHILLIPS COAL CO. MO-37 ONLY LOGGED COAL

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
595.00			UNCLASSIFIED	204.40	0.00	
390.60	CARBONDALE	COLCHESTER	COAL	2.40	204.40	
390.60			UNCLASSIFIED	26.60	206.80	
361.60	SPOON		COAL	1.40	233.40	

13720864000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
COUNTY: MORGAN 16N - R10W SECTION: 35 600N 1900W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /19/1981  
Drillers Log Coal Test LOGGED (FT.): 223.00  
SOURCE: PHILLIPS COAL CO. MO-43 ONLY LOGGED COAL

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
600.00			UNCLASSIFIED	176.90	0.00	
423.10	CARBONDALE	COLCHESTER	COAL	1.60	176.90	

13720866000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
COUNTY: MORGAN 14N - R 9W SECTION: 14 2200S 2000E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 696.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /29/1981  
Drillers Log Coal Test LOGGED (FT.): 301.00  
SOURCE: PHILLIPS COAL CO. MO-103 SEE LOG FOR DANVILLE HORIZON INFO

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
696.00			UNCLASSIFIED	194.60	0.00	
501.40			COAL	1.30	194.60	
500.10			SHALE	0.40	195.90	PARTING
499.70			COAL	1.60	196.30	THICKNESS EITHER 1.6' OR 1.5'

13720867000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 14N - R 9W SECTION: 24 2450N 1450W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 685.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /28/1981  
 Drillers Log Coal Test LOGGED (FT.): 295.00  
 SOURCE: PHILLIPS COAL CO. MO-101

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
685.00			UNCLASSIFIED	204.20	0.00	
480.80	CARBONDALE	HERRIN	COAL	4.70	204.20	.7'PARTING,2.5/(.7)/1.5,ONLY LOGGED COAL

13720868000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 14N - R 9W SECTION: 25 1975N 1400W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 685.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /29/1981  
 Drillers Log Coal Test LOGGED (FT.): 302.00  
 SOURCE: PHILLIPS COAL CO. MO-105 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
685.00			UNCLASSIFIED	192.90	0.00	
492.10			COAL	2.10	192.90	

13720869000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 15N - R 9W SECTION: 4 550S 12E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 631.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /16/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-35 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
631.00			UNCLASSIFIED	208.20	0.00	
422.80	CARBONDALE	COLCHESTER	COAL	2.70	208.20	
422.80			UNCLASSIFIED	52.30	210.90	
367.80	SPOON		COAL	1.90	263.20	
367.80			UNCLASSIFIED	19.30	265.10	
346.60	SPOON		COAL	1.20	284.40	

13720870000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 15N - R 9W SECTION: 5 300S 1800W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /15/1981  
 Drillers Log Coal Test LOGGED (FT.): 300.00  
 SOURCE: PHILLIPS COAL CO. MO-33 ONLY LOGGED COAL

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						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						-----
630.00			UNCLASSIFIED	87.00	0.00	
543.00	CARBONDALE	HERRIN	COAL	2.80	87.00	
543.00			UNCLASSIFIED	132.80	89.80	
407.40			COAL	2.20	222.60	
407.40			UNCLASSIFIED	56.80	224.80	
348.40	SPOON		COAL	1.70	281.60	

13720871000C PROJECT: NCRDS91 QUADRANGLE: ALEXANDER  
 COUNTY: MORGAN 15N - R 9W SECTION: 25 520S 45W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 667.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /28/1981

Drillers Log Coal Test LOGGED (FT.): 280.00  
 SOURCE: PHILLIPS COAL CO. MO-102 ONLY LOGGED COAL

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			THICKNESS (FT.)			
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
667.00			UNCLASSIFIED	131.40	0.00	
535.60	CARBONDALE	HERRIN	COAL	3.00	131.40	#5 OR #6 COAL, 0.4'PARTING, 1.5/0.4/1.1'
535.60			UNCLASSIFIED	132.00	134.40	
400.60	CARBONDALE	COLCHESTER	COAL	2.40	266.40	

13720872000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 15N - R 9W SECTION: 32 1100N 1475W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 650.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /26/1981  
 Drillers Log Coal Test LOGGED (FT.): 275.00  
 SOURCE: PHILLIPS COAL CO. MO-100 ONLY LOGGED COAL

