

HYDROLOGIC MONITORING PLAN

COMPANY NAME Best Coal, Inc.

NPDES Permit# AL0075752

MINE NAME Narley Mine / P-3850 / Revision R-8

COUNTY Jefferson

*A MAP SHOWING ALL MONITORING POINTS MUST ACCOMPANY THIS PLAN

I. Surface Water Monitoring Program: (Discharge Points) Page 1 of 3

List each discharge point to be monitored and indicate type or source of discharge	List parameters to be sampled for each discharge point	List frequency of sampling for each discharge point	Duration of Monitoring
Basins: 001P 002P 004E 026P	pH* Total Iron Total Manganese TSS Discharge Specific Conductance Sulfate Settleable Solids ----- Total Nickel ----- TDS Toxicity, Ceriodaphnia Acute Toxicity, Pimephales Acute	Twice monthly ----- Monthly ----- Quarterly	Until joint approval by ASMC and ADEM. In no case sooner than ASMC approval of Phase II Bond release. **

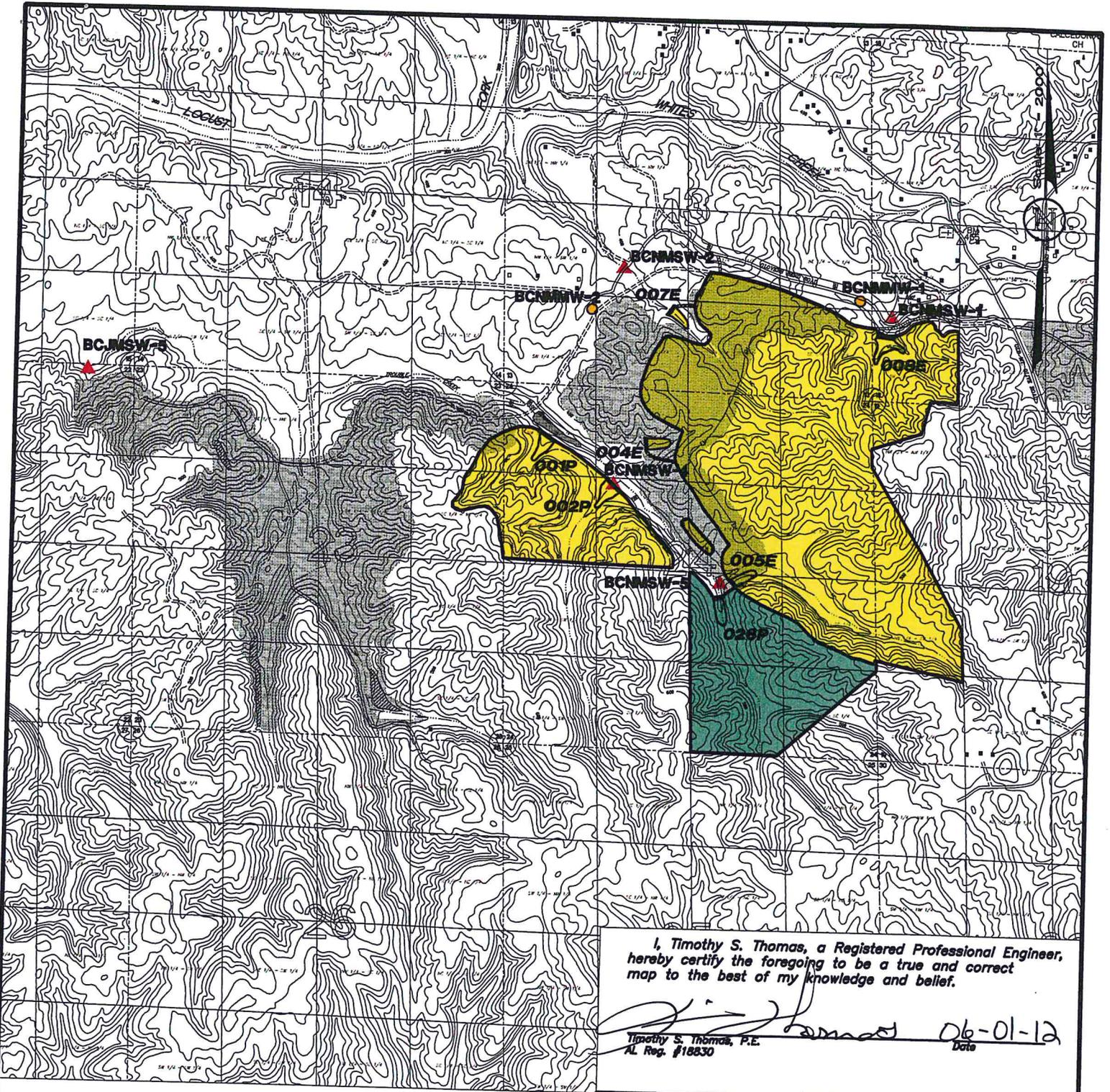
* If pH is equal to or greater than 6.0 S.U. and FeT is less than 10.0 mg/l, MnT analysis is exempted.

** Unless duration is decreased by ADEM NPDES permit.

If a sample is taken during or within 24-hours after an applicable precipitation event (an increase in discharge volume caused by an applicable 24-hour precipitation event), an exemption for Iron (Total), Manganese (Total) and Total Suspended Solids may be claimed and Settleable Solids, pH and Flow run and reported. The exemption is only applicable if the ADEM "New Source Coal Mine and Associated Discharge Limitations, Conditions and Requirements" are followed.

See attached map for all monitoring site locations.

Note: Performance monitoring to commence no sooner than original opening of mine.



I, Timothy S. Thomas, a Registered Professional Engineer, hereby certify the foregoing to be a true and correct map to the best of my knowledge and belief.

Timothy S. Thomas, P.E.
AL Reg. #18830

06-01-12
Date

LEGEND:

- Permit Boundary
 - Area added by Revision R-8
 - Previously Disturbed
 - Basin
 - Existing Highwall
 - Surface Water Monitoring Site
 - Groundwater Monitoring Sites
- BCNMSW-1
BCNMSW-2
BCNMSW-4
BCNMSW-5
BCNMSW-6

NOTE: BASE MAP TAKEN FROM BROOKSIDE U.S.G.S. QUADRANGLE.



