

Gulf Pittsburg-Midway

Strat Well PM-7

HOLE NO.

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____			1. PROJECT _____ SHEET OF _____			
DRILLING LOG 4. HOLE NO. (As shown on drawing title and file No.) P + M # 7			2. LOCATION (Coordinates or Station) SW SW SE Sec. 6, T32S R22E			
6. DIRECTION OF HOLE ☐ VERTICAL ☐ INCLINED DEGREES WITH VERTICAL _____			3. DRILLING AGENCY P + M (Gulf Minerals)			
10. SIZE AND TYPE OF BIT _____			5. NAME OF DRILLER P + M			
11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____			7. THICKNESS OF OVERBURDEN _____			
12. MANUFACTURER'S DESIGNATION OF DRILL _____			8. DEPTH DRILLED INTO ROCK _____			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____			9. TOTAL DEPTH OF HOLE _____			
14. TOTAL NO. CORE BOXES _____			15. ELEV. GROUND WATER _____			
16. DATE HOLE STARTED _____ COMPLETED _____			17. ELEV. TOP OF HOLE 840			
18. TOTAL CORE RECOVERY FOR BORING (%) _____			19. SIGNATURE OF INSPECTOR _____			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)
	40					Description by John Harris
			43' Top of Core			
	45		Limestone, Hgy (N7), mudstone, hard, massive, calcareous, occasional crinoid stems & brachiopods, sharp lower contact with shale,	4'	1	Verdigris L.S. Sampled by Dr. Joe Hatch
			Shale, dk gy (N3), mudstone, slightly silty, hard, micaceous, thin horizontal laminae, abundant brachiopods & zones of fossil debris, calcareous cement, few calcareous nodules, sharp lower contact,	9.8'	1	
	50					

6-32-22e

DEPARTMENT OF THE ARMY				HOLE NO. _____		
DIVISION _____		INSTALLATION _____		1. PROJECT _____		
DRILLING LOG		2. LOCATION (Coordinates or Station) _____		3. DRILLING AGENCY _____		
4. HOLE NO. (As shown on drawing title and file No.) _____		5. NAME OF DRILLER _____				
6. DIRECTION OF HOLE		7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		
☐ VERTICAL ☐ INCLINED DEGREES WITH VERTICAL _____		9. TOTAL DEPTH OF HOLE _____		10. SIZE AND TYPE OF BIT _____		
11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____				
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER _____		
16. DATE HOLE		17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		
19. SIGNATURE OF INSPECTOR _____		20. REMARKS (drilling time, water loss, depth of weathering, etc., if significant)				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE RECOVERY	BOX NO.	REMARKS
60	22'	---	Mud stone, med Hgy (N6), soft, blocky fracture, massive, plant frags, gradational lower contact.	2	61'	
	1.7'	---	Shale, med Hgy (N6) mudstone, slightly silty, mod. hard, thin horizontal laminae, no fossils, brown mottling, lower contact absent.	3		
65	3.0'	X	3.0' core loss 63.2' - 66.2' Shale	30'		
	1.1'	+ T T +	Shale, dk gy (N3), calcareous, marine fossil frags, thin bedded, sharp lower contact.	1.1'		
	0.9'	■	Coal, blk (N1), hard, banded, mod. bright, sulfate bloom, sharp contacts	0.9'		Fleming coal
70	3.9'	---	Mudstone, same unit as below	3		

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DRILLING LOG						5. NAME OF DRILLER					
4. HOLE NO. (As shown on drawing title and file no.)											
6. DIRECTION OF HOLE						7. THICKNESS OF OVER-BURDEN		8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
☐ VERTICAL		☐ INCLINED		DEGREES WITH VERTICAL							
10. SIZE AND TYPE OF BIT				11. DATUM FOR ELEVATION SHOWN (TBM or MSL)				12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN				14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE STARTED		COMPLETED	
DISTURBED				UNDISTURBED							
17. ELEV. TOP OF HOLE				18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)			% CORE RECOVERY	SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)			
70	--	--	Mudstone, med H gy (N6), slightly silty, soft, blocky fracture, massive, abundant plant frags, sand sized authigenic siderite crystals, gradational lower contact.			39'	3				
	--	--	Shale, med gy (N5) ↓ to H gy N7 ↑, mudstone, slightly silty, micaceous, mod. hard, thin horizontal laminae, unfossiliferous, abundant irregular clay ironstone bands to 0.2' thick, sand sized authigenic siderite crystals, gradational lower contact.			74'	4				
75	--	--				8.9'					
80	--	--									

