

Gulf Pittsburg - Midway

Strat Well PM-15

HOLE NO.

DEPARTMENT OF THE ARMY			1. PROJECT		SHEET OF	
DIVISION _____			2. LOCATION (Coordinates or Station) SESESE 1-335-21E			
INSTALLATION _____			3. DRILLING AGENCY P+M (Gulf Minerals)			
DRILLING LOG			5. NAME OF DRILLER			
4. HOLE NO. (As shown on drawing title and file No.) PdM # 15			7. THICKNESS OF OVER-BURDEN			
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			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			14. TOTAL NO. CORE BOXES		15. ELEV. GROUND WATER	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN UNOTSTURBED			15. ELEV. GROUND WATER		16. DATE HOLE STARTED _____ COMPLETED _____	
17. ELEV. TOP OF HOLE 830			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)
	30					(logged by John Harris)
	35		Top of Core		35'	
			Mud shale, same unit as below.		15' # 1	
	40					

1-33-21e

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 _____		8. DEPTH DRILLED INTO ROCK _____	
6. DIRECTION OF HOLE		9. TOTAL DEPTH OF HOLE _____			
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL _____		10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES _____		15. ELEV. GROUND WATER _____	
DISTURBED _____ UNDISTURBED _____		16. DATE HOLE		12. MANUFACTURER'S DESIGNATION OF DRILL _____	
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)
	50		Mud-shale, med lt gy (N6), soft, parallel fracs, slightly silty, micaceous, thin horizontal laminae, no fossils found, brown Fe oxide stains, lower contact not observed but probably gradational.	4'	# 2	
			2.0' core loss Dark shale 54' - 56'	2'		
	55		Clay-shale, gy blk (N2), hard, parallel fracs, thin horizontal lam. non-fossiliferous, sharp lower contact.	1.6'		
			Coal, blk (N1), banded mod. bright, badly crumbled, sharp cont.	0.4'		Mineral coal
			Mudstone, same unit as below.	11'		
	60					

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 _____		8. DEPTH DRILLED INTO ROCK _____	9. TOTAL DEPTH OF HOLE _____
6. DIRECTION OF HOLE		DEGREES WITH VERTICAL _____			
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> 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)
	60	--	mudstone, ltgy(N7) to med ltgy(N6), soft, crumbled, blocky fracture, slightly silty, massive, few plant fragments, abundant brown Fe oxide stains, gradational lower contact.	11'	# 3	
	65	--				
	70	--	mud-shale, same unit as below.	9'		

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	9. TOTAL DEPTH OF HOLE
6. DIRECTION OF HOLE		BEGNEES WITH VERTICAL			
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> 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	
DISURBED	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			Clay shale - same unit as above.	3'	#4	Scammon coal
			Limestone, med Hgy (N6), wackestone, abundant brachiopods, molluscs, crinoid stems etc, calcareous cement, sharp lower contact.	1.4'		
			Coal, blk, (N1) banded, mod. bright, sharp contacts.	0.1'		
			Mudstone, med Hgy (N6), soft, crumbled blocky frag, massive silty, plant frags, gradational lower contact.	1.4'	94'	
85			Interbedded sandstone and siltstone, vlt gy (N8), hard, blocky fracture, sand very fine grained, rippled, abundant muddy laminae, few small plant frags, abundant calcareous cement, sand sized authigenic siderite crystals near top, gradational lower contact.	6'	#5	Chelsea S.S.
90						

