5600-PM-MR0311 Rev 3/2001

7.1(B) GEOLOGIC LOG DRILL HOLES/OVERBURDEN ANALYSIS DATA

Hole No. MW-4
Surface Elevation: 1243.60
Bottom of Coal Elevations:

Groundwater Elevations and Date Measured: ▽ 1175.3 3-9-07

Surveyed by: The EADS Group, KK Method: RTK
Remarks: Final well yeild at 140' ~100 GPM

Operation Name: Glacial Sand & Gravel Mine 47
Method of Drilling: Air Rotary
Date Drilled: 3/5/07
Drilled By: Book & Proach
Logged By: TN
Township: Worth
County: Butler
Quadrangle: Slippery Rock
Laboratory:
Latitude: 41-00-13 Longitude: 80-04-37
Grid Coordinates:

Depth	Thick-ness	Scale	Graphic Log	Lithologic Description: rock type, weathering, color, fossils, carbonate minerals concentrations, pyrite, etc.	Water Conditions	Overburden Analysis Logs: Munsell Color Code	OBA Sample No.	Log Interval	% Total Sulfur	Fizz Rating	NP
		10		Brown Sand & Gravel							
		20									
	48.0										
		30									
		40									
48.0				Gray Sand & Gravel							
		50									
	6.0										
54.0				Blue/Grey Clay							
55.0	1.0			Gray Sand							
		60									
	22.0				▽						

7.1(B) GEOLOGIC LOG DRILL HOLES/OVERBURDEN ANALYSIS DATA - CONTINUED

Hole No. MW-4
Surface Elevation: 1243.60
Date Drilled: 3/5/07
Remarks: Final well yeild at 140' ~100 GPM

Operation Name: Glacial Sand & Gravel Mine 47
Township: Worth
County: Butler

Depth	Thickness	Scale	Graphic Log	Lithologic Description: rock type, weathering, color, fossils, carbonate minerals concentrations, pyrite, etc.	Water Conditions	Overburden Analysis Logs: Munsell Color Code	OBA Sample No.	Log Interval	% Total Sulfur	Fizz Rating	NP
				Gray Sand *(continued)*							
77.0				Gray Clay							
		80									
		90									
		100									
	52.0										
		110									
		120									
129.0											
131.0	2.0	130		Brown Shale							
		140									