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INSTALLATION _____				3. DRILLING AGENCY			
4. HOLE NO. (As shown on drawing title and file No.)				5. NAME OF DRILLER			
6. DIRECTION OF HOLE				7. THICKNESS OF OVER-BURDEN		8. DEPTH DRILLED INTO ROCK	
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL				9. TOTAL DEPTH OF HOLE	
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED		STARTED		COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
80			Shale, same unit as above.	8.9'	4	Unnamed Coal	
			3.0' core loss Shale	3'			
			Shale, dk gy (N3), claystone, thinly lam, clay ironstone bands, sharp lower contact.	0.4'			
			Coal, blk (N1), banded, mod. bright, sulfate bloom, upper 0.1' bony, sharp contacts.	0.6'			
85			Mudstone, med Hgy (N6) - 14 gy (N7) at top. slightly silty, soft, blocky fracture, massive, plant fragments, few authigenic siderite crystals, small clay ironstone nodules, 1 cm dia., gradational lower contact,	3.4'	87		
			Shale, same unit as below.	5.3'	5		
90					5		

DEPARTMENT OF THE ARMY				HOLE NO. _____		
DIVISION _____				SHEET OF		
INSTALLATION _____				2. LOCATION (Coordinates or Station)		
DRILLING LOG				3. DRILLING AGENCY		
4. HOLE NO. (As shown on drawing title and file No.)				5. NAME OF DRILLER		
6. DIRECTION OF HOLE				7. THICKNESS OF OVERBURDEN		
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL		8. DEPTH DRILLED INTO ROCK		
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		9. TOTAL DEPTH OF HOLE		
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		12. MANUFACTURER'S DESIGNATION OF DRILL		
DISTURBED		UNDISTURBED		15. ELEV. GROUND WATER		
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		16. DATE HOLE		
STARTED		COMPLETED		19. SIGNATURE OF INSPECTOR		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	5. CORE RECOVERY	6. BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	90	—	Shale, med dk gy (N4) at base to med lt gy (N6) at top, Claystone, micaceous, mod. hard, thin horizontal laminae, non-fossiliferous, Few sand sized authigenic siderite crystals, small clay ironstone nodules. gradational lower contact.	5.3'	5	
	95	+	Shale, med dk gy (N3), Claystone, hard, thin horizontal laminae, abundant brachiopods & crinoid stems, fossil debris, calcareous cement, sharp lower contact with coal.	2.6'	5	
			Coal, blk (N1), banded, mod. bright, hard, sulfate bloom, sharp contacts.	1.3'	97'	Mineral Coal
			2' core loss Mudstone	2'	6	
	100	—	Mudstone, same as below	4.8'	6	

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DRILLING LOG			3. DRILLING AGENCY _____			
4. HOLE NO. (As shown on drawing title and file No.) _____			5. NAME OF DRILLER _____			
6. DIRECTION OF HOLE			7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL	9. TOTAL DEPTH OF HOLE		10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL				
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		
16. DATE HOLE		17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		
19. SIGNATURE OF INSPECTOR		20. ELEV. TOP OF HOLE		21. TOTAL CORE RECOVERY FOR BORING (%)		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	100	---	<u>Mudstone</u> , med H gy (NG), silty, hard, blocky frag., massive, abundant plant fragments, irregular clay ironstone bands, up to 0.4' thick, gradational lower contact.		6	

	105	---	<u>Shale</u> , same unit as below.			