**BEST COAL, INC.
NARLEY MINE
P-3850 / REVISION R-8
HYDROLOGIC MONITORING PLAN MAP**

DRAWN BY: JNG	DATE: 5-31-12
DWG. NAME: BCNMHMP-R8	
APPROVED BY: TST	SCALE: 1"=2000'

I. Surface Water Monitoring Program: (Discharge Points) Page 2 of 3

List each discharge point to be monitored and indicate type or source of discharge	List parameters to be sampled for each discharge point	List frequency of sampling for each discharge point	Duration of Monitoring
Basins: 005E	pH*	Twice	Until joint approval by ASMC and ADEM. In no case sooner than ASMC approval of Phase II Bond re-lease.**
	Total Iron	monthly	
	Total Manganese		
	TSS		
	Discharge		
	Specific Conductance		
	Sulfate		
	Settleable Solids		

	Total Nickel	Monthly	
	Total Selenium		

	TDS	Quarterly	
	Toxicity,		
	Ceriodaphnia Acute		
	Toxicity,		
	Pimephales Acute		

* If pH is equal to or greater than 6.0 S.U. and FeT is less than 10.0 mg/l, MnT analysis is exempted.

** Unless duration is decreased by ADEM NPDES permit.

If a sample is taken during or within 24-hours after an applicable precipitation event (an increase in discharge volume caused by an applicable 24-hour precipitation event), an exemption for Iron (Total), Manganese (Total) and Total Suspended Solids may be claimed and Settleable Solids, pH and Flow run and reported. The exemption is only applicable if the ADEM "New Source Coal Mine and Associated Discharge Limitations, Conditions and Requirements" are followed.

See attached map for all monitoring site locations.

Note: Performance monitoring to commence no sooner than original opening of mine.

I. Surface Water Monitoring Program: (Discharge Points) Page 3 of 3

List each discharge point to be monitored and indicate type or source of discharge	List parameters to be sampled for each discharge point	List frequency of sampling for each discharge point	Duration of Monitoring
Basins: 007E 008E	pH* Total Iron Total Manganese TSS Discharge Specific Conductance Sulfate Settleable Solids ----- Total Selenium ----- TDS Toxicity, Ceriodaphnia Acute Toxicity, Pimephales Acute	Twice monthly Monthly Quarterly	Until joint approval by ASMC and ADEM. In no case sooner than ASMC approval of Phase II Bond re-lease.**

* If pH is equal to or greater than 6.0 S.U. and FeT is less than 10.0 mg/l, MnT analysis is exempted.

** Unless duration is decreased by ADEM NPDES permit.

If a sample is taken during or within 24-hours after an applicable precipitation event (an increase in discharge volume caused by an applicable 24-hour precipitation event), an exemption for Iron (Total), Manganese (Total) and Total Suspended Solids may be claimed and Settleable Solids, pH and Flow run and reported. The exemption is only applicable if the ADEM "New Source Coal Mine and Associated Discharge Limitations, Conditions and Requirements" are followed.

See attached map for all monitoring site locations.

Note: Performance monitoring to commence no sooner than original opening of mine.

HYDROLOGIC MONITORING PLAN (continued)

A.Reporting and Recording Specifications:

a)NPDES outfalls:

Reporting as required by NPDES permit to Alabama Department of Environmental Management plus a simultaneous Notice of Filing to ASMC containing the following:

- 1)Name of Company
- 2)Name of Mine
- 3)ASMC permit number
- 4)NPDES number
- 5)Sampling period covered by report
- 6)List of the discharge points sampled and analysis results

b)Other:

B.Non-Compliant Discharge Reporting:

Reporting as required by the NPDES permit to Alabama Department of Environmental Management plus simultaneous copy (indicating ASMC permit number) to ASMC.

HYDROLOGIC MONITORING PLAN (continued)

II. Other Surface Water Monitoring.

Bodies of water receiving discharges from the mine:

unnamed tributary to the Locust Fork, unnamed tributary to Whites Creek, Trouble Creek

List Monitoring Points and indicate type or describe location	List Parameters to be sampled	Frequency (minimum)	Duration of Monitoring
BCNMSW-1	Discharge pH	Quarterly	Life of mine
BCNMSW-2	Manganese Iron Total Suspended Solids Specific Conductance		
BCJMSW-5 (downstream on Trouble Creek)	Same as Above	Same as Above	Same as Above
BCNMSW-4	Discharge Only	Quarterly	**
BCNMSW-5	Discharge Only	Quarterly	**

** Until no flow is observed.

HYDROLOGIC MONITORING PLAN (continued)

A. Reporting and Recording Specifications:

- 1) Frequency of Reporting: Quarterly

- 2) Contents of Report: Name of company, mine name, ASMC permit number and for all monitoring locations, the dates samples were taken and sample results for each parameter and who collected and analyzed the samples.

III. Monitoring requirements for removal of sediment ponds and other treatment facilities:

Monthly for 6 months prior to application for approval to remove facility. Monitoring data will be submitted to ASMC with application to remove the facility.

Monitoring sites shall be located to sample water entering the facility (i.e., untreated drainage).

Show proposed locations on the monitoring location map.

Parameters to be samples shall be those required by the NPDES permit.

HYDROLOGIC MONITORING PLAN (continued)

IV.

A. Monitoring requirements for Phase II bond release:

List Monitoring Sites	Parameters	Sample Frequency	Duration of Monitoring
inflow into the following basins: 001P 002P 004E 005E 007E 008E 026P	NPDES parameters	Monthly	No less than monthly for previous 6 months prior to application for Phase II Bond release. **

** For the Increment within which the respective basin is bonded, or the respective basin's drainage area is located.

B. Reporting:

Reports shall be submitted with application for Phase II Bond Release indicating Sample location number, monitoring period and analysis results and date for each sample, plus sampling and analytical data. A map showing location of the sample sites should be included.

HYDROLOGIC MONITORING PLAN (continued)

V. Groundwater Monitoring

List Monitoring Sites and indicate type of site	Parameters	Frequency (minimum)	Duration of Monitoring
BCNMMW-1 (below Blue Creek Seam)	Iron Manganese pH Specific	Quarterly	Life of Mine
BCNMMW-2 (above Blue Creek Seam)	Conductance Water level	Same as Above	Life of Mine

** If mined through, the well will be replaced in its' identical location, and drilled and cased so as to monitor the same interval originally intended. A lithologic log, and casing specifications will be submitted to the Regulatory Authority along with the first analysis of the new well(s).

HYDROLOGIC MONITORING PLAN (continued)

A. Reporting and Recording

Reports to be filed with ASMC quarterly supplying the following information: Company name, mine name, permit number, and for each monitoring site, the date and sample results for each parameter. Include sampling and analytical information for all samples.