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			THICKNESS (FT.)			
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
650.00			UNCLASSIFIED	97.70	0.00	
552.30	CARBONDALE	DANVILLE	COAL	1.30	97.70	ONLY LOGGED COAL, LOG READS ' #7 ? '
552.30			UNCLASSIFIED	25.40	99.00	
525.60	CARBONDALE	HERRIN	COAL	2.00	124.40	
525.60			UNCLASSIFIED	138.70	126.40	
384.90	CARBONDALE	COLCHESTER	COAL	0.80	265.10	
384.10	CARBONDALE	COLCHESTER	SHALE	0.40	265.90	PARTING
383.70	CARBONDALE	COLCHESTER	COAL	0.90	266.30	

13720873000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 15N - R10W SECTION: 4 55S 110E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 589.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /13/1981  
 Drillers Log Coal Test LOGGED (FT.): 257.00  
 SOURCE: PHILLIPS COAL CO. MO-28 ONLY LOGGED COAL

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			THICKNESS (FT.)			
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
589.00			UNCLASSIFIED	198.20	0.00	
390.80	CARBONDALE	COLCHESTER	COAL	2.50	198.20	
390.80			UNCLASSIFIED	7.10	200.70	
381.20	SPOON		COAL	1.00	207.80	
381.20			UNCLASSIFIED	20.80	208.80	
359.40	SPOON		COAL	1.10	229.60	

13720874000C PROJECT: NCRDS91 QUADRANGLE: JACKSONVILLE  
 COUNTY: MORGAN 15N - R10W SECTION: 36 35N 1450W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 598.0 GEOLOGIST: C TREWORY DATE COLLECTED: 9 /22/1981  
 Drillers Log Coal Test LOGGED (FT.): 302.00  
 SOURCE: PHILLIPS COAL CO. MO-88 ONLY LOGGED COAL

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			THICKNESS (FT.)			
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
598.00			UNCLASSIFIED	203.40	0.00	
394.60	CARBONDALE	COLCHESTER	COAL	2.40	203.40	

13720875000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
 COUNTY: MORGAN 15N - R11W SECTION: 2 40S 1000E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 603.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /11/1981  
 Drillers Log Coal Test LOGGED (FT.): 219.00  
 SOURCE: PHILLIPS COAL CO. MO-20 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
603.00			UNCLASSIFIED	136.60	0.00	
466.40	CARBONDALE	COLCHESTER	COAL	3.00	136.60	ONLY LOGGED COAL
466.40			UNCLASSIFIED	24.80	139.60	
438.60	SPOON		COAL	1.50	164.40	ONLY LOGGED COAL

13720876000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 15N - R11W SECTION: 4 1200S 700W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 601.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /11/1981  
Drillers Log Coal Test LOGGED (FT.): 195.00  
SOURCE: PHILLIPS COAL CO. MO-21 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
601.00			UNCLASSIFIED	148.80	0.00	
452.20	CARBONDALE	COLCHESTER	COAL	2.30	148.80	ONLY LOGGED COAL

13720877000C PROJECT: NCRDS91 QUADRANGLE: LYNNVILLE  
COUNTY: MORGAN 15N - R11W SECTION: 34 1400N 950E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 643.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 9 /25/1981  
Drillers Log Coal Test LOGGED (FT.): 230.00  
SOURCE: PHILLIPS COAL CO. MO-96 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
643.00			UNCLASSIFIED	95.60	0.00	
547.40	CARBONDALE	HERRIN	COAL	1.70	95.60	
547.40			UNCLASSIFIED	112.70	97.30	
433.00	CARBONDALE	COLCHESTER	COAL	2.20	210.00	

13720878000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 15N - R12W SECTION: 1 30S 200E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 610.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 7 /31/1981  
Drillers Log Coal Test LOGGED (FT.): 300.00  
SOURCE: PHILLIPS COAL CO. MO-1

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
610.00			UNCLASSIFIED	0.00	0.00	
610.00			UNCONSOLIDATED	15.00		
595.00			UNKNOWN	0.01	15.00	TOP OF BEDROCK
595.00	CARBONDALE		CLAYSTONE	64.99	15.00	
530.00	CARBONDALE		SHALE	16.00	80.00	
514.00	CARBONDALE		SANDSTONE	12.00	96.00	
502.00	CARBONDALE		SHALE	29.00	108.00	CBY
473.00	CARBONDALE	COLCHESTER	COAL	1.90	137.00	
471.10	SPOON		SHALE	9.10	138.90	
462.00	SPOON		LIMESTONE	4.00	148.00	
458.00	SPOON		SHALE	30.00	152.00	
428.00	SPOON		LIMESTONE	38.00	182.00	
390.00	SPOON		LIMESTONE	16.00	220.00	
374.00	SPOON		SHALE	29.00	236.00	
345.00	SPOON		SANDSTONE	10.00	265.00	
335.00	SPOON		SHALE	25.00	275.00	