	110	---			7	

ENG FORM 1 JUN 57 1836 (TRANSLUCENT) PREVIOUS EDITIONS ARE OBSOLETE PROJECT _____ HOLE NO. _____
(BM 1110-2-1881)

DEPARTMENT OF THE ARMY						1- PROJECT		SHEET OF			
DIVISION _____						2- LOCATION (Coordinates or Station)					
INSTALLATION _____						3- DRILLING AGENCY					
DRILLING LOG						5- NAME OF DRILLER					
4- HOLE NO. (As shown on drawing title and file no.)											
6- DIRECTION OF HOLE						7- THICKNESS OF OVER-BURDEN		8- DEPTH DRILLED INTO ROCK		9- TOTAL DEPTH OF HOLE	
☐ VERTICAL		☐ INCLINED		DEGREES WITH VERTICAL							
10- SIZE AND TYPE OF BIT			11- DATUM FOR ELEVATION SHOWN (TBM or MSL)			12- MANUFACTURER'S DESIGNATION OF DRILL					
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN			14- TOTAL NO. CORE BOXES			15- ELEV. GROUND WATER		16- DATE HOLE			
DISTURBED			UNDISTURBED					STARTED		COMPLETED	
17- ELEV. TOP OF HOLE			18- TOTAL CORE RECOVERY FOR BORING (%)			19- SIGNATURE OF INSPECTOR					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)			% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)			
	120	T	Shale, same unit as above			17.1'	8	Scammon coal.			
		T									
		T									
		T									
			Coal, blk (N1), banded, moderately bright, sulfate bloom, sharp contacts.			0.7'					
			Mudstone, med gy (N5), slightly silty, soft, blocky frag., massive, abundant plant frags, irregular clay ironstone nodules to 0.1' thick,								
			Sand sized authigenic siderite crystals, gradational lower contact,			6'					
							8				
							128				
			Interbedded sandstone + shale, Hgy(N7) + med gy(N5) laminae, mod. hard, thin bedded, few small plant frags, gradational lower contact,			2.6'	9				
							9				
130							9				

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4. HOLE NO. (As shown on drawing title and file No.) _____			5. NAME OF DRILLER _____			
6. DIRECTION OF HOLE ☐ VERTICAL ☐ INCLINED DEGREES WITH VERTICAL _____			7. THICKNESS OF OVER-BURDEN _____		8. DEPTH DRILLED INTO ROCK _____	
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11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____			12. MANUFACTURER'S DESIGNATION OF DRILL _____			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN			14. TOTAL NO. CORE BOXES _____		15. ELEV. GROUND WATER _____	
16. DATE HOLE STARTED _____ COMPLETED _____			17. ELEV. TOP OF HOLE _____			
18. TOTAL CORE RECOVERY FOR BORING (%) _____			19. SIGNATURE OF INSPECTOR _____			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	5 CORE RECOVERY	9 SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)
	130		Interbedded sandstone & shale, same unit as above.	2.6'	9	Chelsea S.S.
			Sandstone, ltgy(N7) w/ brown mottling, sublitharenite, fine - very fine grained, qtz, muscovite predominant mins. ripple cross lamination at base, dune cross stratification in middle, individual strata .5 cm thick, rippled at top, abundant leaves & plant frags, flattened clay ironstone nodules 0.1' long, some sand sized authigenic siderite crystals, intercalating lower contact,	10.9'	9	
	135				138'	
					10	
	140				10	

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4. HOLE NO. (As shown on drawing title and file No.)				6. DIRECTION OF HOLE			
☐ VERTICAL		☐ INCLINED		DEGREES WITH VERTICAL		7. THICKNESS OF OVER-BURDEN	
8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE		10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER	
16. DATE HOLE STARTED		16. DATE HOLE COMPLETED		17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)	
19. SIGNATURE OF INSPECTOR				20. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	5. CORE RECOVERY	6. SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
140			Sandstone, same unit as above.	10.9'	10	Chelsea S.S.	
145			Interbedded siltstone and shale, alternating 14 gy (N7) and med gy (N5) laminae, some silty beds up to 0.4' thick, qtz, micaceous comp, thin wavy bedding, silty layers show ripple drift cross lamination, abundant plant fragments along bedding planes, localized calcareous cement, yellowish brown stains, may be sulfate bloom, gradational lower contact.	8'	10		
150					149		
					11		