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG		1. PROJECT _____		SHEET _____ OF _____
		2. LOCATION (Coordinates or Station) _____		
3. HOLE NO. (As shown on drawing title and file No.) _____		3. DRILLING AGENCY _____		
4. NAME OF DRILLER _____		5. NAME OF DRILLER _____		
6. DIRECTION OF HOLE		7. THICKNESS OF OVERBURDEN _____	8. DEPTH DRILLED INTO ROCK _____	9. TOTAL DEPTH OF HOLE _____
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____		
10. SIZE AND TYPE OF BIT _____		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN
DISTURBED _____ UNDISTURBED _____		14. TOTAL NO. CORE BOXES _____	15. ELEV. GROUND WATER _____	16. DATE HOLE
17. ELEV. TOP OF HOLE _____		18. TOTAL CORE RECOVERY FOR BORING (%) _____		STARTED _____ COMPLETED _____
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)
90			Interbedded sandstone & siltstone, same unit as above			
			Mudshale, med Htg (N6), mod. hard, parallel fracture, silty, micaceous, thin horizontal laminae, non-fossiliferous, gradational lower contact.	6'	# 5	
95			Clay-shale, same unit as below	4'	# 6	
100				20.7'		

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.) _____		7. THICKNESS OF OVERBURDEN _____		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL _____		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 DISYURBED _____ UNDISYURBED _____	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)	
	100		Clay shale, med dk gy (N4) at base grading to med. H gy (N6) at top. mod. hard, parallel fracture, thin horizontal laminae, few pyritized plant fragments along bedding planes, small amounts of localized calcareous cement, some brown Fe oxide stains, sharp lower contact with coal.		# 6		
		T				20.7'	
						# 7	
	105	T			106'		
		T					
	110						

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 _____			
6. DIRECTION OF HOLE		7. THICKNESS OF OVER-BURDEN _____		9. TOTAL DEPTH OF HOLE _____	
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> INCLINED	DEGREES WITH VERTICAL _____		8. DEPTH DRILLED INTO ROCK _____	
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 _____		16. DATE HOLE	
DISURBED _____		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)
	110		Clay-shale, same unit as above.		# 7	
		T				
					# 8	
		T		116'		
			Coal, blk(NI), banded, mod. bright, abundant sulfate bloom. sharp contacts.			Tebo coal
				0.3'		
			mudstone, Hgy(N), soft, blocky fracture, silty, massive, plant frags, brown Fe oxide stains, gradational lower contact			
	120					

DEPARTMENT OF THE ARMY

DIVISION _____

INSTALLATION _____

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

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

DISYURBED _____ UNDISYURBED _____

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)
130			Siltshale - med lt gy (N6) at base to vlt gy (N8) at top. hard, blocky - parallel fracture, mud & silt inter laminated, wavy & lenticular bedded, few small plant fragments, some zones show abundant biturbation, abundant sand sized authigenic siderite crystals, gradational lower contact.		# 9	
135				24.4'		
					137'	
					# 10	
140						

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		8. DEPTH DRILLED INTO ROCK	9. TOTAL DEPTH OF HOLE
6. DIRECTION OF HOLE		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)			
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> INCLINED	DEGREES WITH VERTICAL			
10. SIZE AND TYPE OF BIT		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	
DISURBED		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)
150			Clay-shale, gy blk (N2) - dk gy (N3), hard, parallel fracture, thin horizontal laminae, few small brachiopods & other marine fossil fragments, localized calcareous cement, calc. cone in cone structure developed from 155.0' - 155.25' (.25' thick), few clay ironstone bands to 0.1' thick, sharp lower contact with coal.	12.9'	# 11	
155			Coal, blk (N1), banded, mod. bright, white sulfate bloom, sharp contacts	0.15'	# 12	Weir-Pittsburg Coal
160			mudstone, same unit as below	5.6'		Underclay

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 _____			7. THICKNESS OF OVERBURDEN _____		8. DEPTH DRILLED INTO ROCK _____	9. TOTAL DEPTH OF HOLE _____
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> 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 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)
	160	-	Mudstone, ltgy (N7) soft, crumbled, blocky fracture, silty, micaceous, massive, plant fragments increasing upwards, Brown Fe oxide stains & irregular clay ironstone nodules, gradational lower contact.		# 12	
	165	...	Siltstone, ultgy (N8), mod. hard, parallel fracture, muddy, wavy bedded at base, micaceous, non-fossiliferous, abundant sand sized authigenic siderite crystals, gradational lower contact.	5.7'	167' # 13	Unnamed S.S. Interval
	170	...				