13720880000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
COUNTY: MORGAN 15N - R12W SECTION: 5 136S 1440E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /11/1981

Drillers Log Coal Test LOGGED (FT.): 177.00  
 SOURCE: PHILLIPS COAL CO. MO-18 BAD LOG COPY-SECTION # FROM PLAT BOOK

				THICKNESS (FT.)		
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
640.00			UNCLASSIFIED	143.20	0.00	
496.80	CARBONDALE	COLCHESTER	COAL	2.20	143.20	ONLY LOGGED COAL

13720881000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R 9W SECTION: 5 34S 59W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 601.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /14/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-29 ONLY LOGGED COAL

				THICKNESS (FT.)		
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
601.00			UNCLASSIFIED	207.60	0.00	
393.40	CARBONDALE	COLCHESTER	COAL	0.90	207.60	
392.50	CARBONDALE	COLCHESTER	SHALE	0.50	208.50	PARTING
392.00	CARBONDALE	COLCHESTER	COAL	1.00	209.00	
392.00			UNCLASSIFIED	40.40	210.00	
350.60	SPOON		COAL	1.00	250.40	

13720882000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 9W SECTION: 10 278N 81W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 617.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /14/1981  
 Drillers Log Coal Test LOGGED (FT.): 321.00  
 SOURCE: PHILLIPS COAL CO. MO-31 ONLY LOGGED COAL

				THICKNESS (FT.)		
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
617.00			UNCLASSIFIED	224.10	0.00	
392.90	CARBONDALE	COLCHESTER	COAL	2.20	224.10	
392.90			UNCLASSIFIED	48.80	226.30	
341.90	SPOON		COAL	1.10	275.10	
341.90			UNCLASSIFIED	17.60	276.20	
323.20	SPOON		COAL	0.80	293.80	
322.40	SPOON		SHALE	0.60	294.60	PARTING
321.80	SPOON		COAL	1.90	295.20	

13720883000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R 9W SECTION: 19 1150N 61E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 610.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /13/1981  
 Drillers Log Coal Test LOGGED (FT.): 331.00  
 SOURCE: PHILLIPS COAL CO. MO-27 ONLY LOGGED COAL

				THICKNESS (FT.)		
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
610.00			UNCLASSIFIED	123.80	0.00	
486.20	CARBONDALE	SPRINGFIELD	COAL	3.20	123.80	
486.20			UNCLASSIFIED	106.80	127.00	
376.20	CARBONDALE	COLCHESTER	COAL	2.30	233.80	
376.20			UNCLASSIFIED	78.60	236.10	
295.30	SPOON		COAL	1.40	314.70	

13720884000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 9W SECTION: 22 21N 2100W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 621.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /15/1981  
 Drillers Log Coal Test LOGGED (FT.): 318.00

SOURCE: PHILLIPS COAL CO. MO-32 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
621.00			UNCLASSIFIED	230.20	0.00	
390.80	CARBONDALE	COLCHESTER	COAL	2.40	230.20	
390.80			UNCLASSIFIED	17.70	232.60	
370.70	SPOON		COAL	1.80	250.30	
370.70			UNCLASSIFIED	24.80	252.10	
344.10	SPOON		COAL	2.10	276.90	
344.10			UNCLASSIFIED	4.40	279.00	
337.60	SPOON		COAL	1.40	283.40	

13720885000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 9W SECTION: 26 230S 840E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /20/1981  
 Drillers Log Coal Test LOGGED (FT.): 302.00  
 SOURCE: PHILLIPS COAL CO. MO-46 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.00			UNCLASSIFIED	213.60	0.00	
416.40	CARBONDALE	COLCHESTER	COAL	0.90	213.60	
415.50	CARBONDALE	COLCHESTER	SHALE	0.40	214.50	PARTING
415.10	CARBONDALE	COLCHESTER	COAL	1.20	214.90	
415.10			UNCLASSIFIED	62.70	216.10	
351.20	SPOON		COAL	2.40	278.80	