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4. HOLE NO. (As shown on drawing title and file No.) _____				5. NAME OF DRILLER _____			
6. DIRECTION OF HOLE				7. THICKNESS OF OVER-BURDEN _____			
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL _____		8. DEPTH DRILLED INTO ROCK _____			
10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		9. TOTAL DEPTH OF HOLE _____			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES _____		15. ELEV. GROUND WATER _____			
DISTURBED _____		UNDISTURBED _____		16. DATE HOLE			
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
160		T	Shale, med dkgy (N4) at base to med ltgy (N6) at top, claystone, micaceous, mod. hard, becoming slightly silty near top, thin horizontal laminae, abundant pyritized plant fragments along bedding planes, abundant clay ironstone bands up to 0.1' thick, irregular small pyrite concretions 0.5cm dia, and localized calcareous cement, gradational lower contact.		12		
		T					
		T					
		T					
		T					
		T					
		T					
		T					
		T					
		T					
165		T		18'			
		T			12		
		T			168'		
		T			13		
		T		9.3'			
170		T	Shale, same unit as below.		13		

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DRILLING LOG				5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file No.)				7. THICKNESS OF OVER-BURDEN			
6. DIRECTION OF HOLE				8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
☐ VERTICAL		☐ INCLINED		DEGREES WITH VERTICAL			
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED		STARTED		COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
190			Sandstone - v. lt. gy (N8), sublitharenite, fine - very fine grained, abundant mud matrix, quartz, micaceous composition, subcritically climbing ripple X-laminae, non fossiliferous, calcareous cement and sand sized authigenic siderite crystals, sharp, scoured lower contact, (may be a marine sand)		15	Unnamed S.S.	
				8.0'			
195							
			Scour surface				
			Shale, same unit as below.		Box 15 199		
				7.8'			
200					16		

HOLE NO.

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6. DIRECTION OF HOLE				8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
☐ VERTICAL		☐ INCLINED		DEGREES WITH VERTICAL			
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED		STARTED		COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
200			Shale, med dkgy (N4) with brown mottling, mudstone, silty laminae near base decreasing in abundance upwards, micaceous, hard, thinly laminated, lenticular bedded, few small plant fragments, bioturbated, elongate clay ironstone nodules to 2 cm in dia, gradational lower contact.		16		
205			Shale, same unit as below				
					Box 16 209		
210					17		

ENG FORM 1 JUN 57 1836 (TRANSLUCENT) PREVIOUS EDITIONS ARE OBSOLETE
(EM 1110-2-1801)

[illegible]

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DIVISION _____				2. LOCATION (coordinates or Station) _____			
INSTALLATION _____				3. DRILLING AGENCY _____			
4. HOLE NO. (As shown on drawing title and file No.) _____				5. NAME OF DRILLER _____			
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13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER _____		16. DATE HOLE	
DISTURBED _____		UNDISTURBED _____				STARTED _____ COMPLETED _____	
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	240	...	Siltstone, same unit as above.		20	
		...	minor scour? probably not scoured	3.2'		
		T	Shale, dkgy (N3), mudstone, slightly silty, micaceous, thin horizontal laminae, abundant brachs, crinoids, bryozoans & other fossil debris at base, clay ironst. band 0.15' thick, sharp lower contact.	2.7'		
		+	Coal, blk (ND), banded med. bright, sulfate bloom, sharp contacts.	0.5'		Bluejacket coal "C"
		-	Mudstone, med ltgy (N6), silty, micaceous, soft, blocky frac., massive, few plant fragments, authigenic sand sized siderite crystals & clay ironst. nodules to 0.5" dia, gradational contact.	2.0'		
	245	-	Shale, med dkgy (N4) with a few ltgy (N7) silty laminae, mudstone, micaceous, hard, lenticular bedding, thinly laminated, nonfossiliferous, few horizontal burrows, few small pyrite crystals, gradational lower contact,	7.0'	Box 20	
		-			249	
		-			Box	
	250	-			21	

