



COMMONWEALTH OF VIRGINIA
Virginia Department of Energy
 Division of Mined Land Repurposing

NPDES Permit Number: 0082152
 Associated CSMO Permit Number: 1402152
 Permit Application Number: 1011356
 Permit Original Issue Date: 3/8/1983
 Application Approval Date: 11/12/2024
 Expiration Date: 3/8/2028

**AUTHORIZATION TO DISCHARGE UNDER THE
 VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
 AND
 THE VIRGINIA STATE WATER CONTROL LAW**

Pursuant to Authority under Section 45.2-1029 of the Code of Virginia, as amended, and the Virginia Pollutant Discharge Elimination System (VPDES) Regulation, Part X - Delegation of Authority to the Department of Mines, Minerals and Energy for Coal Surface Mining Operations (9VAC25-31-940), the following owner is authorized to discharge from the facility listed below in compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto and in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in Sections A, B, C, and D of this permit and the plans and requirements found in joint CSMO/NPDES permit number 1402152/0082152 and any and all subsequent approved permitting actions. For the purpose of this permit, NPDES and VPDES permits are synonymous.

Owner: BUCHANAN MINERALS, LLC
 Facility Name: BUCHANAN NO. 1 MINE
 County: BUCHANAN
 Facility Location: 2.9 MILES SOUTH OF KEEN MOUNTAIN

The owner is authorized to discharge to the following receiving streams:

Stream Name	Stream Basin	Stream Subbasin	Stream Tier
BUCK BRANCH	BIG SANDY	LEVISA FORK - DISMAL CREEK	Tier I
BENNY BRANCH	BIG SANDY	LEVISA FORK - DISMAL CREEK	Tier I
LEVISA FORK	BIG SANDY	LEVISA FORK	Tier I
DISMAL CREEK	BIG SANDY	LEVISA FORK - DISMAL CREEK	Tier I
GARDEN CREEK	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
RIGHT FORK GARDEN CREEK	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
NORTH BRANCH	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
GRASSY CREEK	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I

WHETSTONE BRANCH	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
CONTRARY CREEK	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
HONAKER BRANCH	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
CLIFTON FORK	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
TRACE BRANCH	BIG SANDY	LEVISA FORK-UPPER LEVISA FORK	Tier I
LOGGY BOTTOM BRANCH	BIG SANDY	LEVISA FORK - DISMAL CREEK	Tier I
LAUDERS BRANCH	BIG SANDY	LEVISA FORK - DISMAL CREEK	Tier I
LITTLE HURRICANE BRANCH	BIG SANDY	LEVISA FORK - DISMAL CREEK	Tier I

Digitally signed by Marshall R Moore
Marshall R Moore
 Date: 2024.11.13 15:39:14 -05'00'
 Director, Division of Mined Land Repurposing

Date

Permit Contents

The complete joint CSMO/NPDES permit consists of the following:

- I. The approved CSMO/NPDES Permit Application, and any and all subsequent approved permit revisions, renewals, midterms, anniversary reports, completion reports, and DMLR administrative actions.
- II. The CSMO/NPDES Permit Document, including
 - Permit Signature Page
 - Section A – Effluent Limitations and Monitoring Requirements
 - Section B – Schedule of Compliance (if applicable)
 - Section C – Standard Terms and Conditions
 - Section D – Other Requirements

Facility Information

Permittee Name: BUCHANAN MINERALS, LLC
Address: P. O. DRAWER L
City: OAKWOOD **State:** VA **Zip:** 24631
Facility: BUCHANAN NO. 1 MINE
Total permit acres: 825.33, BUCHANAN

Application Information:

Application Type: REN/REISSUE C/N

Application Description: CSMO/NPDES Permit Renewal

NPDES Outfall Description:

NPDES outfalls associated with this permit result from the control of surface water runoff resulting from precipitation and/or groundwater discharges from coal mining activities associated with mining. Treatment facilities may include sedimentation structures, chemical treatment such as the addition of neutralizing agents or flocculants, or no treatment (in the case of direct discharge of underground mine drainage when treatment is not required to meet applicable effluent limitations). The following details describe the treatment facility or source associated with each approved outfall. Specific information regarding each outfall and facility is found in Section V and Section XII of the CSMO/NPDES permit.

Section A
Permit Requirements

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall 001 MPID 5785456

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	NA	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	NA	6/Quarter

Outfall 003 MPID 5785457 Representative Outfall for Class V

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event
Rep Chem	RMR	NA	NA	NA	1/Permit Term
Acute WET	RWETMR TUa	NA	NA	NA	4 Qtr / Permit Term
Chronic WET	RWETMR TUc	NA	NA	NA	4 Qtr / Permit Term
PCB	NL pg/l	NA	NA	NA	1 Wet, 1 Dry/Permit Term

Outfall 004 MPID 5785458

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 008 MPID 5785459 Representative Outfall Class III

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event
Selenium	WQBEL ¹	WQBEL	NA	NA	6/Quarter
Chloride	WQBEL	WQBEL	NA	NA	6/Quarter
Rep Chem	RMR	NA	NA	NA	1/Permit Term
Acute WET	RWETMR TUa	NA	NA	NA	4 Qtr / Permit Term
Chronic WET	RWETMR TUC	NA	NA	NA	4 Qtr / Permit Term
PCBs	NL pg/l	NA	NA	NA	1 Wet, 1 Dry/Permit Term

¹Water Quality Based Effluent Limit (WQBEL) - NPDES outfall 008 is required to meet water quality based effluent limits for chloride and selenium. The effluent limits for chloride and selenium are established as the modeled value at downstream monitoring location GC-DS-008. The chloride and selenium results will be reported with the outfall 008 monitoring results. The effluent limits for chloride (230 mg/l) and selenium (5.0 µg/l) will be met at monitoring location GC-DS-008 located at the downstream edge of the chronic mixing zone.

Outfall 010 MPID 5785461

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 011 MPID 5785462

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 012 MPID 5785463

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 017 MPID 5785464

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 018* MPID 5785465 Representative Outfall Class IV

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event
Rep Chem	RMR	NA	NA	NA	1/Permit Term
Acute WET	RWETMR TUa	NA	NA	NA	4 Qtr / Permit Term
Chronic WET	RWETMR TUc	NA	NA	NA	4 Qtr / Permit Term
PCBs	NL pg/l	NA	NA	NA	1 Wet, 1 Dry/Permit Term

* The sediment basin associated with outfall 018 may be pumped into the mine void via injection well in accordance with the Underground Injection Control (UIC) permit that was submitted to EPA in July of 2020. Please refer to Appendix III: Reasonable Potential Analysis in the NPDES Factsheet for more details.

Outfall 021 MPID 5770100

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 022 MPID 5770140 Representative Outfall Class I

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event
Rep Chem	RMR	NA	NA	NA	1/Permit Term
Acute WET	RWETMR TUa	NA	NA	NA	4 Qtr / Permit Term
Chronic WET	RWETMR TUc	NA	NA	NA	4 Qtr / Permit Term
PCBs	NL pg/l	NA	NA	NA	1 Wet, 1 Dry/Permit Term

Outfall 024 MPID 0001001

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 025 MPID 0002431

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	NA	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	NA	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	NA	6/Quarter
Selenium	WQBEL ¹	WQBEL	NA	NA	6/Quarter
Chloride	WQBEL	WQBEL	NA	NA	6/Quarter

¹Water Quality Based Effluent Limit (WQBEL) - NPDES outfall 025 is required to meet water quality based effluent limits for chloride and selenium. The effluent limits for chloride and selenium are established as the modeled value at downstream monitoring location RF-DS-025A (Phase I) or GC-DS-025B (Phase II). The chloride and selenium results will be reported with the outfall 025 monitoring results. The effluent limits for chloride (230 mg/l) and selenium (5.0 µg/l) will be met at monitoring location RF-DS-025A (Phase I) or GC-DS-025B (Phase II) located at the downstream edge of the chronic mixing zone.

Outfall 025A MPID 0010532

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	NA	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	NA	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	NA	6/Quarter
Selenium	NL ug/l	NA	NA	NA	6/Quarter
Chloride	NL mg/l	NA	NA	NA	6/Quarter

Outfall 025B MPID 0010533

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	NA	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	NA	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	NA	6/Quarter
Selenium	NL ug/l	NA	NA	NA	6/Quarter
Chloride	NL mg/l	NA	NA	NA	6/Quarter

Outfall 026 MPID 0002783

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 028 MPID 5783254

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 029 MPID 0003826

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 031 MPID 0004850

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 032 MPID 0005953

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 033 MPID 0006505 Representative Outfall Class II (Effluent Characterization Requirements in Schedule A)

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	NA	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	NA	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	NA	6/Quarter
Chloride	NL mg/l	WQBEL ¹ 223.0 mg/l	NA	NA	6/Quarter
Rep Chem	RMR	NA	NA	NA	1/Permit Term
Acute WET	RWETMR TUa	NA	NA	NA	Per Schedule A
Chronic WET	RWETMR TUC	NA	NA	NA	Per Schedule A
Diesel Range Organics	NL ug/L	NA	NA	NA	6/Quarter
PCB	NL pg/l	NA	NA	NA	Per Schedule A

¹Water Quality Based Effluent Limit (WQBEL) - NPDES outfall 033 is required to meet water quality based effluent limits for chloride. The effluent limit for chloride is established as the modeled value at downstream sampling location LFR-2 that corresponds to the minimum discharge rate (low flow condition). The chloride results will be reported with the outfall 033 monitoring results.

Outfall 034 MPID 0006163

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 035 MPID 0006164

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 036 MPID 0007760

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 037 MPID 0007759

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 038 MPID 0008859

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 039 MPID 0008860

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 043 MPID 5785694

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	>10Yr/24Hr	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	>10Yr/24Hr	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	>10Yr/24Hr	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 045 MPID 5784748

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 046 MPID 5784746

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 047 MPID 5784745

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 049 MPID 0008861

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 051 MPID 5785712

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Iron, Total	3.5 mg/l	7.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 052 MPID 0010832

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 053 MPID 0010833

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 054 MPID 0011732

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall 055 MPID 0011731

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

Outfall Pond 32 MPID 0012216

<i>Parameter</i>	<i>Monthly Avg.</i>	<i>Maximum</i>	<i>Minimum</i>	<i>AEL Qualifying Event</i>	<i>Sample Rate/Interval</i>
Flow	NL GPM	NA	NA	NA	6/Quarter
pH	NL Std	9.0 Std	6.0 Std	NA	6/Quarter
Total Suspended Solids	35.0 mg/l	70.0 mg/l	NA	0.2 In	6/Quarter
Total Dissolved Solids	NL mg/l	NA	NA	NA	6/Quarter
Iron, Total	3.0 mg/l	6.0 mg/l	NA	0.2 In	6/Quarter
Manganese, Total	2.0 mg/l	4.0 mg/l	NA	0.2 In	6/Quarter
Settleable Solids	NL ml/l	0.5 ml/l	NA	NA	Optional AEL Event

A) The collection method is to be a grab sample for all measurements except for flow, which may be either measured or estimated.

B) Samples for parameters required at a rate of 6/Quarter shall be collected twice per calendar month, at least seven days apart. Samples for parameters required at a rate of 3/Quarter shall be collected once per calendar month, at least seven days apart.

C) Monthly Avg. is to be the arithmetic mean of all samples collected in a calendar month. Max is to be a daily maximum and min is to be daily minimum for all measured parameters except for pH, which is to be measured as an instantaneous maximum and instantaneous minimum. All limits are followed by the units in which they are to be measured.

D) NL indicates monitoring is required with no limitations (No Limit). NA indicates the parameter does not apply to the particular outfall (Not Applicable).

E) RMR stands for Representative Monitoring Required. RWETMR stands for Representative Whole Effluent Toxicity Monitoring Required.

F) The AEL Qualifying Event is the minimum rainfall event necessary for AELs (alternate effluent limitations) to apply to the specified parameter for the given outfall. The utilization of AELs is optional. Settleable solids analysis is required only if AELs are claimed.

G) TSS and TDS, when listed in an above table, are to be collected and reported at all times, even when an AEL is utilized.

H) For any outfall designated as commingled (surface runoff/underground mine drainage) with an AEL precipitation minimum equivalent to a 10Y/24H event, if the treatment structure(s) are not controlling any underground mine drainage and contain only surface runoff (other than refuse areas) then a 0.2 inch AEL minimum shall apply. Application of the AEL is subject to all other conditions of 40 CFR 434. The permittee is responsible for maintaining such records necessary to meet the burden of proof for the AEL, including the date that underground mine dewatering, either pumped or gravity, last occurred.

B. OTHER REQUIREMENTS

The term Department refers to the Virginia Department of Energy

1. This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard, limitation or prohibition for a pollutant which is promulgated or approved under Section 307(a)(2) of the Clean Water Act, if the effluent standard, limitation, or prohibition so promulgated or approved:
 - a. Is more stringent than any effluent limitation on the pollutant already in the permit; or
 - b. Controls any pollutant not limited in the permit.
2. This permit shall be modified or alternatively revoked and reissued if any approved waste load allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes waste load allocations, limits or conditions on the facility that are not consistent with the permit requirements.
3. This permit may be modified or alternatively revoked and reissued to incorporate appropriate limits in the event effluent monitoring indicates the need for any water quality-based limits.
4. The permittee shall notify the Department as soon as they know or have reason to believe:
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter;
 - (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
 - (3) Five times the maximum concentration value reported for that pollutant in the permit application; or
 - (4) The level established by the Board.
 - b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) Five hundred micrograms per liter;
 - (2) One milligram per liter for antimony;
 - (3) Ten times the maximum concentration value reported for that pollutant in the permit application; or
 - (4) The level established by the Board.
5. Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation, and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of, and/or stored in such a manner and consistent with Best Management Practices, so as not to permit a discharge of such product, materials, industrial wastes, and/or other wastes to State waters, except as expressly authorized.
6. The permittee shall monitor the effluent from representative outfalls 003, 008, 018, and 022 for the substances noted in Part II, Section A.E.2, Table 1 according to the indicated

analysis number, quantification level, sample type and frequency. The permittee shall monitor the effluent from representative outfall 033 for the substances noted in Schedule A according to the requirements of Schedule A. The outfalls listed above may be representative of a group of substantially similar outfalls on this mining operation.

Effluent characterization data for outfalls 003, 008, 022, and 033 were provided in Renewal Application 1011356. Effluent characterization data for outfall 018 was unable to be provided during renewal application 1011356 due to no discharge. The effluent characterization requirement for Application 1011356 has been satisfied for outfalls 003, 008, 022, and 033. Effluent screening for representative outfall 018 should be collected and analyzed as soon as a measurable discharge occurs. Additional effluent characterization will be required if the permittee chooses to renew the permit for a subsequent permit term. Additional effluent characterization may also be required if the permit is revised or if a substantive change to the nature of the effluent occurs.

For new and proposed mining operations, the monitoring shall begin within six months of completion of construction of the first sedimentation basin serving any of each of these groups of substantially similar outfall locations, or as soon as a measurable discharge occurs. If the representative outfall is not constructed first or is not the first outfall of the group represented to discharge active mine drainage [Part II Section C NPDES Definitions, (B)], the first discharging outfall within a substantially similar group should be utilized. The sampled outfall will then serve as the representative outfall for this group unless otherwise determined by the Division. The permittee should send notification to the Division prior to sampling if the designated representative outfall is not utilized.

The sampling frequency for WET measurements is to be once per calendar quarter. The sampling frequency for PCB measurements is to be one dry season and one wet season. Sampling and analysis of the representative outfalls is also required at permit renewal.

The data shall be submitted with the discharge monitoring report for the final month of the calendar quarter in which the sampled discharge occurred. The data shall also be submitted with the materials required for permit reissuance.

Monitoring and analysis shall be conducted in accordance with 40 CFR Part 136 or alternative EPA approved methods. It is the responsibility of the permittee to ensure that proper QA/QC protocols are followed during the sample gathering and analytical procedures. The Department will use these data for making specific permit decisions in the future. This permit may be modified or, alternatively, revoked and reissued to incorporate limits for any of the substances listed in Part II, Section A.E.3, Table 1.