13720886000C PROJECT: NCRDS91 QUADRANGLE: PRENTICE  
 COUNTY: MORGAN 16N - R 9W SECTION: 28 300S 450E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 621.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /20/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-47 SEE LOG FOR SPRINGFIELD HORIZON INFO

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
621.00			UNCLASSIFIED	81.70	0.00	
539.30	CARBONDALE	HERRIN	COAL	0.80	81.70	
538.50	CARBONDALE	HERRIN	SHALE	0.70	82.50	PARTING
537.80	CARBONDALE	HERRIN	COAL	0.90	83.20	
537.80			UNCLASSIFIED	133.00	84.10	
403.90	CARBONDALE	COLCHESTER	COAL	2.50	217.10	
403.90			UNCLASSIFIED	59.20	219.60	
342.20	SPOON		COAL	1.90	278.80	
342.20			UNCLASSIFIED	4.00	280.70	
336.30	SPOON		COAL	1.90	284.70	

13720887000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R 9W SECTION: 32 700N 43W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 621.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /14/1981  
 Drillers Log Coal Test LOGGED (FT.): 293.00  
 SOURCE: PHILLIPS COAL CO. MO-30 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
621.00			UNCLASSIFIED	197.70	0.00	
423.30	CARBONDALE	COLCHESTER	COAL	2.40	197.70	
423.30			UNCLASSIFIED	44.10	200.10	
376.80	SPOON		COAL	1.80	244.20	

13720888000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R10W SECTION: 9 54N 320E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 602.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /13/1981  
 Drillers Log Coal Test LOGGED (FT.): 259.00  
 SOURCE: PHILLIPS COAL CO. MO-25 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
602.00			UNCLASSIFIED	177.00	0.00	
425.00	CARBONDALE	COLCHESTER	COAL	2.50	177.00	ONLY LOGGED COAL
425.00			UNCLASSIFIED	6.40	179.50	
416.10	SPOON		COAL	1.60	185.90	ONLY LOGGED COAL

13720889000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 27 620S 1495W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 603.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /11/1981  
 Drillers Log Coal Test LOGGED (FT.): 147.00  
 SOURCE: PHILLIPS COAL CO. MO-19 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
603.00			UNCLASSIFIED	107.60	0.00	
495.40	CARBONDALE	COLCHESTER	COAL	1.00	107.60	
494.40	CARBONDALE	COLCHESTER	SHALE	0.50	108.60	PARTING
493.90	CARBONDALE	COLCHESTER	COAL	1.10	109.10	

13720890000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R10W SECTION: 21 2600S 500E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 530.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /12/1981  
 Drillers Log Coal Test LOGGED (FT.): 232.00  
 SOURCE: PHILLIPS COAL CO. MO-22 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.00			UNCLASSIFIED	113.40	0.00	
416.60	CARBONDALE	COLCHESTER	COAL	2.20	113.40	ONLY LOGGED COAL
416.60			UNCLASSIFIED	69.70	115.60	
344.70	SPOON		COAL	0.60	185.30	
344.10	SPOON		SHALE	0.70	185.90	PARTING
343.30	SPOON		COAL	0.60	186.70	

13720891000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R10W SECTION: 23 400N 1200E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 593.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 /13/1981  
 Drillers Log Coal Test LOGGED (FT.): 301.00  
 SOURCE: PHILLIPS COAL CO. MO-26 ONLY LOGGED COAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
593.00			UNCLASSIFIED	86.00	0.00	
507.00	CARBONDALE	SPRINGFIELD	COAL	4.90	86.00	
507.00			UNCLASSIFIED	116.70	90.90	
385.40	CARBONDALE	COLCHESTER	COAL	2.50	207.60	
385.40			UNCLASSIFIED	55.50	210.10	
327.40	SPOON		COAL	2.30	265.60	
327.40			UNCLASSIFIED	14.50	267.90	
310.60	SPOON		COAL	1.00	282.40	

13720892000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY

COUNTY: MORGAN 16N - R10W SECTION: 28 25N 100E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 612.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /12/1981  
 Drillers Log Coal Test LOGGED (FT.): 240.00  
 SOURCE: PHILLIPS COAL CO. MO-24

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
612.00			UNCLASSIFIED	193.80	0.00	
418.20	CARBONDALE	COLCHESTER	COAL	0.90	193.80	
417.30	CARBONDALE	COLCHESTER	SHALE	0.50	194.70	
416.80	CARBONDALE	COLCHESTER	COAL	1.00	195.20	
416.80			UNCLASSIFIED	7.70	196.20	
408.10	SPOON		COAL	1.50	203.90	
408.10			UNCLASSIFIED	28.40	205.40	
378.20	SPOON		COAL	3.40	233.80	

