

15100001000C PROJECT: CUSMAP QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 5E SECTION: 12 100N 1500E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 731.0 GEOLOGIST: DATE COLLECTED: 0 / 0/1938
 Drillers Log Stratigraphic Test LOGGED (FT.): 279.00
 SOURCE: Whitlock C C Etal

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
731.00			UNCLASSIFIED	279.00	0.00	
452.00	BASE OF PENN		UNCLASSIFIED		279.00	

15100003000C PROJECT: CUSMAP QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 15 NENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): GEOLOGIST: DATE COLLECTED: 0 / 0/1900
 Drillers Log Producer-Oil and Gas LOGGED (FT.): 195.00
 SOURCE: Mid Egypt Oil & Gas

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			UNCLASSIFIED	195.00	0.00	
	BASE OF PENN		UNCLASSIFIED		195.00	

15100003000C PROJECT: BLM QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 15 NENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH,M DATE COLLECTED: 11 /11/1921
 Drillers Log LOGGED (FT.): 660.00
 SOURCE: MID-EGYPT GAS & OIL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.00			UNDERCLAY	35.00	0.00	
665.00			SILTSTONE	10.00	35.00	
655.00			COAL	1.00	45.00	
654.00			SILTSTONE	14.00	46.00	
640.00			SANDSTONE	107.00	60.00	
533.00			SILTSTONE	28.00	167.00	
505.00			LIMESTONE	40.00	195.00	
465.00			SL/LS	210.00	235.00	
255.00			SS/SLT	85.00	445.00	
170.00			LIMESTONE	10.00	530.00	
160.00			SL/LS	40.00	540.00	
120.00			LIMESTONE	80.00	580.00	

15100012000C PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 13S - R 5E SECTION: 12 1250S 2365W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 440.0 GEOLOGIST: BARGH M. DATE COLLECTED: 1 / 5/1958
 Survey Core Study Coal Test LOGGED (FT.): 46.50
 SOURCE: SIMON, J. A.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
440.00			UNCONSOLIDATED	8.00	0.00	
432.00			ROCK	4.76	8.00	
427.20			SHALE	4.67	12.80	
422.60			SANDSTONE	20.33	17.40	
402.20			COAL	3.08	37.80	
399.20			UNDERCLAY	0.66	40.80	
398.50			ROCK	5.00	41.50	

15100020000C PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 13S - R 5E SECTION: 12 1755S 2630W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 480.0 GEOLOGIST: BARGH M. DATE COLLECTED:
 Drillers Log Coal Test LOGGED (FT.): 44.00
 SOURCE: H. TAYLOR

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.00			ROCK	34.50	0.00	
445.50			COAL	2.50	34.50	
443.00			ROCK	7.00	37.00	

15100022000C PROJECT: CUSMAP QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 9 NWNW 400N 500W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 410.0 GEOLOGIST: DATE COLLECTED: 8 / 0/1916
 Drillers Log Stratigraphic Test LOGGED (FT.): 578.00
 SOURCE: Pierce I C

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
410.00			UNCLASSIFIED	578.00	0.00	
-168.00	BASE OF PENN		UNCLASSIFIED		578.00	

15100022000C PROJECT: BLM QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 9 NWNW 400N 500W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 41.0 GEOLOGIST: BARGH,M DATE COLLECTED: 8 / 0/1916
 Multiple log types Oil and Gas Test LOGGED (FT.): 3075.00
 SOURCE: PIERCE, I. C. 1,4 SAMPLE STUDY BY CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			UNCONSOLIDATED	35.00	0.00	
			BLACK SHALE	25.00	35.00	
			SANDSTONE	70.00	60.00	
			SILTSTONE	40.00	130.00	
			SANDSTONE	50.00	170.00	
			SILTSTONE	45.00	220.00	
			SANDSTONE	102.00	265.00	
			SILTSTONE	8.00	367.00	
			SANDSTONE	10.00	375.00	
			SILTSTONE	5.00	385.00	
			SANDSTONE	139.00	390.00	
			SILTSTONE	56.00	529.00	
			LIMESTONE	38.00	585.00	
			ROCK	9.00	623.00	
			LS/SL	127.00	632.00	
			SANDSTONE	6.00	759.00	
			SL/LS	60.00	765.00	
			SANDSTONE	10.00	825.00	
			SL/LS	35.00	835.00	
			SILTSTONE	13.00	870.00	
			LIMESTONE	5.00	883.00	
			SL/SS	82.00	888.00	
			LIMESTONE	3.00	970.00	
			SANDSTONE	53.00	973.00	
			LS/SL	74.00	1026.00	
			UNCLASSIFIED	-20.00	1100.00	
			SILTSTONE	5.00	1080.00	
			UNCLASSIFIED	90.00	1085.00	
			SS/LS	90.00	1175.00	
			UNCLASSIFIED	5.00	1265.00	
			SL/LS	94.00	1270.00	
			UNKNOWN	332.00	1364.00	
			UNKNOWN	204.00	1696.00	
			UNCLASSIFIED	47.00	1900.00	
			LS/SL	1128.00	1947.00	

15100028000C PROJECT: CUSMAP QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 10 SE 927S 296E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 627.0 GEOLOGIST: DATE COLLECTED: 12 / 0/1940
 Drillers Log Producer-Oil and Gas LOGGED (FT.): 30.00
 SOURCE:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.00			UNCLASSIFIED	30.00	0.00	
597.00	BASE OF PENN		UNCLASSIFIED		30.00	

15100028000C PROJECT: BLM QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 10 SE 927S 296E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 627.0 GEOLOGIST: BARGH,M DATE COLLECTED: 12 / 0/1940
 Multiple log types Oil and Gas Test LOGGED (FT.): 1692.00
 SOURCE: OHIO OIL CO 1,4 C#667 SS# 5926

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
627.00			UNCONSOLIDATED	20.00	0.00	
607.00			SANDSTONE	10.00	20.00	
597.00			LIMESTONE	20.00	30.00	
577.00			SHALE	5.00	50.00	
572.00			LIMESTONE	55.00	55.00	
517.00			SHALE	35.00	110.00	
482.00			LIMESTONE	42.00	145.00	
440.00			SHALE	48.00	187.00	
392.00			LIMESTONE	28.00	235.00	
364.00			SH & SS	25.00	263.00	
339.00			LIMESTONE	4.00	288.00	
335.00			SANDSTONE	23.00	292.00	
312.00			LIMESTONE	5.00	315.00	
307.00			SH & SS	99.00	320.00	
208.00			SH/COAL	2.00	419.00	
206.00			SANDSTONE	26.00	421.00	
180.00			SHALE	18.00	447.00	
180.00			UNCLASSIFIED	-18.00	465.00	
180.00			LIMESTONE	45.00	447.00	
135.00			CALC SH	143.00	492.00	
-8.00			SANDSTONE	40.00	635.00	
-48.00			SHALE	41.00	675.00	
-89.00			LIMESTONE	6.00	716.00	
-95.00			SHALE	17.00	722.00	
-112.00			SANDSTONE	70.00	739.00	
-112.00			UNCLASSIFIED	-55.00	809.00	
-127.00			LIMESTONE	86.00	754.00	
-127.00			UNCLASSIFIED	-25.00	840.00	
-188.00			UNKNOWN	27.00	815.00	
-188.00			UNCLASSIFIED	198.00	842.00	
-413.00			UNKNOWN	131.00	1040.00	
-544.00			UNKNOWN	126.00	1171.00	
-670.00			UNKNOWN	62.00	1297.00	
-732.00			UNKNOWN	25.00	1359.00	
-757.00			UNKNOWN	54.00	1384.00	
-811.00			UNKNOWN	0.00	1438.00	

15100030000C PROJECT: CUSMAP QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 19 SESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 708.0 GEOLOGIST: DATE COLLECTED: 0 / 0/1940
 Survey Sample Study Stratigraphic Test LOGGED (FT.): 598.00
 SOURCE: Gardenheir & Smith

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
708.00			UNCLASSIFIED	598.00	0.00	
110.00	BASE OF PENN		UNCLASSIFIED		598.00	

15100030000C PROJECT: BLM QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *

COUNTY: POPE 11S - R 5E SECTION: 19 SESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 708.0 GEOLOGIST: BARGH,M DATE COLLECTED: 8 / 0/1940
 Drillers Log Oil and Gas Test LOGGED (FT.): 1160.00
 SOURCE: GARDEN HEIR & SMITH SUMMARY SAMPLE STUDY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
708.00			UNKNOWN	245.00	0.00	
463.00			SANDSTONE	55.00	245.00	
408.00			SH/COAL	20.00	300.00	
388.00			SANDSTONE	25.00	320.00	
363.00			SHALE	3.00	345.00	
360.00			SANDSTONE	247.00	348.00	
113.00			BLACK SHALE	3.00	595.00	
110.00			CALC SH	209.00	598.00	
-99.00			UNKNOWN	155.00	807.00	
-254.00			SANDSTONE	104.00	962.00	
-358.00			LIMESTONE	94.00	1066.00	