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4. HOLE NO. (As shown on drawing title and file No.)				7. THICKNESS OF OVER-BURDEN			
6. DIRECTION OF HOLE		DEGREES WITH VERTICAL		8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
☐ VERTICAL	☐ INCLINED						
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED				STARTED COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (description)	% CORE RECOVERY	SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)	
250			Shale, same unit as above.		21		
				7.0'			
			mudstone , med gy (N5), silty, hard, massive, qtz, micaceous comp, extensively bioturbated, brachs 1 cm dia in upper part, clay iron stone band at top encloses fossils, sharp lower contact.	3.0'		"D" Bluejacket horizon	
255							
			Shale, med dk gy (N4) w/ lt gy (N7) silty laminae, mudstone, silty, with silty laminae increasing upwards, hard, micaceous, thin horizontal laminae, nonfossiliferous, small amounts of localized calcareous cement, clay iron stone bands to 1 cm thick, gradational lower contact.	6.5'	Box 21 254		
260					22		

HOLE NO. _____

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG				1. PROJECT _____		SHEET _____ OF _____	
				2. LOCATION (Coordinates or Station) _____			
3. DRILLING AGENCY _____				5. NAME OF DRILLER _____			
4. HOLE NO. (As shown on drawing title and file No.) _____				6. DIRECTION OF HOLE			
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL _____		7. THICKNESS OF OVER-BURDEN _____		8. DEPTH DRILLED INTO ROCK _____	
9. TOTAL DEPTH OF HOLE _____		10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES _____		15. ELEV. GROUND WATER _____		16. DATE HOLE	
DISTURBED _____		UNDISTURBED _____		STARTED _____		COMPLETED _____	
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)
260			Shale, same unit as above.		22	
				6.5'		
			Siltstone, same unit as below.			resembles underclay, no coal
265				16.3'		
					Box 22	
					269	
					23	
270						

HOLE NO.

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG			1. PROJECT _____		SHEET _____ OF _____	
			2. LOCATION (Coordinates or Station) _____			
4. HOLE NO. (As shown on drawing title and file No.) _____			3. DRILLING AGENCY _____			
5. NAME OF DRILLER _____						
6. DIRECTION OF HOLE ☐ VERTICAL ☐ INCLINED DEGREES WITH VERTICAL _____			7. THICKNESS OF OVERBURDEN _____		8. DEPTH DRILLED INTO ROCK _____	
9. TOTAL DEPTH OF HOLE _____						
10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____		
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____		14. TOTAL NO. CORE BOXES _____		15. ELEV. GROUND WATER _____		16. DATE HOLE STARTED _____ COMPLETED _____
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
280			Shale, med dk gy (N4) at base to med Hgy (N6) at top, mudstone, slightly silty, mod. hard, thin horizontal laminae, micaceous, non-fossiliferous, some brown stains, uniform color + comp except near top. sharp lower contact w/ coal.	7.3'	24	
285						
			Coal, blk (N1), banded, mod. bright, hard, sulfate bloom & calc. cement in frags, sharp contacts.	0.6'		Drywood coal
			Mudstone, lt gy (N7), slightly silty, mod. hard, blocky frag, massive, plant frags, sand sized authigenic siderite crystals, irregular clay ironst. concretions to 1 cm dia, gradational lower contact.	3.0'	Box 24 288 Box 25	
288						
290						

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET OF			
DIVISION				2. LOCATION (Coordinates or Station)					
INSTALLATION				3. DRILLING AGENCY					
DRILLING LOG				5. NAME OF ORILLER					
4. HOLE NO. (As shown on drawing title and file No.)				7. THICKNESS OF OVER-BURDEN		8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
6. DIRECTION OF HOLE				11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
☐ VERTICAL ☐ INCLINED DEGREES WITH VERTICAL				14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE STARTED COMPLETED	
10. SIZE AND TYPE OF BIT				17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)			
290			Shale, dkgy(N3) at base to medgy(N5) at top, claystone, slightly silty near top, hard, brittle, thin horizontal laminae, unfossiliferous, very thin clay ironst bands 5 mm thick, upper 1.5' of unit gradational, sharp lower contact w/ coal,	8.1'	Box 25				
295					Box 26				
			Coal, blk N1, smut. sharp contacts.	0.1'		Rowe coal			
			mudstone, same unit as below,	3.7'					
300					26				

HOLE NO.