13720893000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
 COUNTY: MORGAN 16N - R10W SECTION: 30 30S 60E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 602.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 / 2/1981  
 Drillers Log Coal Test LOGGED (FT.): 235.00  
 SOURCE: PHILLIPS COAL CO. MO-7

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
602.00			UNCLASSIFIED	0.00	0.00	
602.00			UNCONSOLIDATED	18.00		
584.00			UNKNOWN	0.01	18.00	TOP OF BEDROCK
584.00			SHALE	187.99	18.00	
396.00			COAL	1.60	206.00	POOR
394.40			SHALE	2.20	207.60	
392.20			COAL	0.80	209.80	POOR
391.40			SHALE	12.30	210.60	
379.10			COAL	0.90	222.90	POOR
378.20			BLACK SHALE	11.20	223.80	

13720894000C PROJECT: NCRDS91 QUADRANGLE: LITERBERRY  
 COUNTY: MORGAN 16N - R10W SECTION: 4 792N 60E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 570.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 /12/1981  
 Drillers Log Coal Test LOGGED (FT.): 227.00  
 SOURCE: PHILLIPS COAL CO. MO-23 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.00			UNCLASSIFIED	156.30	0.00	
413.70	CARBONDALE	COLCHESTER	COAL	2.50	156.30	ONLY LOGGED COAL
413.70			UNCLASSIFIED	8.50	158.80	
402.70	SPOON		COAL	1.50	167.30	ONLY LOGGED COAL
402.70			UNCLASSIFIED	17.80	168.80	
383.40	SPOON		COAL	1.60	186.60	ONLY LOGGED COAL
383.40			UNCLASSIFIED	15.70	188.20	
366.10	SPOON		COAL	4.30	203.90	ONLY LOGGED COAL

13720895000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 32 2030N 2015E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 605.0 GEOLOGIST: C TREWORY DATE COLLECTED: 7 /31/1981  
 Drillers Log Coal Test LOGGED (FT.): 262.00  
 SOURCE: PHILLIPS COAL CO. MO-2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
605.00			UNCLASSIFIED	0.00	0.00	
605.00			UNCONSOLIDATED	25.00		
580.00			UNKNOWN	0.01	25.00	TOP OF BEDROCK
580.00	CARBONDALE		SHALE	47.99	25.00	

532.00	CARBONDALE		SHALE	23.90	73.00	CBY
508.10	CARBONDALE	COLCHESTER	COAL	2.30	96.90	
505.80	SPOON		SHALE	5.80	99.20	
500.00	SPOON		LIMESTONE	1.00	105.00	
499.00	SPOON		BLACK SHALE	22.00	106.00	
477.00	SPOON		LSSHSS	56.00	128.00	
421.00	SPOON		BLACK SHALE	78.00	184.00	

13720896000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 16N - R11W SECTION: 7 250N 600E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 560.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 10 / 1981  
Drillers Log Coal Test LOGGED (FT.): 170.00  
SOURCE: PHILLIPS COAL CO. MO-16 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
560.00			UNCLASSIFIED	63.10	0.00	
496.90	CARBONDALE	COLCHESTER	COAL	1.20	63.10	ONLY LOGGED COAL

13720897000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 16N - R11W SECTION: 11 213N 98E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 2 / 1981  
Drillers Log Coal Test LOGGED (FT.): 222.00  
SOURCE: PHILLIPS COAL CO. MO-8

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00			UNCLASSIFIED	0.00	0.00	
580.00			UNCONSOLIDATED	30.00		
550.00			UNKNOWN	0.01	30.00	TOP OF BEDROCK
550.00			SHALE	172.99	30.00	SLY
377.00			LIMESTONE	19.00	203.00	

13720898000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 16N - R11W SECTION: 18 250N 300E  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 8 / 1981  
Drillers Log Coal Test LOGGED (FT.): 184.00  
SOURCE: PHILLIPS COAL CO. MO-9 FOUND SEC # FROM PLAT BOOK-BAD LOG COPY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00			UNCLASSIFIED	155.90	0.00	
424.10			COAL	1.10	155.90	ONLY LOGGED COAL