7. The permittee shall comply with the following reporting requirements for all Section A monitoring:
 - a. The quantification levels (QL) shall be less than or equal to the following concentrations:

<u>Effluent Parameter</u>	<u>Quantification Level</u>
TSS	1.0 mg/l
TDS	1.0 mg/l
Iron	1.0 mg/l

Manganese	1.0 mg/l
Selenium	2.5 µg/l

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance and quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained with the required precision. The permittee shall use any method in accordance with Part II Section C of this permit. The permittee shall use a VELAP certified analytical laboratory for all submitted analyses.

- b. **Monthly Average** -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part II Section A of this permit condition shall be determined as follows: All concentration data below the QL given in Part II Section B.7.a will be treated as zero. All concentration data equal to or above the QL used for the analysis should be treated as reported. An arithmetic average is to be calculated using all reported data for the month, including the defined zeros. This arithmetic average must be reported on the Discharge Monitoring Report (DMR). If all measured values are below the QL used for the analysis, then the arithmetic average is to be defaulted to ½ of the QL. If a quantified report is required on the DMR and the reported monthly average concentration is less than the QL, the monthly average is to be recorded as ½ of the QL value. If a quantified report is required on the DMR and the reported monthly average is greater than the QL, the actual reported data including defined zeroes is to be used along with flow data for each sample day to determine the daily averages. The monthly average is then to be reported as the arithmetic mean of the daily averages.

Daily Maximum -- Compliance with the daily maximum limitations and/or reporting requirements for the parameters listed in Part II Section A of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as reported. An arithmetic mean shall be calculated using all reported data, including the defined zeros, collected within each day during the reporting month. The maximum value of these daily averages shall be reported on the DMR as the Daily Maximum. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in Part II Section B.7.a), the maximum value of the daily averages shall be reported numerically as ½ of the QL. If a quantified measurement is required on the DMR and the reported daily maximum is less than the QL, the daily maximum for the measured parameter is to be reported as ½ of the given QL. In all other cases, the reported daily average concentrations (including the defined zeros) and corresponding daily flows are to be used in daily mean calculations.

Single Datum - Any single datum required shall be reported numerically as ½ of the QL if it is less than the QL used in the analysis (QL must be less than or equal to the QL listed in Part II Section A.B.7.a. above). Otherwise the numerical value shall be reported.

- c. **Significant Digits** -- The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

C. WHOLE EFFLUENT TOXICITY TESTING:

1. Acute Monitoring: Outfall(s) (None)

- a. The permittee shall monitor effluent that is representative of Outfall(s) (None) within 6 months of approval of this NPDES permit for acute toxicity tests until there are a minimum of 4 for each test required. The permittee shall perform these tests quarterly.

For new and proposed mining operations, the monitoring shall begin within six months of completion of construction of the first sedimentation basin serving any of each of these groups of substantially similar outfall locations, or as soon as a measurable discharge occurs. If the representative outfall is not constructed first or is not the first outfall of the group represented to discharge active mine drainage [Part II Section C NPDES Definitions, (B)], the first discharging outfall within a substantially similar group should be utilized. The sampled outfall will then serve as the representative outfall for this group unless otherwise determined by the Division. The permittee should send notification to the Division prior to sampling if the designated representative outfall is not utilized.

The acute tests to use are:

48 Hour Static Acute test with *Ceriodaphnia dubia* (EPA Method 2002)
48 Hour Static Acute test with *Pimephales promelas* (EPA Method 2000)

These acute tests are to be conducted using 5 geometric dilutions of effluent with a minimum of 4 replicates, with 5 organisms in each. The NOAEC (No Observed Adverse Effect Concentration), as determined by hypothesis testing, shall be reported on the DMR. The LC₅₀ should also be determined and noted on the submitted report. Tests in which control survival is less than 90% are not acceptable.

- b. The test dilutions should be able to determine compliance with the following endpoint:

NOAEC = 100%

- c. The permittee shall submit the following information with the results of the toxicity tests:
- (1) An estimate of the total volume discharged and the duration of the discharge.
 - (2) The time at which the discharge was initiated.
 - (3) The time at which sampling was initiated.
- d. The permittee may provide additional samples to address data variability during the period of initial data generation. These data shall be reported and may be included in the evaluation of effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.
- e. The assembled data will be evaluated for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if such evaluation is requested by

the permittee or if toxicity has been demonstrated over the course of sampling. Should evaluation of the data indicate that a limit is needed, WET limits and associated compliance schedules will be imposed and the permittee may cease the toxicity tests outlined in Part II Section C.1.a.

- f. If evaluation of the assembled data results in the conclusion that no limit is needed, the permittee shall perform an acute WET test for each species of each representative outfall at permit renewal as defined on the reporting schedule contained in Part II Section C.3. All applicable data will be reevaluated for reasonable potential at the end of the permit term.
 - g. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.
2. Acute and Chronic Monitoring: Outfalls 003, 008, 018, 022, and 033
- a. The permittee shall monitor effluent that is representative of Outfalls 003, 008, 018, 022, and 033 within 6 months of approval of this NPDES permit for acute and chronic toxicity tests until there are a minimum of 4 for each test required. The permittee shall perform these tests quarterly.

Four quarterly acute and chronic WET tests were provided in renewal application 1011356 for outfalls 003, 008, 022, and 033. The WET testing requirements for outfalls 003, 008, and 022 have been satisfied for the permit term ending 03/08/2028. WET testing results for outfall 018 were unable to be provided during renewal application 1011356 due to no discharge. Four quarterly acute and chronic WET tests should be collected and analyzed for outfall 018 if a routine discharge is observed. The permittee shall continue to sample outfall 033 until ten quarters have been collected (per Schedule A). If the permittee chooses to renew this permit, the representative outfalls must be sampled again prior to submittal of the renewal application.

For new and proposed mining operations, the monitoring shall begin within six months of completion of construction of the first sedimentation basin serving any of each of these groups of substantially similar outfall locations, or as soon as a measurable discharge occurs. If the representative outfall is not constructed first or is not the first outfall of the group represented to discharge active mine drainage [Part II Section C NPDES Definitions, (B)], the first discharging outfall within a substantially similar group should be utilized. The sampled outfall will then serve as the representative outfall for this group unless otherwise determined by the Division. The permittee should send notification to the Division prior to sampling if the designated representative outfall is not utilized.

The acute tests to use are:

- 48 Hour Static Acute test with *Ceriodaphnia dubia* (EPA Method 2002)
- 48 Hour Static Acute test with *Pimephales promelas* (EPA Method 2000)

These acute tests are to be conducted using 5 geometric dilutions of effluent with a minimum of 4 replicates, with 5 organisms in each. The NOAEC (No Observed Adverse Effect Concentration), as determined by hypothesis testing, shall be

reported on the DMR. The LC₅₀ should also be determined and noted on the submitted report. Tests in which control survival is less than 90% are not acceptable. The chronic tests to use are:

Chronic 3-Brood Survival and Reproduction Static Renewal Test with *Ceriodaphnia dubia* (EPA Method 1002)

Chronic 7-Day Survival and Growth Static Renewal Test with *Pimephales promelas* (EPA Method 1000)

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions, derived geometrically) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable, and a retest will have to be performed. A retest of a non-acceptable test must be performed within 30 days of the test it is replacing. Express the test NOEC as TUC (Chronic Toxic Units), by dividing 100/NOEC for DMR reporting. Report the LC₅₀ at 48 hours and the IC₂₅ with the NOEC's in the test report.

- b. The test dilutions should be able to determine compliance with the following endpoint:
 - Acute NOAEC = 100%
 - Chronic NOEC of 69% equivalent to a TUC of 1.44
- c. The permittee shall submit the following information with the results of the toxicity tests:
 - (1). Estimate of the total volume discharged and the duration of the discharge.
 - (2). Time at which the discharge was initiated.
 - (3). Time at which sampling was initiated.
- d. The permittee may provide additional samples to address data variability during the period of initial data generation. These data shall be reported and may be included in the evaluation of effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.
- e. The test data will be evaluated statistically for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee, or if toxicity has been noted. Should evaluation of the data indicate that a limit is needed, a WET limit and compliance schedule will be required and the toxicity tests of Part II Section C.2.a may be discontinued.
- f. If after evaluating the data, it is determined that no limit is needed, the permittee shall continue acute and chronic toxicity testing (both species) of each representative outfall at renewal, as on the reporting schedule contained in Part II Section C.3. All applicable data will be reevaluated for reasonable potential at the end of the permit term.

- g. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.

3. Reporting Schedule:

The permittee shall report the results of the toxicity tests on the appropriate DMR or other methods prescribed by the Department and supply one copy of the toxicity test reports specified in this Whole Effluent Toxicity Program. This data is to be provided within 30 days following the end of the calendar quarter in which the analysis was completed.

D. EVALUATION OF TMDL COMPLIANCE:

To be consistent with the assumptions and requirements of the applicable Total Maximum Daily Load (TMDL) and any mining waste load allocations contained in the TMDL, the permittee shall implement best management practices (BMPs) as established in any compliance schedule included in the permit for this facility.

The BMPs and other requirements of the compliance schedule shall serve as water quality-based effluent limitations for this facility.

TMDL Reopener Clause

This permit is subject to a TMDL Reopener Clause as described in Part II Section D TMDL Special Conditions (a).

E. STREAM MONITORING CONDITIONS:

1. Biological surveys are to be completed once annually during the fall collection season to determine the benthic health of LEVISA FORK at locations BAS-1-VP3, VS18-BC2, VS18-BC1, BAS-3-VP3, BAS-2-VP3, LVF01, LVF02, LVF03, and LVF04, HONAKER BRANCH at location BAS-8, LITTLE HURRICANE BRANCH at location BAS-9, BUCK BRANCH at location BAS-10, LAUREL FORK at locations VS14BCLF1 and VS14BCLF2, DISMAL CREEK at locations VS16-DR1BC and VS16-DR2BC, LOGGY BOTTOM BRANCH at locations VS15-BC2 and VS15-BC1, RIGHT FORK GARDEN CREEK at locations BAS-025BUS, BAS-1-VP6, BAS-2-VP6, and BAS-3-VP6, GARDEN CREEK at locations BAS-025BDS, BAS-1, and BAS-6, LAUDERS BRANCH at location VS13-LB-1, TRACE BRANCH at location BAS-2, CONTRARY CREEK at locations VS8-CC1BC and BAS-7, NORTH BRANCH at locations BAS-4 and BAS-5, WHETSTONE BRANCH at location BAS-11, and GRASSY CREEK at location BAS-14 as outlined in the joint CSMO/NPDES permit (Part I, Sections 8.3 and 21.2). DEQ's Virginia Stream Condition Index (VASCI) will be utilized to determine a score for each monitoring location. The Department may also consider applicable VASCI scores generated by DEQ. The stream habitat scores and chemical data will also be collected at these locations. All biologic sampling shall be done in accordance with applicable protocols as described below. Biological survey results will need to be submitted by March 1st of the next calendar year following the date the survey was conducted.

The benthic surveys shall be conducted annually each year in the fall season period determined by DEQ, avoiding to the maximum extent practicable times when the sample location is influenced by abnormal conditions, including drought and/or scouring flood. All biological surveys should be conducted as close to the anniversary date of the original surveys as possible. In addition, all biologic sampling shall be done in accordance with the Virginia Department of Wildlife Resources scientific collection permit and DEQ's Virginia Stream Condition Index (VASCI) protocol. The DEQ has developed the following procedure.

- Conduct benthic sampling using Virginia benthic protocols including time of year restrictions for sample collection.
 - Collect organisms, laboratory subsample to 200 +/- 10% (220-180) organisms in a gridded pan.
 - Identify organisms to genus level, excluding chironomids (midges) and any organisms which cannot be accurately identified to genus, which are instead identified to family level. All organisms, whether identified to genus or family level, are included in the count going forward.
 - Collapse data to family level
 - Statistically rarify data to 110 +/- 10% (99-121) organisms; computer subsampling programs available.
 - Calculate the VASCI score
 - Provide raw 200 +/- 10% (220-180) count genus-level data in electronic spreadsheet format.
2. The permittee shall conduct chemical surface water monitoring at instream locations BAS-025BDS, BAS-025BUS, BAS-1, BAS-10, BAS-11, BAS-14, BAS-1-VP3, BAS-1-VP6, BAS-2, BAS-2-VP3, BAS-2-VP6, BAS-3-VP3, BAS-3-VP6, BAS-4, BAS-5, BAS-6, BAS-7, BAS-8, BAS-9, LVF01, LVF02, LVF03, LVF04, VS13-LB-1, VS14BCLF1,

VS14BCLF2, VS15-BC1, VS15-BC2, VS16-DR1BC, VS16-DR2BC, VS18-BC1, VS18-BC2, and VS8-CC1BC as described in Section 8.3 of the joint CSMO/NPDES permit and shown on the applicable map (Attachment 21.2.E). This monitoring is to be conducted concurrent with the biological surveys required under item Part II Section A.E.1. Fall chemical monitoring will need to be submitted by March 1st of the next calendar year following the fall collection date. The permittee has the option of conducting metals analyses for total metals only even though instream water quality standards are based on dissolved metal concentrations. If total metal analyses concentrations exceed instream standards, the permittee may collect dissolved metal samples for those metals exceeding instream standards to confirm whether or not the instream standard has been met. Otherwise the total metals concentration will be used to determine compliance with the instream standard.

3. The data provided to satisfy Part II Section A, at a minimum, will be evaluated upon each major modification and permit renewal to determine whether permit modifications are necessary. Should any of the data indicate that the discharges from this operation have the potential to cause or contribute to a violation of either a numeric or narrative water quality standard, additional pollutant specific limits or whole effluent toxicity limits shall be imposed.

TABLE 1 - Parameters

Parameter

Flow (gpm)
Temperature (°c)
pH (std units)
TSS (mg/L)
Specific Conductance (µS/cm)
TDS (mg/L)
Sulfates (mg/L)
Bromide (mg/L)
Chlorides (mg/L)
Aluminum (mg/L)
Iron (mg/L)
Manganese (mg/L)
Magnesium (mg/L)
Total Acidity (mg/L)
Total Alkalinity (mg/L CaCO₃)
Bicarbonate Alkalinity (mg/L)
Carbonate Alkalinity (mg/L)
Hardness (mg/L CaCO₃)
Total Zinc (µg /L)
Total Antimony (µg /L)
Total Arsenic (µg /L)
Total Beryllium (µg /L)
Total Cadmium (µg /L)
Total Chromium (µg /L)
Total Copper (µg /L)
Total Lead (µg /L)
Total Mercury (µg/L)
Total Nickel (µg /L)
Total Selenium (µg/L)
Total Silver (µg /L)
Total Thallium (µg /L)
Total Barium (µg/L)
Total Boron (µg/L)
Total Cobalt (µg/L)
Total Cyanide (µg/L)
Total Phenols (µg/L)
Nitrate (mg/L)
Nitrite (mg/L)
Dissolved Organic Carbon (mg/L)
Hydrogen Sulfide (mg/L)¹
PCBs²

¹ This parameter need only be analyzed for underground mine discharges.

² PCBs to be analyzed by EPA Method 1668.

Section B
Schedule of Compliance

A schedule of compliance is not required.

Section C
Standard NPDES Permit Terms and Conditions

The term Department refers to the Virginia's Department of Energy.

A. Monitoring.

1. Samples and measurements taken as required by this permit shall be representative of the monitored activity.
2. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
3. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements.

B. Records.

1. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) and time(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application, excluding records of monitoring information required by this permit related to sewage sludge use and disposal activities, which shall be retained for a period of at least five years. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Department.

C. Reporting Monitoring Results.

1. The permittee shall submit the results of the monitoring required by this permit not later than 30 days following the quarter in which monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

Virginia Department of Energy
Attn: DMLR Water Quality Section
3405 Mountain Empire Rd
Big Stone Gap, VA 24219

2. Monitoring results shall be reported on forms provided, approved or specified by the Department.

3. If the permittee monitors any pollutant specifically addressed by this permit more frequently than required by this permit using test procedures approved under Title 40 of the Code of Federal Regulations Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting format specified by the Department, including electronic submittal.
4. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information.

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Department may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges.

Except in compliance with this permit, or another permit issued by the Department, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges.

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II Section C (F); or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II Section C (F); shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;

4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges.