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG				1. PROJECT _____		SHEET _____ OF _____	
				2. LOCATION (Coordinates or Station) _____			
3. DRILLING AGENCY _____				5. NAME OF DRILLER _____			
4. HOLE NO. (As shown on drawing title and file No.) _____				5. NAME OF DRILLER _____			
6. DIRECTION OF HOLE				7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL _____				9. TOTAL DEPTH OF HOLE _____	
10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER _____		16. DATE HOLE	
DISTURBED _____		UNDISTURBED _____				STARTED _____ COMPLETED _____	
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)	
	320	--	Mudstone, med Hgy (N6), slightly silty, micaceous, faint thin laminae at base to massive at top with blocky fracture, mod. hard, few small plant remains, irregular clay ironstone nodules to 0.2' thick, sharp lower contact.	6.6'	Box 28		
	325	--			Box 29		
		xxx	Shale, med dkgy (N4), claystone, hard, brittle, micaceous, thin horizontal laminae, unfossiliferous, clay ironstone bands to 0.1' thick, sharp lower contact, marked by clay ironstone layer.	3.8'			
	330	---	Interbedded siltstone & shale, same unit as below	11.7'	29		

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET OF	
DIVISION				2. LOCATION (Coordinates or Station)			
INSTALLATION				3. DRILLING AGENCY			
DRILLING LOG				5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file No.)							
6. DIRECTION OF HOLE				7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
☐ VERTICAL		☐ INCLINED		DEGREES WITH VERTICAL		9. TOTAL DEPTH OF HOLE	
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED				STARTED COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	330		Interbedded siltstone & shale, alternating ult gy (N8) and med gy (N5) laminae, silty laminae up to 1cm thick, shale more abundant, wavy bedded, hard micaceous, qtz comp, small plant debris along bedding planes, silty layers show ripple cross laminae, few thin clay ironstone bands up to 0.1' thick, sharp lower contact marked by clay ironstone band,	11.7'	29		
	335				Box 29		
					335		
					Box 30		
	340				30		

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET OF	
DIVISION				2. LOCATION (Coordinates or Station)			
INSTALLATION				3. DRILLING AGENCY			
DRILLING LOG				5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file No.)				7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
6. DIRECTION OF HOLE		DEGREES WITH VERTICAL		9. TOTAL DEPTH OF HOLE			
☐ VERTICAL		☐ INCLINED					
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED		STARTED		COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
340			Interbedded silt stone d shale, same unit as above.	11.7'	30		
		T	Shale, med gy (N5), mudstone, silty, micaceous, hard, thin horizontal laminae, few small plant frags along bedding planes, fossiliferous zone 2' below top of unit contains brachs up to 2mm long, crinoid stems and bryozoans, calcareous cement, clay ironstone band at top 0.2' thick., sharp lower contact with coal.	11.7'	Box 30 345 Box 31		
350					31		

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET OF	
DIVISION _____				2. LOCATION (Coordinates or Station)			
INSTALLATION _____				3. DRILLING AGENCY			
DRILLING LOG				5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file No.)				7. THICKNESS OF OVER-BURDEN			
6. DIRECTION OF HOLE				8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
☐ VERTICAL		☐ INCLINED		DEGREES WITH VERTICAL			
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED				STARTED COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
350			Shale, same unit as above.		31	Part of Box dropped, had to reconstruct this interval, "A" coal	
				11.7'			
			Coal, blk (N1), banded, mod. bright, hard, broken, sulfate bloom, calc. cement, sharp contacts.	0.8'			
			Mudstone, med lt gy (N6), slightly silty, mod. hard, blocky frag, massive, abundant plant frags, gradational lower contact.	1.8'	Box 31 355 Box 32		
355			Shale, gy blk (N2), claystone, hard, few silty laminae near top, thin horizontal laminae, non-fossiliferous, abundant clay ironstone nodules to 0.2' thick, sharp lower contact w/coal.	3.5'			
			Coal, blk (N1), banded, mod. bright, hard, brittle, sulfate bloom, sharp contacts.	0.7'	32	"B" coal	
360							

[illegible]