13720899000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
COUNTY: MORGAN 16N - R11W SECTION: 22 1200N 1500W  
CONFIDENTIAL: N  
SURFACE ELEVATION (FT.): 570.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 2 / 1981  
Drillers Log Coal Test LOGGED (FT.): 201.00  
SOURCE: PHILLIPS COAL CO. MO-6

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.00			UNCLASSIFIED	0.00	0.00	
570.00			UNCONSOLIDATED	10.00		
560.00			UNKNOWN	0.01	10.00	TOP OF BEDROCK
560.00	CARBONDALE		SHALE	141.99	10.00	
418.00	CARBONDALE		SHALE	27.00	152.00	CBY
391.00	CARBONDALE	COLCHESTER	COAL	2.90	179.00	
388.10	SPOON		BLACK SHALE	19.10	181.90	

1372090000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 28 2500S 500E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 605.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 1/1981  
 Drillers Log Coal Test LOGGED (FT.): 300.00  
 SOURCE: PHILLIPS COAL CO. MO-3

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
605.00			UNCLASSIFIED	0.00	0.00	
605.00			UNCONSOLIDATED	25.00		
580.00			UNKNOWN	0.01	25.00	TOP OF BEDROCK
580.00	CARBONDALE		SHALE	144.99	25.00	
435.00	CARBONDALE		SHALE	13.20	170.00	CBY
421.80	CARBONDALE	COLCHESTER	COAL	1.00	183.20	
420.80	SPOON		SHALE	8.80	184.20	CBY
412.00	SPOON		COAL	1.00	193.00	
411.00	SPOON		BLACK SHALE	106.00	194.00	

13720901000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R11W SECTION: 31 800N 1000E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 590.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 1/1981  
 Drillers Log Coal Test LOGGED (FT.): 187.00  
 SOURCE: PHILLIPS COAL CO. MO-4

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
590.00			UNCLASSIFIED	0.00	0.00	
590.00			UNCONSOLIDATED	20.00		
570.00			UNKNOWN	0.01	20.00	TOP OF BEDROCK
570.00	CARBONDALE		SHALE	44.99	20.00	
525.00	CARBONDALE		SANDSTONE	25.00	65.00	
500.00	CARBONDALE		SHALE	18.20	90.00	CBY
481.80	CARBONDALE	COLCHESTER	COAL	2.20	108.20	
479.60	SPOON		SHALE	8.60	110.40	
471.00	SPOON		LIMESTONE	2.00	119.00	
469.00	SPOON		SHALE	14.00	121.00	
455.00	SPOON		COAL	0.60	135.00	
454.40	SPOON		SHALE	24.40	135.60	
430.00	SPOON		LIMESTONE	27.00	160.00	

13720902000C PROJECT: NCRDS91 QUADRANGLE: CONCORD  
 COUNTY: MORGAN 16N - R11W SECTION: 36 250N 70W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 601.0 GEOLOGIST: C TREWORGY DATE COLLECTED: 8 / 2/1981  
 Drillers Log Coal Test LOGGED (FT.): 218.00  
 SOURCE: PHILLIPS COAL CO. MO-5

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
601.00			UNCLASSIFIED	0.00	0.00	
601.00			UNCONSOLIDATED	15.00		
586.00			UNKNOWN	0.01	15.00	TOP OF BEDROCK
586.00	CARBONDALE		SHALE	79.19	15.00	
506.80	CARBONDALE		COAL	1.40	94.20	POOR
505.40	CARBONDALE		BLACK SHALE	19.40	95.60	
486.00			UNCLASSIFIED	44.80	115.00	NONE GIVEN
441.20	CARBONDALE	COLCHESTER	COAL	0.80	159.80	POOR
440.40	SPOON		SHALE	13.40	160.60	
427.00	SPOON		LIMESTONE	3.30	174.00	
423.70	SPOON		COAL	0.80	177.30	POOR
422.90	SPOON		BLACK SHALE	39.90	178.10	

13720903000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN

COUNTY: MORGAN 16N - R12W SECTION: 4 1260S 725E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 / 9/1981  
 Drillers Log Coal Test LOGGED (FT.): 175.00  
 SOURCE: PHILLIPS COAL CO. MO-14 BAD LOG COPY-SEC # FOUND FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.00			UNCLASSIFIED	0.00	0.00	
500.00			UNCLASSIFIED	175.00		NO COAL FOUND