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG		1. PROJECT		SHEET OF		
		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		
<input type="checkbox"/> VERTICAL <input type="checkbox"/> 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		
DISTURBED _____ UNDISTURBED _____				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)
	170	...	Siltstone - same unit as above	5.7'		
			Mud-shale, med gy(N5) at base to (4 gy(N7) at top. mod. hard, parallel fracture, silty, few very thin silty lenses increasing upwards, micaceous, no fossils found, few brown Fe oxide stains, gradational lower contact.	6.0'	# 13	
	175					
			Mud-shale, med dk gy(N4) with brown mottling, hard, parallel fracs, silty, micaceous, lenticular bedded at base to wavy bedded at top, organic rich, few burrows, few thin clay ironstone bands, gradational lower contact.	6.0'	# 14	
	180					

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ <p style="text-align: center;">DRILLING LOG</p>	1. PROJECT _____ SHEET OF _____ 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 OVER-BURDEN	8. DEPTH DRILLED INTO ROCK	9. TOTAL DEPTH OF HOLE
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL _____			

10. SIZE AND TYPE OF BIT _____	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____	12. MANUFACTURER'S DESIGNATION OF DRILL _____
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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 _____
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ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	180		Mudshale, same unit as above.			
				60'		
					#14	
	185		Clayshale, med gy (N3) - med lg gy (N4) with brown mottling, hard, parallel fracture, thin horizontal laminae, non-fossiliferous, thin clay ironstone bands to 0.1' thick, sharp lower contact w/ coal.			
				8.6'		
					187'	
					#15	
	190					

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG		1. PROJECT		SHEET	OF
		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	9. TOTAL DEPTH OF HOLE	
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> 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	
DISTURBED		UNDISTURBED		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)
190			Clay-shale - same unit as above.	8.6'		"A" Bluejacket coal Underclay
			Coal, blk(N1) banded, mod. bright, sulfate bloom, sharp contacts,	0.2'		
			Mudstone, med Itgy (N6) - Itgy(N7), soft, blocky fracture, slightly silty, micaceous, massive, abundant plant fragments, brown Fe oxide stains, gradational lower contact.	3.2'	# 15	
195			Clay-shale, dk gy (N3), hard, parallel frags, micaceous, thin horizontal laminae, non-fossiliferous, localized calcareous cement, sharp lower contact w/coal,	6.0'	197'	# 16
200						

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 _____			
6. DIRECTION OF HOLE			7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
<input type="checkbox"/> VERTICAL <input type="checkbox"/> 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)
	200	—	Clay-shale, same unit as above.	6.0		"B" Bluejacket coal
		—	Coal, blk (N1), banded, mod. bright, sulfate bloom, sharp contacts,	0.3'		
		—	Mudstone, med. lt. gy. (N6), soft, blocky fracture, silty, massive, plant fragments, few yellowish brn. Fe oxide stains, gradational lower contact.	2.1'	# 16	Upper Bluejacket S.S.
		•••	Interbedded sandst. & siltstone, lt gy (N7), hard, blocky fracture, sand very fine grained, abundant mud matrix, structures not readily visible, may be burrowed, few small plant frags, sand sized authigenic siderite crystals, gradational lower contact.	3.5'	206'	
	205	•••			# 17	
		—	Mudstone, med lt gy (N6), mod. hard, blocky fracture, silty, micaceous, massive, few small plant frags, extensive bioturbation, abundant authigenic siderite crystals & irregular clay ironst. nodules, gradational contacts,	5.2'		
	210	—				

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 _____		
6- DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> 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)
210		-f	Mudstone, same unit as above, gradational lower contact.	5.2'		
		...	Siltstone, Hgy (N7) to v Hgy (N8), hard, parallel to blocky fracture, abundant mud matrix, thinly laminated - wavy bedded, few small plant fragments, lower 0.3' shows some bioturbation, few sand sized authigenic siderite crystals near top, some thin sandy beds interbedded at top, sharp lower contact.	9.3'	# 17	Shows good bidirectional ripple marks.
215		...			216'	Upper Bluejacket S.S.
		...			# 18	
220		...				