VI. Maintenance of records and Availability for Inspection:

a) Active Mining - copies of all monitoring records shall be maintained at office.

b) During periods of temporary cessation of operations and after active mining, all monitoring records will be kept at:

Best Coal, Inc. (Office)

P. O. Box 1253 (Address)

Cullman, Alabama 35056 (City & State)

Melvin A. Bailey (Custodian of Records)

c) All monitoring records will be made available upon request to ASMC Personnel for inspection.

VII. Describe how the data obtained from the performance monitoring may be used to determine the impacts of the operation upon the hydrologic balance. Describe how parameters to be monitored relate to the suitability of the surface and groundwater for current and approved postmining land use.

Surface water sites BCNMSW-1, 2, and 3 are downstream of all mining at the proposed Narley Mine. Results of analysis as outlined in the monitoring plan can be compared to baseline data to determine impact to the receiving stream and confirm or deny the estimates of the PHC. Groundwater monitoring sites BCNMMW-1 and BCNMMW-2 will monitor the characteristics of the aquifers above and below the target coal seam. Performance monitoring data will be compared to results of analysis from baseline sampling to determine impact to these aquifers and be compared to predictions made in the PHC. The proposed postmining land use is undeveloped or no current land use. Alabama Department of Environmental Management recommendations for water quality to support this land use on this stream classification are less stringent than those limitations currently in force for

surface mine effluent, therefore the existing monitoring plan is adequate and no additional parameters are recommended.

VIII. Please NOTE: ALL PERFORMANCE MONITORING REPORTS should be submitted in duplicate. For companies with multiple permits, each permit should have a corresponding monitoring report. Sites serving multiple permits should be included in all pertinent monitoring reports.

IX. If a waiver is requested for a particular water-bearing stratum, give details. 880-X-8H-.06-(1)(h)(2)

None proposed.

X. Plans For Recording and Reporting Data (779.13)

Describe how surface and groundwater quantity and quality data will be collected, recorded, and reported to the Regulatory Authority according to Section 816.52.

Surface water samples shall be taken by the 'grab' method. Flowrate measurement of surface water samples shall be according to ASTM D3858 "Standard Practice for Open Channel Flow Measurement of Water by Velocity - Area Method" or other equally valid approved methods. Groundwater samples shall be taken according to Standard Methods 105 "Collection and Preservation of Samples" and 906A "Collection" or other equally valid approved methods. pH of all samples will be measured in the field. The sample will be stored in ice and all other parameters will be analyzed within their allowable holding times as specified by Standard Methods. Practices employed concerning the volume of groundwater extracted at groundwater monitoring sites prior to sampling is outlined as follows: Where recharge of groundwater is sufficient, three well volumes of groundwater (measured from the static depth) are pumped prior to sampling so the sample obtained is from recharge. Where recharge is slow, and three well volumes cannot be obtained within the monitoring cycle (usually monthly), only one well volume will be pumped. The well will then be allowed to recharge and a sample will be obtained after a volume equal to the volume of the pump line has been discharged. In infrequent instances where recharge is very limited, and the volume of water in the well is too small to be pumped to the surface, a 'bottom sampler' is employed to bail as much water as possible from the well. The well will then be allowed to recharge and the bottom sampler will be used to obtain a sample when ample groundwater is present to be collected. Sampling will be recorded and reported to the Regulatory Authority as outlined in Part III-D & E of this application.



Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

May 31, 2012

Otis R. Robison, Jr.
President
Best Coal, Inc.
2361 Cumberland Lake Drive
Pinson, Alabama 35126

RE: Outfall 026P Relocation Request
Narley Mine
NPDES Permit AL0075752
Jefferson County (073)

Dear Mr. Robison:

The Department has received an Outfall Relocation Request letter dated May 30, 2012, submitted by PERC Engineering Co., Inc. for Best Coal, Inc. The request proposes the relocation of Outfall 026P at Narley Mine from Latitude N 33° 42' 56," Longitude E -86° 54' 19" to Latitude N 33° 43' 05", Longitude E -86° 54' 25".

The Department has reviewed the document and has determined that relocation of Outfall 026P does not require a modification of the NPDES Permit. Therefore, the request is approved.

If you have any questions regarding this matter, you may contact Andrew Burroughs at 334-274-4197 or aburroughs@adem.state.al.us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Vernon H. Crockett'.

Vernon H. Crockett, Chief
NPDES Stormwater Management Branch
Water Division

VHC/apb

File: BASF/21192

cc: Johnathan E. Hall, ADEM – Water Division
Andrew Burroughs, ADEM – Water Division
Heath Franks, PERC Engineering Co., Inc. (hfranks@percengineering.com)





Telephone: (205) 384-5553
Facsimile: (205) 295-3114 - Main Building
(205) 295-3115 - Water Lab
Web Address: www.percengineering.com

May 30, 2012

Mr. Johnathan Hall
Mining & Natural Resources Section
NPDES Permits Branch
Alabama Department of Environmental Management
1400 Coliseum Blvd.
Montgomery, AL 36110-2059

RE: Best Coal, Inc.
Narley Mine NPDES Administrative Update
AL0075752

Dear Mr. Hall:

Attached please find attached updated pages for the Narley Mine NPDES application for the relocation of Outfall 026P for the above referenced facility.

If you require additional information, please feel free to call me at (205) 295-3112.

Thank You,
PERC Engineering Co., Inc.

A handwritten signature in black ink that reads "Heath Franks".

Heath Franks
Environmental Scientist
(205) 295-3112
hfranks@percengineering.com
For Best Coal, Inc.

XVII. RECEIVING WATERS

List the requested permit Action for each outfall (issue, reissue, add, delete, move, etc.), Outfall Designation including noting "E" for existing and "P" for proposed, name of receiving water(s), ADEM water use classification (WUC) for the receiving water, latitude and longitude (to seconds) of location(s) that run-off enters the receiving water, distance of receiving water from outfall in feet, number of disturbed acres, the number of drainage acres which will drain through each treatment system, outfall, or BMP, and if the outfall discharges to an ADEM listed CWA Section 303(d) waterbody segment at the time of application submittal.