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET OF	
DIVISION				2. LOCATION (Coordinates or Station)			
INSTALLATION				3. DRILLING AGENCY			
DRILLING LOG				5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file No.)				7. THICKNESS OF OVER-BURDEN			
6. DIRECTION OF HOLE				8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
☐ VERTICAL ☐ INCLINED DEGREES WITH VERTICAL							
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED		STARTED		COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)	
370		—	Shale, dk gy (N3), claystone, micaceous, hard, brittle, thin horizontal laminae, non-fossiliferous, small amount of localized calcareous cement, few very thin clay ironstone bands, less than 0.03' thick, sharp lower contact with coal, very uniform in color & comp., few very thin silty lenses in upper 1 foot.	19.7	33		
		T					
		—					
		—					
		—					
		—					
		—					
		T					
		—					
		—					
375		—		Box 33 375			
		T		Box 34			
		—					
		T					
		—					
		—					
		T					
		—					
		—					
		T					
380		—			34		

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG				1. PROJECT _____		SHEET _____ OF _____	
				2. LOCATION (Coordinates or Station) _____			
3. DRILLING AGENCY _____				5. NAME OF DRILLER _____			
4. HOLE NO. (As shown on drawing title and file No.) _____				6. DIRECTION OF HOLE			
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL _____		7. THICKNESS OF OVER-BURDEN _____		8. DEPTH DRILLED INTO ROCK _____	
9. TOTAL DEPTH OF HOLE _____		10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER _____		16. DATE HOLE	
DISTURBED _____		UNDISTURBED _____		STARTED _____		COMPLETED _____	
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
380		T	Shale, same unit as above.	19.7'	34	
		T				
		T				
		T				
		T				
			Coal, blk (N1), banded, mod, bright, soft, crumbled, ab. sulfate bloom & calc. cement in vertical fracs, sharp contacts.	1.0'	Box 34 384	"C" coal
					Box 35	
385			Mudstone, med lt gy (N6), slightly silty, soft, blocky fracture, massive, abundant plant fragments, irregular clay ironstone nodules 0.1' long & 0.05' dia, gradational lower contact.	3.1'		
			Shale, med dk gy (N4), mudstone, silty, micaceous, hard, marine fossil debris at base, plant fragments along bedding planes, some pyrite, clay ironst. band, sharp cont.	2.0'		
390		T	Coal, blk (N1), banded, mod, bright, hard, sulfate bloom, sharp contacts.	0.4'	35	"D" coal

HOLE NO. _____

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG				1. PROJECT _____		SHEET _____ OF _____	
				2. LOCATION (Coordinates or Station) _____			
3. DRILLING AGENCY _____				5. NAME OF DRILLER _____			
4. HOLE NO. (As shown on drawing title and file No.) _____				6. DIRECTION OF HOLE			
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL _____		7. THICKNESS OF OVERBURDEN _____		8. DEPTH DRILLED INTO ROCK _____	
9. TOTAL DEPTH OF HOLE _____		10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER _____		16. DATE HOLE	
DISTURBED _____		UNDISTURBED _____		STARTED _____		COMPLETED _____	
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	390		<u>Mudstone</u> , med lgy (N6) at base to lt gy (N7) at top, slightly silty, soft, blocky fracture, massive, abundant plant fragments, abundant sand sized authigenic siderite crystals and small clay ironstone nodules to 0.05' dia, gradational lower contact,	3.7'	Box 35	
			<u>Shale</u> , med dk gy (N4) at base to med lt gy (N6) at top, mudstone, slightly silty, micaceous, thin horizontal laminae, non-fossiliferous, few sand sized authigenic siderite crystals near top, sharp lower contact marked by clay ironstone band,	3.6'	Box 36	
	395		<u>Interbedded siltstone & shale</u> , same unit as below	14.3'	36	
	400					

[illegible]

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET OF	
DIVISION				2. LOCATION (Coordinates or Station)			
INSTALLATION				3. DRILLING AGENCY			
DRILLING LOG				5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file No.)				6. DIRECTION OF HOLE			
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or NSL)		7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
410			Interbedded siltstone & shale, same unit as above.	143'	37		
			Shale, dk gy (N3), mudstone, silty, micaceous, hard, thin horizontal laminae, few very small plant fragments, clay ironstone bands up to 0.3' thick, sharp lower contact marked by clay ironstone band.	5.2'	Box 37		
					414		
					Box 38		
415			Shale, dk gy (N3), w/lt gy (N7) laminae, mudstone, silty, w/ silty lenses up to 10m thick, lenticular to wavy bedded, few horizontal burrows, some brown stains, sharp lower contact w/ coal.	246'			
420					38		