15100031000C PROJECT: CUSMAP QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 29 SWNW 330N 330E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 730.0 GEOLOGIST: DATE COLLECTED: 7 / 0/1941
 Drillers Log Producer-Oil and Gas LOGGED (FT.): 490.00
 SOURCE: Claro Anthony Etal

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
730.00			UNCLASSIFIED	490.00	0.00	
240.00	BASE OF PENN		UNCLASSIFIED		490.00	

15100031000C PROJECT: BLM QUADRANGLE: STONEFORT * ALTERNATE DESCRIPTION ON FILE *
 COUNTY: POPE 11S - R 5E SECTION: 29 SWNW 330N 330E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 730.0 GEOLOGIST: BARGH,M DATE COLLECTED: 7 / 0/1941
 Drillers Log Oil and Gas Test LOGGED (FT.): 1236.00
 SOURCE: CLARO, ANTHONY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
730.00			SS/SH	350.00	0.00	
380.00			SS/SH	130.00	350.00	
380.00			UNCLASSIFIED	10.00	480.00	
240.00			LS W/ SH	200.00	490.00	
40.00			SH & SS	30.00	690.00	
10.00			CALC SH	110.00	720.00	
-100.00			SANDSTONE	93.00	830.00	
-193.00			UNKNOWN	140.00	923.00	
-333.00			UNKNOWN	47.00	1063.00	
-380.00			UNKNOWN	22.00	1110.00	
-402.00			UNKNOWN	25.00	1132.00	
-427.00			SANDSTONE	76.00	1157.00	
-503.00			SANDSTONE	0.00	1233.00	

15100032000C PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 30 330N 480E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 726.0 GEOLOGIST: C.P.WEIBEL DATE COLLECTED: 12 / 0/1940
 Multiple log types Oil and Gas Test LOGGED (FT.): 2132.00
 SOURCE: GARNIER CO. 4,5

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			UNKNOWN		612.00	
			UNKNOWN	49.00	612.00	
			UNKNOWN	158.00	661.00	
			LIMESTONE	53.00	661.00	

SHALE	78.00	714.00
LIMESTONE	27.00	792.00
UNKNOWN	175.00	819.00
SANDSTONE	96.00	994.00
UNKNOWN	115.00	1090.00
SANDSTONE	52.00	1205.00
UNKNOWN	19.00	1257.00
SANDSTONE	97.00	1276.00
UNKNOWN	77.00	1373.00
UNKNOWN	45.00	1450.00
UNKNOWN	105.00	1495.00
UNKNOWN	104.00	1600.00
UNKNOWN	7.00	1704.00
UNKNOWN		1711.00

15100034000C PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 33 NWNESWNE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 440.0 GEOLOGIST: BARGH,M DATE COLLECTED: 0 / 0/1941
 Drillers Log Water Well LOGGED (FT.): 73.00
 SOURCE: U. S. FOREST SERVICE "SUMMARY SAMPLE STUDY"

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
440.00			CLAYSTONE	26.00	0.00	
414.00			LIMESTONE	4.00	26.00	
414.00			UNCLASSIFIED	-4.00	30.00	
414.00			SANDSTONE	20.00	26.00	
394.00			SHALE	20.00	46.00	
374.00			ROCK	3.00	66.00	

15100036000C PROJECT: CUS-PILOT QUADRANGLE: HEROD
 COUNTY: POPE 11S - R 7E SECTION: 5 500N 2500E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 476.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 7 / 0/1936
 Survey Sample Study Dry Hole LOGGED (FT.): 455.00
 SOURCE: Clark O B Etal SAMPLE STUDY-LE WORKMAN.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
476.00				40.00	0.00	"SOIL, GRAVEL, MUD & WATER"
436.00				0.00	40.00	
436.00	MISSISSIPPIA	MENARD	LIMESTONE	0.00	40.00	INFERRED FROM GEOLOGIC MAP-GKM 6/87.

15100053000C PROJECT: CUS-PILOT QUADRANGLE: HEROD
 COUNTY: POPE 11S - R 7E SECTION: 27 1960S 430E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 450.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 11 / 0/1943
 Misc. Borings 100 Ft. & Deeper LOGGED (FT.): 225.00
 SOURCE: U S Bureau Of Mines CORE STUDY-FE TIPPIE 11/43.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
450.00				37.50	0.00	"OVERBURDEN"
412.50				0.00	37.50	
412.50			LIMESTONE	0.00	37.50	

15100064000C PROJECT: CUS-PILOT QUADRANGLE: HEROD
 COUNTY: POPE 11S - R 7E SECTION: 34 2810S 2455E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 425.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 10 / 0/1943
 Survey Core Study Misc. Borings 100 Ft. & Deeper LOGGED (FT.): 254.00
 SOURCE: CORE STUDY-FE TIPPIE 10/43.

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
425.00				33.80	0.00	"OVERBURDEN"
391.20				0.00	33.80	
391.20			LIMESTONE	0.00	33.80	"PROBABLE FAULT 171'"

15100067000C PROJECT: CUS-PILOT QUADRANGLE: HEROD
COUNTY: POPE 11S - R 7E SECTION: 34 NENW 350N 650E
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 460.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 12 / 0/1943
Survey Core Study Mineral Test LOGGED (FT.): 282.00
SOURCE: U S Bureau Of Mines CORE STUDY-FE TIPPIE 12/43.

						THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
460.00				4.50	0.00	"OVERBURDEN"
455.50				0.00	4.50	
455.50	MISSISSIPPIA WEST BADEN GRO		SANDSTONE	2.80	4.50	"BETHEL"
452.70	MISSISSIPPIA CEDAR BLUFF G		LIMESTONE	111.20	7.30	"RENAULT FM."
341.50			SANDSTONE	20.90	118.50	"ROSICLARE"
320.60			LIMESTONE	0.00	139.40	"FREDONIA", FAULT 148.7'

15100077600M PROJECT: BLM QUADRANGLE: WALTERSBURG
COUNTY: POPE 13S - R 5E SECTION: 12 NWSESW
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1936
Strip Mine LOGGED (FT.): 0.00
SOURCE: MINE NOTES-SISTLER C C

						THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
600.00			UNKNOWN	0.00	0.00	

15100084000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
COUNTY: POPE 12S - R 7E SECTION: 20 SENWNWNW
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 430.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 0 / 0/1952
Survey Core Study Misc. Borings 100 Ft. & Deeper LOGGED (FT.): 203.00
SOURCE: CORE STUDY-DB SAXBY 7/52.

						THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
430.00				8.50	0.00	"SOIL & BOULDERS."
421.50				0.00	8.50	
421.50	MISSISSIPPIA CLORE		SHALE	96.90	8.50	
324.60	MISSISSIPPIA PALESTINE		SANDSTONE	0.00	105.40	

15100085000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
COUNTY: POPE 12S - R 7E SECTION: 22 NW 17S 1032E
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 345.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 0 / 0/1954
Survey Core Study Mineral Test LOGGED (FT.): 500.00
SOURCE: Mahoning Mining Div CORE STUDY-DB SAXBY 7/54.

						THICKNESS (FT.)
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
345.00				0.00	0.00	"NO CORE-SOIL"
				0.00		
			UNCLASSIFIED	13.00	0.00	
332.00	MISSISSIPPIA WEST BADEN GRO		SANDSTONE	111.90	13.00	
220.10	MISSISSIPPIA CEDAR BLUFF G		LIMESTONE	132.50	124.90	"D.B., SHET. & LEV. (220.6)'"
87.60			SANDSTONE	21.80	257.40	"ROSICLARE"

65.80

LIMESTONE

0.00 279.20

"FREDONIA"

15100087000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
 COUNTY: POPE 12S - R 7E SECTION: 22 SENW 515S 58E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 410.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 0 / 0/1942
 Survey Core Study Mineral Test LOGGED (FT.): 352.00
 SOURCE: Thompson Etal CORE STUDY-FE TIPPIE 11/43

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
410.00				25.10	0.00	"SURFACE & BOULDERS"
384.90				0.00	25.10	
384.90	MISSISSIPPIA WEST BADEN GRO		SANDSTONE	177.50	25.10	"CYPRESS"
207.40	MISSISSIPPIA CEDAR BLUFF	G	LIMESTONE	67.40	202.60	"2" CALCITE VEIN-225.6'" (POSS. FAULT?)
140.00			SANDSTONE	24.30	270.00	"ROSICL", FLT. 281.3' & PROB. FLT 294.3'
115.70			LIMESTONE	0.00	294.30	PROBABLE FLT. 294.3', "FRED."