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.) _____		7. THICKNESS OF OVERBURDEN _____		8. DEPTH DRILLED INTO ROCK _____	9. TOTAL DEPTH OF HOLE _____	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> 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 DISTURBED _____ UNDISTURBED _____		14. TOTAL NO. CORE BOXES _____	15. ELEV. GROUND WATER _____	16. DATE MOLE 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)
	220	...	<u>Siltstone</u> , same unit as above.			
			sharp contact	9.3'		
			<u>Clay-shale</u> , dk gy (N3), hard, brittle, parallel fracture, micaceous, thin horizontal laminae, non-fossiliferous, Clay ironstone bands to 0.2' thick, gradational lower contact.	3.1'	# 18	
			<u>Fossiliferous Shale</u> , medgy (N5), abundant brachs & crinoid frags, calc. cement, sharp lower contact.	0.9'		
	225		<u>Coal</u> , blk (N1), banded, mod. bright, sulfate bloom, sharp contacts.	0.3'		"C" Bluejacket coal
			<u>Mudstone</u> , med ltgy (N6), soft, blocky fracture, crumbled, silty, massive, plant fragments, abundant authigenic siderite crystals, irregular clay ironstone nodules, gradational lower contact.	3.2'	# 19	Underclay
			<u>Mud-shale</u> , same unit as below.	11.3'		
	230					

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			
6. DIRECTION OF HOLE			8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE	
<input type="checkbox"/> VERTICAL <input type="checkbox"/> 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)
230		←	Mud shale, med dk			
		←	gy(N4), mod, hard,			
		←	parallel fracture,			
		←	silty, micaceous,			
		←	few silty lenses			
		←	increasing upwards,			
		←	thin horizontal			
		←	laminae, few		# 19	
		←	small plant fragments,			
		←	some bioturbation,			
		←	burrowing more			
		←	common near top,			
		←	few thin clay	11.3'		
		←	ironstone bands and			
		←	sand sized			
		←	authigenic siderite			
		←	crystals in upper		235'	
		←	1'. sharp lower			
		←	contact with			
		←	underclay,			
		←	localized calcareous		# 20	
		←	cement.			
240		←				

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			
<input type="checkbox"/> VERTICAL <input type="checkbox"/> 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)
	240	---	<u>Mud-shale</u> , same unit as above.	11.3'		Underclay but no coal! "D" Bluejacket coal horizon
		---	<u>Mudstone</u> , med Hgy (W6), soft, blocky fracture, slightly silty, massive, plant fragments, small clay ironstone nodules, gradational lower contact.	2.0'	# 20	
		...	<u>Sandstone</u> , Brngy, (5YR4h), fine-very fine grained, no structures evident, heavily to moderately oil stained, sharp lower contact.	3.7'		Lower Bluejacket S.S.
	245	...			245	
		...			# 21	
		---	<u>Siltstone</u> , med gy (W5), lent-wavy bedded, organic rich, extensively bloturbated, gradational lower contact.	1.0'		
		---	<u>Mud shale</u> - same unit as described below.	29'		
	250	---				

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 Title No.) _____		3. DRILLING AGENCY _____		
5. NAME OF DRILLER _____		6. DIRECTION OF HOLE		
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		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 _____
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)
	260		Mud shale - same unit as described below.	29'		
			3.0' core loss 262' - 265' medium gray mud-shale	3.0'	# 22	
	265		Mud-shale - med. It gy (N6), mod. hard, parallel fracturing slightly silty, micaceous, thin horizontal laminae, few very small plant fragments along bedding planes, clay ironstone bands to 0.1' thick, sand sized authigenic siderite crystals, gradational lower contact.	29'	267' # 23	
	270					