Action	Outfall E/P	Receiving Water	ADEM WUC	Latitude	Longitude	Distance to Rec. Water	Disturbed Acres	Drainage Acres	303(d) Segment (Y/N)
None	001P	Trouble Creek	F & W	33° 43' 30"	86°54'56"	100'	28	34	N
None	002P	U.T. to Trouble Creek	F & W	33° 43' 24"	86°54'44"	150'	47	226	N
None	003P	Trouble Creek	F & W	33° 43' 12"	86°54'31"	100'	23	31	N
None	004E	Trouble Creek	F & W	33° 43' 27"	86°54'39"	430'	46	64	N
None	005E	U.T. to Trouble Creek	F & W	33° 43' 12"	86°54'22"	100'	169	268	N
None	006P	Whites Creek	F & W	33° 43' 51"	86°53'55"	250'	57	84	N
None	007E	U.T. to Whites Creek	F & W	33° 43' 48"	86°54'35"	Directly	83	101	N
None	008E	Whites Creek	F & W	33° 43' 47"	86°53'58"	800'	51	63	N
None	009P	Locust Fork	F & W	33° 44' 00"	86°55'19"	900'	38	57	N
None	010P	Locust Fork	F & W	33° 44' 06"	86°55'28"	210'	19	19	N
None	011P	Locust Fork	F & W	33° 44' 05"	86°55'46"	470'	17	17	N
None	012P	Locust Fork	F & W	33° 44' 09"	86°55'56"	390'	29	29	N
None	013P	Locust Fork	F & W	33° 44' 12"	86°56'02"	150'	7	7	N
None	014P	Locust Fork	F & W	33° 44' 12"	86°56'11"	450'	8	8	N
None	015P	Locust Fork	F & W	33° 44' 10"	86°56'18"	850'	7	8	N
None	016P	Trouble Creek	F & W	33° 43' 51"	86°56'19"	850'	20	23	N
None	017P	Trouble Creek	F & W	33° 43' 51"	86°56'11"	1300'	23	23	N
None	018P	Trouble Creek	F & W	33° 43' 50"	86°56'03"	570'	8	8	N
None	019P	Trouble Creek	F & W	33° 43' 49"	86°55'58"	620'	16	16	N
None	020P	Trouble Creek	F & W	33° 43' 44"	86°55'50"	620'	15	15	N
None	021P	Trouble Creek	F & W	33° 43' 45"	86°55'42"	780'	54	54	N
None	022P	Trouble Creek	F & W	33° 43' 39"	86°55'36"	240'	25	25	N
None	023P	Trouble Creek	F & W	33° 43' 39"	86°55'26"	200'	18	18	N
None	024P	Trouble Creek	F & W	33° 43' 40"	86°55'19"	170'	23	23	N
None	025P	Trouble Creek	F & W	33° 43' 38"	86°55'11"	150'	10	10	N
None	026P	Trouble Creek	F & W	33° 43' 05"	86°54'25"	Directly	195	279	N
None	027P	Trouble Creek	F & W	33° 42' 52"	86°54'17"	100'	30	78	N
None	028P	Trouble Creek	F & W	33° 42' 47"	86°54'17"	160'	8	62	N
None	029P	Trouble Creek	F & W	33° 42' 46"	86°54'20"	150'	7	23	N
None	030P	Trouble Creek	F & W	33° 42' 55"	86°54'22"	150'	11	11	N
None	031P	Trouble Creek	F & W	33° 42' 59"	86°54'24"	150'	20	20	N
None	032P	Trouble Creek	F & W	33° 43' 34"	86°55'07"	200'	16	16	N
None	033P	Trouble Creek	F & W	33° 43' 36"	86°55'13"	150'	10	10	N
None	034P	Trouble Creek	F & W	33° 43' 37"	86°55'20"	150'	7	7	N
None	035P	U.T. to Trouble Creek	F & W	33° 43' 31"	86°55'32"	450'	12	12	N
None	036P	U.T. to Trouble Creek	F & W	33° 43' 23"	86°55'34"	170'	33	33	N
None	037P	U.T. to Trouble Creek	F & W	33° 43' 15"	86°55'33"	150'	44	44	N
None	038P	U.T. to Trouble Creek	F & W	33° 43' 07"	86°55'30"	100'	7	7	N
None	039P	U.T. to Trouble Creek	F & W	33° 43' 01"	86°55'22"	100'	33	33	N
None	040P	U.T. to Trouble Creek	F & W	33° 42' 50"	86°55'24"	100'	66	137	N
None	041P	U.T. to Trouble Creek	F & W	33° 43' 09"	86°55'32"	Directly	111	349	N

VII. RECEIVING WATERS (CONTINUED)

List the requested permit Action for each outfall (issue, reissue, add, delete, move, etc.), Outfall Designation including noting "E" for existing and "P" for proposed, name of receiving water(s), ADEM water use classification (WUC) for the receiving water, latitude and longitude (to seconds) of location(s) that run-off enters the receiving water, distance of receiving water from outfall in feet, number of disturbed acres, the number of drainage acres which will drain through each treatment system, outfall, or BMP, and if the outfall discharges to an ADEM listed CWA Section 303(d) waterbody segment at the time of application submittal.