15100091301M PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 13S - R 5E SECTION: 12 NENWSESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: BARGH M. DATE COLLECTED: 6 / 0/1970
 Strip Mine LOGGED (FT.): 18.42
 SOURCE: MINE NOTES-W. SMITH, MT. ZION C C SAMPLE # 1

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00			UNCLASSIFIED	0.00	0.00	
580.00			SANDSTONE	15.00		
565.00	ABBOTT		COAL	3.42	15.00	
	ABBOTT		CLAYSTONE			

15100091302M PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 13S - R 5E SECTION: 12 SWSESWSW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: BARGH M. DATE COLLECTED: 6 / 0/1970
 Strip Mine LOGGED (FT.): 24.00
 SOURCE: MINE NOTES-W. SMITH, MT ZION C C SAMPLE # 2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.00			UNCLASSIFIED	0.00	0.00	
630.00			SANDSTONE	20.00		
610.00	ABBOTT		COAL	3.00	20.00	
607.00	ABBOTT		CLAYSTONE	1.00	23.00	

15100091400M PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 6 SESWNENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH M. DATE COLLECTED: 11 / 3/1970
 Strip Mine LOGGED (FT.): 25.20
 SOURCE: MINE NOTES-HOPKINS E & L C C SAMPLED SECTIONS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
540.00			UNCONSOLIDATED	8.00	0.00	
532.00			ROCK	14.00	8.00	
518.00			COAL	2.90	22.00	
			ROCK	0.30	24.90	

15100093600M PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 12S - R 6E SECTION: 29 SESESESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1975
 Strip Mine LOGGED (FT.): 19.03
 SOURCE: MINE NOTES-WESTERN MNG C. SHAWNEE MINE DATA FROM FLD NOTE F278A001 & MINE INDEX

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
500.00	ABBOTT		ROCK	17.04	0.00	
483.00	ABBOTT		COAL	1.99	17.00	
	ABBOTT		UNDERCLAY		19.00	

15100098401M PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 13S - R 5E SECTION: 12 SESESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: BARGH M. DATE COLLECTED: 10 /26/1977
 Strip Mine LOGGED (FT.): 34.33
 SOURCE: MINE NOTES-JOHN NELSON, MARTIN CONSTRUCT PIT # 1

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
620.00			UNCONSOLIDATED	7.00	0.00	
613.00	ABBOTT		SANDSTONE	25.00	7.00	
588.00	ABBOTT		COAL	2.33	32.00	
	ABBOTT		CLAYSTONE		34.30	

15100098402M PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 13S - R 5E SECTION: 12 SWNESESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: BARGH M. DATE COLLECTED: 10 /26/1977
 Strip Mine LOGGED (FT.): 29.75
 SOURCE: MINE NOTES-JOHN NELSON, MARTIN CONSTRUCT PIT # 2

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
620.00			UNCONSOLIDATED	7.00	0.00	
613.00	ABBOTT		SANDSTONE	20.00	7.00	
593.00	ABBOTT		COAL	2.75	27.00	

15100098403M PROJECT: BLM QUADRANGLE: WALTERSBURG
 COUNTY: POPE 13S - R 5E SECTION: 12 SWSNESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH M. DATE COLLECTED: 11 / 8/1978
 Strip Mine LOGGED (FT.): 42.50
 SOURCE: MINE NOTES-JOHN NELSON

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
600.00			UNCONSOLIDATED		0.00	
	ABBOTT		SANDSTONE	40.00		
	ABBOTT		COAL	2.50		

15100111000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
 COUNTY: POPE 13S - R 6E SECTION: 24 NWNWNE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 460.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 0 / 0/1946
 Survey Sample Study Water Well LOGGED (FT.): 54.00
 SOURCE: Brady, C. E. SAMPLE TOPS-GK MAYNOR 6/87.

						THICKNESS (FT.)

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
460.00			CLAYSTONE & LS	50.00	0.00	
410.00				0.00	50.00	
410.00	MISSISSIPPIA	HARDINSBURG	SANDSTONE	0.00	50.00	"SAND ROCK", ?SAMPLE TOP

15100146000C PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 5 NW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH DATE COLLECTED:
 Coal Test LOGGED (FT.): 60.00
 SOURCE: STONEFORT CC DRILL HOLE #1

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
540.00			UNCONSOLIDATED	8.00	0.00	
532.00			SANDSTONE	52.00	8.00	

15100147000C PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 5 NW 400N 1E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 480.0 GEOLOGIST: BARGH DATE COLLECTED:
 Coal Test LOGGED (FT.): 65.20
 SOURCE: STONEFORT C C DRILL HOLE # 2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
480.00			UNCONSOLIDATED	5.00	0.00	
475.00			SANDSTONE	24.00	5.00	
451.00			COAL	3.16	29.00	
447.80			CLAYSTONE	2.00	32.20	
445.80			SHALE	31.00	34.20	

15100148000C PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 5
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 520.0 GEOLOGIST: BARGH DATE COLLECTED:
 Coal Test LOGGED (FT.): 39.10
 SOURCE: STONEFORT C C DRILL HOLE #3

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
520.00			UNCONSOLIDATED	10.00	0.00	
510.00			SANDSTONE	26.50	10.00	
483.50			COAL	3.08	36.50	
			CLAYSTONE	0.00	38.60	

15100149000C PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 5 1370N 1720E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 550.0 GEOLOGIST: BARGH DATE COLLECTED:
 Coal Test LOGGED (FT.): 75.00
 SOURCE: STONEFORT CC DRILL HOLE #4

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
550.00			UNCONSOLIDATED	5.00	0.00	
545.00			SANDSTONE	70.00	5.00	

1510015000C PROJECT: CUSMAP QUADRANGLE: WALTERSBURG
 COUNTY: POPE 12S - R 6E SECTION: 20 SWNNWENW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): GEOLOGIST: DATE COLLECTED:
 Survey Sample Study Stratigraphic Test LOGGED (FT.): 702.60
 SOURCE:

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			UNCLASSIFIED	702.60	0.00	
	BASE OF PENN		UNCLASSIFIED		702.60	

15100151000C PROJECT: CUSMAP QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 5E SECTION: 13 NENW 330N 330W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 782.0 GEOLOGIST: DATE COLLECTED: 7 / 0/1956
 Electric Log Producer-Oil and Gas LOGGED (FT.): 705.00
 SOURCE: Pledger Roy

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
782.00			UNCLASSIFIED	705.00	0.00	
77.00	BASE OF PENN		UNCLASSIFIED		705.00	

15100152000C PROJECT: CUSMAP QUADRANGLE: REEVESVILLE
 COUNTY: POPE 13S - R 5E SECTION: 21
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 558.0 GEOLOGIST: DATE COLLECTED: 0 / 0/1956
 Survey Sample Study Producer-Oil and Gas LOGGED (FT.): 116.00
 SOURCE: Sergent, William

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
558.00			UNCLASSIFIED	116.00	0.00	
442.00	BASE OF PENN		UNCLASSIFIED		116.00	

15100156000C PROJECT: CUSMAP QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 6E SECTION: 14 NW 330S 330E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 785.0 GEOLOGIST: DATE COLLECTED: 3 / 0/1957
 Survey Sample Study Stratigraphic Test LOGGED (FT.): 747.00
 SOURCE: Ditterline, Milo

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
785.00			UNCLASSIFIED	747.00	0.00	
38.00	BASE OF PENN		UNCLASSIFIED		747.00	

15100159000C PROJECT: COGEOMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 2 1650N 300W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 420.0 GEOLOGIST: BARGH DATE COLLECTED: 11 /25/1957
 Coal Test LOGGED (FT.): 67.00
 SOURCE: HART & HART DRILL HOLE #4

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

420.00	CLAYSTONE	9.50	0.00
410.40	CLAYSTONE	2.50	9.60
408.00	SHALE	3.25	12.00
404.70	SHALE	8.25	15.30
396.50	SANDSTONE	6.16	23.50
390.30	COAL	0.08	29.70
390.20	UNDERCLAY	1.75	29.80
388.50	SANDSTONE	9.50	31.50
379.00	SHALE	3.50	41.00
375.50	SANDSTONE	22.50	44.50

1510016000C PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 4E SECTION: 2 1600S 600W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 525.0 GEOLOGIST: BARGH DATE COLLECTED: 11 /25/1957
 Coal Test LOGGED (FT.): 72.50
 SOURCE: HART & HART DRILL HOLE NO 1

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
525.00			CLAYSTONE	10.00	0.00	
515.00			SHALE	6.50	10.00	
508.50			SHALE	5.50	16.50	
503.00			SANDSTONE	9.00	22.00	
494.00			SANDSTONE	3.50	31.00	
490.50			SHALE	13.75	34.50	
476.70			COAL	0.08	48.30	
476.70			SHALE	6.66	48.30	
470.00			SHALE	17.50	55.00	

15100161000C PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 2 1600N 2100W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: BARGH DATE COLLECTED: 11 /25/1957
 Coal Test LOGGED (FT.): 37.00
 SOURCE: HART & HART DRILL HOLE #3