HOLE NO. _____

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____ DRILLING LOG	1. PROJECT _____	SHEET _____ OF _____
	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 _____	9. TOTAL DEPTH OF HOLE _____
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> INCLINED			

10. SIZE AND TYPE OF BIT _____	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____	12. MANUFACTURER'S DESIGNATION OF DRILL _____
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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 _____
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ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)
270			<u>Mud-shale</u> , same unit as described above.	29'	# 23	
275			<u>Clay-shale</u> , dk gy (N3), hard, brittle, parallel fracture, thin horizontal laminae, non-fossiliferous, few very thin clay ironstone bands, sharp lower contact w/ coal, localized calcareous cement.	6.3'	# 24	
280						

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 _____			7. THICKNESS OF OVERBURDEN _____		8. DEPTH DRILLED INTO ROCK _____		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> 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 DISTURBED _____		14. TOTAL NO. CORE BOXES _____		15. ELEV. GROUND WATER _____		16. DATE MOLE 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	T	Clay-shale, dkgy (N3) same unit as above.	6.3'		Rowe coal	
		T	Coal, blk(N1), banded, mod. bright, sulfate bloom, sharp contacts.	0.4'			
	285	33	Mudstone, med lt gy (N6), soft, blocky - conchoidal fracture, slightly silty, massive, abundant plant debris at top, irregular clay ironstone concretions, sand sized authigenic siderite crystals, gradational lower contact.	5.3'	# 24		
			Mud-shale, same unit as below.	18.6'	# 25		
	290						

HOLE NO. _____

<p style="text-align: center;">DEPARTMENT OF THE ARMY</p> <p>DIVISION _____</p> <p>INSTALLATION _____</p> <p style="text-align: center;">DRILLING LOG</p>	<p>1. PROJECT _____</p> <p>SHEET _____ OF _____</p> <p>2. LOCATION (Coordinates or Station) _____</p> <p>3. DRILLING AGENCY _____</p>
---	---

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	9. TOTAL DEPTH OF HOLE
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> 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 _____
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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		5.0' core loss 290' - 295' probably dk gy mudshale,	5.0'	# 25	
	295		Mud-shale, same unit as described below.	18.6'	# 25	
	300					

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 _____		8. DEPTH DRILLED INTO ROCK _____	9. TOTAL DEPTH OF HOLE _____
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> 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 DISTURBED _____ UNDISTURBED _____		14. TOTAL NO. CORE BOXES _____	15. ELEV. GROUND WATER _____	16. DATE MOLE 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)
310			Silt-stone, ltgy (N7), wavy bedded, plant & organic material, no burrows, lighter color than lower unit, some sand sized authigenic siderite crystals, gradational lower contact.		# 26	Upper Warner S.S. Interval
				30'	# 312	
					# 27	
315			Silt-stone, med gy (N5) w/ brown mottling, qtz, micaceous comp, thinly laminated, wavy-lenticular bedded, abundant plant debris & organic material, some bioturbation, thin clay ironstone bands, sharp lower contact.			
				11.3'		
320						

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		
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEGREES WITH VERTICAL _____		7- THICKNESS OF OVER-BURDEN _____	8- DEPTH DRILLED INTO ROCK _____
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 _____	
DISTURBED _____		UNDISTURBED _____		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)
	320	...	Silt-stone, same unit as above.		# 27	
		...		11.3'		
		...			322'	
		...	Mud-shale, med dk gy (N4) few thin silty lenses, hard, parallel fracture, abundant plant frags, thin clay ironstone bands, sharp lower contact.	1.5'	# 28	
		...				
		...	Mudstone, dk gy (N3), massive, soft, blocky fracture, non-fossiliferous, few small clay ironstone nodules, authigenic siderite, gradational lower contact.	1.9'		Underclay but no coal.
	325	---				Unnamed coal horizon
		+	Calcareous shale, med dk gy (N4) silty, abundant brachs, bryozoa, crinoids etc, calc. cement, gradational contacts.	1.1'		
		T			327'	
		+				
		T				
		S	Mud-shale, med dk gy (N4), mod. hard, parallel fracture, slightly silty, micaceous, few small plant frags, small burrows, thinly laminated, sharp lower contact w/ coal.	9.8'	# 29	
		S				
		S				
	330	S				