Action	Outfall E/P	Receiving Water	ADEM WUC	Latitude	Longitude	Distance to Rec. Water	Disturbed Acres	Drainage Acres	303(d) Segment (Y/N)
Add	042P	U.T. to Trouble Creek	F & W	33° 43' 10"	86°55'34"	Directly	58	314	N
Add	043P	U.T. to Trouble Creek	F & W	33° 43' 24"	86°55'37"	Directly	356	473	N
Add	044P	U.T. to Trouble Creek	F & W	33° 43' 21"	86°55'41"	625'	36	67	N
Add	045P	U.T. to Trouble Creek	F & W	33° 43' 29"	86°55'39"	100'	26	27	N
Add	046P	Trouble Creek	F & W	33° 43' 38"	86°55'55"	100'	43	60	N
Add	047P	Trouble Creek	F & W	33° 43' 37"	86°56'13"	100'	38	45	N
Add	048P	Locust Fork	F & W	33° 43' 27"	86°56'36"	680'	42	59	N
Add	049P	Trouble Creek	F & W	33° 43' 44"	86°56'21"	100'	30	30	N
Add	050P	Trouble Creek	F & W	33° 43' 42"	86°56'28"	100'	4	4	N
Add	051P	Locust Fork	F & W	33° 43' 46"	86°56'30"	100'	7	7	N
Add	052P	Locust Fork	F & W	33° 43' 50"	86°56'30"	100'	15	15	N
Add	053P	Locust Fork	F & W	33° 43' 59"	86°56'31"	100'	9	9	N
Add	054P	Locust Fork	F & W	33° 44' 06"	86°56'32"	100'	17	17	N
Add	055P	Locust Fork	F & W	33° 44' 16"	86°56'17"	100'	36	36	N
Add	056P	Locust Fork	F & W	33° 44' 09"	86°55'45"	100'	26	26	N
Add	057P	Locust Fork	F & W	33° 44' 08"	86°55'22"	100'	73	73	N
Add	058P	U.T. to Locust Fork	F & W	33° 43' 59"	86°54'46"	100'	20	21	N
Add	059P	U.T. to Locust Fork	F & W	33° 44' 05"	86°54'55"	100'	16	16	N
Add	060P	Whites Creek	F & W	33° 44' 13"	86°54'51"	100'	10	10	N
Add	061P	Whites Creek	F & W	33° 44' 15"	86°54'39"	100'	24	24	N
Add	062P	Whites Creek	F & W	33° 44' 11"	86°54'27"	100'	32	36	N
Add	063P	Whites Creek	F & W	33° 44' 10"	86°54'19"	100'	10	10	N
Add	064P	Whites Creek	F & W	33° 44' 05"	86°54'10"	100'	31	41	N
Add	065P	Whites Creek	F & W	33° 44' 02"	86°54'03"	100'	10	10	N
Add	066P	Whites Creek	F & W	33° 43' 48"	86°53'29"	100'	12	12	N
Add	067P	U.T. to Whites Creek	F & W	33° 43' 54"	86°53'17"	2300'	28	28	N
Add	068P	U.T. to Crooked Creek	F & W	33° 43' 48"	86°53'05"	1380'	12	12	N
Add	069P	U.T. to Whites Creek	F & W	33° 43' 38"	86°53'33"	800'	15	15	N
Add	070P	U.T. to Whites Creek	F & W	33° 43' 46"	86°53'37"	560'	6	6	N
Add	071P	U.T. to Whites Creek	F & W	33° 43' 47"	86°53'42"	630'	6	6	N
Add	072P	U.T. to Trouble Creek	F & W	33° 42' 48"	86°54'18"	Directly	83	128	N
Add	073P	U.T. to Locust Fork	F & W	33° 43' 54"	86°54'46"	100'	12	15	N
Add	074P	U.T. to Locust Fork	F & W	33° 44' 00"	86°54'52"	100'	16	17	N
Add	075P	U.T. to Locust Fork	F & W	33° 44' 05"	86°55'01"	100'	10	10	N
Add	076P	U.T. to Locust Fork	F & W	33° 44' 10"	86°55'04"	100'	10	10	N
Add	077P	Trouble Creek	F & W	33° 43' 37"	86°55'09"	100'	20	20	N
Add	078P	Trouble Creek	F & W	33° 43' 37"	86°55'05"	100'	24	24	N
Add	079P	Trouble Creek	F & W	33° 43' 45"	86°55'59"	100'	42	42	N
Add	080P	Trouble Creek	F & W	33° 43' 40"	86°56'13"	100'	41	41	N
Add	081P	Locust Fork	F & W	33° 44' 11"	86°55'55"	100'	30	30	N

* Total Disturbed Acres in Part XVII does not equal that of Part V due to overlapping watersheds.

XVIII. DISCHARGE CHARACTERIZATION

- Yes, pursuant to 40 CFR 122.21, the applicant requests a waiver for completion of EPA forms 2C and/or 2D and certifies that the operating facility will discharge treated stormwater only, unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis that chemical/compound additives are not used, and that there are no process, manufacturing, or other industrial operations or wastewaters, including but not limited to lime or cement production, synfuel operations, etc.
- No, the applicant does not request a waiver and a complete and correct EPA form 2C and/or 2D is attached.

If a completed EPA form 2C and/or 2D is not attached, the applicant is required to supply the following information separately for every P or E outfall. If necessary, attach extra sheets. List expected average daily discharge flow rate in gallons/day and in cfs, frequency of discharge in hours per day and days per month, average summer and winter temperature of discharge(s) in degrees centigrade (C), average daily discharge in pounds per day of Total Iron, Total Manganese, BOD₅, Total Aluminum (if bauxite or bauxitic clay), and Total Suspended Solids: **Source of Information is from Best Professional Estimate and data from similar projects (DFSP) adjacent to this site with similar overburden and mining on the same coal seam.**