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.00			CLAYSTONE	6.00	0.00	
624.00			SANDSTONE	1.50	6.00	
622.50			CLAYSTONE	7.50	7.50	
616.00			SANDSTONE	10.25	14.00	
605.70			SHALE	2.25	24.30	
603.50			COAL	0.08	26.50	
603.40			UNDERCLAY	0.91	26.60	
602.50			SHALE	9.50	27.50	

15100199000C PROJECT: CUSMAP QUADRANGLE: HEROD
 COUNTY: POPE 11S - R 6E SECTION: 25 SESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): GEOLOGIST: DATE COLLECTED: 10 / 0/1943
 Survey Sample Study Producer-Oil and Gas LOGGED (FT.): 157.50
 SOURCE: Frazier Etal

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			UNCLASSIFIED	157.50	0.00	
			UNCLASSIFIED		157.50	
			BASE OF PENN			

15100207000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
 COUNTY: POPE 12S - R 6E SECTION: 25 SE 600S 1000E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 480.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 0 / 0/1900
 Survey Core Study Misc. Borings 100 Ft. & Deeper LOGGED (FT.): 104.00
 SOURCE: No Company CORE STUDY-JC BRADBURY 10/64.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.00				7.10	0.00	"SURFACE"
472.90				0.00	7.10	CORR. W/ CO.# 15100206.
472.90	MISSISSIPPIA	MENARD	LIMESTONE	96.50	7.10	CORR. W/ CO.# 15100206.
376.40	MISSISSIPPIA	WALTERSBURG	SANDSTONE	0.00	103.60	CORR. W/ CO.# 15100206.

15100213000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
COUNTY: POPE 12S - R 7E SECTION: 9 SWSE 517N 602W
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 407.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 3 / 0/1945
Survey Core Study Mineral Test LOGGED (FT.): 597.00
SOURCE: U S Bureau Of Mines CORE STUDY-FE TIPPIE 3/45

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
407.00				4.60	0.00	"OVERBURDEN"
402.40				0.00	4.60	
402.40	MISSISSIPPIA	TAR SPRINGS	SANDSTONE	84.30	4.60	
318.10			LIMESTONE	69.10	88.90	
249.00	MISSISSIPPIA	HARDINBURG	SANDSTONE	108.70	158.00	
140.30	MISSISSIPPIA	HANEY	LIMESTONE	118.00	266.70	"GOLCONDA"
22.30	MISSISSIPPIA	BEECH CREEK	LIMESTONE	2.20	384.70	INFERRED TOP-GK MAYNOR 6/87
20.10	MISSISSIPPIA	WEST BADEN GRO	SANDSTONE	0.00	386.90	FAULT 438.7-440'

15100214000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
COUNTY: POPE 12S - R 7E SECTION: 34 E2SESW
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 510.0 GEOLOGIST: GK MAYNOR DATE COLLECTED: 0 / 0/1965
Survey Sample Study Dry Hole LOGGED (FT.): 600.00
SOURCE: Gwin Drilling SAMPLE TOPS-GK MAYNOR 6/87.

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
510.00			CLAYSTONE	12.00	0.00	"CLAY 0-12"
498.00				0.00	12.00	
498.00	MISSISSIPPIA	WEST BADEN GRO	SANDSTONE	198.00	12.00	
300.00	MISSISSIPPIA	CEDAR BLUFF	LIMESTONE	125.00	210.00	
175.00			SL/LS	30.00	335.00	
145.00			LIMESTONE	0.00	365.00	

15100226000C PROJECT: BLM QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 8 SWNNW
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 460.0 GEOLOGIST: BARGH,M DATE COLLECTED: 6 / 0/1968
Drillers Log Water Well LOGGED (FT.): 110.00
SOURCE: RICHEY, DRILLER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
460.00			CLAYSTONE	10.00	0.00	
450.00			SHALE	2.00	10.00	
448.00			SANDSTONE	33.00	12.00	
415.00			SANDSTONE	65.00	45.00	

15100421700M PROJECT: BLM QUADRANGLE: EDDYVILLE
COUNTY: POPE 11S - R 5E SECTION: 2 SWSE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 440.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1916
Measured section Underground mine LOGGED (FT.): 2.33
SOURCE: FLD NOTES-BROKAW FRANK DURFEE COALBANK-PICTURE IN NOTEBOOK

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

	ABBOTT	WILLIS	SANDSTONE			
	ABBOTT		COAL	2.33		
			SHALE			

15100421800M PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 22 660S 900W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1939
 Measured section Underground mine LOGGED (FT.): 50.16
 SOURCE: FLD NOTES-WANLESS "SEVERAL COAL ENTRIES IN WORKING COND"

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

620.00			UNCLASSIFIED	0.00	0.00	
620.00			ROCK	8.25		
611.70			COAL	0.91	8.30	
610.80			ROCK	26.00	9.20	
584.80			UNKNOWN	15.00	35.20	

15120309000C PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 20 SWNENW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH,M DATE COLLECTED: 9 / 5/1977
 Drillers Log Water Well LOGGED (FT.): 333.00
 SOURCE: BEANLAND, DRILLER

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

700.00			CLAYSTONE	4.00	0.00	
696.00			SS/SH	44.00	4.00	
652.00			SHALE	8.00	48.00	
644.00			SANDSTONE	83.00	56.00	
561.00			SHALE	61.00	139.00	
500.00			SANDSTONE	133.00	200.00	

15120322000C PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 6 SWSWSNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: BARGH M. DATE COLLECTED: 9 / 8/1979
 Drillers Log Water Well LOGGED (FT.): 240.00
 SOURCE: Q. RICHEY, DRILLER

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

640.00			CLAYSTONE	5.00	0.00	
635.00			SANDSTONE	137.00	5.00	
498.00			COAL	1.50	142.00	
496.50			SANDSTONE	76.50	143.50	
420.00			SH & SS	10.00	220.00	

15120330000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
 COUNTY: POPE 12S - R 7E SECTION: 19 NWSE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 460.0 GEOLOGIST: GK MAYNOR DATE COLLECTED:
 Survey Core Study Mineral Test LOGGED (FT.): 1123.00
 SOURCE: Ozark-Mahoning Co. CORE STUDY (458-641')-JDT 7/83.

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

460.00		UNCLASSIFIED	35.40	0.00	
424.60			0.00	35.40	CORE STARTS AT 35.4'
424.60	MISSISSIPPIA WALTERSBURG	SHALE	22.20	35.40	CORE TOP-GK MAYNOR 6/87.
402.40	MISSISSIPPIA VIENNA	LIMESTONE	11.50	57.60	CORE TOP-GK MAYNOR 6/87.
390.90	MISSISSIPPIA TAR SPRINGS	SS/SH	111.40	69.10	CORE TOP-GK MAYNOR 6/87.
279.50		LS W/ SH	50.40	180.50	CORE TOP-GK MAYNOR 6/87.
229.10	MISSISSIPPIA HARDINSBURG	SANDSTONE	96.60	230.90	CORE TOP-GK MAYNOR 6/87.
132.50	MISSISSIPPIA HANEY	LIMESTONE	59.00	327.50	CORE TOP-JD TREWORGY 7/83.
73.50	MISSISSIPPIA FRAILEYS	SHALE	63.90	386.50	CORE TOP-JD TREWORGY 7/83.
9.60	MISSISSIPPIA BEECH CREEK	LIMESTONE	3.10	450.40	CORE TOP-JD TREWORGY 7/83.
6.50	MISSISSIPPIA WEST BADEN GRO	SANDSTONE	238.80	453.50	CORE TOP-JD TREWORGY 7/83.
-232.30	MISSISSIPPIA CEDAR BLUFF	G LIMESTONE	0.00	692.30	CORE TOP-GK MAYNOR 6/87.