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident (details of any adverse effects on aquatic life and the known number of fish killed must also be reported to DEQ). The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Section C.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
 - a. Any unanticipated bypass; and
 - b. Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Department may waive the written report on a case-by-case basis for reports of noncompliance under Part II Section C.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Part II Section I.1 or Part II Section I.2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II Section I.2.

NOTE: The immediate (within 24 hours) reports required in Part II Section C (G, H and I) may be made to the Department's Big Stone Gap Office Enforcement Section at (276) 523-8199 (voice). For emergencies the Virginia Department of Emergency Services maintains a 24 hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes.

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - (1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
 - (2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or
 - c. The alteration or addition results in a significant change in sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements.

1. Applications. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where

- authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by permits, and other information requested by the Department shall be signed by a person described in Part II Section C.K.1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part II Section C.K.1;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. The written authorization is submitted to the Department.
 3. Changes to authorization. If an authorization under Part II Section C.K.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II Section C.K.2 shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
 4. Certification. Any person signing a document under Part II Section C.K.1 or 2 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply.

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Coal Surface Mining Operation permit, State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations

that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply.

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit.

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law.

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" Part II Section C. U, and "upset" (Part II Section C.V) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of solids or sludge

Solids, sludge or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II Section C.U.2 and 3.
2. Notice
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II Section C.I.
3. Prohibition of bypass.
 - a. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (3) The permittee submitted notices as required under Part II Section C.U.2.
 - b. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in Part II Section C.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II Section C.V.2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required in Part II Section C.I.; and
 - d. The permittee complied with any remedial measures required under Part II Section C.S.

3. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry.

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permitted premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Coal Surface Mining Operation permit, Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions.

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permits.

Permits are not transferable to any person except after approval of a succession application by the Department.

Z. Severability.

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

AA. Water Quality Criteria Reopener

This permit may be modified or alternatively revoked and reissued to incorporate appropriate limits provided regular or conditional effluent monitoring indicates the need for any water quality-based limitations.

NPDES Permit Definitions

- (A) The term “acid or ferruginous mine drainage” means mine drainage which, before any treatment, either has a pH of less than 6.0 or a total iron concentration equal to or more than 10 mg/l.
- (B) The term “active mine drainage” means the area actively being used or disturbed for the extraction, removal, or recovery of coal from its natural deposits. This excludes areas where reclamation and revegetation has been completed.
- (C) The term “alkaline mine drainage” means mine drainage which, before any treatment, has a pH equal to or more than 6.0 and a total iron concentration less than 10 mg/l.

- (D) “Application” means the EPA standard national forms for applying for a permit, including any additions or modifications to the forms; or forms approved by EPA for use in approved States, including any approve additions or modifications.
- (E) “Approved program or approved State” means a State administered NPDES program which has been approved or authorized by EPA under 40 CFR Part 123.
- (F) “Best management practices” (BMP) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs include treatment requirements, operation procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (G) “Coal preparation plant” means a facility where coal is crushed, screened, sized, cleaned, dried, or otherwise prepared and loaded for transit to a consuming facility. “Coal preparation plant associated areas” means the coal preparation plant yards, immediate access roads, coal refuse piles, and coal storage piles and facilities. “Coal preparation plant water circuit means all pipes, channels, basins, tanks, and all other structures and equipment that convey, contain, treat, or process any water that is used in coal preparation processes within a coal preparation plant.
- (H) The term “commingled discharge” means discharges of drainage from underground workings that are mixed or commingled with surface mine drainage.
- (I) “Composite sample” means a combination of individual samples of wastewater taken at 1 hour intervals, for eight (8) hours (or for the duration of discharge, whichever is less), to minimize the effect of variability of the individual samples. Individual samples must be of equal volume. (Example: one (1) liter per hour.)
- (J) The term “controlled discharge” means any surface mine drainage that is pumped or siphoned from the active mining area.
- (K) “CWA” means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) Public Law 92-500 as amended by Public Law 95-217, and Public Law 95-576, 33 U.S.C. 1251 et seq.
- (L) The “daily maximum” discharge means the total mass of a pollutant discharged during the calendar day. Where the pollutant is limited in terms other than mass, the daily maximum shall mean the average concentration or other measurement specified during the calendar day or other specified sampling day.
- (M) The “instantaneous maximum” means the level not to be exceeded at any time in any grab sample.
- (N) “Discharge (of a pollutant)” means any addition of any pollutant or combination of pollutants to waters of the United States from any point source; or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.
- (O) “Existing source or existing discharger (in the NPDES program)” means any source which is not a new source or new discharger.
- (P) “Effluent limitation” means any restriction imposed by the Director on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.
- (Q) “Effluent limitation guideline” means a regulation published by the Administration under Section 304(b) of the CWA to adopt or revise effluent limitations.
- (R) “Environmental Protection Agency (EPA)” means the United States Environmental Protection Agency.

- (S) “Estimate” means to be based on technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters, and batch discharge volumes.
- (T) “Grab sample” means an individual sample collected in less than 15 minutes.
- (U) “Measured Flow” means any method of liquid volume measurement the accuracy of which has been previously demonstrated in engineering practices, or for which a relationship to absolute volume has been obtained.
- (V) “Mine drainage” means any drainage, and any water pumped or siphoned, from an active mining area or a post-mining area. The abbreviation “ml/l” means milliliters per liter.
- (W) The “monthly average” discharge means the total mass (and concentration if appropriate) of all daily discharges sampled and/or measured properly during a calendar month divided by the number of daily discharges sampled and/or measured properly during such month.
- (X) The “monthly average” temperature means the arithmetic mean of temperature measurements made on an hourly basis, or mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar month, or during the operating month if flows are of shorter duration.
- (Y) “National Pollutant Discharge Elimination System (NPDES)” means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of CWA. The term includes an approved program.
- (Z) “New discharger” means any building, structure, facility, or installation: (A) From which there is or may be a new or additional discharge of pollutants at a site at which on October 18, 1972, it had never discharged pollutants; (B) Which has never received a finally effective NPDES permit for discharges at that site; and (C) Which is not a “new source”. This definition includes an indirect discharger, which commences discharging into waters of the United States. It also includes any existing mobile point source, such as an offshore oil drilling rig, seafood processing vessel, or aggregate plant that begins discharging at a location for which it does not have an existing permit.
- (AA) “NA” means effluent limitations and monitoring requirements not required.
- (BB) “NL” means no limitation on the affected parameters, however monitoring is required.
- (CC) “Outfall” means a point source.
- (DD) “Permit” means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR Parts 122, 123, and 124.
- (EE) “Point source” means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.
- (FF) “Pollutant” means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials [except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. Section 2011 et seq.)], heat wrecked or discarded equipment, rocks, sand, cellar dirt and industrial, municipal, and agriculture waste discharged into water.

- (GG)** The term “post-mining area” means: (1) A reclamation area or (2) the underground workings of an underground coal mine after the extraction, removal, or recovery of coal from its natural deposit has ceased and prior to bond release.
- (HH)** The term “10-year, 24-hour precipitation event” means the maximum 24-hour precipitation event with a probable recurrence interval of once in ten years as defined by the National Weather service and Technical Paper No. 40, “Rainfall Frequency Atlas of the U.S.,” May 1961, or equivalent regional or rainfall probability information developed there from.
- (II)** The term “qualifying rainfall event” means the rainfall amounts as defined; active mine areas = 0.2”/24 hours, refuse areas = 2.5”/24 hours, controlled and commingled = 4.4”/24 hour.
- (JJ)** The term “reclamation area” means the surface area of a coal mine which has been returned to required contour and on which revegetation (specifically seeding or planting) work has commenced. The term “pre-reclamation area” means the surface area of a coal mine prior to reclamation.
- (KK)** The term “settleable solids” is that matter measured by the volumetric method that is determined by the following procedure: (a) fill an Imhoff cone to the one-liter mark with a thoroughly mixed sample. Allow to settle undisturbed for 45 minutes. Gently stir along the inside surface of the cone with a stirring rod. Allow to settle undisturbed for 15 minutes longer. Record the volume of settled material in the cone as milliliters per liter. The method detection limit for coal mining point sources is 0.4 ml/l.
- (LL)** The terms “treatment facility” and “treatment system” means all structures which contain, convey, and as necessary, physically or chemically treat coal mine drainage, coal preparation process water, surface runoff from disturbed areas, or drainage from coal preparation plant associated areas, which remove pollutants regulated by the Part from such waters. This includes all pipes, channels, ponds, basins, tanks, and all other equipment serving such structures.
- (MM)** The terms “underground mine drainage or discharge” mean discharges from the underground workings of underground mines until SMCRA bond release.
- (NN)** The “weekly average” discharge means the total concentration and mass of all daily discharges sampled and/or measured during a calendar week divided by the number of daily discharges sampled and/or measured during such week.
- (OO)** The term “coal refuse disposal pile” means any coal refuse deposited on the earth and intended as permanent disposal or long term storage (greater than 180 days) of such material, but does not include coal refuse deposited within the active mining area or coal refuse never removed from the active mining area.

Section D

Other Permit Requirements

NPDES Permit Special Conditions

(AA) Water Quality Monitoring

The Department may require every owner to furnish such plans, specifications, or other pertinent information as may be necessary to determine the effect of the discharge on the water quality or such information as may be necessary to accomplish the purposes of the CWA, including but not limited to chemical and biological testing. The permittee shall obtain and record such information on the receiving waters as requested by the Department. The information shall be subject to inspection by authorized State and Federal representatives and shall be submitted with such frequency and in such detail as requested by the Department.

(BB) Management Requirements

1. All discharges authorized by this NPDES permit shall be made in accordance with the terms and conditions of the permit. The Department must be notified at least thirty (30) days prior to all expansions, production increases, or process modifications that will result in new or increased discharge(s) of pollutant(s). Notification should be by submission of a new or revised CSMO/NPDES application, or, if such discharge(s) does not violate effluent limitations specified in the permit, by submission to the Department of notice of such new or increased discharge of pollutant(s). All expansions, production increases, or process modifications that will result in new or increased discharge(s) of pollutant(s) must be approved by the Department prior to implementation.
2. The discharge of any pollutant limited in the permit more frequently than, or at a level greater than that identified and authorized by this permit, shall constitute a violation of the terms and conditions of this permit.
3. The discharge of any pollutant(s) from this facility that enters into a water body with an existing and approved Total Maximum Daily Load (TMDL) must be made in compliance with the TMDL and any applicable TMDL implementation plan. If the discharge enters into a water body included on the state's current 303(d) list not having an existing and approved TMDL, the discharge of any pollutant(s) from this facility cannot be the cause of the stream's impairment and 303(d) listing.

(CC) Availability of Reports

Except for data determined to be confidential under Section 308 of the Clean Water Act (CWA), all reports prepared in accordance with the terms and conditions of this permit will be available for public inspection at the Department office. As required by the Act, effluent data will not be considered confidential. Knowingly making false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA and in Section 62.1-44.32 of the Code of Virginia.

(DD) Permit Modification and Reissuance

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Section 301(b)(2)(C) and (D), 304 (b)(2), and 307 (a)(2) of the CWA, if the effluent standard or limitations so issued or approved:

- (i) Contain different conditions or is otherwise more stringent than any effluent limitation in the permit; or

(ii) Control any pollutant not limited in the permit; or

(iii) The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act as applicable.

(iv) Immediately after EPA's promulgation of applicable standards or limitations, a draft permit incorporating the new requirements shall be sent to the permittee.

(EE) State Law

1. Compliance with this permit during its term constitutes compliance with the Virginia State Law and CWA except for any standard imposed under Section 307 of the CWA for a toxic pollutant injurious to human health.
2. State water quality standards contain an antidegradation policy that is applicable to this permit, facility, and discharge(s). Effluent limitations assigned to this permit require the operator to utilize the best available technology to treat all discharges and to protect water quality. As a condition of this permit, the permittee must take appropriate measures to comply with the antidegradation policy.
3. Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other State law or regulation or under authority preserved by Section 510 of the CWA.

(FF) Toxic Pollutants

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition. Any effluent standard or prohibition established under Section 307(a) for a toxic pollutant injurious to human health is effective and enforceable by the time set forth in the promulgated standard, even absent permit modification.

(GG) Chemical Treatment

Chemical treatment is not permitted unless specified in Part I Section 5.15 of the CSMO/NPDES permit application or otherwise specifically authorized by the Department. Treatment chemicals will be utilized in accordance with manufacturer's specifications and in quantities not harmful to aquatic life.

(HH) Alternate effluent limitations applicable to precipitation events

The permit includes a condition which provides an exclusion of the TSS, total iron and total manganese concentration limitations during periods of runoff from a qualifying precipitation event as referenced in 40 CFR 434. However, TSS is required to be collected and reported for discharges utilizing the alternate effluent limit. The reported TSS analyses will be utilized by DMLR for waste load calculation only.

For discharges to TMDL watersheds with TSS identified as a stressor, the permit shall also comply with the applicable TMDL consistent with its assumptions and requirements. Best management practices requirements and/or offsets will be used to establish any necessary reductions to meet the

transient/aggregate waste load allocation as established in the compliance schedule included in this permit. This requirement is in addition to the technology-based effluent limitations of 40 CFR 434.

(II) Solcenic hydraulic oil analyses

Solcenic GM 20 is a fire-resistant hydraulic fluid developed for global use in longwall mining applications, which is currently utilized at the Buchanan No. 1 Mine. The standard emulsion mix ratio is approximately 98% water and 2% product. The fluid is a formulation of primarily mineral oil, triazine compound, sulfonic acids, petroleum, sodium salts, chelating agent, and ethoxylated oleamide. Solcenic GM 20 replaced Solcenic HL that was originally required for testing on Schedule A. The Solcenic HL product was linked to fish kills at another Virginia facility in the early 2000's; therefore, testing for the product was required as part of the original NPDES permit for Outfall 033. Due to the change from Solcenic HL to Solcenic GM 20, the permittee shall utilize an existing analytical method or develop an analytical method to determine the presence of both Solcenic HL and Solcenic GM 20 in the Outfall 033 discharge for effluent characterization purposes. This analytical method shall be developed and in use within one year of the approval date of this NPDES permit.

CSMO Permit Special Conditions:

(a) Disposal of non-coal waste onsite is prohibited.

(b) Water from sediment control ponds may be used on site for the purpose of dust suppression. Dust suppression shall be carried out as a best management practice provided that ponding or direct runoff from the site does not occur during or immediately following its application. Dust suppression shall not be employed as a wastewater disposal method

(c) No disturbance is allowed within any jurisdictional waters, whether water of the United States or waters of the Commonwealth of Virginia (including jurisdictional isolated waters), without first obtaining a Section 404 of the Clean Water Act (CWA) permit from the U.S. Army Corps of Engineers and / or a Section 401 of the CWA Certification from the Virginia Department of Environmental Quality.

(d) Prior to disturbing any area not included in the approved permit an application for a permit revision / amendment must be submitted to the Virginia Department of Energy / Division of Mined Land Repurposing (DMLR) and the application must be approved with appropriate fees and bond submitted to DMLR.

(e) The Department shall conduct reviews of the approved permit pursuant to 4VAC25-130-774.11. Based upon the Department review DMLR may order the revision of the permit pursuant to 4VAC25-130-774.11(b) and (c).

(f) Biological surveys will be conducted in accordance with the language in Part II Section A.E Stream Monitoring Conditions of the NPDES permit.

(g) To ensure continuing decrease in TDS for the Cumulative Impact Area, best management practices (BMPs), verified offsets, and/or mitigation activities proposed in Part II Section A.D of the NPDES permit should be completed prior to or concurrent with commencement of mining on the proposed permit.

TMDL Special Conditions:

(a) **TMDL Reopener Clause**

This permit shall be modified or alternately revoked and reissued if any approved waste load allocation procedure, pursuant to Section 303(d) of the CWA, imposes waste load allocations, limits or other conditions on the facility that are not consistent with the requirements of this permit.

(b) Numeric Effluent Limitation - Annual Wasteloads

The permittee shall ensure that discharges from permitted point sources comply with the concentration based numeric effluent limitations assigned in Part II Section A of the joint CSMO/NPDES Permit and that permitted point source discharges shall not exceed the numeric waste loads of pollution defined in this permit.