Outfall E/P	Information Source - # of Samples	Flow cfs	Flow gpd	Frequency hours/day	Frequency days/mnth	pH s.u.	BOD ₅ lbs/day	Sum/Win Temp, C.	TSS lbs/day	Tot Fe lbs/day	Tot Mn lbs/day	Tot Al lbs/day
001P	BPE	0.079	51K	Precipitation	Precipitation	7.74	0.85	26/7	3	0.15	0.89	N/A
002P	BPE	0.529	342K	Precipitation	Precipitation	7.74	5.69	26/7	14	1.02	11.39	N/A
003P	BPE	0.073	47K	Precipitation	Precipitation	7.74	0.78	26/7	2	0.14	3.13	N/A
004E	DFSP - 3	0.150	97K	Precipitation	Precipitation	7.74	1.61	26/7	4	0.29	6.26	N/A
005E	DMR's - 18	0.467	302K	Precipitation	Precipitation	7.49	5.02*	26/7	50	1.24	11.31*	N/A
006P	DFSP - 2	0.229	148K	Precipitation	Precipitation	7.10	2.46	26/7	6	0.25	4.92	N/A
007E	DMR's - 8	0.020	13K	Precipitation	Precipitation	7.25	0.21*	26/7	2	0.11	0.48*	N/A
008E	DMR's - 5	0.046	30K	Precipitation	Precipitation	6.99	0.49	26/7	18	0.72	1.11*	N/A
009P	BPE	0.133	85K	Precipitation	Precipitation	6-9	1.42	26/7	53	4.47	3.22	N/A
010P	BPE	0.044	28K	Precipitation	Precipitation	6-9	0.47	26/7	17	1.48	1.06	N/A
011P	BPE	0.039	25K	Precipitation	Precipitation	6-9	0.41	26/7	15	1.31	0.94	N/A
012P	BPE	0.067	43K	Precipitation	Precipitation	6-9	0.71	26/7	27	2.25	1.62	N/A
013P	BPE	0.016	10K	Precipitation	Precipitation	6-9	0.17	26/7	6	0.53	0.38	N/A
014P	BPE	0.018	11K	Precipitation	Precipitation	6-9	0.19	26/7	7	0.60	0.43	N/A
015P	BPE	0.018	11K	Precipitation	Precipitation	6-9	0.19	26/7	7	0.60	0.43	N/A
016P	BPE	0.053	34K	Precipitation	Precipitation	6-9	0.56	26/7	21	1.78	1.28	N/A
017P	BPE	0.053	34K	Precipitation	Precipitation	6-9	0.56	26/7	21	1.78	1.28	N/A
018P	BPE	0.018	11K	Precipitation	Precipitation	6-9	0.19	26/7	7	0.60	0.43	N/A
019P	BPE	0.037	23K	Precipitation	Precipitation	6-9	0.39	26/7	14	1.24	0.89	N/A
020P	BPE	0.035	22K	Precipitation	Precipitation	6-9	0.37	26/7	14	1.17	0.84	N/A
021P	BPE	0.126	81K	Precipitation	Precipitation	6-9	1.35	26/7	50	4.23	3.05	N/A
022P	BPE	0.058	37K	Precipitation	Precipitation	6-9	0.62	26/7	23	1.95	1.40	N/A
023P	BPE	0.042	27K	Precipitation	Precipitation	6-9	0.45	26/7	16	1.41	1.01	N/A
024P	BPE	0.053	34K	Precipitation	Precipitation	6-9	0.56	26/7	21	1.78	1.28	N/A
025P	BPE	0.023	14K	Precipitation	Precipitation	6-9	0.24	26/7	9	0.77	0.55	N/A
026P	BPE	0.486	314K	Precipitation	Precipitation	6-9	5.22	26/7	196	16.35	11.77	N/A
027P	BPE	0.182	117K	Precipitation	Precipitation	6-9	1.95	26/7	73	6.12	4.40	N/A
028P	BPE	0.145	93K	Precipitation	Precipitation	6-9	1.55	26/7	58	4.87	3.51	N/A
029P	BPE	0.053	34K	Precipitation	Precipitation	6-9	0.56	26/7	21	1.78	1.28	N/A
030P	BPE	0.025	16K	Precipitation	Precipitation	6-9	0.26	26/7	10	0.84	0.60	N/A
031P	BPE	0.046	29K	Precipitation	Precipitation	6-9	0.49	26/7	18	1.54	1.11	N/A
032P	BPE	0.037	23K	Precipitation	Precipitation	6-9	0.39	26/7	14	1.24	0.89	N/A
033P	BPE	0.023	14K	Precipitation	Precipitation	6-9	0.24	26/7	9	0.77	0.55	N/A
034P	BPE	0.016	10K	Precipitation	Precipitation	6-9	0.17	26/7	6	0.53	0.38	N/A
035P	BPE	0.028	18K	Precipitation	Precipitation	6-9	0.30	26/7	11	0.94	0.67	N/A
036P	BPE	0.077	49K	Precipitation	Precipitation	6-9	0.82	26/7	31	2.59	1.86	N/A
037P	BPE	0.103	66K	Precipitation	Precipitation	6-9	1.10	26/7	41	3.46	2.49	N/A
038P	BPE	0.016	10K	Precipitation	Precipitation	6-9	0.17	26/7	6	0.53	0.38	N/A
039P	BPE	0.077	49K	Precipitation	Precipitation	6-9	0.82	26/7	31	2.59	1.86	N/A
040P	BPE	0.321	207K	Precipitation	Precipitation	6-9	3.44	26/7	129	10.79	7.77	N/A
041P	BPE	0.817	528K	Precipitation	Precipitation	6-9	8.76	26/7	329	27.48	19.79	N/A

* BOD₅ is calculated by Best Professional Estimate. Also, the Narley Mine has a Mn exemption and is calculated by Best Professional Estimate.

XVIII. DISCHARGE CHARACTERIZATION (CONTINUED)

- Yes, pursuant to 40 CFR 122.21, the applicant requests a waiver for completion of EPA forms 2C and/or 2D and certifies that the operating facility will discharge treated stormwater only, unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis that chemical/compound additives are not used, and that there are no process, manufacturing, or other industrial operations or wastewaters, including but not limited to lime or cement production, synfuel operations, etc.
- No, the applicant does not request a waiver and a complete and correct EPA form 2C and/or 2D is attached.

If a completed EPA form 2C and/or 2D is not attached, the applicant is required to supply the following information separately for every P or E outfall. If necessary, attach extra sheets. List expected average daily discharge flow rate in gallons/day and in cfs, frequency of discharge in hours per day and days per month, average summer and winter temperature of discharge(s) in degrees centigrade (C), average daily discharge in pounds per day of Total Iron, Total Manganese, BOD₅, Total Aluminum (if bauxite or bauxitic clay), and Total Suspended Solids: **Source of Information is from Best Professional Estimate.**