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG				1. PROJECT _____		SHEET _____ OF _____	
				2. LOCATION (Coordinates or Station) _____			
3. DRILLING AGENCY _____				5. NAME OF DRILLER _____			
4. HOLE NO. (As shown on drawing title and file No.) _____							
6. DIRECTION OF HOLE				7. THICKNESS OF OVER-BURDEN		8. DEPTH DRILLED INTO ROCK	
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL				9. TOTAL DEPTH OF HOLE	
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED				STARTED _____ COMPLETED _____	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR _____			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	420		Shale, same unit as above.	4.6'	38	Riverton coal	
			Coal, blk (N1), banded, mod. bright, hard, brittle, sulfate bloom & calcareous cement in vertical frags, sharp contacts.	1.2'			
			Mudstone, med ltgy (N6), slightly silty, soft, blocky fracture, massive, abundant plant fragments, gradational lower contact.	1.6'	Box 38 424		
			Shale, dk gy (N3), w/ ltgy (N7) laminae, mudstone, silty, very thin silty laminae increase upwards, lenticular bedded at base to wavy bedded at top, non-fossiliferous, pyrite crystals up to 0.1 dia., gradational lower contact.	7.0'	Box 39		
	425						
	430						
	436				39		

[illegible]

DEPARTMENT OF THE ARMY				HOLE NO. _____		
DIVISION _____				SHEET _____ OF _____		
INSTALLATION _____				2. LOCATION (Coordinates or Station) _____		
DRILLING LOG				3. DRILLING AGENCY _____		
4. HOLE NO. (As shown on drawing title and file No.) _____				5. NAME OF DRILLER _____		
6. DIRECTION OF HOLE				7. THICKNESS OF OVER-BURDEN _____		
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL _____		8. DEPTH DRILLED INTO ROCK _____		
10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		9. TOTAL DEPTH OF HOLE _____		
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES _____		15. ELEV. GROUND WATER _____		
DISTURBED _____		UNDISTURBED _____		16. DATE HOLE		
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		19. SIGNATURE OF INSPECTOR _____		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)
440		—	Shale, dk gy (N3), mudstone, slightly silty, contains several thin (0.2') layers of chert & limestone gravel, probably representing storm deposits, thin horizontal laminae, some fossil debris in storm cycles, shows 2 poorly developed cone in cone structures 0.3' thick, calcareous cement, abundant pyrite crystals, sharp lower contact w/ coal,	14'	40	
		—			Box 40	
		—			444	
		—			Box 41	
445		X	Core loss 2.0' 445' - 447' probably shale!	2.0'		
		—	Shale, same unit as above.	2.6'		
450		—	Coal, blk (N1), bony, banded, mod. bright, sulfate bloom, sharp contacts.	0.4'	41	unnamed lower Coal.

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET OF	
DIVISION				2. LOCATION (Coordinates or Station)			
INSTALLATION				3. DRILLING AGENCY			
DRILLING LOG				5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file no.)				6. DIRECTION OF HOLE			
☐ VERTICAL ☐ INCLINED		DEGREES WITH VERTICAL		7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
9. TOTAL DEPTH OF HOLE							
10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		12. MANUFACTURER'S DESIGNATION OF DRILL			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER		16. DATE HOLE	
DISTURBED		UNDISTURBED		STARTED		COMPLETED	
17. ELEV. TOP OF HOLE		18. TOTAL CORE RECOVERY FOR BORING (%)		19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
	450	0.0	Conglomerate, vit gy (N8), mostly limestone pebbles w/shale matrix, sharp erosional lower contact.	1.3'	41		
		0.0	Shale, gy blk (N2), mudstn, limestone pebbles, abund. organic material, thinly lam., sulfate bloom, sharp irregular lower contact.	0.3'			
		0.0	Limestone, H gy (N7) - vit gy (N8), mudstone, hard, massive, extensively fractured, non-fossiliferous, calcareous cement, abundant oil stains in cracks, few small pyrite crystals, lower contact not observed.	4.4'		Mississippian Limestone	
	455				Box 41 456		
			Bottom of Hole 456'				
	460						