

US EPA ARCHIVE DOCUMENT

Representative Outfall

The two permits 826-0628 and 826-0630 are next to each other in the same area of Brutus Kentucky. Both applications call for auger/highwall remining the Hazard #4 coal seam on the pre-law bench at elevation of 1220'. The two mining sites lie on the Mistletoe and Big Creek U.S.G.S. quadrangles.

The topography of the area is moderately sloping to sloping with high ridges and low hollows. The terrain is typical of that of the Appalachian Plateau physiographic province, well-dissected and well-drained by deeply entrenched streams. Ridges are generally narrow and winding. Natural flat land is mainly restricted to flood plains of major creeks and rivers. Low-order streams are generally V-shaped and have no flood plains.

The stratigraphic position of the area falls within the Breathitt Formation of Lower and Middle Pennsylvania Age. It is representative of rapid marine transgressions with intermittent, more gradual regressions while the sequence as a whole is regressive. Fluvial, deltaic and barrier systems are all represented within the Breathitt. This formation is characterized by rapid changes in lithology consisting of cyclic deposits of sandstone, siltstone, shale, and coal. The geology of this operation is typical of the Breathitt Formation. The attached geologic cross section was used in both DNR permit applications. It provides a representative description of the strata above and below the coal seams in the permit areas.

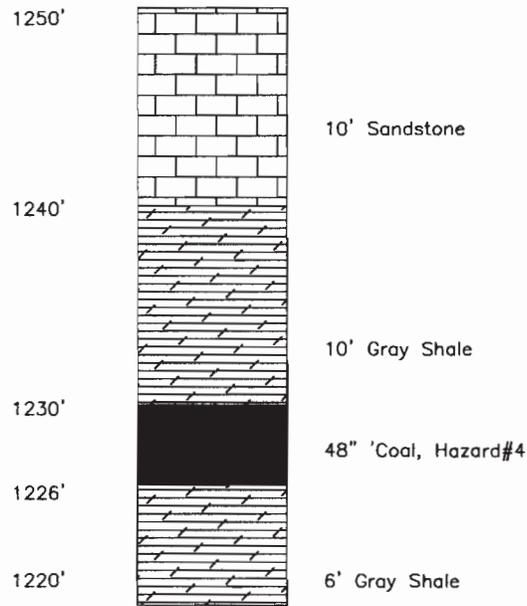
The permit 826-0628 is an active mining area and sediment ponds have been constructed while the permit 826-0630 is approved by DNR but no mining has been started. Instead of requesting a waiver for water sampling and testing in the KPDES application for the permit 826-0630, a recommendation from the Division of Water is to use a representative outfall in permit 826-0628. All the runoff from permit 826-0630 and a large area from permit 826-0628 are discharged through the Wiles Branch to Bullskin Creek. Therefore SS-006 in permit 826-0628 can be used as the representative outfall. The water testing results of this outfall is used for both permit KPDES applications.

GEOLOGICAL INFORMATION FORM

(Please print or type all responses)

1. Quadrangle Name Misletoe
2. Latitude 37-15-10
3. Longitude 83-34-24
4. UTM Zone (Eastern Kentucky = 17, Western Kentucky = 16) 17
5. UTM Easting coordinate _____
6. UTM Northing coordinate _____
7. Quadrangle Scale 1" = 2000'
1/24,000 = 1; 1/62,500 = 2; 1/125,000 = 3; Other = 4 – Explain _____
8. State Identification Code Number 21
(Use Federal Information Processing Standards Code (FIPS). The FIPS number for Kentucky is 21; additional surrounding states may be found on the last page of this form.)
9. County Code Number (refer to county number list on the last page of this form) 026
10. Coal Company Name Big Valley Coal, LLC
11. Operator's Name Darlene (Last), Jones (First), _____ (M.I.)
12. Permit Number 826-0622
13. SOAP Identification Number _____
14. Hole Number H-1
15. Date (month, day, year) 04-04-06
16. Driller's Name Heim (Last), Mike (First), _____ (M.I.)
17. Type of Sample _____
Core = 5; Chip = 6; Auger = 7; Geophysical log = 8;
Highwall = 9; Other = 10 – Explain 9
18. Top of hole elevation (round to nearest unit of measurement and indicate units used*) 1250'
19. Top of hole determination TOPO
(Barometer = B; Survey = S; Hand Level = H; Topo = T;
Other = O – Explain) _____
20. Cumulative thickness of the sample (round to nearest unit of measurement and indicate units used*) 30'
21. Name of geologist or engineer responsible for preparing this form (last, first, middle initial and title)
Michael, Heim, _____, Geologist