Outfall E/P	Information Source - # of Samples	Flow cfs	Flow gpd	Frequency hours/day	Frequency days/mnth	pH s.u.	BOD ₅ lbs/day	Sum/Winter Temp, C.	TSS lbs/day	Tot Fe lbs/day	Tot Mn lbs/day	Tot Al lbs/day
042P	BPE	0.547	353K	Precipitation	Precipitation	6-9	5.87	26/7	220	18.40	13.25	N/A
043P	BPE	0.824	532K	Precipitation	Precipitation	6-9	8.85	26/7	332	27.72	19.96	N/A
044P	BPE	0.116	74K	Precipitation	Precipitation	6-9	1.24	26/7	46	3.90	2.81	N/A
045P	BPE	0.047	30K	Precipitation	Precipitation	6-9	0.50	26/7	18	1.58	1.13	N/A
046P	BPE	0.104	67K	Precipitation	Precipitation	6-9	1.11	26/7	41	3.49	2.51	N/A
047P	BPE	0.078	50K	Precipitation	Precipitation	6-9	0.83	26/7	31	2.62	1.88	N/A
048P	BPE	0.102	65K	Precipitation	Precipitation	6-9	1.09	26/7	41	3.43	2.47	N/A
049P	BPE	0.052	33K	Precipitation	Precipitation	6-9	0.55	26/7	20	1.74	1.25	N/A
050P	BPE	0.006	3K	Precipitation	Precipitation	6-9	0.06	26/7	2	0.20	0.14	N/A
051P	BPE	0.012	7K	Precipitation	Precipitation	6-9	0.12	26/7	4	0.40	0.29	N/A
052P	BPE	0.026	16K	Precipitation	Precipitation	6-9	0.27	26/7	10	0.87	0.62	N/A
053P	BPE	0.015	9K	Precipitation	Precipitation	6-9	0.16	26/7	6	0.50	0.36	N/A
054P	BPE	0.135	87K	Precipitation	Precipitation	6-9	1.45	26/7	54	4.54	3.27	N/A
055P	BPE	0.062	40K	Precipitation	Precipitation	6-9	0.66	26/7	25	2.08	1.50	N/A
056P	BPE	0.045	29K	Precipitation	Precipitation	6-9	0.48	26/7	18	1.51	1.09	N/A
057P	BPE	0.127	82K	Precipitation	Precipitation	6-9	1.36	26/7	51	4.27	3.07	N/A
058P	BPE	0.036	23K	Precipitation	Precipitation	6-9	0.38	26/7	14	1.21	0.87	N/A
059P	BPE	0.027	17K	Precipitation	Precipitation	6-9	0.29	26/7	10	0.90	0.65	N/A
060P	BPE	0.017	10K	Precipitation	Precipitation	6-9	0.18	26/7	6	0.57	0.41	N/A
061P	BPE	0.041	26K	Precipitation	Precipitation	6-9	0.44	26/7	16	1.37	0.99	N/A
062P	BPE	0.062	40K	Precipitation	Precipitation	6-9	0.66	26/7	25	2.08	1.50	N/A
063P	BPE	0.017	10K	Precipitation	Precipitation	6-9	0.18	26/7	6	0.57	0.41	N/A
064P	BPE	0.071	45K	Precipitation	Precipitation	6-9	0.76	26/7	28	2.38	1.71	N/A
065P	BPE	0.017	10K	Precipitation	Precipitation	6-9	0.18	26/7	6	0.57	0.41	N/A
066P	BPE	0.020	12K	Precipitation	Precipitation	6-9	0.21	26/7	8	0.67	0.48	N/A
067P	BPE	0.048	31K	Precipitation	Precipitation	6-9	0.51	26/7	19	1.61	1.16	N/A
068P	BPE	0.020	12K	Precipitation	Precipitation	6-9	0.21	26/7	8	0.67	0.48	N/A
069P	BPE	0.026	16K	Precipitation	Precipitation	6-9	0.27	26/7	10	0.87	0.62	N/A
070P	BPE	0.010	6K	Precipitation	Precipitation	6-9	0.10	26/7	4	0.33	0.24	N/A
071P	BPE	0.010	6K	Precipitation	Precipitation	6-9	0.10	26/7	4	0.33	0.24	N/A
072P	BPE	0.223	144K	Precipitation	Precipitation	6-9	2.39	26/7	90	7.50	5.40	N/A
073P	BPE	0.026	16K	Precipitation	Precipitation	6-9	0.27	26/7	10	0.87	0.62	N/A
074P	BPE	0.135	87K	Precipitation	Precipitation	6-9	1.45	26/7	54	4.54	3.27	N/A
075P	BPE	0.017	10K	Precipitation	Precipitation	6-9	0.18	26/7	6	0.57	0.41	N/A
076P	BPE	0.017	10K	Precipitation	Precipitation	6-9	0.18	26/7	6	0.57	0.41	N/A
077P	BPE	0.034	21K	Precipitation	Precipitation	6-9	0.36	26/7	13	1.14	0.82	N/A
078P	BPE	0.041	26K	Precipitation	Precipitation	6-9	0.44	26/7	16	1.37	0.99	N/A
079P	BPE	0.073	47K	Precipitation	Precipitation	6-9	0.78	26/7	29	2.45	1.76	N/A
080P	BPE	0.071	45K	Precipitation	Precipitation	6-9	0.76	26/7	28	2.38	1.71	N/A
081P	BPE	0.052	33K	Precipitation	Precipitation	6-9	0.55	26/7	20	1.74	1.25	N/A

* BOD₅ is calculated by Best Professional Estimate. Also, the Narley Mine has a Mn exemption and is calculated by Best Professional Estimate.

XIX. DISCHARGE STRUCTURE DESCRIPTION AND POLLUTANT SOURCE

If a completed EPA form 2C and/or 2D is not attached, the applicant is required to detail existing and proposed point source(s) covered by this permit application. Specify outfall number(s) as it appears on the map(s) required by this application [if this application is for a modification to an existing permit do not change the numbering sequence of the permitted outfalls], describe each, e.g. pipe, spillway, channel, tunnel, conduit, well, discrete fissure, or container, and identify the origin of pollutants. The response must be precise for each outfall. If the discharge of pollutants from any outfall is the result of commingling of waste streams from different origins, each origin must be completely described. Please check all responses which describe the discharge origin.

Outfall	Discharge structure Description	Description of Origin Of pollutants	Surface Discharge	Groundwater Discharge	Wet Prep -Other Production Plant	Pumped or Controlled Discharge	Low Volume STP	Other
001P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
002P	Pipe and/or Channel	(2) , (9), & (10)	X	N/A	N/A	N/A	N/A	N/A
003P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
004E	Pipe	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
005E	Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
006P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
007E	Channel	((2) , (9), & (10)	X	N/A	X	N/A	N/A	N/A
008E	Pipe	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
009P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
010P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
011P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
012P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
013P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
014P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
015P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
016P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
017P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
018P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
019P	Pipe and/or Channel	(2) , (9), & (10)	X	N/A	N/A	N/A	N/A	N/A
020P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
021P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
022P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
023P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
024P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
025P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
026P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
027P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
028P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
029P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
030P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
031P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
032P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
033P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
034P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
035P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
036P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
037P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
038P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
039P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
040P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
041P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A

Origin of Pollutants – typical examples: (1) Discharge of drainage from the underground workings of an underground coal mine, (2) Discharge of drainage from a coal surface mine, (3) Discharge of drainage from a coal preparation plant and associated areas, (4) Discharge of process wastewater from a gravel-washing plant, (5) Discharge of wastewater from an existing source coal preparation plant, (6) Discharge of drainage from a sand and gravel pit, (7) Pumped discharge from a limestone quarry, (8) Controlled surface mine drainage (pumped or siphoned), (9) Discharge of drainage from mine reclamation, (10) Other: Dry Processing (Crushing and Screening)

XIX. DISCHARGE STRUCTURE DESCRIPTION AND POLLUTANT SOURCE (CONTINUED)

If a completed EPA form 2C and/or 2D is not attached, the applicant is required to detail existing and proposed point source(s) covered by this permit application. Specify outfall number(s) as it appears on the map(s) required by this application [if this application is for a modification to an existing permit do not change the numbering sequence of the permitted outfalls], describe each, e.g. pipe, spillway, channel, tunnel, conduit, well, discrete fissure, or container, and identify the origin of pollutants. The response must be precise for each outfall. If the discharge of pollutants from any outfall is the result of commingling of waste streams from different origins, each origin must be completely described. Please check all responses which describe the discharge origin.