13720904000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 12 224N 46W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 530.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 / 8/1981  
 Drillers Log Coal Test LOGGED (FT.): 105.00  
 SOURCE: PHILLIPS COAL CO. MO-10 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
530.00			UNCLASSIFIED	73.20	0.00	
456.80			COAL	1.10	73.20	ONLY LOGGED COAL
456.80			UNCLASSIFIED	2.70	74.30	
453.00			COAL	0.80	77.00	ONLY LOGGED COAL
453.00			UNCLASSIFIED	4.20	77.80	
448.00			COAL	2.00	82.00	ONLY LOGGED COAL

13720905000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 18 1080S 845E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 495.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 / 10/1981  
 Drillers Log Coal Test LOGGED (FT.): 155.00  
 SOURCE: PHILLIPS COAL CO. MO-15 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
495.00			UNCLASSIFIED	0.00	0.00	
495.00			UNCLASSIFIED	155.00		NO COAL FOUND

13720906000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 22 1355N 1480E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 / 9/1981  
 Drillers Log Coal Test LOGGED (FT.): 160.00  
 SOURCE: PHILLIPS COAL CO. MO-13 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00			UNCLASSIFIED	0.00	0.00	
580.00			UNCLASSIFIED	160.00		NO COAL FOUND

13720907000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 25 NENENE  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 560.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 / 8/1981  
 Drillers Log Coal Test LOGGED (FT.): 105.00  
 SOURCE: PHILLIPS COAL CO. MO-11 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	

560.00 UNCLASSIFIED 0.00 0.00  
 560.00 UNCLASSIFIED 105.00 NO COAL FOUND

13720908000C PROJECT: NCRDS91 QUADRANGLE: CHAPIN  
 COUNTY: MORGAN 16N - R12W SECTION: 25 252S 15W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: C TREWORY DATE COLLECTED: 8 / 8/1981  
 Drillers Log Coal Test LOGGED (FT.): 135.00  
 SOURCE: PHILLIPS COAL CO. MO-12 BAD LOG COPY-FOUND SEC # FROM PLAT BOOK

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.00			UNCLASSIFIED	120.80	0.00	
479.20	CARBONDALE	COLCHESTER	COAL	2.50	120.80	ONLY LOGGED COAL

13770000000C PROJECT: NCRDS QUADRANGLE: WAVERLY  
 COUNTY: MORGAN 14N - R 8W SECTION: 33 1340S 780E  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 676.0 GEOLOGIST: LOUCHIOS DATE COLLECTED: 0 / 0/1938  
 Drillers Log Coal Test LOGGED (FT.): 945.00  
 SOURCE: UTAH INTERNATIONAL 03C2 CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
676.00			NO RECORD	81.00	0.00	
595.00			SANDSTONE	40.00	81.00	
555.00			BLACK SHALE	10.00	121.00	
545.00			SHALE	39.00	131.00	
506.00	CARBONDALE	HERRIN	COAL/SH	5.00	170.00	UNCERTAIN CORRELATION
501.00			SHALE	10.00	175.00	
491.00			LIMESTONE	5.00	185.00	
486.00			SHALE	10.00	190.00	
476.00			LIMESTONE	5.00	200.00	
471.00			SHALE	20.00	205.00	
451.00			BLACK SHALE	45.00	225.00	
406.00			COAL/SH	45.00	270.00	
361.00			BLACK SHALE	25.00	315.00	
336.00			LIMESTONE	5.00	340.00	
331.00			SHALE	60.00	345.00	
271.00			LIMESTONE	15.00	405.00	
256.00			SANDSTONE	15.00	420.00	
241.00			LIMESTONE	115.00	435.00	
126.00			GREEN SHALE	10.00	550.00	
116.00			SHALE	90.00	560.00	
26.00			LIMESTONE	35.00	650.00	
-9.00			SHALE	35.00	685.00	
-44.00			LIMESTONE	225.00	720.00	

13770001000C PROJECT: NCRDS QUADRANGLE: NEW BERLIN  
 COUNTY: MORGAN 15N - R 8W SECTION: 27 600S 230W  
 CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 657.0 GEOLOGIST: LOUCHIOS DATE COLLECTED:  
 Drillers Log Coal Test LOGGED (FT.): 862.00  
 SOURCE: UTAH INTERNATIONAL 02C496 CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
657.00			NO RECORD	103.00	0.00	
554.00			UNCLASSIFIED	2.00	103.00	
552.00			SHALE	155.00	105.00	
397.00			COAL	5.00	260.00	
392.00			SHALE	15.00	265.00	
377.00			COAL	4.00	280.00	
373.00			SHALE	161.00	284.00	
212.00			LIMESTONE	169.00	445.00	
43.00			SHALE	60.00	614.00	
-17.00			LIMESTONE	61.00	674.00	
-78.00			SANDSTONE	30.00	735.00	
-108.00			LIMESTONE	97.00	765.00	