1. Tracking of mining waste loads, waste load offsets, calculations of mining waste loads, and comparisons of mining waste loads to allocations will be performed by the Department's TMDL system. Discharges resulting in a total waste load which exceeds TMDL limits will be determined as described in the factsheet associated with this permit.
2. If the Department determines that waste loads from the permitted point sources have resulted in or will result in a waste load in excess of the TMDL WLAs, the Department will require the permittee to conduct additional monitoring according to a schedule established by the Department. Based upon the monitoring results, the Department will confer with the permittee to develop reduction actions that may include revised and additional BMPs, as well as flow measurements and other monitoring. If within 90 days of receipt of the final required monitoring results the Department and the permittee cannot come to agreement on the necessary reduction actions and a schedule for their implementation, then the Department may modify or revoke and reissue the NPDES permit to assign permit-specific reduction actions and an implementation schedule. Failure by the permittee to comply with any such permit requirements will constitute grounds for enforcement.
3. **The BMPs (pumping) and offsets (paving) currently utilized as a result of the compliance schedule contained in the previous NPDES permit are sufficient to meet the TMDL wasteload reduction requirements for this permit. These BMPs should be continued to ensure compliance with future wasteloads for this permit. In the event that pumping is reduced or discontinued such that wasteload reduction requirements are not met, then additional TDS wasteload reductions shall be required. Prior to any planned reduction or discontinuation that will cause the permit to not meet the annual wasteload reduction requirements, the permit shall be revised to provide other sufficient wasteload reductions.**

(c) Waste load Offset Credit

The Department will use its existing TMDL database and software to maintain the accounting of load reduction credit tracking.

(d) NPDES Discharge Monitoring Plan

Referenced in Part II Section A

(e) Offset Monitoring Plan (if applicable)

The offset ratio for this permit is sufficient to assure that adequate pollution reductions will be accomplished without additional monitoring requirements beyond those previously identified in this joint permit.

The offset ratio is found in the TMDL Addendum in Part I Section 6.1 of the joint CSMO/NPDES permit. The minimum offset ratio is 2:1.

(f) Unanticipated Failure of Offset (if applicable)

Prior to the release of any performance bond on this permit, the Department shall determine if the permittee has completed offset requirements. The offset completion timing is outlined in Part I Section 6.1 of the joint CSMO/NPDES permit. If the permittee fails to complete the required offset, an alternative offset project must be approved by the Department and implemented prior to the release of any performance bond on this permit.

(g) Responsibility to Achieve All Effluent Limitations in Permit

The permittee shall be responsible for achieving all concentration and loading based effluent limitations assigned by this permit. The permittee shall be responsible for implementing all best management practices and/or TMDL Waste load Reduction Actions required by this permit.

(h) Best Management Practices

The permittee shall be responsible for implementing applicable BMPs as noted in DMLR Guidance Memorandum 14-05 and/or BMPs included in Sections 5.15 and 6.1 of the joint permit application.

Total Maximum Daily Load (TMDL) Compliance and Documentation:

The Department finds that the permit will comply with the approved TMDL and the TMDL Waste Load Allocation (WLA). The permit is consistent with the TMDL WLA pursuant to 40 CFR 122.44 (d)(1)(viii)(B).

SCHEDULE A

TOXICITY TESTING

Buchanan Minerals, LLC will conduct 10 quarterly acute and chronic toxicity tests of the effluent using *Ceriodaphnia dubia* and *Pimephales promelas* as the test organisms. The static-renewal tests will be performed in accordance with established protocols, such as, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, EPA-821-R-02-012, Method 2002.0 for *Ceriodaphnia dubia* (48-h) and Method 2000.0 for *Pimephales promelas* (96-h) and *Short-term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002, EPA-821-R-02-013, Method 2002.0 for *Ceriodaphnia dubia* (7-d) survival and reproduction and Method 1000.0 for *Pimephales promelas* (7-d) larval survival and growth. In regard to the acute and chronic tests, the effluent water will be collected at the sampling port prior to discharge via the diffuser, diluted with upstream Levisa Fork water collected at or nearby instream monitoring point LFR-1, and tested using a dilution series based on chloride concentrations of approximately 1,720, 860 (the Criteria Maximum Concentration), 430, 230 (the Criteria Continuous Concentration), 115, 58 mg/L, and two controls (Laboratory water and Levisa Fork water collected upstream of the discharge). We believe this approach addresses the “worst-case” in-stream waste concentration expected to result at the end of the mixing zone.

Upon commencement of the discharge, the testing should be conducted quarterly until a minimum of ten data sets have been collected. At the end of the first 10-quarter cycle, the results will be evaluated to determine whether the effluent has the reasonable potential to cause or contribute to an excursion of ambient water quality criteria. The need for additional toxicity monitoring will be determined at the end of the first 10-quarter cycle.

During the 10-quarter toxicity testing cycle, the list of Outfall 033 Effluent Characterization Parameters listed below, will be conducted on the mine water discharge during the first, fifth and tenth quarters. The need for additional mine water monitoring will be determined at the end of the first 10-quarter cycle.

Technology Based Limits:

Outfall 033 has technology based effluent limits in accordance with 40 CFR Part 434, which requires the company to monitor flow, pH, TSS, total iron, and total manganese at the sampling port. However, the alternate effluent limit for TSS is not available for this outfall due to the Levisa Fork River TMDL. The sampling location for the technology based effluent limitations will be at the sampling port in the flow conveyance pipe at the top of the Levisa Fork stream bank prior to discharge through the diffuser.

Water Quality Based Limits:

NPDES outfall 033 is required to meet water quality based effluent limits for chloride. The effluent limit for chloride is established as the modeled value at downstream sampling location LFR-2 that corresponds to the minimum discharge rate (low flow condition). The chloride results will be reported with the outfall 033 monitoring results. The initial effluent limit value based on the CORMIX model is 223 mg/l chloride (daily maximum/grab sample); this value may be modified based on actual instream water quality monitoring conducted as part of the permit requirements (ground truthing of the model).

Outfall 033 Effluent Characterization Parameters

Acidity
Alkalinity
Aluminum, Dissolved
Aluminum, Total
Ammonia, Nitrogen
Antimony, Total
Arsenic, Total
Barium, Total

Beryllium, Total
Biological Oxygen Demand (BOD)
Boron, Total
Cadmium, Total
Calcium, Total
Carbon, Organic Total
Carbon, Total Inorganic
Chemical Oxygen Demand (COD)
Chloride
Chromium, Total
Conductivity
Copper, Total
Cyanide
Diesel Range Organics
Dissolved Oxygen
E. Coli
Fluoride
Hardness, Total
Iron, Total
Kerosene Range Organics
Lead, Total
Magnesium, Total
Manganese, Total
Mercury, Total
Nickel, Total
Nitrate
Nitrite
Oil-Emulsion (Solsenic HL and GM 20 specific)
Oxidation Reduction Potential
PCB, Total*
pH
Phenolics, Total
Phosphorus, Total
Potassium, Total
Salinity
Selenium, Total
Silicon, Total
Silver, Total
Sodium, Total
Strontium, Total
Sulfate
Sulfur, Total
Thallium, Total
Total Dissolved Solids
Total Dissolved Solids (M 103 Degrees)
Total Kjeldahl Nitrogen
Total Suspended Solids
Turbidity
Zinc, Total

*PCB sampling will be conducted by EPA Method 1668.

VIRGINIA DIVISION OF MINED LAND REPURPOSING
Joint CSMO/NPDES Permit Factsheet
Application Number 1011356
CSMO: 1402152
NPDES: 0082152

This document gives pertinent information concerning the joint Coal Surface Mining Operation (CSMO)/ National Pollutant Discharge Elimination System (NPDES) permit listed below. This permit is being processed as a **Major Source** industrial permit. The industrial discharge(s) result from the control of surface water runoff and/or groundwater discharges associated with coal mining activities.

The permit process consists of: developing permit limitations based upon the effluent limitations for coal mining promulgated by the U.S. Environmental Protection Agency set forth in 40 CFR 434, the State Water Quality Standards, Total Maximum Daily Load (TMDL) Regulations, and Storm Water guidelines.

The effluent limitations contained in this permit will maintain all applicable state and federal standards, including the Water Quality Standards of 9 VAC 25-260-00 et seq., the Virginia Coal Surface Mining and Reclamation Regulations, and TMDLs.

1. Facility Information

Permittee Name: BUCHANAN MINERALS, LLC
Address: P. O. DRAWER L
City: OAKWOOD **State:** VA **Zip:** 24631
Facility: BUCHANAN NO. 1 MINE

Location:

Description: 2.9 MILES SOUTH OF KEEN MOUNTAIN
NAD 83 Virginia State Plane South Northing: 3601000
NAD 83 Virginia State Plane South Easting: 10467000
County: BUCHANAN
USGS 7.5' Quadrangle: KEEN MOUNTAIN, JEWELL RIDGE, VANSANT

Type of Mining

Undergrd. - R P
Undergrd. - LW
AF-Refuse Disp
Surf-Steep Slop

2. CSMO/NPDES Permit Number:

CSMO: 1402152
NPDES: 0082152
Permit Expiration Date: 3/8/2028
Former NPDES Permit Number: N/A
Former CSMO Permit Number: N/A

3. Owner Contact:

Operator:
BUCHANAN MINERALS, LLC

Telephone:
(276)209-5159

4. Administrative Dates:

Administratively Complete Date: 11/7/2022
NPDES Reviewer: ANDREW HENSLEY
NPDES Reviewer Phone: 276-523-8100
Review Begin Date: 11/7/2022
Public Comment Beginning Date: 1/19/2023 (1st publication, VIRGINIA MOUNTAINEER (Grundy))
Public Comment Ending Date: 3/11/2023 (30 days following last publication, VIRGINIA MOUNTAINEER (Grundy))
Informal Conference Dates: N/A
Application Approval Date: 11/12/2024
Original Permit Issue Date: 3/8/1983

5. Application Information:

Application Type: REN/REISSUE C/N
Application Description: CSMO/NPDES Permit Renewal

6. Receiving Waters Classification:

Stream Name	Stream Code	Watershed	Basin
BUCK BRANCH	1026	LEVISA FORK - DISMAL CREEK	BIG SANDY
BENNY BRANCH	1027	LEVISA FORK - DISMAL CREEK	BIG SANDY
LEVISA FORK	5	LEVISA FORK	BIG SANDY
DISMAL CREEK	751	LEVISA FORK - DISMAL CREEK	BIG SANDY
GARDEN CREEK	797	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
RIGHT FORK GARDEN CREEK	802	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
NORTH BRANCH	805	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
GRASSY CREEK	902	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
WHETSTONE BRANCH	909	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
CONTRARY CREEK	915	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
HONAKER BRANCH	918	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
CLIFTON FORK	919	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
TRACE BRANCH	923	LEVISA FORK-UPPER LEVISA FORK	BIG SANDY
LOGGY BOTTOM BRANCH	939	LEVISA FORK - DISMAL CREEK	BIG SANDY
LAUDERS BRANCH	942	LEVISA FORK - DISMAL CREEK	BIG SANDY
LITTLE HURRICANE BRANCH	944	LEVISA FORK - DISMAL CREEK	BIG SANDY

7. Ambient Water Quality Description

Background/baseline ambient water quality information on receiving streams is located in Section 5.9 of the joint permit application. None of the outfalls are limited by receiving stream flows, therefore drought flow frequencies are not provided. Available instream statistics from 6/30/2020 to 6/30/2023 are summarized below.

Instream Statistics for NB-DS						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	389.86	341.23	300.00	85.00	2,000.00
Temperature (C)	36	12.94	4.20	13.00	3.00	19.00
pH (Std)	36	7.85	0.48	7.90	6.60	8.70
Total Suspended Solids (mg/l)	36	7.02	16.38	2.50	0.00	86.00
Conductivity (uS/cm)	36	1,242.39	525.20	1,234.50	264.00	2,583.00
Total Dissolved Solids (mg/l)	36	688.44	291.89	677.00	134.00	1,414.00
Iron, Total (mg/l)	36	0.42	0.49	0.30	0.10	2.90
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.10
Chloride (mg/l)	36	177.42	128.15	142.00	15.00	597.00
Sulfates (mg/l)	36	102.33	25.75	111.00	25.00	134.00
Alkalinity (mg/l)	36	232.03	68.61	233.50	61.00	333.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for NB-US						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	264.44	214.08	200.00	50.00	1,000.00
Temperature (C)	36	12.94	4.20	13.00	3.00	19.00
pH (Std)	36	7.66	0.44	7.70	6.70	8.50
Total Suspended Solids (mg/l)	36	6.78	14.68	2.45	0.00	75.70
Conductivity (uS/cm)	36	1,241.22	539.32	1,200.00	202.00	2,663.00
Total Dissolved Solids (mg/l)	36	695.06	298.93	677.00	108.00	1,462.00
Iron, Total (mg/l)	36	0.41	0.43	0.30	0.10	2.40
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.10
Chloride (mg/l)	36	168.08	128.45	137.00	10.00	623.00
Sulfates (mg/l)	36	102.64	30.98	113.00	7.00	135.00
Alkalinity (mg/l)	36	230.47	71.53	231.50	48.00	340.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS13-LB-1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	355.83	950.92	0.00	0.00	4,500.00
Temperature (C)	10	9.30	3.35	9.00	3.00	15.00
pH (Std)	10	6.54	0.22	6.50	6.10	6.90
Total Suspended Solids (mg/l)	10	9.81	24.97	0.55	0.00	84.50
Conductivity (uS/cm)	10	245.20	77.94	257.50	117.00	347.00
Total Dissolved Solids (mg/l)	10	149.20	49.33	144.00	86.00	248.00
Iron, Total (mg/l)	10	0.31	0.73	0.10	0.00	2.50
Manganese, Total (mg/l)	10	0.01	0.03	0.00	0.00	0.10
Sulfates (mg/l)	10	51.00	19.44	56.00	15.00	82.00
Alkalinity (mg/l)	10	61.90	23.75	59.00	33.00	101.00
Acidity (mg/l)	10	0.00	0.00	0.00	0.00	0.00

Instream Statistics for LFR-2						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	72	138,257.10	172,337.65	74,640.00	21,531.00	999,999.00
Temperature (C)	72	13.35	6.42	13.50	3.00	23.00
pH (Std)	72	7.04	0.37	7.10	6.20	7.90
Total Suspended Solids (mg/l)	72	11.30	38.34	2.70	0.00	298.00
Conductivity (uS/cm)	72	657.36	238.92	680.50	157.00	1,099.00
Total Dissolved Solids (mg/l)	72	361.39	128.53	361.00	98.00	628.00
Iron, Total (mg/l)	72	0.38	0.90	0.15	0.10	6.50
Manganese, Total (mg/l)	72	0.01	0.05	0.00	0.00	0.40
Chloride (mg/l)	72	91.67	48.83	93.50	3.00	196.00
Sulfates (mg/l)	72	69.57	21.28	70.00	2.00	109.00
Alkalinity (mg/l)	72	103.43	31.38	106.50	30.00	168.00
Acidity (mg/l)	72	0.00	0.00	0.00	0.00	0.00