15120398000C PROJECT: NCRDS99 QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 6E SECTION: 8 350N 2660W
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): GEOLOGIST: C KOROSE DATE COLLECTED: 11 /13/1985
 Survey Core Study Coal Test LOGGED (FT.): 141.00
 SOURCE: COGEMAP E-2

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
	PLEISTOCENE		UNCONSOLIDATED	10.00	0.00	
	ABBOTT		SANDSTONE	15.00	10.00	WITH YELLOW CLAY; BROWN
	ABBOTT		SHALE	2.17	25.00	SANDY; GRAY
	ABBOTT		SANDSTONE	14.08	27.20	BROWN
	ABBOTT		SANDSTONE	29.75	41.30	COAL STRINGERS AT 31.6; GRAY
	ABBOTT		SHALE	6.50	71.00	SANDY, CARBONACEOUS AT TOP, GRAY
	ABBOTT		SANDSTONE	7.25	77.50	SHALEY
	ABBOTT		LIMESTONE	9.58	84.80	VERY THIN COAL STRINGER AT TOP
	ABBOTT		SHALE	5.00	94.30	DARK, SANDY, WITH BURROWS
	ABBOTT		SANDSTONE	5.67	99.30	
	ABBOTT		CLAYSTONE/SILTST	12.00	105.00	
	ABBOTT		SANDSTONE	24.00	117.00	HARD

15120399000C PROJECT: NCRDS99 QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 6E SECTION: 9 1150N 575E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 820.0 GEOLOGIST: C KOROSE DATE COLLECTED: 11 /14/1985
 Survey Core Study Coal Test LOGGED (FT.): 141.00
 SOURCE: COGEMAP E-3

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
820.00	PLEISTOCENE		UNCONSOLIDATED	8.00	0.00	
812.00	ABBOTT		SANDSTONE	17.00	8.00	CLAYEY, BROWN; MURRAY BLUFF
795.00	ABBOTT		SANDSTONE	86.00	25.00	BROWN
709.00	ABBOTT		SHALE	10.00	111.00	LOST 9.0
699.00	ABBOTT		SHALE	5.17	121.00	DARK
693.80	ABBOTT		SANDSTONE	2.58	126.20	BROWN
691.20	ABBOTT		SH & SS	0.83	128.80	
690.40	ABBOTT		COAL	0.42	129.60	WITH PYRITE
690.00	ABBOTT		UNDERCLAY	3.00	130.00	GRAY
687.00	ABBOTT		CLAYSTONE/SILTST	1.25	133.00	DARK
685.70	ABBOTT		SANDSTONE	0.33	134.30	HARD
685.40	ABBOTT		SANDSTONE	1.25	134.60	
684.20	ABBOTT		SANDSTONE	5.17	135.80	DARK TO LIGHT; BROWN

15120404000C PROJECT: CUS-PILOT QUADRANGLE: HEROD
 COUNTY: POPE 11S - R 7E SECTION: 33 S2SENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 384.0 GEOLOGIST: GK MAYNOR DATE COLLECTED:
 Survey Core Study Mineral Test LOGGED (FT.): 696.00
 SOURCE: CORE STUDY-DB SAXBY 01/50.

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
384.00				8.70	0.00	"SURFACE SOIL"
375.30				0.00	8.70	
375.30	MISSISSIPPIA FRAILEYS		SHALE	65.80	8.70	"GOLCONDA"

309.50	MISSISSIPPIA BEECH CREEK	LIMESTONE	3.40	74.50	INFERRED TOP-GK MAYNOR 6/87.
306.10	MISSISSIPPIA WEST BADEN GRO	SANDSTONE	233.90	77.90	
72.20	MISSISSIPPIA CEDAR BLUFF G	LIMESTONE	112.60	311.80	"D.B., SHET. & LEVIAS (399.7)'"
-40.40		SANDSTONE	9.90	424.40	"ROSICLARE"
-50.30		LIMESTONE	0.00	434.30	"FREDONIA", FAULT 569.8-574.6'

15120406000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
COUNTY: POPE 13S - R 7E SECTION: 19 SENW
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 555.0 GEOLOGIST: GK MAYNOR DATE COLLECTED:
Survey Sample Study Misc. Borings 100 Ft. & Deeper LOGGED (FT.): 234.00
SOURCE: SAMPLE TOPS-GK MAYNOR 6/87.

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
555.00			CLAYSTONE	20.00	0.00	"BROWN CLAY"
535.00				0.00	20.00	
535.00	MISSISSIPPIA HARDINSBURG		SANDSTONE	55.00	20.00	
480.00	MISSISSIPPIA HANEY		LS W/ SH	0.00	75.00	

15120416000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
COUNTY: POPE 12S - R 7E SECTION: 20 NWNE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 450.0 GEOLOGIST: GK MAYNOR DATE COLLECTED:
Survey Core Study Mineral Test LOGGED (FT.): 368.00
SOURCE: Ozark-Mahoning Co. CORE TOPS-GK MAYNOR 6/87.

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
450.00			UNCLASSIFIED	165.50	0.00	
284.50				0.00	165.50	CORE STARTS AT 165.5'
284.50			LS W/ SH	14.40	165.50	
270.10	MISSISSIPPIA HARDINSBURG		SANDSTONE	79.00	179.90	
191.10	MISSISSIPPIA HANEY		LIMESTONE	0.00	258.90	

15120417000C PROJECT: CUS-PILOT QUADRANGLE: SHETLERVILLE
COUNTY: POPE 12S - R 7E SECTION: 33 NWNE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 510.0 GEOLOGIST: GK MAYNOR DATE COLLECTED:
Survey Core Study Mineral Test LOGGED (FT.): 516.00
SOURCE: Ozark-Mahoning Co. CORE TOPS-GK MAYNOR 6/87.

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
510.00			UNCLASSIFIED	24.70	0.00	
485.30				0.00	24.70	CORE STARTS AT 24.7'
485.30	MISSISSIPPIA HARDINSBURG		SANDSTONE	1.30	24.70	
484.00	MISSISSIPPIA HANEY		LIMESTONE	119.50	26.00	
364.50	MISSISSIPPIA BEECH CREEK		LIMESTONE	4.10	145.50	
360.40	MISSISSIPPIA WEST BADEN GRO		SANDSTONE	186.30	149.60	FAULT BRECCIATED SH. FROM 333-334'
174.10	MISSISSIPPIA CEDAR BLUFF G		LIMESTONE	0.00	335.90	DISPLACED?

15120424000C PROJECT: NCRDS99 QUADRANGLE: WALTERSBURG
COUNTY: POPE 12S - R 6E SECTION: 9 70N 1305E
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: C KOROSE DATE COLLECTED: 6 / 2/1988
Survey Core Study Coal Test LOGGED (FT.): 280.00
SOURCE: COGEMAP W-3

THICKNESS (FT.)						
ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
690.00	PLEISTOCENE		UNCONSOLIDATED	16.00	0.00	
674.00	CASEVILLE	BATTERY ROCK	SANDSTONE	18.50	16.00	BROWN, SILTY, CONGLOMERATE AT BASE

655.50			SHALE	35.30	34.50	FOSSILIFEROUS AT BASE; GRAY
620.20	MISSISSIPPIA KINKAID		LIMESTONE	43.30	69.80	PARTLY SHALEY
576.90	MISSISSIPPIA KINKAID		SHALE	14.40	113.10	SOME MAROON; GRAY
562.50	MISSISSIPPIA KINKAID		LIMESTONE	7.10	127.50	CAVE HILL MEMBER
555.40	MISSISSIPPIA KINKAID		LS & SH	20.65	134.60	
534.80	MISSISSIPPIA KINKAID		LIMESTONE	43.35	155.20	GRAY
491.40	MISSISSIPPIA KINKAID		SHALE	6.95	198.60	LIMEY
484.50	MISSISSIPPIA KINKAID		LIMESTONE	26.30	205.50	GRAY
458.20	MISSISSIPPIA DEGONIA		SHALE	33.50	231.80	DARK
424.70	MISSISSIPPIA DEGONIA		MUDSTONE	2.30	265.30	
422.40	MISSISSIPPIA DEGONIA		CALC SH	7.80	267.60	CHERTY AT 269.1
414.60	MISSISSIPPIA FORD STATION		LIMESTONE	4.70	275.40	SHALEY; DARK

15120451000C PROJECT: NCRDS99 QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 6E SECTION: 32 2600N 2500E
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: C KOROSE DATE COLLECTED: 8 / 7/1986
 Survey Core Study Coal Test LOGGED (FT.): 181.00
 SOURCE: COGEMAP E-4

THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
630.00	PLEISTOCENE		UNCONSOLIDATED	12.00	0.00	
618.00	CASEYVILLE	POUNDS	SANDSTONE	16.00	12.00	YELLOW/ORANGE STAINS; GRAY
602.00	CASEYVILLE	POUNDS	SANDSTONE	10.00	28.00	WHITE
592.00	CASEYVILLE	POUNDS	SANDSTONE	18.00	38.00	COAL STREAKS; LIGHT
574.00	CASEYVILLE	POUNDS	SANDSTONE	14.00	56.00	LIGHT
560.00	CASEYVILLE	DRURY	SHALE	10.00	70.00	SANDY, DARK TO GREEN
550.00	CASEYVILLE	DRURY	SANDSTONE	3.00	80.00	
547.00	CASEYVILLE	DRURY	SHALE	4.00	83.00	SILTY
543.00	CASEYVILLE	DRURY	SHALE	33.00	87.00	BLACK
510.00	CASEYVILLE	DRURY	SHALE	26.00	120.00	GRAY
484.00	CASEYVILLE	DRURY	SHALE	14.00	146.00	SILTY, DARK, VERY HARD WITH COAL
470.00	CASEYVILLE	DRURY	SHALE	10.00	160.00	SILTY, DARK, BURROWED, PLANT DEBRIS
460.00	CASEYVILLE	BATTERY ROCK	SHALE	5.00	170.00	SANDY; DARK
455.00	CASEYVILLE	BATTERY ROCK	SANDSTONE	6.00	175.00	LIGHT

151273C0001F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 31 SESWNESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: BARGH M. DATE COLLECTED: 6 / 0/1954
 Measured section Roadcut LOGGED (FT.): 1.60
 SOURCE: FLD NOTES-STONEHOUSE

THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
500.00			UNCLASSIFIED	0.00	0.00	
500.00			COAL	1.60		

151273C0003F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 2 NENWNEW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 460.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 14.00
 SOURCE: FLD NOTES-HENBEST TRAVERSE N DOWN HILL HOLLOW

THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
			ROCK	6.00		
			COAL	0.42		
			ROCK	7.58		

151273C0005F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 2 SNNWSWE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 550.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926

Measured section Underground mine LOGGED (FT.): 92.00
 SOURCE: FLD NOTES-HENBEST COAL MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
550.00			UNCLASSIFIED	0.00	0.00	
550.00			SANDSTONE	20.00		
			SHALE			
			COAL	2.00		
			SH & SS	20.00		
			SANDSTONE	50.00		

151273C0020F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 22 NENWSWSW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 755.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 188.50
 SOURCE: FLD NOTES-CADY TRAVERSE ALONG TRAIL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
755.00			UNCONSOLIDATED	10.00	0.00	
745.00			ROCK	117.13	10.00	
627.90			COAL	0.37	127.10	
627.50			ROCK	55.34	127.50	
572.20			COAL	0.16	182.80	
572.00			ROCK	0.00	183.00	

151273C0021F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 28 SWNNWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.16
 SOURCE: FLD NOTES-CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			ROCK			
			COAL	0.16		
			UNDERCLAY			
			ROCK			

151273C0022F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 28 NENESWN
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY

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

151273C0023F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 28 NENENSW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY OTHER FLD NOTES FOR THIS RAVINE

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

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
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SHALE
COAL
UNDERCLAY

151273C0024F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 28 NENWNENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 2.75
 SOURCE: FLD NOTES-CADY

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

540.00			UNCLASSIFIED	0.00	0.00	
540.00			SHALE	2.00		
			SHALE	0.25		
				0.66		
			BLACK SHALE	0.50		
				1.00		
			COAL	0.25		
			UNDERCLAY	0.50		

151273C0025F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 28 NENWNE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 1216.00
 SOURCE: FLD NOTES-CADY

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

580.00			UNCLASSIFIED	0.00	0.00	
580.00			CLAYSTONE	6.83		
573.20				5.00	6.80	
573.20			UNCLASSIFIED	-5.00	11.80	
573.20			SHALE	0.33	6.80	
573.20			UNCLASSIFIED	4.67	7.13	
568.20				1.00	11.80	
568.20			UNCLASSIFIED	-5.60	12.80	
572.80			BLACK SHALE	5.00	7.20	
567.20				0.83	12.80	
566.30			COAL	0.33	13.70	
566.00			UNDERCLAY	0.00	14.00	
566.00				0.00	14.00	

151273C0026F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 30 NWNWE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH M. DATE COLLECTED: 8 / 31/1926
 Measured section Roadcut LOGGED (FT.): 5.32
 SOURCE: FLD NOTES-HENBEST HORIZONTAL TRAVERSE THRU R R TUNNEL

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

700.00			ROCK		0.00	
			COAL	0.66		
			ROCK			
			COAL	1.33		
			ROCK			
			COAL	1.50		
			ROCK			
			COAL/SH	1.83		
			ROCK			

151273C0027F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 31 SWSESESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 460.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 72.50
 SOURCE: FLS NOTES-CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
460.00			UNCLASSIFIED	0.00	0.00	
460.00			ROCK	35.00		
425.00			COAL	1.50	35.00	
423.50			ROCK	36.00	36.50	

151273C0028F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 31 NENENWSE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Roadcut LOGGED (FT.): 53.50
 SOURCE: FLD NOTES-CADY R. R. CUT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			ROCK	26.25		
			COAL	1.50		
			ROCK	25.75		

151273C0029F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 31 SESEWNNE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1933
 Measured section Outcrop LOGGED (FT.): 210.73
 SOURCE: FLD NOTES-FULLER

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.00			ROCK	8.00	0.00	
592.00			UNKNOWN	2.00	8.00	
590.00			ROCK	55.66	10.00	
534.30			COAL	0.83	65.70	
533.50			ROCK	72.24	66.50	

151273C0030F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 31 NNNWSESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1961
 Measured section Outcrop LOGGED (FT.): 7.90
 SOURCE: FLD NOTES-PARHAM R. R. CUT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.00			SANDSTONE		0.00	
			COAL	0.50		
			COAL	0.83		
			SHALE	0.12		
			COAL	0.12		
			UNDERCLAY	3.33		
			ROCK	3.00		

151273C0031F PROJECT: BLM QUADRANGLE: STONEFORT

COUNTY: POPE 11S - R 5E SECTION: 32 SESENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 46.33
 SOURCE: FLD NOTES-CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.00			UNCLASSIFIED	0.00	0.00	
600.00			ROCK	52.00		
548.00			COAL	0.33	52.00	
547.70			ROCK	35.00	52.30	

151273C0083F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 2 SW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: BARGH,M DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY MASSIVE SS CROPS THROUGHOUT SEC

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
	CASEYVILLE			80.00		

151273C0088F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 2 NWNWSW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 660.0 GEOLOGIST: BARGH,M DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY TRAVERSE N. TO NW CORNER OF SEC 2

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
660.00			SHALE		0.00	
			SANDSTONE			
			CLAYSTONE			
			CLAYSTONE			
			CLAYSTONE	3.00		
			SANDSTONE	2.00		
	CASEYVILLE		SANDSTONE			

151273C0089F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 3 SWNE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH,M DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY IN SPRING CREEK VALLEY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			UNKNOWN			
	CASEYVILLE		BLACK SHALE	1.00		
	CASEYVILLE			1.00		
	CASEYVILLE	BATTERY ROCK	COAL	1.00		

151273C0090F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 3 NWNENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: BARGH,M DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY

THICKNESS (FT.)						
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ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
690.00			SHALE SANDSTONE		0.00	

151273C0091F PROJECT: BLM QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 3 NWNWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 575.0 GEOLOGIST: BARGH,M DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-HENBEST

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
575.00	CASEVILLE		CONGL		0.00	

151273C0092F PROJECT: COGEOGMAP QUADRANGLE: GLENDALE
 COUNTY: POPE 12S - R 5E SECTION: 3 NESESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 570.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 5.00
 SOURCE: FLD NOTES-CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
570.00			UNKNOWN	5.00	0.00	
565.00	CASEVILLE		SANDSTONE	0.00	5.00	

151273C0093F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 2 NWNWNWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 740.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 20.00
 SOURCE: FLD NOTES-CADY MASSIVE SS ALONG ROAD

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
740.00			UNKNOWN	0.00	0.00	
740.00			UNCLASSIFIED	0.00	0.00	
740.00			SANDSTONE	0.00		
740.00			UNCLASSIFIED	0.00	0.00	
740.00			SHALE	20.00		

151273C0094F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 3 NENENW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 20.00
 SOURCE: FLD NOTES-CADY THICK LOESS IN THIS VALLEY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
600.00	CASEVILLE		SANDSTONE	20.00	0.00	
	CASEVILLE		CONGL	0.00	20.00	

151273C0095F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 4 NENWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 740.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY EXAMPLE CADY COLOR-CODED SECTION

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		
			SHALE	0.00		
			SANDSTONE	0.00		

151273C0096F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 5 SE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
640.00			UNCLASSIFIED	0.00	0.00	
640.00			SANDSTONE	0.00		

151273C0097F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 5 NESENW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 520.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1933
 Measured section Outcrop LOGGED (FT.): 68.00
 SOURCE: FLD NOTES-WANLESS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.00			SANDSTONE	3.00	0.00	
517.00			SANDSTONE	5.00	3.00	
512.00			SANDSTONE	5.00	8.00	
507.00			SANDSTONE	5.00	13.00	
502.00			CONGL	50.00	18.00	

151273C0098F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 5 SENENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 720.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Roadcut LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY UP RAVINE TOWARD HOUSE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
720.00			UNCLASSIFIED	0.00	0.00	
720.00			SANDSTONE	0.00		

151273C0099F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 6 SESWNWE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 650.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Roadcut LOGGED (FT.): 50.00
 SOURCE: FLD NOTES-CADY SMALL GULLY ON N. SLOPE OF HILL.

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

650.00	CLAYSTONE	40.00	0.00
610.00	COAL	1.00	40.00
609.00	CLAYSTONE	9.00	41.00
	SANDSTONE	0.00	

151273C0100F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 6 SWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 640.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Roadcut LOGGED (FT.): 180.00
 SOURCE: FLD NOTES-HENDRICKS PROFILE OF VALLEY RUNNING N. W.

THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
640.00			SANDSTONE	40.00	0.00	
600.00			SANDSTONE	100.00	40.00	
500.00			SANDSTONE	40.00	140.00	

151273C0101F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 6 NENENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 483.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1933
 Measured section Roadcut LOGGED (FT.): 134.00
 SOURCE: FLD NOTES-FULLER SECTION ALONG RR CUTS CONT FROM 11S5E31

THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
483.00	CASEYVILLE		SANDSTONE	80.00	0.00	
	CASEYVILLE		BLACK SHALE	0.00		
	CASEYVILLE		SANDSTONE	10.00		
	CASEYVILLE		SHALE	20.00		
	CASEYVILLE	BATTERY ROCK	COAL	1.00		
	CASEYVILLE		UNDERCLAY	3.00		
	CASEYVILLE		SANDSTONE	20.00		

151273C0102F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 30 NWSWE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1960
 Measured section Roadcut LOGGED (FT.): 360.63
 SOURCE: FLD NOTES-KOSANKE CASEYVILLE REF. SECTION FROM RI 214

THICKNESS (FT.)						
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)						
600.00	CASEYVILLE	POUNDS	SANDSTONE	75.00	0.00	
525.00	CASEYVILLE		SHALE	10.00	75.00	
515.00	CASEYVILLE		SHALE	15.00	85.00	
500.00	CASEYVILLE	GENTRY	COAL	1.00	100.00	
499.00	CASEYVILLE		UNDERCLAY	3.00	101.00	
496.00	CASEYVILLE		SHALE	2.00	104.00	
494.00	CASEYVILLE	BATTERY ROCK	SANDSTONE	100.00	106.00	
394.00	CASEYVILLE		COAL	0.33	206.00	
393.70	CASEYVILLE		SHALE	15.00	206.30	
378.70	CASEYVILLE		CLAYSTONE	1.00	221.30	
377.70	CASEYVILLE			125.00	222.30	
252.70	CASEYVILLE		CLAYSTONE	1.30	347.30	
251.40	CASEYVILLE		LIMESTONE	12.00	348.60	

151273C0103F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 12S - R 5E SECTION: 6 NESENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1933
 Measured section Roadcut LOGGED (FT.): 70.00
 SOURCE: FLD NOTES-WANLESS EAST BLUFF ICRR CUT

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00	CASEYVILLE		CONGL	70.00	0.00	

151273C0104F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 3 SENE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
Measured section Roadcut LOGGED (FT.): 0.00
SOURCE: FLD NOTES-BROKAW IN SE CORNER NE STRIKE/DIP IS S80E22

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		

151273C0105F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 3 NWSW
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 400.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
Measured section Outcrop LOGGED (FT.): 0.00
SOURCE: FLD NOTES-BROKAW NE CORNER NWSW STRIKE S60W25E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
400.00			SANDSTONE	0.00	0.00	

151273C0106F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 3 SE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 460.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
Measured section Outcrop LOGGED (FT.): 60.00
SOURCE: FLD NOTES-HENBEST

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
460.00			UNCLASSIFIED	0.00	0.00	
460.00			SHALE	1.00		
459.00			SANDSTONE	59.00	1.00	

151273C0107F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 4 NE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
Measured section Outcrop LOGGED (FT.): 0.00
SOURCE: FLD NOTES-BROKAW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
540.00			UNCLASSIFIED	0.00	0.00	
540.00			SANDSTONE	0.00		

151273C0108F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 4 NWSESE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 520.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916

Measured section Outcrop LOGGED (FT.): 0.00
SOURCE: FLD NOTES-BROKAW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
520.00			UNCLASSIFIED	0.00	0.00	
520.00			SANDSTONE	0.00		

151273C0109F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 5 SESENESE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 480.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
Measured section Outcrop LOGGED (FT.): 0.00
SOURCE: FLD NOTES-BROKAW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		

151273C0110F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 5 NENE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
Measured section Underground mine LOGGED (FT.): 4.00
SOURCE: FLD NOTES-CADY DRIFT MINE, DIP N-NW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		
			SH/COAL	2.00		
			COAL	2.00		

151273C0111F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 5 SWNNW
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: BARGH DATE COLLECTED:
Measured section Roadcut LOGGED (FT.): 35.00
SOURCE: FLD NOTES-CADY FAULTS NOTED

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		
			COAL	0.00		
			SHALE	25.00		
			SANDSTONE	15.00		

151273C0112F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 5 NWSWSENE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
Measured section Outcrop LOGGED (FT.): 0.00
SOURCE: FLD NOTES-CADY POSSIBLE STEP FAULTS S. SIDE OF HILL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		

151273C0113F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 5 NWNWSW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 440.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1932
 Measured section Roadcut LOGGED (FT.): 110.41
 SOURCE: FLD NOTES-WANLESS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
440.00			UNCONSOLIDATED	8.00	0.00	
432.00			CONGL	1.50	8.00	
430.50			SHALE	0.16	9.50	
430.30			SHALE	0.25	9.70	
430.10			COAL	3.00	9.90	
427.10			CLAYSTONE	3.50	12.90	
423.60			SANDSTONE	1.00	16.40	
422.60			SHALE	8.00	17.40	
414.60			SHALE	35.00	25.40	
379.60			SANDSTONE	50.00	60.40	

151273C0114F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 5 NWNWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 480.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1960
 Measured section Roadcut LOGGED (FT.): 277.65
 SOURCE: R.I 214-KOSANKE ETAL TYPE SECTION ABBOTT FM. RR TRAVERSE 3 MI

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.00	ABBOTT	MURRAY BLUFF	SANDSTONE	50.00	0.00	
430.00			CONGL	1.50	50.00	
428.50			SHALE	0.16	51.50	
428.30			SHALE	0.25	51.70	
428.10	SPOON	DELWOOD	COAL	3.00	51.90	
425.10			CLAYSTONE	1.50	54.90	
423.60			CLAYSTONE	2.00	56.40	
421.60			SANDSTONE	1.00	58.40	
420.60			SHALE	40.00	59.40	
380.60	ABBOTT	FINNIE	SANDSTONE	60.00	99.40	
320.60				3.00	159.40	
317.60			SHALE	3.50	162.40	
314.10				0.25	165.90	
313.80	ABBOTT	WILLIS	COAL	0.33	166.20	
313.50				0.16	166.50	
313.30			UNDERCLAY	3.00	166.70	
310.30			SHALE	3.00	169.70	
307.30			SHALE	25.00	172.70	
282.30	ABBOTT	GRINDSTAFF	SANDSTONE	50.00	197.70	
232.30			CONGL	30.00	247.70	

151273C0115F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 6 SWNWNE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Roadcut LOGGED (FT.): 152.00
 SOURCE: FLD NOTES-CADY TRAVERSE ALONG ROAD. ELEV, QUESTIONABLE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00			UNCLASSIFIED	0.00	0.00	
580.00			SANDSTONE	30.00		
550.00				60.00	30.00	
490.00			SANDSTONE	50.00	90.00	
440.00			SHALE	40.00	140.00	
400.00				2.00	180.00	
			SANDSTONE	0.00		

151273C0116F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 6 NWNENE

CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 470.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY OUTCROP IN RAVINE COAL TEST PITS

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
			SANDSTONE		0.00	
			CONGL		0.00	

151273C0117F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 6 NWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Roadcut LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-CADY FAULTED AREA. TRAV.FROM ROAD DOWN RAVINE

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
600.00			SANDSTONE		0.00	0.00
			SHALE		0.00	
			SANDSTONE		0.00	
			SHALE		0.00	
			SANDSTONE		0.00	
			SHALE		0.00	
			SANDSTONE		0.00	

151273C0118F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 7 NESWNE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 520.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1933
 SOURCE: FLD NOTES-WANLESS LOGGED (FT.): 400.00
 SECTION ALONG ICRR

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
520.00			SANDSTONE		5.00	0.00
515.00			SANDSTONE		0.00	5.00
515.00			SHALE		0.00	5.00
515.00			SHALE		10.00	5.00
505.00			SANDSTONE		35.00	15.00
470.00			SHALE		3.50	50.00
466.50			UNKNOWN		2.00	53.50
464.50			SANDSTONE		7.00	55.50
457.50			UNKNOWN		300.00	62.50
157.50			UNKNOWN		20.00	362.50
137.50			SANDSTONE		8.00	382.50

151273C0119F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 10 SESWSE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 620.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
 SOURCE: FLD NOTES-BROKAW LOGGED (FT.): 0.00
 SEV. NOTES FOR THIS AREA, ELEV QUESTION.