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 _____		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL _____		7. THICKNESS OF OVER-BURDEN _____		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 DISTURBED _____ UNDISTURBED _____		14. TOTAL NO. CORE BOXES _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____
17. ELEV. TOP OF HOLE _____		15. ELEV. GROUND WATER _____		16. DATE HOLE STARTED _____ COMPLETED _____
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			Mud-shale, same unit as described above.	9.8'	# 29	
			Coal, blk (N1), banded mod. bright, sulfate bloom, sharp contacts,	1.1'		"A" coal
336			Mudstone, med gy (N5), mod. hard, blocky fracture, slightly silty, massive, abundant plant fragments, gradational lower contact.	2.0'		Underclay
			Clay-shale, same unit as below	1.0'	# 30	
			2.0' core loss probably dark gray shale.	2.0'		
340						

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____		1. PROJECT _____		SHEET _____ OF _____	
		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 _____	8. DEPTH DRILLED INTO ROCK _____	9. TOTAL DEPTH OF HOLE _____	
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> 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)
340			Clay-shale, dkgy (N3) hard, brittle, parallel fracture, thin horizontal laminae, few small plant fragments, clay ironstone nodules to 0.1' diameter, finely disseminated pyrite crystals and few authigenic siderite crystals, sharp lower contact with coal,	5'	# 30	
345			Coal, bk(N1) banded, mod. bright, sulfate bloom, sharp contacts,	1.0'		"B" coal
			Mudstone, med dkgy (N4) at base to med Hgy (N6) at top, soft, blocky-conch. frac, slightly silty, micaceous, massive, plant & root fragments, finely disseminated pyrite at base. gradational lower contact.	3.0'	349	
			Clay-shale - same unit as below.	16.8'	# 31	
350						

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 _____			
6. DIRECTION OF HOLE			7. THICKNESS OF OVER-BURDEN _____		8. DEPTH DRILLED INTO ROCK _____	
<input type="checkbox"/> VERTICAL <input type="checkbox"/> 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)
	360	—	Clay-shale, dkgy(N3), hard, parallel fracture, micaceous, thin horizontal laminae, few small pyritized plant fragments along bedding planes, irregular Clay ironstone nodules to 0.2' diameter, sharp lower contact with coal & underclay.	16.8'	# 32	
	365	—	Coal, blk (N1), banded mod. bright, smut, sharp contacts	0.1'		"C" coal
	370	—	Mudstone, med H gy (N6) to med gy (N5), soft, blocky to conchoidal fracture, slightly silty, massive, abundant plant frags, irregular clay ironstone nodules, gradational lower contact.	5.4'		Under clay

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 _____		8. DEPTH DRILLED INTO ROCK _____	9. TOTAL DEPTH OF HOLE _____
6. DIRECTION OF HOLE		DEGREES WITH VERTICAL _____			
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> 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)
	370	--	<u>Mudstone</u> , same unit as above	5.4'	# 33	
		XX	<u>Mud-shale</u> , same unit as described below.			
	375	T		18.4'		
		S				
		T				
		S				
		T				
		S				
	380	--				

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		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	
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> INCLINED	DEGREES WITH VERTICAL			
10. SIZE AND TYPE OF BIT		15. ELEV. GROUND WATER		16. DATE HOLE	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		14. TOTAL NO. CORE BOXES	15. ELEV. GROUND WATER	16. DATE HOLE	16. DATE HOLE
DISURBED		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			Mud-shale, dkgy(N3), mod. hard, parallel fracture, slightly silty, micaceous, thin horizontal laminae, few very thin silty lenses, few horizontal & vertical burrows, localized, calcareous cement, clay ironstone bands to 0.3' thick, sharp lower contact with underclay,	18.4'	# 34	
385		T				
					# 35	"D" coal horizon Underclay => no coal.
390			mudstone - same units as below	3.2'		