Instream Statistics for LFR-1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	72	136,160.40	171,770.17	72,382.00	20,723.00	999,999.00
Temperature (C)	72	13.35	6.42	13.50	3.00	23.00
pH (Std)	72	7.21	0.37	7.30	6.40	8.00
Total Suspended Solids (mg/l)	72	13.82	57.84	3.05	0.00	481.00
Conductivity (uS/cm)	72	440.01	153.75	440.50	160.00	990.00
Total Dissolved Solids (mg/l)	72	275.42	103.76	271.00	108.00	708.00
Iron, Total (mg/l)	72	0.46	1.14	0.20	0.10	8.80
Manganese, Total (mg/l)	72	0.02	0.06	0.00	0.00	0.50
Chloride (mg/l)	72	28.61	30.13	19.00	6.00	173.00
Sulfates (mg/l)	72	73.18	21.28	73.50	24.00	116.00
Alkalinity (mg/l)	72	97.14	29.80	99.50	32.00	156.00
Acidity (mg/l)	72	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS12-GC22						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	95.11	412.39	0.00	0.00	2,500.00
Temperature (C)	13	8.08	1.94	8.00	5.00	12.00
pH (Std)	13	6.25	0.30	6.10	5.80	6.80
Total Suspended Solids (mg/l)	13	5.31	7.76	3.30	0.00	31.40
Conductivity (uS/cm)	13	156.38	26.52	153.00	96.00	205.00
Total Dissolved Solids (mg/l)	13	106.31	33.70	98.00	66.00	202.00
Iron, Total (mg/l)	13	0.18	0.21	0.10	0.10	0.90
Manganese, Total (mg/l)	13	0.00	0.00	0.00	0.00	0.00
Sulfates (mg/l)	13	31.38	7.48	33.00	13.00	43.00
Alkalinity (mg/l)	13	31.85	5.60	30.00	21.00	43.00
Acidity (mg/l)	13	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS11-BB20						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	45.06	167.46	0.00	0.00	1,000.00
Temperature (C)	10	10.10	2.26	10.50	7.00	13.00
pH (Std)	10	6.31	0.18	6.30	6.10	6.80
Total Suspended Solids (mg/l)	10	23.95	45.19	1.90	0.00	123.40
Conductivity (uS/cm)	10	76.10	7.75	75.00	62.00	92.00
Total Dissolved Solids (mg/l)	10	57.40	12.93	56.00	36.00	78.00
Iron, Total (mg/l)	10	0.36	0.78	0.10	0.00	2.70
Manganese, Total (mg/l)	10	0.01	0.03	0.00	0.00	0.10
Sulfates (mg/l)	10	12.60	1.36	13.00	10.00	15.00
Alkalinity (mg/l)	10	14.70	5.29	13.00	10.00	28.00
Acidity (mg/l)	10	0.80	1.60	0.00	0.00	4.00

Instream Statistics for VS11-BB19						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	109.44	258.26	22.50	0.00	1,500.00
Temperature (C)	23	11.78	4.61	11.00	5.00	21.00
pH (Std)	23	6.67	0.39	6.50	6.20	7.80
Total Suspended Solids (mg/l)	23	10.43	25.73	2.20	0.00	124.00
Conductivity (uS/cm)	23	210.43	72.69	192.00	93.00	352.00
Total Dissolved Solids (mg/l)	23	124.61	43.37	122.00	50.00	208.00
Iron, Total (mg/l)	23	0.30	0.55	0.10	0.00	2.40
Manganese, Total (mg/l)	23	0.00	0.02	0.00	0.00	0.10
Sulfates (mg/l)	23	29.83	8.95	27.00	11.00	46.00
Alkalinity (mg/l)	23	70.30	30.93	60.00	28.00	139.00
Acidity (mg/l)	23	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS10-LH18						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	611.11	558.28	400.00	200.00	2,500.00
Temperature (C)	36	13.86	5.57	14.50	4.00	23.00
pH (Std)	36	6.88	0.35	6.95	6.30	7.70
Total Suspended Solids (mg/l)	36	17.66	70.63	1.95	0.00	424.00
Conductivity (uS/cm)	36	298.72	61.06	314.00	132.00	375.00
Total Dissolved Solids (mg/l)	36	173.06	43.80	183.00	58.00	250.00
Iron, Total (mg/l)	36	0.28	0.64	0.10	0.00	2.80
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.10
Sulfates (mg/l)	36	64.06	13.98	65.50	17.00	83.00
Alkalinity (mg/l)	36	71.72	18.74	74.50	28.00	101.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS10-LH17						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	431.94	443.50	300.00	100.00	2,000.00
Temperature (C)	36	14.00	5.70	14.50	4.00	23.00
pH (Std)	36	6.99	0.36	7.05	6.40	7.90
Total Suspended Solids (mg/l)	36	8.93	22.51	2.65	0.00	108.80
Conductivity (uS/cm)	36	302.39	63.89	314.50	129.00	406.00
Total Dissolved Solids (mg/l)	36	183.33	47.89	192.00	62.00	246.00
Iron, Total (mg/l)	36	0.31	0.64	0.10	0.00	2.80
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.10
Sulfates (mg/l)	36	65.08	14.20	67.00	20.00	85.00
Alkalinity (mg/l)	36	71.75	20.33	74.50	28.00	121.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for P-18-10023						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	4,884.72	4,832.94	3,500.00	1,100.00	25,000.00
Temperature (C)	36	12.64	7.03	12.00	1.00	27.00
pH (Std)	36	7.79	0.43	7.80	6.50	8.60
Total Suspended Solids (mg/l)	36	6.01	12.95	2.90	0.00	77.60
Conductivity (uS/cm)	36	841.97	554.50	695.00	312.00	3,162.00
Total Dissolved Solids (mg/l)	36	475.56	301.89	379.00	184.00	1,756.00
Iron, Total (mg/l)	36	0.15	0.14	0.10	0.00	0.80
Manganese, Total (mg/l)	36	0.00	0.02	0.00	0.00	0.10
Chloride (mg/l)	36	104.22	150.00	55.50	9.00	790.00
Sulfates (mg/l)	36	77.89	24.38	76.00	37.00	155.00
Alkalinity (mg/l)	36	187.78	61.19	184.00	77.00	384.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for P-18-100-8						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	5,561.11	5,498.55	4,250.00	1,200.00	30,000.00
Temperature (C)	36	12.28	6.74	11.50	1.00	26.00
pH (Std)	36	7.80	0.48	7.85	6.60	8.70
Total Suspended Solids (mg/l)	36	20.00	99.35	2.00	0.00	607.00
Conductivity (uS/cm)	36	809.33	474.15	659.00	324.00	2,723.00
Total Dissolved Solids (mg/l)	36	463.28	261.54	389.00	170.00	1,524.00
Iron, Total (mg/l)	36	0.40	1.78	0.10	0.00	10.90
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.20
Chloride (mg/l)	36	84.61	117.42	54.00	9.00	649.00
Sulfates (mg/l)	36	86.56	24.00	87.00	44.00	138.00
Alkalinity (mg/l)	36	181.78	54.53	181.50	77.00	343.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for 6-GC						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	3,981.94	6,842.39	2,000.00	300.00	35,000.00
Temperature (C)	36	13.36	5.55	14.00	4.00	24.00
pH (Std)	36	7.36	0.58	7.40	6.20	8.60
Total Suspended Solids (mg/l)	36	9.21	17.48	2.15	0.00	97.40
Conductivity (uS/cm)	36	449.50	143.53	448.50	135.00	679.00
Total Dissolved Solids (mg/l)	36	276.00	90.14	284.00	88.00	432.00
Iron, Total (mg/l)	36	0.30	0.41	0.10	0.00	2.10
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.10
Chloride (mg/l)	36	7.69	7.62	5.50	1.00	46.00
Sulfates (mg/l)	36	37.03	8.71	39.50	9.00	48.00
Alkalinity (mg/l)	36	184.44	74.45	175.00	38.00	312.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for 5-GC						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	37	3,982.43	3,960.76	2,400.00	1,000.00	20,000.00
Temperature (C)	37	12.32	6.63	10.00	3.00	28.00
pH (Std)	37	7.70	0.51	7.80	6.30	8.60
Total Suspended Solids (mg/l)	37	3.02	3.88	2.40	0.00	24.40
Conductivity (uS/cm)	37	708.32	415.87	578.00	201.00	1,788.00
Total Dissolved Solids (mg/l)	37	404.86	237.33	350.00	100.00	1,028.00
Iron, Total (mg/l)	37	0.12	0.12	0.10	0.00	0.80
Manganese, Total (mg/l)	37	0.00	0.00	0.00	0.00	0.00
Chloride (mg/l)	37	79.97	84.25	46.00	9.00	369.00
Sulfates (mg/l)	37	48.16	11.06	46.00	20.00	69.00
Alkalinity (mg/l)	37	174.51	68.95	170.00	50.00	353.00
Acidity (mg/l)	37	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS15-2						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	37	436.08	630.62	200.00	35.00	3,000.00
Temperature (C)	37	13.11	4.70	13.00	4.00	21.00
pH (Std)	37	6.85	0.30	6.80	6.30	7.50
Total Suspended Solids (mg/l)	37	14.59	63.27	1.60	0.00	387.00
Conductivity (uS/cm)	37	363.32	112.14	373.00	129.00	547.00
Total Dissolved Solids (mg/l)	37	221.08	76.98	234.00	76.00	370.00
Iron, Total (mg/l)	37	0.36	1.38	0.10	0.00	8.30
Manganese, Total (mg/l)	37	0.01	0.04	0.00	0.00	0.20
Sulfates (mg/l)	37	71.54	29.07	74.00	12.00	117.00
Alkalinity (mg/l)	37	83.43	28.03	88.00	30.00	129.00
Acidity (mg/l)	37	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS15-1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	217.81	314.22	100.00	0.00	1,500.00
Temperature (C)	34	12.15	4.88	12.00	4.00	21.00
pH (Std)	34	6.64	0.34	6.65	6.10	7.40
Total Suspended Solids (mg/l)	34	12.25	51.17	1.95	0.00	305.00
Conductivity (uS/cm)	34	193.50	58.28	181.00	99.00	311.00
Total Dissolved Solids (mg/l)	34	114.12	41.27	107.00	54.00	210.00
Iron, Total (mg/l)	34	0.33	1.27	0.10	0.00	7.60
Manganese, Total (mg/l)	34	0.01	0.03	0.00	0.00	0.20
Sulfates (mg/l)	34	10.15	2.67	10.00	5.00	20.00
Alkalinity (mg/l)	34	64.35	26.02	56.00	23.00	122.00
Acidity (mg/l)	34	0.00	0.00	0.00	0.00	0.00

Instream Statistics for GC-US-025B						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	11,362.50	12,526.88	7,500.00	1,500.00	50,000.00
Temperature (C)	36	13.97	6.05	14.50	1.00	24.00
pH (Std)	36	7.98	0.40	8.00	7.20	8.70
Total Suspended Solids (mg/l)	36	11.71	27.93	1.95	0.00	126.40
Conductivity (uS/cm)	36	766.33	438.87	664.00	178.00	2,537.00
Total Dissolved Solids (mg/l)	36	433.56	236.35	386.00	134.00	1,416.00
Iron, Total (mg/l)	36	0.33	0.77	0.10	0.00	3.90
Manganese, Total (mg/l)	36	0.01	0.04	0.00	0.00	0.20
Selenium (ug/l)	36	0.74	0.60	0.72	0.00	2.63
Chloride (mg/l)	36	83.58	118.63	37.50	8.00	665.00
Sulfates (mg/l)	36	88.72	27.45	91.50	24.00	136.00
Alkalinity (mg/l)	36	166.28	56.22	166.50	43.00	305.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for RF-US-025B						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	17,804.17	33,114.08	9,000.00	1,500.00	150,000.00
Temperature (C)	36	13.94	6.05	14.00	2.00	25.00
pH (Std)	36	7.44	0.56	7.40	6.40	8.70
Total Suspended Solids (mg/l)	36	9.71	28.17	1.45	0.00	158.00
Conductivity (uS/cm)	36	565.67	254.00	519.00	207.00	1,490.00
Total Dissolved Solids (mg/l)	36	327.33	143.84	313.00	102.00	818.00
Iron, Total (mg/l)	36	0.44	0.89	0.20	0.00	4.10
Manganese, Total (mg/l)	36	0.01	0.05	0.00	0.00	0.20
Selenium (ug/l)	36	0.71	0.46	0.74	0.00	2.15
Chloride (mg/l)	36	51.69	44.37	40.00	9.00	231.00
Sulfates (mg/l)	36	63.81	20.88	65.00	24.00	136.00
Alkalinity (mg/l)	36	134.89	46.48	132.00	48.00	233.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for GC-DS-008						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	72	5,228.39	7,042.43	3,320.00	700.00	45,000.00
Temperature (C)	72	13.08	6.55	12.00	3.00	26.00
pH (Std)	72	7.61	0.49	7.60	6.20	8.60
Total Suspended Solids (mg/l)	72	5.38	10.24	2.20	0.00	51.80
Conductivity (uS/cm)	72	605.33	301.89	553.50	200.00	1,687.00
Total Dissolved Solids (mg/l)	72	369.64	200.65	320.00	96.00	984.00
Iron, Total (mg/l)	72	0.18	0.26	0.10	0.00	1.50
Manganese, Total (mg/l)	72	0.00	0.02	0.00	0.00	0.10
Selenium (ug/l)	72	0.44	0.72	0.00	0.00	3.56
Chloride (mg/l)	72	60.44	60.35	44.50	8.00	351.00
Sulfates (mg/l)	72	43.97	11.62	43.50	19.00	82.00
Alkalinity (mg/l)	72	163.56	60.10	166.00	49.00	342.00
Acidity (mg/l)	72	0.00	0.00	0.00	0.00	0.00

Instream Statistics for GC-US-008						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	72	5,001.97	6,762.07	3,000.00	700.00	43,000.00
Temperature (C)	72	13.03	6.49	11.50	3.00	27.00
pH (Std)	72	7.35	0.49	7.40	6.00	8.60
Total Suspended Solids (mg/l)	72	4.04	8.10	1.55	0.00	52.80
Conductivity (uS/cm)	72	388.28	146.78	351.00	148.00	880.00
Total Dissolved Solids (mg/l)	72	227.83	81.44	206.00	74.00	480.00
Iron, Total (mg/l)	72	0.22	0.28	0.10	0.00	1.50
Manganese, Total (mg/l)	72	0.02	0.04	0.00	0.00	0.20
Selenium (ug/l)	72	0.03	0.13	0.00	0.00	0.66
Chloride (mg/l)	72	19.39	21.50	11.00	3.00	113.00
Sulfates (mg/l)	72	30.85	8.21	33.00	8.00	55.00
Alkalinity (mg/l)	72	133.39	45.78	130.00	41.00	230.00
Acidity (mg/l)	72	0.00	0.00	0.00	0.00	0.00

Instream Statistics for GC-DS-025B						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	29,166.67	44,575.31	15,500.00	3,000.00	200,000.00
Temperature (C)	36	14.03	6.04	14.50	2.00	25.00
pH (Std)	36	7.74	0.49	7.70	6.70	8.60
Total Suspended Solids (mg/l)	36	13.65	38.50	2.25	0.00	179.60
Conductivity (uS/cm)	36	694.47	320.04	634.00	209.00	1,837.00
Total Dissolved Solids (mg/l)	36	394.89	170.68	370.00	104.00	1,010.00
Iron, Total (mg/l)	36	0.49	1.15	0.10	0.00	4.70
Manganese, Total (mg/l)	36	0.02	0.06	0.00	0.00	0.30
Selenium (ug/l)	36	0.84	0.56	0.79	0.00	2.73
Chloride (mg/l)	36	70.58	74.68	44.50	10.00	405.00
Sulfates (mg/l)	36	78.61	22.22	84.00	24.00	120.00
Alkalinity (mg/l)	36	157.08	49.97	163.50	47.00	258.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for RF-US-025A						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	72	9,531.94	9,687.04	7,750.00	4,100.00	70,000.00
Temperature (C)	72	13.43	6.16	13.00	4.00	23.00
pH (Std)	72	7.02	0.36	7.10	6.20	7.70
Total Suspended Solids (mg/l)	72	3.91	11.64	1.60	0.00	91.60
Conductivity (uS/cm)	72	288.42	103.53	276.50	112.00	776.00
Total Dissolved Solids (mg/l)	72	165.67	63.07	164.00	36.00	410.00
Iron, Total (mg/l)	72	0.46	0.33	0.40	0.20	2.60
Manganese, Total (mg/l)	72	0.03	0.05	0.00	0.00	0.10
Selenium (ug/l)	72	0.01	0.09	0.00	0.00	0.54
Chloride (mg/l)	72	11.35	15.20	9.00	4.00	130.00
Sulfates (mg/l)	72	31.68	9.65	31.00	12.00	60.00
Alkalinity (mg/l)	72	90.90	31.93	89.00	24.00	200.00
Acidity (mg/l)	72	0.00	0.00	0.00	0.00	0.00