						THICKNESS (FT.)
ELEVATION	FORMATION	MEMBER	LITHOLOGY	UNIT	OVERBURDEN	COMMENT
TOP (FT.)	-----					
620.00			SANDSTONE		0.00	0.00

151273C0120F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 11 SWSEW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926

SOURCE: FLD NOTES-CADY
 LOGGED (FT.): 600.00
 THICKNESSES APPROX. TRAV. DOWN RAVINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.00			SANDSTONE	10.00	0.00	
690.00			SANDSTONE	8.00	10.00	
682.00			SHALE	16.50	18.00	
665.50			SHALE	3.50	34.50	
662.00			SANDSTONE	6.00	38.00	
656.00			SANDSTONE	5.00	44.00	
			SANDSTONE	8.00		
			SANDSTONE	5.50		
			SHALE	5.50		
				0.00		

151273C0121F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 16 NENENESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 690.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
 LOGGED (FT.): 0.00
 OTHER NOTES BY BROKAW IN THIS AREA

SOURCE: THE NOTES-BROKAW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		

151273C0122F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 16 SENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 540.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
 LOGGED (FT.): 0.00

SOURCE: FLD NOTES-BROKAW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			LIMESTONE	0.00		

151273C0123F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 16 SNNENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 430.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 LOGGED (FT.): 0.00
 "OUTCROPS ALL THE WAY UP GULLY"

SOURCE: FLD NOTES-HENDRICKS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
			SANDSTONE	0.00		

151273C0124F PROJECT: COGEOMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 17 SWSWSW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 600.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 LOGGED (FT.): 140.00
 SECTION DOWN RAVINE INTO SEC. 18

SOURCE: FLD NOTES-CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
600.00			SANDSTONE	80.00	0.00	
520.00			SHALE	60.00	80.00	

151273C0125F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 17 SWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 630.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 LOGGED (FT.): 160.00
 SOURCE: FLD NOTES-HENDRICK MEASURED DOWN INTO RAVINE TO E

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
630.00			SHALE	20.00	0.00	
610.00			SANDSTONE	90.00	20.00	
520.00			SHALE	50.00	110.00	

151273C0126F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 18 SESWENW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 480.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1933
 LOGGED (FT.): 62.24
 SOURCE: FLD NOTES-WANLESS NORTH PORTAL RR TUNNEL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
480.00	ABBOTT	FINNIE	SANDSTONE	55.00	0.00	
425.00			BLACK SHALE	3.00	55.00	
422.00			SHALE	3.50	58.00	
418.50			BLACK SHALE	0.25	61.50	
418.20			COAL	0.33	61.80	
417.90			BLACK SHALE	0.16	62.10	
417.80			UNDERCLAY	3.00	62.20	

151273C0127F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 18 NESWENW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1933
 LOGGED (FT.): 57.66
 SOURCE: FLD NOTES-WANLESS PORTAL 250 YDS SOUTH OF N. PORTAL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
500.00	ABBOTT	FINNIE	SANDSTONE	0.00	0.00	
500.00			UNCLASSIFIED	0.00	0.00	
500.00				15.00		
485.00			SHALE	0.16	15.00	
484.80			UNDERCLAY	3.00	15.20	
481.80			SHALE	3.00	18.20	
478.80			SANDSTONE	20.00	21.20	
458.80			SHALE	15.00	41.20	

151273C0128F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 19 NESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 LOGGED (FT.): 160.00
 SOURCE: FLD NOTES-CADY DOWN RAVINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.00			UNKNOWN	4.00	0.00	
696.00			SANDSTONE	38.00	4.00	
658.00				82.00	42.00	
576.00			SANDSTONE	0.00	124.00	

151273C0129F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 19 NWNENE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 570.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 70.00
 SOURCE: FLD NOTES - CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
570.00			SANDSTONE	10.00	0.00	
560.00			BLACK SHALE	20.00	10.00	
540.00			SANDSTONE	10.00	30.00	
530.00			UNKNOWN	10.00	40.00	
520.00			SHALE	10.00	50.00	
510.00			UNKNOWN	20.00	60.00	
			SANDSTONE	0.00		

151273C0130F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 20 NESESENW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-BROKAW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00			SANDSTONE	0.00	0.00	
			SHALE	0.00		

151273C0131F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 20 NESESESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 670.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
 Measured section Outcrop LOGGED (FT.): 47.66
 SOURCE: FLD NOTES - CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
670.00			SANDSTONE	10.00	0.00	
660.00				0.00	10.00	
660.00			SANDSTONE	3.00	10.00	
657.00			BLACK SHALE	7.00	13.00	
650.00			UNKNOWN	10.00	20.00	
			SS/SH	0.00		
			SHALE	5.00		
			SHALE	0.66		
				2.00		
				3.00		
			SANDSTONE	7.00		

151273C0132F PROJECT: COGEOGMAP QUADRANGLE: STONEFORT
 COUNTY: POPE 11S - R 5E SECTION: 21 NWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1916
 Measured section Outcrop LOGGED (FT.): 0.00
 SOURCE: FLD NOTES-BROKAW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.00			SANDSTONE	0.00	0.00	
700.00			UNCLASSIFIED	0.00	0.00	
700.00			BLACK SHALE	0.00		
700.00			UNCLASSIFIED	0.00	0.00	

700.00 COAL 0.00

151273C0133F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 29 NENENENE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1933
Measured section Outcrop LOGGED (FT.): 46.28
SOURCE: FLD NOTES-WANLESS TRAVERSE DOWN RAVINE. SLIGHT DIP SW

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.00	ABBOTT	GRINDSTAFF	SANDSTONE	15.00	0.00	
685.00	ABBOTT		COAL	0.04	15.00	
685.00	ABBOTT		UNDERCLAY	1.25	15.00	
683.70	ABBOTT		UNDERCLAY	1.66	16.30	
682.00	ABBOTT		SANDSTONE	1.33	18.00	
680.70	ABBOTT		SANDSTONE	15.00	19.30	
665.70	CASEVILLE		SANDSTONE	12.00	34.30	

151273C0134F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 30
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
Measured section Roadcut LOGGED (FT.): 195.00
SOURCE: FLD NOTES-CADY LOG OF SHAFT AT TUNNEL

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.00			SANDSTONE	50.00	0.00	
650.00			SHALE	74.00	50.00	
576.00			SHALE	8.00	124.00	
568.00			SANDSTONE	58.00	132.00	
510.00			CONGL	5.00	190.00	

151273C0135F PROJECT: COGEO MAP QUADRANGLE: STONEFORT
COUNTY: POPE 11S - R 5E SECTION: 6 NENWSE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 490.0 GEOLOGIST: BARGH DATE COLLECTED: 0 / 0/1926
Measured section Outcrop LOGGED (FT.): 30.00
SOURCE: FLD NOTES-CADY

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
490.00			SANDSTONE	30.00	0.00	
			SANDSTONE	0.00		

151273D0001F PROJECT: BLM QUADRANGLE: EDDYVILLE
COUNTY: POPE 11S - R 6E SECTION: 16 SESWNWNE
CONFIDENTIAL: N
SURFACE ELEVATION (FT.): 580.0 GEOLOGIST: BARGH M. DATE COLLECTED: 6 / 16/1954
Measured section Outcrop LOGGED (FT.): 5.25
SOURCE: MINE NOTES-STONEHOUSE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
580.00			UNCLASSIFIED	0.00	0.00	
580.00			ROCK	3.42		
576.60			COAL	1.33	3.40	
575.20			UNDERCLAY	0.50	4.80	

151273D0002F PROJECT: BLM QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 5E SECTION: 35 NESENESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 680.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1926
 Measured section Underground mine LOGGED (FT.): 28.00
 SOURCE: FLD NOTES-CADY COAL BANK IN SS

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
680.00			UNCLASSIFIED	0.00	0.00	
680.00			SANDSTONE	25.00		
655.00			COAL	3.00	25.00	

151273D0003F PROJECT: BLM QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 5E SECTION: 35 NESENESE
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 680.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1934
 Measured section Underground mine LOGGED (FT.): 16.50
 SOURCE: FLD NOTES-WANLESS ABANDONED DRIFT MINE. SEE CADY NOTES

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
680.00			UNCLASSIFIED	0.00	0.00	
680.00			ROCK	13.50		
			COAL	1.00		
			UNDERCLAY	2.00		

151273D0004F PROJECT: BLM QUADRANGLE: EDDYVILLE
 COUNTY: POPE 11S - R 5E SECTION: 36 SWNESW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 700.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1934
 Measured section Outcrop LOGGED (FT.): 31.20
 SOURCE: FLD NOTES-WANLESS OUTCROP NEAR COAL MINE

ELEVATION TOP (FT.)	FORMATION	MEMBER	LITHOLOGY	THICKNESS (FT.)		COMMENT
				UNIT	OVERBURDEN	
700.00			UNCLASSIFIED	0.00	0.00	
700.00			ROCK	21.08		
678.90			COAL	1.46	21.10	
677.50			ROCK	2.08	22.50	
675.40			UNKNOWN	3.00	24.60	
672.40			ROCK	3.58	27.60	

151273D00021F PROJECT: BLM QUADRANGLE: EDDYVILLE
 COUNTY: POPE 12S - R 6E SECTION: 2 NENENWNW
 CONFIDENTIAL: N
 SURFACE ELEVATION (FT.): 500.0 GEOLOGIST: BARGH M. DATE COLLECTED: 0 / 0/1927
 Strip Mine LOGGED (FT.): 0.00
 SOURCE: FLD N