DEPARTMENT OF THE ARMY DIVISION _____ INSTALLATION _____		1- PROJECT _____		SHEET _____ OF _____	
		2- LOCATION (coordinates or Station) _____			
DRILLING LOG 4- HOLE NO. (As shown on drawing title and file No.) _____		3- DRILLING AGENCY _____			
		5- NAME OF DRILLER _____			
6- DIRECTION OF HOLE		7- THICKNESS OF OVER-BURDEN _____	8- DEPTH DRILLED INTO ROCK _____	9- TOTAL DEPTH OF HOLE _____	
<input type="checkbox"/> VERTICAL	<input type="checkbox"/> 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)
390		---	<u>Mud-stone</u> , medium 1+ gy (N6), mod hard, blocky fracture, massive, silty, micaceous, abundant plant fragments, gradational lower contact.	32'		Underclay but no coal.
		---	<u>Mud-shale</u> , some unit as described below.		# 35	
395		---		23.6'		
		---			399	
400		---			# 36	

DEPARTMENT OF THE ARMY		1. PROJECT		SHEET OF	
DIVISION _____		2. LOCATION (Coordinates or Station)			
INSTALLATION _____		3. DRILLING AGENCY			
DRILLING LOG		4. HOLE NO. (As shown on drawing title and file No.)			
5. NAME OF DRILLER		7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	
6. DIRECTION OF HOLE		9. TOTAL DEPTH OF HOLE		10. SIZE AND TYPE OF BIT	
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		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	
DISTURBED		UNDISTURBED		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)
410			Mud-shale, med gy(N5) to med lt gy(N6) with brown mottling, mod. hard, parallel fracture, slightly silty, micaceous, thin horizontal laminae, abundant plant fragments, few thin clay ironstone bands, abundant Fe stains at base, Sharp lower contact with coal.	23.6'	# 37	
415			Bony coal, blk(N1) gy blk(N2) banded, mod. bright to dull, hard, brittle, blocky frac, appears to contain abundant mud partings, well preserved plant remains, sharp contacts.	2.7'		Riverton Coal (Bony)
420			Mudstone w/ clasts, same unit as below.	4.7'	# 38	

DEPARTMENT OF THE ARMY DIVISION _____ INSTA _____ DRILLING LOG NO. (As shown on drawing title and file no.)		1. PROJECT _____	SHEET _____ OF _____
		2. LOCATION (Coordinates or Station) _____	
3. DRILLING AGENCY _____		5. NAME OF DRILLER _____	
DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL _____		7. THICKNESS OF OVERBURDEN _____	8. DEPTH DRILLED INTO ROCK _____
9. TOTAL DEPTH OF HOLE _____		12. MANUFACTURER'S DESIGNATION OF DRILL _____	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL) _____		15. ELEV. GROUND WATER _____	

13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____	14. TOTAL NO. CORE BOXES _____	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)
420			<p><u>Mudstone with clasts</u>, med H gy (N6), massive, abundant shale, limestone & clay clasts, large plant fragments, abundant sand, silt & mud as well, abundant pyrite nodules, sulfate bloom, sharp scoured lower contact w/shale. strange looking unit.</p>	4.7'	# 38	<p>Under clay? or (seatrock)</p>
425			<p>Shale, gy blk (N2), mudstone, slightly silty, thin horizontal laminae, abundant plant debris, pyrite concretions, sharp, unconformable lower contact.</p>	1.6'		
430			<p>Limestone, v. H gy (N8), mudstone, massive, non-fossiliferous, abundant stylolites, top extensively fractured, abundant pyrite & oil stains, lower contact not observed.</p>	3.6'		<p>Mississippian Limestone</p>
			<p>Bottom of core</p>			<p>429'</p>