Instream Statistics for RF-DS-025A						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	72	10,066.67	10,405.76	8,200.00	4,300.00	75,000.00
Temperature (C)	72	13.47	6.21	13.00	4.00	24.00
pH (Std)	72	7.25	0.37	7.30	6.40	7.90
Total Suspended Solids (mg/l)	72	3.78	10.84	1.70	0.00	84.20
Conductivity (uS/cm)	72	379.61	170.65	339.00	105.00	888.00
Total Dissolved Solids (mg/l)	72	215.75	93.05	200.00	50.00	490.00
Iron, Total (mg/l)	72	0.43	0.36	0.40	0.10	3.00
Manganese, Total (mg/l)	72	0.03	0.05	0.00	0.00	0.20
Selenium (ug/l)	72	0.21	0.35	0.00	0.00	1.36
Chloride (mg/l)	72	29.32	26.85	20.50	5.00	127.00
Sulfates (mg/l)	72	34.93	10.85	33.50	12.00	64.00
Alkalinity (mg/l)	72	102.13	38.10	98.00	24.00	189.00
Acidity (mg/l)	72	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS16-DR2						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	47,991.67	42,065.51	21,750.00	12,000.00	160,000.00
Temperature (C)	36	13.22	5.58	12.00	4.00	23.00
pH (Std)	36	7.30	0.41	7.35	6.10	7.90
Total Suspended Solids (mg/l)	36	16.70	51.16	2.05	0.00	290.00
Conductivity (uS/cm)	36	334.61	108.29	331.00	132.00	738.00
Total Dissolved Solids (mg/l)	36	197.61	77.29	194.00	84.00	490.00
Iron, Total (mg/l)	36	0.54	1.30	0.20	0.10	7.50
Manganese, Total (mg/l)	36	0.03	0.07	0.00	0.00	0.30
Sulfates (mg/l)	36	74.75	28.50	73.00	26.00	184.00
Alkalinity (mg/l)	36	82.78	28.91	84.00	28.00	165.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS16-DR1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	44,963.89	40,293.62	20,000.00	11,000.00	150,000.00
Temperature (C)	36	13.06	5.47	12.00	4.00	23.00
pH (Std)	36	7.13	0.40	7.20	6.00	7.70
Total Suspended Solids (mg/l)	36	19.37	49.97	2.75	0.00	269.00
Conductivity (uS/cm)	36	325.58	88.17	336.50	129.00	487.00
Total Dissolved Solids (mg/l)	36	199.33	69.34	193.00	70.00	390.00
Iron, Total (mg/l)	36	0.65	1.28	0.20	0.10	7.30
Manganese, Total (mg/l)	36	0.04	0.07	0.00	0.00	0.30
Sulfates (mg/l)	36	73.31	23.44	73.50	26.00	129.00
Alkalinity (mg/l)	36	80.83	25.97	84.00	28.00	130.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS14 - LF2						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	16,952.78	21,177.01	8,750.00	3,000.00	100,000.00
Temperature (C)	36	14.81	6.51	15.00	3.00	25.00
pH (Std)	36	7.58	0.42	7.55	6.50	8.50
Total Suspended Solids (mg/l)	36	7.82	25.82	2.10	0.00	154.80
Conductivity (uS/cm)	36	362.47	93.79	383.00	117.00	489.00
Total Dissolved Solids (mg/l)	36	223.39	63.60	236.00	80.00	346.00
Iron, Total (mg/l)	36	0.23	0.60	0.10	0.00	3.40
Manganese, Total (mg/l)	36	0.01	0.02	0.00	0.00	0.10
Sulfates (mg/l)	36	65.44	16.67	71.50	17.00	87.00
Alkalinity (mg/l)	36	106.97	35.54	114.50	28.00	166.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS14-LF-1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	19,247.22	23,069.53	9,750.00	3,500.00	110,000.00
Temperature (C)	36	14.81	6.56	15.00	3.00	25.00
pH (Std)	36	7.38	0.42	7.35	6.30	8.30
Total Suspended Solids (mg/l)	36	7.85	28.36	1.75	0.00	171.70
Conductivity (uS/cm)	36	360.69	96.66	382.50	115.00	486.00
Total Dissolved Solids (mg/l)	36	214.56	64.83	245.00	78.00	316.00
Iron, Total (mg/l)	36	0.23	0.63	0.10	0.00	3.60
Manganese, Total (mg/l)	36	0.01	0.02	0.00	0.00	0.10
Sulfates (mg/l)	36	60.64	21.92	67.00	0.00	87.00
Alkalinity (mg/l)	36	106.78	36.43	113.00	28.00	156.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for BCH-IS-16						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	347.64	352.80	250.00	90.00	2,000.00
Temperature (C)	36	11.75	5.33	12.00	2.00	20.00
pH (Std)	36	6.73	0.31	6.75	6.20	7.30
Total Suspended Solids (mg/l)	36	11.98	49.98	1.50	0.00	306.00
Conductivity (uS/cm)	36	598.94	142.00	607.50	182.00	1,188.00
Total Dissolved Solids (mg/l)	36	361.72	84.03	367.00	106.00	616.00
Iron, Total (mg/l)	36	0.24	0.76	0.10	0.00	4.60
Manganese, Total (mg/l)	36	0.01	0.04	0.00	0.00	0.20
Sulfates (mg/l)	36	134.67	33.51	138.50	26.00	180.00
Alkalinity (mg/l)	36	82.64	25.99	90.00	31.00	122.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for BCH-015						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	124.50	354.95	0.00	0.00	2,000.00
Temperature (C)	12	10.92	5.33	10.50	3.00	21.00
pH (Std)	12	6.54	0.51	6.40	6.10	8.00
Total Suspended Solids (mg/l)	12	4.39	4.50	3.50	0.00	16.30
Conductivity (uS/cm)	12	241.75	43.21	241.50	166.00	324.00
Total Dissolved Solids (mg/l)	12	143.00	34.60	138.00	88.00	210.00
Iron, Total (mg/l)	12	0.10	0.08	0.10	0.00	0.20
Manganese, Total (mg/l)	12	0.00	0.00	0.00	0.00	0.00
Sulfates (mg/l)	12	40.33	9.43	40.50	27.00	63.00
Alkalinity (mg/l)	12	48.00	12.55	45.00	30.00	73.00
Acidity (mg/l)	12	0.00	0.00	0.00	0.00	0.00

Instream Statistics for BCH-014						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	376.11	436.68	250.00	30.00	2,500.00
Temperature (C)	36	12.97	5.09	13.00	5.00	22.00
pH (Std)	36	6.86	0.38	6.90	6.10	7.80
Total Suspended Solids (mg/l)	36	30.73	159.20	1.90	0.00	972.00
Conductivity (uS/cm)	36	456.42	109.59	473.00	185.00	622.00
Total Dissolved Solids (mg/l)	36	262.94	87.28	279.00	0.00	392.00
Iron, Total (mg/l)	36	0.71	3.50	0.10	0.00	21.40
Manganese, Total (mg/l)	36	0.03	0.13	0.00	0.00	0.80
Sulfates (mg/l)	36	71.31	21.84	75.50	10.00	106.00
Alkalinity (mg/l)	36	107.94	37.87	118.00	35.00	162.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for BCH-IS-10						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	249.44	176.16	225.00	45.00	1,000.00
Temperature (C)	36	11.22	5.19	10.50	2.00	19.00
pH (Std)	36	7.13	0.29	7.15	6.40	7.60
Total Suspended Solids (mg/l)	36	5.96	4.92	5.00	0.00	23.60
Conductivity (uS/cm)	36	288.39	74.55	290.00	151.00	498.00
Total Dissolved Solids (mg/l)	36	183.72	66.23	191.00	0.00	342.00
Iron, Total (mg/l)	36	0.21	0.13	0.20	0.00	0.60
Manganese, Total (mg/l)	36	0.05	0.12	0.00	0.00	0.70
Sulfates (mg/l)	36	58.83	15.18	59.00	28.00	122.00
Alkalinity (mg/l)	36	76.36	26.39	75.00	35.00	130.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for BCH-IS-13						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	6,258.33	13,023.75	3,000.00	900.00	80,000.00
Temperature (C)	36	12.22	6.83	11.00	2.00	27.00
pH (Std)	36	6.71	0.46	6.55	6.00	7.80
Total Suspended Solids (mg/l)	36	9.62	36.06	2.60	0.00	221.60
Conductivity (uS/cm)	36	289.53	89.31	272.50	93.00	452.00
Total Dissolved Solids (mg/l)	36	168.78	52.16	154.00	86.00	262.00
Iron, Total (mg/l)	36	0.32	0.97	0.10	0.00	6.00
Manganese, Total (mg/l)	36	0.01	0.05	0.00	0.00	0.30
Sulfates (mg/l)	36	20.11	4.80	20.50	9.00	34.00
Alkalinity (mg/l)	36	68.67	27.11	69.00	17.00	109.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS7-BL2						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	3,405.56	1,637.74	3,000.00	1,500.00	10,000.00
Temperature (C)	36	11.94	4.92	12.00	4.00	21.00
pH (Std)	36	6.75	0.33	6.80	6.20	7.30
Total Suspended Solids (mg/l)	36	24.27	115.81	3.30	1.40	709.00
Conductivity (uS/cm)	36	341.78	72.24	366.00	162.00	430.00
Total Dissolved Solids (mg/l)	36	202.67	55.60	216.00	66.00	302.00
Iron, Total (mg/l)	36	1.62	2.56	1.20	0.40	16.40
Manganese, Total (mg/l)	36	0.14	0.13	0.10	0.00	0.80
Sulfates (mg/l)	36	68.67	15.87	69.50	33.00	92.00
Alkalinity (mg/l)	36	96.00	24.72	107.00	33.00	124.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS7-BL1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	2,725.00	1,518.66	2,500.00	1,000.00	9,000.00
Temperature (C)	36	11.69	4.84	11.50	3.00	20.00
pH (Std)	36	6.86	0.33	6.90	6.30	7.40
Total Suspended Solids (mg/l)	36	18.08	80.72	3.35	1.00	495.00
Conductivity (uS/cm)	36	343.83	72.63	367.00	162.00	489.00
Total Dissolved Solids (mg/l)	36	206.39	55.61	215.00	90.00	304.00
Iron, Total (mg/l)	36	1.69	2.62	1.20	0.40	16.70
Manganese, Total (mg/l)	36	0.16	0.14	0.10	0.00	0.80
Sulfates (mg/l)	36	67.75	14.15	70.00	33.00	91.00
Alkalinity (mg/l)	36	97.19	25.17	107.00	33.00	136.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for BCH-IS-11						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	75.89	51.58	77.50	10.00	250.00
Temperature (C)	36	11.56	3.83	11.00	5.00	17.00
pH (Std)	36	6.63	0.35	6.60	6.10	7.80
Total Suspended Solids (mg/l)	36	3.67	3.39	2.55	0.00	15.10
Conductivity (uS/cm)	36	218.28	62.62	206.00	112.00	368.00
Total Dissolved Solids (mg/l)	36	146.50	50.91	151.00	40.00	260.00
Iron, Total (mg/l)	36	0.13	0.10	0.10	0.00	0.40
Manganese, Total (mg/l)	36	0.01	0.02	0.00	0.00	0.10
Sulfates (mg/l)	36	50.86	17.23	49.00	19.00	95.00
Alkalinity (mg/l)	36	49.25	15.72	48.50	25.00	81.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for BCH-IS-12						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	5,393.06	11,376.44	2,500.00	500.00	70,000.00
Temperature (C)	36	12.33	6.89	11.50	2.00	27.00
pH (Std)	36	6.78	0.44	6.65	6.10	7.90
Total Suspended Solids (mg/l)	36	17.47	85.23	1.85	0.00	521.20
Conductivity (uS/cm)	36	290.08	90.04	272.00	94.00	453.00
Total Dissolved Solids (mg/l)	36	163.83	58.20	154.00	0.00	284.00
Iron, Total (mg/l)	36	0.33	0.96	0.10	0.10	6.00
Manganese, Total (mg/l)	36	0.01	0.05	0.00	0.00	0.30
Sulfates (mg/l)	36	19.39	4.22	19.50	9.00	34.00
Alkalinity (mg/l)	36	69.00	27.24	68.00	20.00	112.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS18-1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	643.06	785.65	500.00	100.00	5,000.00
Temperature (C)	36	12.58	4.84	12.00	4.00	21.00
pH (Std)	36	6.74	0.42	6.70	6.00	7.80
Total Suspended Solids (mg/l)	36	6.69	9.97	3.85	1.50	58.20
Conductivity (uS/cm)	36	324.39	130.14	284.50	113.00	614.00
Total Dissolved Solids (mg/l)	36	199.28	79.92	189.00	68.00	370.00
Iron, Total (mg/l)	36	0.33	0.35	0.20	0.10	2.00
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.10
Sulfates (mg/l)	36	58.31	24.67	53.00	23.00	121.00
Alkalinity (mg/l)	36	88.44	41.72	78.00	17.00	178.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for VS18-2						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	740.28	862.96	550.00	150.00	5,500.00
Temperature (C)	36	12.53	4.82	12.00	4.00	21.00
pH (Std)	36	6.84	0.42	6.80	6.10	7.90
Total Suspended Solids (mg/l)	36	8.52	16.10	3.60	1.20	85.20
Conductivity (uS/cm)	36	334.28	142.56	296.00	115.00	712.00
Total Dissolved Solids (mg/l)	36	199.94	85.01	183.00	78.00	418.00
Iron, Total (mg/l)	36	0.34	0.53	0.20	0.10	2.80
Manganese, Total (mg/l)	36	0.01	0.03	0.00	0.00	0.10
Sulfates (mg/l)	36	62.44	32.55	54.00	24.00	186.00
Alkalinity (mg/l)	36	89.39	42.36	78.50	17.00	179.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for CM-2						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for S-2-VP3						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	145,722.22	142,978.36	90,000.00	22,000.00	650,000.00
Temperature (C)	36	13.28	6.76	13.00	2.00	26.00
pH (Std)	36	7.15	0.42	7.30	6.20	7.80
Total Suspended Solids (mg/l)	36	53.72	246.65	2.15	0.00	1,501.00
Conductivity (uS/cm)	36	389.33	121.18	440.00	127.00	567.00
Total Dissolved Solids (mg/l)	36	227.44	76.35	237.00	60.00	330.00
Iron, Total (mg/l)	36	1.12	4.53	0.20	0.00	27.70
Manganese, Total (mg/l)	36	0.07	0.23	0.00	0.00	1.40
Chloride (mg/l)	36	10.67	5.93	9.00	3.00	31.00
Sulfates (mg/l)	36	68.28	24.52	69.50	15.00	113.00
Alkalinity (mg/l)	36	107.64	37.31	122.50	32.00	166.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for S-1-VP3						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	155,666.67	153,641.00	95,000.00	25,000.00	700,000.00
Temperature (C)	36	13.28	6.70	13.00	2.00	26.00
pH (Std)	36	7.17	0.47	7.30	6.20	7.90
Total Suspended Solids (mg/l)	36	62.27	313.92	2.80	0.00	1,917.00
Conductivity (uS/cm)	36	392.08	124.04	430.00	128.00	570.00
Total Dissolved Solids (mg/l)	36	234.28	72.92	250.00	92.00	372.00
Iron, Total (mg/l)	36	1.23	5.13	0.20	0.10	31.40
Manganese, Total (mg/l)	36	0.06	0.25	0.00	0.00	1.50
Chloride (mg/l)	36	12.89	9.53	10.00	3.00	55.00
Sulfates (mg/l)	36	68.97	24.15	74.50	15.00	112.00
Alkalinity (mg/l)	36	103.86	34.76	116.50	33.00	157.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

Instream Statistics for P-18-10047						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	6.75	7.13	5.00	0.00	25.00
Temperature (C)	29	13.62	2.75	14.00	5.00	17.00
pH (Std)	29	7.04	0.28	7.00	6.40	7.60
Total Suspended Solids (mg/l)	29	4.11	6.98	1.70	0.00	27.20
Conductivity (uS/cm)	29	1,318.07	159.35	1,340.00	853.00	1,566.00
Total Dissolved Solids (mg/l)	29	1,078.41	170.93	1,122.00	640.00	1,344.00
Iron, Total (mg/l)	29	0.11	0.19	0.00	0.00	0.80
Manganese, Total (mg/l)	29	0.00	0.02	0.00	0.00	0.10
Chloride (mg/l)	29	1.28	2.18	0.00	0.00	11.00
Sulfates (mg/l)	29	619.72	99.15	643.00	339.00	780.00
Alkalinity (mg/l)	29	147.79	21.87	151.00	107.00	196.00
Acidity (mg/l)	29	0.00	0.00	0.00	0.00	0.00