Outfall	Discharge structure Description	Description of Origin Of pollutants	Surface Discharge	Groundwater Discharge	Wet Prep -Other Production Plant	Pumped or Controlled Discharge	Low Volume STP	Other
042P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
043P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
044P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
045P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
046P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
048P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
049P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
050P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
051P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
052P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
053P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
054P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
055P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
056P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
057P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
058P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
059P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
060P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
061P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
062P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
063P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
064P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
065P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
066P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
067P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
068P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
069P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
070P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
071P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
072P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
073P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
074P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
075P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
076P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
077P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
078P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
079P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
080P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A
081P	Pipe and/or Channel	(2) & (9)	X	N/A	N/A	N/A	N/A	N/A

Origin of Pollutants – typical examples: (1) Discharge of drainage from the underground workings of an underground coal mine, (2) Discharge of drainage from a coal surface mine, (3) Discharge of drainage from a coal preparation plant and associated areas, (4) Discharge of process wastewater from a gravel-washing plant, (5) Discharge of wastewater from an existing source coal preparation plant, (6) Discharge of drainage from a sand and gravel pit, (7) Pumped discharge from a limestone quarry, (8) Controlled surface mine drainage (pumped or siphoned), (9) Discharge of drainage from mine reclamation, (10) Other: Dry Processing (Crushing and Screening)

XXI. POLLUTION ABATEMENT PLAN (PAP) - APPENDIX A& B INFORMATION

Outfall(s): 001P-003P, 004E, 005E, 006P, 007E, 008E, 009P-081P

Y	N	N/A	
x			Runoff from all areas of disturbance is controlled
x			Drainage from pit area, stockpiles, and spoil areas directed to a sedimentation pond
	X1		Sedimentation basin at least 0.25 acre/feet for every acre of disturbed drainage
	X2		Sedimentation basin cleaned out when sediment accumulation is 60% of design capacity
X			Trees, boulders, and other obstructions removed from pond during initial construction
	X3		Width of top of dam greater than 12'
	X4		Side slopes of dam no steeper than 3:1
X			Cutoff trench at least 8' wide
X			Side slopes of cutoff trench no less than 1:1
X			Cutoff trench located along the centerline of the dam
X			Cutoff trench extends at least 2' into bedrock or impervious soil
X			Cutoff trench filled with impervious material
X			Embankments and cutoff trench 95% compaction standard proctor ASTM
X			Embankment free of roots, tree debris, stones >6" diameter, etc.
X			Embankment constructed in lifts no greater than 12"
X			Spillpipe sized to carry peak flow from a one year storm event
X			Spillpipe will not chemically react with effluent
X			Subsurface withdrawal
	X5		Anti-seep collars extend radially at least 2' from each joint in spillpipe
X			Splashpad at the end of the spillpipe
	X6		Emergency Spillway sized for peak flow from 25-yr 24-hr event if discharge not into PWS classified stream
	X7		Emergency spillway sized for peak flow from 50-yr 24-hr event if discharge is into PWS classified stream
X			Emergency overflow at least 20' long
X			Side slopes of emergency spillway no steeper than 2:1
	X8		Emergency spillway lined with riprap or concrete
X			Minimum of 1.5' of freeboard between normal overflow and emergency overflow
	X9		Minimum of 1.5' of freeboard between max. design flow of emergency spillway and top of dam
X			All emergency overflows are sized to handle entire drainage area for ponds in series
X			Dam stabilized with permanent vegetation
X			Sustained grade of haul road <10%
	X10		Maximum grade of haul road <15% for no more than 300'
X			Outer slopes of haul road no steeper than 2:1
X			Outer slopes of haul road vegetated or otherwise stabilized
	X11		Detail drawings supplied for all stream crossings
X			Short-Term Stabilization/Grading And Temporary Vegetative Cover Plans
X			Long-Term Stabilization/Grading And Permanent Reclamation or Water Quality Remediation Plans

The applicant has completed the surface water discharge alternatives analysis and has supporting documentation, including annualized costs for each technically feasible alternative available for review upon request

IDENTIFY AND PROVIDE DETAILED EXPLANATION FOR ANY "N" OR "N/A" RESPONSE(s):

X1)	During the design of each basin a sediment storage volume and detention volume will be determined and reviewed and approved by the ASMC.
X2)	Sediment will be removed from each basin prior to the design sediment volume or level being reached.
X3)	The top width of the dam will be no less than 12 feet wide as required by ASMC regulations.
X4)	The side slopes of the embankment of each basin will be designed to provide a minimum static factor of safety of 1.3 as required by ASMC regulations.
X5)	No anti seep collars are proposed along the discharge pipe as a result of the experience in the design and construction of impoundments of this nature by the designer. It has been the designer's experience that the addition of anti seep collars requires the over excavation of the discharge structure trench for their installation. This over excavation and direct areas around the devices produce areas where compaction during the filling of the trench is difficult to achieve. This results in areas of weakness where potential seeps could occur resulting in areas of impoundment instability and possible failure. The designer has designed and overseen construction of numerous impoundments of similar nature without the use of anti seep collars. To date no areas of seepage or instability has occurred as a result of the deletion of the anti seep collars. With the above in mind no anti seep collars are proposed in this design.
X6)	As per ASMC regulations the emergency spillways of each basin will be designed to pass a 25 year - 6 hour storm event.
X7)	This facility does not discharge to a public water supply.
X8)	The entire emergency overflow spillway channel from each basin will be a stabilized channel and will be stabilized upon completion of construction as specified within the detailed design plans using prudent engineering measures. These measures may consist of lining the spillway with concrete or a durable rock riprap, or the spillway being constructed in consolidated non-erodible material and planted with a mixture or both annual and perennial grasses, or a combination of any or all of the above.
X9)	During the design of each basin a minimum freeboard between normal overflow and emergency overflow will be determined and reviewed and approved by the ASMC.
X9)	ASMC regulations allow for a minimum freeboard of 1.0 feet from the maximum height of a 25 year - 6 hour storm event to the top of the dam.
X10)	ASMC regulations allow for a maximum grade of 17% on primary haulroads.
X11)	This facility does not require stream crossings.