TYPICAL SECTION



MITCO ENTERPRISES, INC.		
Attachement 15.2 Geological Column H-1		
FILENAME DATE: 12-15-06	SCALE: 1 = 10'	APPLICATION NO.: 826-0630
 ENGINEERING CONSULTING SERVICES, INC. LEXINGTON, KENTUCKY		

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. (See instructions)

V. INTAKE AND EFFLUENT CHARACTERISTICS (Continued from page 3 of Form C)										OUTFALL NO. SS-6 (DNR 826-0628)		
Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.												
1. POLLUTANT	2. EFFLUENT						3. UNITS (specify if blank)		4. INTAKE (optional)			
	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg. Value		b. No of Analyses
	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Biochemical Oxygen Demand (BOD)	Waiver Requested											
b. Chemical Oxygen Demand (COD)	Waiver Requested											
c. Total Organic Carbon (TOC)	Waiver Requested											
d. Total Suspended Solids (TSS)	6.0						1	mg/l				
e. Ammonia (as N)	Waiver Requested											
f. Flow (in units of MGD)	VALUE 0.258		VALUE		VALUE		1	MGD		VALUE		
g. Temperature (winter)	VALUE 7		VALUE		VALUE		1	°c		VALUE		
h. Temperature (summer)	VALUE N/A		VALUE		VALUE			°c		VALUE		
i. pH	MINIMUM 6.96	MAXIMUM	MINIMUM	MAXIMUM			1	STANDARD UNITS				

Part C – If you are a primary industry and this outfall contains process wastewater, refer to Table C-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark “X” in the **Testing Required** column for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark this column (secondary industries, nonprocess wastewater outfalls, and non-required GC/MS fractions), mark “X” in the **Believed Present** column for each pollutant you know or have reason to believe is present. Mark “X” in the **Believed Absent** column for each pollutant you believe to be absent. If you mark either the **Testing Required** or **Believed Present** columns for any pollutant, you must provide the result of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT And CAS NO. (if available)	2. MARK “X”			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses
				(1)	(2)	(1)	(2)	(1)	(2)				(1)	(2)	
				Concentration	Mass	Concentration	Mass	Concentration	Mass				Concentration	Mass	
METALS, CYANIDE AND TOTAL PHENOLS															
1M. Antimony Total (7440-36-0)	X		X	<0.002						1	mg/l				
2M. Arsenic, Total (7440-38-2)	X		X	<0.001						1	mg/l				
3M. Beryllium Total (7440-41-7)	X		X	<0.0002						1	mg/l				
4M. Cadmium Total (7440-43-9)	X		X	<0.002						1	mg/l				
5M. Chromium Total (7440-43-9)	X		X	0.001						1	mg/l				
6M. Copper Total (7550-50-8)	X		X	0.001						1	mg/l				
7M. Lead Total (7439-92-1)	X		X	<0.001						1	mg/l				
8M. Mercury Total (7439-97-6)	X		X	<0.0002						1	mg/l				
9M. Nickel, Total (7440-02-0)	X		X	<0.005						1	mg/l				
10M. Selenium, Total (7782-49-2)	X		X	<0.002						1	mg/l				
11M. Silver, Total (7440-28-0)	X		X	<0.001						1	mg/l				

Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
METALS, CYANIDE AND TOTAL PHENOLS (Continued)															
12M. Thallium, Total (7440-28-0)	X	X		<0.0007						1	mg/l				
13M. Zinc, Total (7440-66-6)	X	X		0.005						1	mg/l				
14M. Cyanide, Total (57-12-5)	X	X		<0.004						1	mg/l				
15M. Phenols, Total	X	X		<0.004						1	mg/l				
DIOXIN															
2,3,7,8 Tetra- chlorodibenzo, P, Dioxin (1784-01-6)			X	DESCRIBE RESULTS:											
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chloro- benzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												