Instream Statistics for CM-1						
Parameter	Num. Samples	Average	Std. Dev	Median	Min.	Max.
Flow (GPM)	36	300.56	154.98	250.00	50.00	800.00
Temperature (C)	36	13.25	5.53	12.50	2.00	25.00
pH (Std)	36	7.18	0.30	7.20	6.70	7.90
Total Suspended Solids (mg/l)	36	5.25	3.17	5.10	1.50	13.60
Conductivity (uS/cm)	36	234.50	53.50	227.50	163.00	377.00
Total Dissolved Solids (mg/l)	36	141.61	41.69	144.00	0.00	228.00
Iron, Total (mg/l)	36	0.26	0.11	0.20	0.10	0.60
Manganese, Total (mg/l)	36	0.03	0.04	0.00	0.00	0.10
Sulfates (mg/l)	36	30.31	14.07	28.50	0.00	86.00
Alkalinity (mg/l)	36	75.44	21.41	75.50	42.00	125.00
Acidity (mg/l)	36	0.00	0.00	0.00	0.00	0.00

8. Permit Characterization/Special Conditions/Effluent Limitations:

- Narrative Water Quality Standards Applicable
9VAC25-260-20
Discharges from this operation must not cause the violation of any applicable narrative instream water quality standards.
- Technology-based Effluent Limitations Applicable
40 CFR 434
- Numeric Water Quality based Effluent Limitations Applicable
9VAC25-260-140
Discharges from this operation must not cause the violation of any applicable numeric instream water quality standards.
- SMCRA Performance Standard
4VAC25-130-816.42 and/or 4VAC25-130-817.42
- Standard Permit Conditions Applicable
40 CFR 122.41 and 9VAC25-31-190
The outfalls, discharges, and related activities associated with the proposed operation must individually and in aggregate remain in compliance with the requirements stated in sections 318, 402, and 405 of the Clean Water Act. Additionally, the permittee must comply with all conditions attached to the permit, including but not limited to the effluent standards established under 307(a) of the Clean Water Act. The permittee is bound to all duties, procedures, and requirements laid out in both Federal Regulation 40 CFR 122.41 and State Regulation 9VAC25-260.
- Special Permit Conditions – TMDL Watershed
40 CFR 130 and CWA 303(d)
The application includes outfalls and/or discharges falling within established boundaries of the TMDL Watershed(s) Levisa River due to established stressor(s) TSS and Garden Creek due to established stressor(s) CL and TDS. The Virginia Department of Environmental Quality (VDEQ) requested a partial delisting for chloride in Garden Creek in its Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report. VDEQ's report was approved by EPA on December 12, 2013. Therefore, special permit conditions as defined in the regulations cited above for TDS are applicable to the permit.
- Special Permit Conditions – SMCRA
4VAC25-130-773-17
- Special Permit Conditions – Alternate Effluent Limitations: Remining
4VAC25-130-825
- Discharges limited based on receiving stream flow – Mixing Zone
9VAC260-20
- Possible Interstate Effect
This permit is not permitted to cross state boundaries or otherwise require Virginia interstate regulations.

9. NPDES Effluent Limitation Basis

The monitoring frequency and sample type have been established after considering the consistency and nature of these operations, the existing analytical data and the potential environmental risk and consequences of the discharges. Reporting of monitoring data is required quarterly.

Parameter	Basis
Chloride	Chloride limitations are based on 9 VAC 25-260-140 criteria for surface water.
Iron, Total	Iron limitations are based on 40-CFR-434.
Flow	Report only, no limit. Monitoring required by federal effluent guidelines (40 CFR Part 434).
Manganese, Total	Manganese limitations are based on 40-CFR-434.
PCB	Polychlorinated Biphenyls limitations are based upon the approved TMDL.
pH	The pH limitation is based upon Virginia's water quality standards and federal effluent guidelines (40 CFR Part 434).
Selenium	Selenium limitations are based on 9 VAC 25-260-140 criteria for surface water.
Settleable Solids	SS limitations are based on federal effluent guidelines for coal mining (40 CFR Part 434).
Total Dissolved Solids	Monitoring required for informational purposes. TDS is also load-limited based upon the approved TMDL, if applicable. For discharges to TMDL watersheds with TDS identified as a stressor, the permit shall also comply with the applicable TMDL consistent with its assumptions and requirements. Best management practices requirements and/or offsets will be used to establish any necessary reductions to meet the transient/aggregate wasteload allocation.
Total Suspended Solids	TSS limitations are based on federal effluent guidelines for coal mining (40 CFR Part 434). TSS is also load-limited based upon the approved TMDL, if applicable. For discharges to TMDL watersheds with TSS identified as a stressor, the permit shall also comply with the applicable TMDL consistent with its assumptions and requirements. Best management practices requirements and/or offsets will be used to establish any necessary reductions to meet the transient/aggregate wasteload allocation.
Acute WET	WET limitations are based on 9 VAC 25-31-220 D criteria for surface water.
Chronic WET	WET limitations are based on 9 VAC 25-31-220 D criteria for surface water.

10. Permit or Proposed Permit Area Questions

Check all that apply:	
<input type="checkbox"/>	A. The area contains a publicly owned treatment works which discharge into the waters of the United States.
<input type="checkbox"/>	B. The facility treats, stores, or disposes of hazardous wastes.
<input type="checkbox"/>	C. Fluids are injected at this facility which are: (1) brought to the surface in connection with conventional oil or natural gas production; (2) used for the enhanced recovery of oil or natural gas; or (3) for storage of liquid hydrocarbons.
<input type="checkbox"/>	D. The area contains a concentrated animal feeding operation or aquatic animal production facility that discharges into the waters of the United States.
<input type="checkbox"/>	E. This facility will inject industrial effluent below the lower most stratum containing, within 1 quarter mile of the well bore, underground sources of drinking water.

11. NPDES Outfall Description:

Sediment control structures and the associated NPDES outfalls for surface coal mining operations primarily receive precipitation runoff from mined areas and treat the runoff by settling sediment particles prior to discharge to the receiving stream. Precipitation runoff from mined areas also dissolves portions of exposed fresh rock and carries the associated ions in solution. These ions may not be reduced in the sedimentation process prior to discharge. Certain dissolved ions or the combined concentration of these ions may cause benthic impairment depending on their makeup and/or abundance.

NPDES discharges associated with this permit are from the control of surface water runoff resulting from precipitation and/or groundwater discharges associated with coal mining activities. Typically, discharges are only treated by sedimentation, but in limited circumstances treatment may include chemical treatment such as the addition of neutralizing agents or flocculants.

There are 38 outfalls associated with this permit. Of all total outfalls, 38 were previously approved, and of all previously approved outfalls, 35 have been constructed. The constructed outfalls are 001, 003, 004, 008, 010, 011, 012, 017, 018, 021, 022, 024, 025, 025A, 026, 028, 029, 031, 032, 033, 034, 035, 036, 037, 043, 045, 046, 047, 049, 051, 052, 053, 054, 055, and Pond 32. Outfall 001 has historically discharged 0.0% of the time over 72 measurements. Outfall 003 has historically discharged 98.6% of the time with an estimated flow of 157.1 GPM over 72 measurements. Outfall 004 has historically discharged 0.0% of the time over 72 measurements. Outfall 008 has historically discharged 73.7% of the time with an estimated flow of 238.9 GPM over 76 measurements. Outfall 010 has historically discharged 0.0% of the time over 72 measurements. Outfall 011 has historically discharged 0.0% of the time over 72 measurements. Outfall 012 has historically discharged 0.0% of the time over 72 measurements. Outfall 017 has historically discharged 0.0% of the time over 72 measurements. Outfall 018 has historically discharged 2.8% of the time with an estimated flow of 1.5 GPM over 72 measurements. Outfall 021 has historically discharged 97.2% of the time with an estimated flow of 152.3 GPM over 72 measurements. Outfall 022 has historically discharged 100.0% of the time with an estimated flow of 158.8 GPM over 72 measurements. Outfall 024 has historically discharged 0.0% of the time over 72 measurements. Outfall 025 has historically discharged 0.0% of the time over 72 measurements. Outfall 025A has historically discharged 62.5% of the time with an estimated flow of 110.6 GPM over 72 measurements. Outfall 026 has historically discharged 0.0% of the time over 72 measurements. Outfall 028 has historically discharged 91.7% of the time with an estimated flow of 128.6 GPM over 72 measurements. Outfall 029 has historically discharged 0.0% of the time over 72 measurements. Outfall 031 has historically discharged 0.0% of the time over 72 measurements. Outfall 032 has historically discharged 0.0% of the time over 65 measurements. Outfall 033 has historically discharged 98.6% of the time with an estimated flow of 1,496.4 GPM over 71 measurements. Outfall 034 has historically discharged 0.0% of the time over 72 measurements. Outfall 035 has historically discharged 0.0% of the time over 72 measurements. Outfall 036 has historically discharged 0.0% of the time over 72 measurements. Outfall 037 has historically

discharged 0.0% of the time over 72 measurements. Outfall 043 has historically discharged 0.0% of the time over 72 measurements. Outfall 045 has historically discharged 2.8% of the time with an estimated flow of 0.0 GPM over 72 measurements. Outfall 046 has historically discharged 0.0% of the time over 72 measurements. Outfall 047 has historically discharged 0.0% of the time over 72 measurements. Outfall 049 has historically discharged 66.7% of the time with an estimated flow of 13.2 GPM over 72 measurements. Outfall 051 has historically discharged 0.0% of the time over 72 measurements. Outfall 052 has historically discharged 0.0% of the time over 72 measurements. Outfall 053 has historically discharged 2.8% of the time with an estimated flow of 1.2 GPM over 72 measurements. Outfall 054 has historically discharged 0.0% of the time over 62 measurements. Outfall 055 has historically discharged 0.0% of the time over 66 measurements. Outfall Pond 32 has historically discharged 0.0% of the time over 0 measurements.

Proposed Discharges

There are no outfalls added by revision. There are no outfalls deleted by this revision.

The following tables present details for each proposed and/or existing outfall. Specific information, including location, regarding each outfall and facility is also found in Section 5, Section 12, and Section 21 of the CSMO/NPDES permit.

MPID Number: 5785712	Action:	Sampling Freq/Qtr: 6	Location Number: 051
Elevation: 1,114.00	Facility Location: Pond 51	Quad: VANSANT	Northing: 3,628,448.1068
Easting: 10,434,121.7510	Watershed Acres: 19.0	Disturbed Acres: 19.0	Receiving Stream: LEVISA FORK

MPID Number: 5785694	Action:	Sampling Freq/Qtr: 6	Location Number: 043
Elevation: 1,540.00	Facility Location: SB 43 & 44	Quad: KEEN MOUNTAIN	Northing: 3,603,944.9269
Easting: 10,459,005.6291	Watershed Acres: 9.6	Disturbed Acres: 9.6	Receiving Stream: GARDEN CREEK

MPID Number: 5785465	Action: C	Sampling Freq/Qtr: 6	Location Number: 018
Elevation: 1,540.00	Facility Location: POND 18	Quad: KEEN MOUNTAIN	Northing: 3,604,143.1549
Easting: 10,466,276.5484	Watershed Acres: 43.4	Disturbed Acres: 21.1	Receiving Stream: GARDEN CREEK

MPID Number: 5785464	Action:	Sampling Freq/Qtr: 6	Location Number: 017
Elevation: 1,703.00	Facility Location: POND 17	Quad: KEEN MOUNTAIN	Northing: 3,595,842.2998
Easting: 10,470,066.1248	Watershed Acres: 8.7	Disturbed Acres: 4.5	Receiving Stream: GARDEN CREEK

MPID Number: 5785463	Action:	Sampling Freq/Qtr: 6	Location Number: 012
Elevation: 2,040.00	Facility Location: POND 12	Quad: KEEN MOUNTAIN	Northing: 3,605,314.8663
Easting: 10,472,494.2236	Watershed Acres: 7.1	Disturbed Acres: 5.0	Receiving Stream: TRACE BRANCH

MPID Number: 5785462	Action:	Sampling Freq/Qtr: 6	Location Number: 011
Elevation: 1,760.00	Facility Location: POND 11	Quad: KEEN MOUNTAIN	Northing: 3,602,394.6461
Easting: 10,471,181.8140	Watershed Acres: 1.3	Disturbed Acres: 0.9	Receiving Stream: TRACE BRANCH

MPID Number: 5785461	Action:	Sampling Freq/Qtr: 6	Location Number: 010
Elevation: 1,600.00	Facility Location: POND 10	Quad: KEEN MOUNTAIN	Northing: 3,600,959.2631
Easting: 10,466,768.3419	Watershed Acres: 9.7	Disturbed Acres: 1.5	Receiving Stream: GARDEN CREEK

MPID Number: 5785459	Action:	Sampling Freq/Qtr: 6	Location Number: 008
Elevation: 1,677.00	Facility Location: POND 8	Quad: KEEN MOUNTAIN	Northing: 3,600,751.5016
Easting: 10,466,366.7657	Watershed Acres: 359.1	Disturbed Acres: 187.7	Receiving Stream: GARDEN CREEK

MPID Number: 5785458	Action:	Sampling Freq/Qtr: 6	Location Number: 004
Elevation: 1,581.00	Facility Location: POND 4	Quad: KEEN MOUNTAIN	Northing: 3,600,349.2102
Easting: 10,468,564.1020	Watershed Acres: 8.1	Disturbed Acres: 7.2	Receiving Stream: GARDEN CREEK

MPID Number: 5785457	Action:	Sampling Freq/Qtr: 6	Location Number: 003
Elevation: 1,996.00	Facility Location: POND 3	Quad: KEEN MOUNTAIN	Northing: 3,600,817.3379
Easting: 10,467,885.6354	Watershed Acres: 21.4	Disturbed Acres: 7.6	Receiving Stream: GARDEN CREEK

MPID Number: 5785456	Action:	Sampling Freq/Qtr: 6	Location Number: 001
Elevation: 1,600.00	Facility Location: BCH 1	Quad: KEEN MOUNTAIN	Northing: 3,600,798.9584
Easting: 10,467,606.9375	Watershed Acres: 0.0	Disturbed Acres: 0.0	Receiving Stream: GARDEN CREEK

MPID Number: 5784748	Action:	Sampling Freq/Qtr: 6	Location Number: 045
Elevation: 1,500.00	Facility Location: Pond 45	Quad: KEEN MOUNTAIN	Northing: 3,606,393.0000
Easting: 10,465,031.0000	Watershed Acres: 32.5	Disturbed Acres: 8.0	Receiving Stream: GARDEN CREEK

MPID Number: 5784746	Action:	Sampling Freq/Qtr: 6	Location Number: 046
Elevation: 1,480.00	Facility Location: Pond 46	Quad: KEEN MOUNTAIN	Northing: 3,607,599.5337
Easting: 10,464,235.0638	Watershed Acres: 4.4	Disturbed Acres: 3.6	Receiving Stream: GARDEN CREEK

MPID Number: 5784745	Action:	Sampling Freq/Qtr: 6	Location Number: 047
Elevation: 1,475.00	Facility Location: Pond 47	Quad: KEEN MOUNTAIN	Northing: 3,608,238.5210
Easting: 10,464,300.6235	Watershed Acres: 4.5	Disturbed Acres: 4.5	Receiving Stream: GARDEN CREEK

MPID Number: 5783254	Action:	Sampling Freq/Qtr: 6	Location Number: 028
Elevation: 1,890.00	Facility Location: POND 28	Quad: KEEN MOUNTAIN	Northing: 3,618,577.3978
Easting: 10,485,402.9737	Watershed Acres: 72.5	Disturbed Acres: 8.1	Receiving Stream: CONTRARY CREEK

MPID Number: 5770140	Action:	Sampling Freq/Qtr: 6	Location Number: 022
Elevation: 1,680.00	Facility Location: BASIN 22	Quad: KEEN MOUNTAIN	Northing: 3,609,191.8944
Easting: 10,476,385.9870	Watershed Acres: 3.1	Disturbed Acres: 2.6	Receiving Stream: LEVISA FORK