13770002000C PROJECT: NCRDS QUADRANGLE: WAVERLY  
 COUNTY: MORGAN 13N - R 8W SECTION: 2 2500N 1600E

CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: LOUCHIOS DATE COLLECTED:  
 Drillers Log Coal Test LOGGED (FT.): 965.00  
 SOURCE: UTAH INTERNATIONAL 04C18 CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
690.00			UNCLASSIFIED	218.00	0.00	
472.00			LIMESTONE	3.00	218.00	
469.00	CARBONDALE	HERRIN	COAL	2.00	221.00	UNCERTAIN CORRELATION
467.00			DARK SHALE	3.00	223.00	
464.00			LIMESTONE	14.00	226.00	
450.00			GREEN SHALE	80.00	240.00	
370.00			BLACK SHALE	4.00	320.00	
366.00			SANDSTONE	23.00	324.00	
343.00			SHALE	8.00	347.00	
335.00	CARBONDALE	SPRINGFIELD	COAL	1.00	355.00	UNCERTAIN CORRELATION
334.00	CARBONDALE		DARK SHALE	34.00	356.00	
300.00	CARBONDALE		LIMESTONE	5.00	390.00	
295.00	CARBONDALE		SHALE	17.00	395.00	
278.00	CARBONDALE	COLCHESTER	COAL	2.00	412.00	UNCERTAIN CORRELATION
276.00			BLACK SHALE	146.00	414.00	
130.00			SHALE	5.00	560.00	
125.00			LIMESTONE	120.00	565.00	
5.00			BLACK SHALE	75.00	685.00	
-70.00			SHALE	20.00	760.00	
-90.00			LIMESTONE	185.00	780.00	

13770003000C PROJECT: NCRDS QUADRANGLE: WAVERLY  
 COUNTY: MORGAN 13N - R 8W SECTION: 9 2080S 910E

CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 668.0 GEOLOGIST: LOUCHIOS DATE COLLECTED: 0 / 0/1950  
 Drillers Log Coal Test LOGGED (FT.): 980.00  
 SOURCE: UTAH INTERNATIONAL 05C203 CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
668.00			UNCLASSIFIED	317.00	0.00	
351.00			BLACK SHALE	5.00	317.00	
346.00	CARBONDALE	SPRINGFIELD	COAL	1.00	322.00	
345.00			UNCLASSIFIED	657.00	323.00	

13770004000C PROJECT: NCRDS QUADRANGLE: WAVERLY  
 COUNTY: MORGAN 13N - R 8W SECTION: 10 960N 1050E

CONFIDENTIAL: N  
 SURFACE ELEVATION (FT.): 672.0 GEOLOGIST: LOUCHIOS DATE COLLECTED: 0 / 0/1961  
 Drillers Log Coal Test LOGGED (FT.): 777.00  
 SOURCE: UTAH INTERNATIONAL 06C321 CODED COAL LOG

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
672.00			NO RECORD	15.00	0.00	
657.00			SANDSTONE	3.00	15.00	
654.00			DARK SHALE	45.00	18.00	
609.00			COAL	2.00	63.00	
607.00			SHALE	10.00	65.00	
597.00			LIMESTONE	15.00	75.00	
582.00			SHALE	35.00	90.00	
547.00			LIMESTONE	25.00	125.00	
522.00			SHALE	30.00	150.00	
492.00			LIMESTONE	45.00	180.00	
447.00			SHALE	135.00	225.00	
312.00	CARBONDALE	COLCHESTER	COAL	2.00	360.00	
310.00			SHALE	58.00	362.00	
252.00			COAL	2.00	420.00	
250.00			SHALE	128.00	422.00	
122.00			LIMESTONE	53.00	550.00	
69.00			SHALE	27.00	603.00	
42.00			LIMESTONE	30.00	630.00	
12.00			SHALE	105.00	660.00	

-93.00	SANDSTONE	5.00	765.00
-98.00	LIMESTONE	7.00	770.00

13770005000C PROJECT: NCRDS