MPID Number: 5770100	Action:	Sampling Freq/Qtr: 6	Location Number: 021
Elevation: 1,780.00	Facility Location: POND 21	Quad: KEEN MOUNTAIN	Northing: 3,604,873.9181
Easting: 10,477,080.5330	Watershed Acres: 144.6	Disturbed Acres: 3.8	Receiving Stream: WHETSTONE BRANCH

MPID Number: 0012216	Action:	Sampling Freq/Qtr: 6	Location Number: Pond 32
Elevation: 1,995.00	Facility Location: VS-11	Quad: JEWELL RIDGE	Northing: 3,617,149.8600
Easting: 10,505,933.5200	Watershed Acres: 60.5	Disturbed Acres: 5.5	Receiving Stream:

MPID Number: 0011732	Action:	Sampling Freq/Qtr: 6	Location Number: 054
Elevation: 1,993.00	Facility Location: Pond 54	Quad: KEEN MOUNTAIN	Northing: 3,594,005.0000
Easting: 10,484,794.0000	Watershed Acres: 3.2	Disturbed Acres: 3.0	Receiving Stream: LEVISA FORK

MPID Number: 0011731	Action:	Sampling Freq/Qtr: 6	Location Number: 055
Elevation: 2,198.00	Facility Location: Pond 55	Quad: KEEN MOUNTAIN	Northing: 3,594,830.0000
Easting: 10,484,836.0000	Watershed Acres: 4.2	Disturbed Acres: 4.2	Receiving Stream:

MPID Number: 0010833	Action:	Sampling Freq/Qtr: 6	Location Number: 053
Elevation: 1,814.00	Facility Location: Pond 53	Quad: PATTERSON	Northing: 3,633,420.0000
Easting: 10,493,570.0000	Watershed Acres: 51.8	Disturbed Acres: 4.5	Receiving Stream: LOGGY BOTTOM BRANCH

MPID Number: 0010832	Action:	Sampling Freq/Qtr: 6	Location Number: 052
Elevation: 1,740.00	Facility Location: Pond 52	Quad: PATTERSON	Northing: 3,632,675.0000
Easting: 10,493,920.0000	Watershed Acres: 15.0	Disturbed Acres: 2.6	Receiving Stream: LOGGY BOTTOM BRANCH

MPID Number: 0010533	Action:	Sampling Freq/Qtr: 6	Location Number: 025B
Elevation: 1,390.00	Facility Location: Phase II	Quad: KEEN MOUNTAIN	Northing: 3,611,338.0000
Easting: 10,462,354.0000	Watershed Acres: 74.1	Disturbed Acres: 1.7	Receiving Stream: GARDEN CREEK

MPID Number: 0010532	Action:	Sampling Freq/Qtr: 6	Location Number: 025A
Elevation: 1,560.00	Facility Location: Phase I	Quad: VANSANT	Northing: 3,602,321.0000
Easting: 10,459,222.0000	Watershed Acres: 74.1	Disturbed Acres: 1.7	Receiving Stream: RIGHT FORK GARDEN CREEK

MPID Number: 0008861	Action:	Sampling Freq/Qtr: 6	Location Number: 049
Elevation: 1,670.00	Facility Location: POND 49	Quad: JEWELL RIDGE	Northing: 3,626,191.0000
Easting: 10,507,460.0000	Watershed Acres: 29.9	Disturbed Acres: 5.6	Receiving Stream: DISMAL CREEK

MPID Number: 0008860	Action:	Sampling Freq/Qtr: 6	Location Number: 039
Elevation: 2,340.00	Facility Location: POND39	Quad: JEWELL RIDGE	Northing: 3,617,696.3500
Easting: 10,512,625.9600	Watershed Acres: 3.9	Disturbed Acres: 2.4	Receiving Stream: BENNY BRANCH

MPID Number: 0008859	Action: C	Sampling Freq/Qtr: 6	Location Number: 038
Elevation: 2,448.00	Facility Location: POND 38	Quad: JEWELL RIDGE	Northing: 3,618,779.3100
Easting: 10,515,366.7600	Watershed Acres: 21.2	Disturbed Acres: 9.5	Receiving Stream: BENNY BRANCH

MPID Number: 0007760	Action:	Sampling Freq/Qtr: 6	Location Number: 036
Elevation: 2,202.00	Facility Location: Pond 36	Quad: KEEN MOUNTAIN	Northing: 3,622,565.5000
Easting: 10,496,891.5000	Watershed Acres: 3.5	Disturbed Acres: 2.1	Receiving Stream: LAUDERS BRANCH

MPID Number: 0007759	Action:	Sampling Freq/Qtr: 6	Location Number: 037
Elevation: 2,198.00	Facility Location: Pond 37	Quad: KEEN MOUNTAIN	Northing: 3,622,296.2000
Easting: 10,495,732.0000	Watershed Acres: 22.3	Disturbed Acres: 8.3	Receiving Stream: LAUDERS BRANCH

MPID Number: 0006505	Action:	Sampling Freq/Qtr: 6	Location Number: 033
Elevation: 1,410.00	Facility Location: DIFFUSER	Quad: GRUNDY	Northing: 3,646,184.1729
Easting: 10,433,815.5080	Watershed Acres: 0.0	Disturbed Acres: 0.0	Receiving Stream: LEVISA FORK

MPID Number: 0006164	Action:	Sampling Freq/Qtr: 6	Location Number: 035
Elevation: 2,482.00	Facility Location: Pond 35	Quad: KEEN MOUNTAIN	Northing: 3,603,779.4631
Easting: 10,498,088.1194	Watershed Acres: 1.8	Disturbed Acres: 0.9	Receiving Stream: GRASSY CREEK

MPID Number: 0006163	Action:	Sampling Freq/Qtr: 6	Location Number: 034
Elevation: 2,458.00	Facility Location: Pond 34	Quad: KEEN MOUNTAIN	Northing: 3,604,849.4939
Easting: 10,498,588.1433	Watershed Acres: 17.2	Disturbed Acres: 6.5	Receiving Stream: GRASSY CREEK

MPID Number: 0005953	Action:	Sampling Freq/Qtr: 6	Location Number: 032
Elevation: 1,995.00	Facility Location: POND 32	Quad: JEWELL RIDGE	Northing: 3,617,149.8563
Easting: 10,505,933.5161	Watershed Acres: 60.5	Disturbed Acres: 5.5	Receiving Stream: BUCK BRANCH

MPID Number: 0004850	Action:	Sampling Freq/Qtr: 6	Location Number: 031
Elevation: 2,183.00	Facility Location: POND 31	Quad: KEEN MOUNTAIN	Northing: 3,617,289.7772
Easting: 10,498,963.2046	Watershed Acres: 7.9	Disturbed Acres: 3.4	Receiving Stream: LITTLE HURRICANE BRANCH

MPID Number: 0003826	Action:	Sampling Freq/Qtr: 6	Location Number: 029
Elevation: 2,250.00	Facility Location: BASIN 29	Quad: KEEN MOUNTAIN	Northing: 3,618,182.5600
Easting: 10,491,319.3600	Watershed Acres: 13.2	Disturbed Acres: 1.9	Receiving Stream: HONAKER BRANCH

MPID Number: 0002783	Action:	Sampling Freq/Qtr: 6	Location Number: 026
Elevation: 1,800.00	Facility Location: BASIN 26	Quad: KEEN MOUNTAIN	Northing: 3,611,289.5666
Easting: 10,485,125.1460	Watershed Acres: 19.5	Disturbed Acres: 4.6	Receiving Stream: CLIFTON FORK

MPID Number: 0002431	Action:	Sampling Freq/Qtr: 6	Location Number: 025
Elevation: 1,830.00	Facility Location: BASIN 025	Quad: VANSANT	Northing: 3,600,897.5000
Easting: 10,462,016.4600	Watershed Acres: 74.1	Disturbed Acres: 1.7	Receiving Stream: NORTH BRANCH

MPID Number: 0001001	Action:	Sampling Freq/Qtr: 6	Location Number: 024
Elevation: 1,720.00	Facility Location: BASIN 24	Quad: KEEN MOUNTAIN	Northing: 3,605,329.4689
Easting: 10,484,491.9526	Watershed Acres: 1.7	Disturbed Acres: 1.5	Receiving Stream: GRASSY CREEK

12. Instream Monitoring Description:

Instream monitoring requirements and locations are addressed in Sections 5.7, 5.10, and 21.2 of the joint CSMO/NPDES permit. Location details for each instream monitoring site are tabulated below:

MPID Number: 0008303	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-7
Facility Location: Bio/ChemDS	Quad: KEEN MOUNTAIN	Northing: 3,617,938.0000	Easting: 10,485,267.0000
Stream: CONTRARY CREEK			

MPID Number: 0008302	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-6
Facility Location: Bio/ChemDS	Quad: KEEN MOUNTAIN	Northing: 3,609,890.0000	Easting: 10,463,456.0000
Stream: GARDEN CREEK			

MPID Number: 0008301	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-14
Facility Location: Bio/ChemDS	Quad: KEEN MOUNTAIN	Northing: 3,603,779.0000	Easting: 10,496,948.0000
Stream: GRASSY CREEK			

MPID Number: 0008298	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-11
Facility Location: Bio/ChemDS	Quad: KEEN MOUNTAIN	Northing: 3,605,052.0000	Easting: 10,477,942.0000
Stream: WHETSTONE BRANCH			

MPID Number: 0008022	Action: C	Sampling Freq/Qtr: 0	Location Number: BAS-3-VP6
Facility Location: Downstream	Quad: VANSANT	Northing: 3,602,417.0000	Easting: 10,459,320.0000
Stream: RIGHT FORK GARDEN CREEK			

MPID Number: 0008021	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-2-VP6
Facility Location: Upstream	Quad: VANSANT	Northing: 3,602,037.0000	Easting: 10,458,319.0000
Stream: RIGHT FORK GARDEN CREEK			

MPID Number: 0008020	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-1-VP6
Facility Location: Downstream	Quad: VANSANT	Northing: 3,605,323.0000	Easting: 10,459,447.0000
Stream: RIGHT FORK GARDEN CREEK			

MPID Number: 0007773	Action:	Sampling Freq/Qtr: 0	Location Number: LVF04
Facility Location: Upstream	Quad: GRUNDY	Northing: 3,646,044.0000	Easting: 10,434,220.0000
Stream: LEVISA FORK			

MPID Number: 0007772	Action:	Sampling Freq/Qtr: 0	Location Number: LVF03
Facility Location: Downstream	Quad: GRUNDY	Northing: 3,646,428.0000	Easting: 10,433,002.0000
Stream: LEVISA FORK			

MPID Number: 0007771	Action:	Sampling Freq/Qtr: 0	Location Number: LVF02
Facility Location: Downstream	Quad: GRUNDY	Northing: 3,647,195.0000	Easting: 10,430,216.0000
Stream: LEVISA FORK			

MPID Number: 0007770	Action:	Sampling Freq/Qtr: 0	Location Number: LVF01
Facility Location: Downstream	Quad: HARMAN	Northing: 3,651,457.0000	Easting: 10,427,504.0000
Stream: LEVISA FORK			

MPID Number: 0007769	Action:	Sampling Freq/Qtr: 3	Location Number: NB- DS
Facility Location: Downstream	Quad: KEEN MOUNTAIN	Northing: 3,601,204.0000	Easting: 10,460,554.0000
Stream: NORTH BRANCH			

MPID Number: 0007768	Action:	Sampling Freq/Qtr: 3	Location Number: NB- US
Facility Location: Upstream	Quad: KEEN MOUNTAIN	Northing: 3,600,671.0000	Easting: 10,460,799.0000
Stream: NORTH BRANCH			

MPID Number: 0007767	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-5
Facility Location: BIO/CHEMDS	Quad: KEEN MOUNTAIN	Northing: 3,601,204.0000	Easting: 10,460,554.0000
Stream: NORTH BRANCH			

MPID Number: 0007766	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-4
Facility Location: BIO/CHEMUS	Quad: KEEN MOUNTAIN	Northing: 3,600,671.0000	Easting: 10,460,799.0000
Stream: NORTH BRANCH			

MPID Number: 0012533	Action: A	Sampling Freq/Qtr: 0	Location Number: VS8-CC1BC
Facility Location: Upstream	Quad: KEEN MOUNTAIN	Northing: 3,619,532.0000	Easting: 10,486,229.0000
Stream: CONTRARY CREEK			

MPID Number: 0012531	Action: D	Sampling Freq/Qtr: 0	Location Number: VS8-CC1BC
Facility Location: Upstream	Quad: KEEN MOUNTAIN	Northing: 3,619,459.7091	Easting: 10,486,122.4420
Stream:			

MPID Number: 0007764	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-2
Facility Location: BIO/CHEMDS	Quad: KEEN MOUNTAIN	Northing: 3,600,924.0000	Easting: 10,469,718.0000
Stream: TRACE BRANCH			

MPID Number: 0007763	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-1
Facility Location: BIO/CHEMDS	Quad: KEEN MOUNTAIN	Northing: 3,599,380.0000	Easting: 10,468,656.0000
Stream: GARDEN CREEK			

MPID Number: 0007762	Action:	Sampling Freq/Qtr: 0	Location Number: VS13-LB-1
Facility Location: Downstream	Quad: JEWELL RIDGE	Northing: 3,622,054.0000	Easting: 10,501,800.0000
Stream: LAUDERS BRANCH			

MPID Number: 0007761	Action:	Sampling Freq/Qtr: 3	Location Number: VS13-LB-1
Facility Location: Instream	Quad: JEWELL RIDGE	Northing: 3,622,054.0000	Easting: 10,501,800.0000
Stream: LAUDERS BRANCH			

MPID Number: 0006507	Action:	Sampling Freq/Qtr: 3	Location Number: LFR-2
Facility Location: Downstream	Quad: GRUNDY	Northing: 3,647,978.2065	Easting: 10,429,325.1063
Stream: LEVISA FORK			

MPID Number: 0006506	Action:	Sampling Freq/Qtr: 3	Location Number: LFR-1
Facility Location: Upstream	Quad: GRUNDY	Northing: 3,646,153.2436	Easting: 10,433,904.2274
Stream: LEVISA FORK			

MPID Number: 0006165	Action:	Sampling Freq/Qtr: 3	Location Number: VS12-GC22
Facility Location: BELOW	Quad: KEEN MOUNTAIN	Northing: 3,603,779.4474	Easting: 10,496,948.0740
Stream: GRASSY CREEK			

MPID Number: 0005955	Action:	Sampling Freq/Qtr: 3	Location Number: VS11-BB20
Facility Location: UPSTREAM	Quad: JEWELL RIDGE	Northing: 3,618,594.8998	Easting: 10,507,018.5741
Stream: BUCK BRANCH			

MPID Number: 0005954	Action:	Sampling Freq/Qtr: 3	Location Number: VS11-BB19
Facility Location: DOWNSTREAM	Quad: JEWELL RIDGE	Northing: 3,616,699.8352	Easting: 10,504,963.4701
Stream: BUCK BRANCH			

MPID Number: 0004852	Action:	Sampling Freq/Qtr: 3	Location Number: VS10-LH18
Facility Location: DOWNSTREAM	Quad: JEWELL RIDGE	Northing: 3,615,826.7599	Easting: 10,500,248.2563
Stream: LITTLE HURRICANE BRANCH			

MPID Number: 0004851	Action:	Sampling Freq/Qtr: 3	Location Number: VS10-LH17
Facility Location: UPSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,616,974.7599	Easting: 10,498,094.1648
Stream: LITTLE HURRICANE BRANCH			

MPID Number: 0010529	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-025BDS
Facility Location: Downstream	Quad: KEEN MOUNTAIN	Northing: 3,611,749.0000	Easting: 10,462,264.0000
Stream: GARDEN CREEK			

MPID Number: 5720056	Action:	Sampling Freq/Qtr: 3	Location Number: P-18-10023
Facility Location:	Quad: KEEN MOUNTAIN	Northing: 3,606,213.2885	Easting: 10,465,071.9217
Stream: GARDEN CREEK			

MPID Number: 5720055	Action:	Sampling Freq/Qtr: 3	Location Number: P-18-100-8
Facility Location:	Quad: KEEN MOUNTAIN	Northing: 3,608,725.3106	Easting: 10,463,930.6042
Stream: GARDEN CREEK			

MPID Number: 5720017	Action:	Sampling Freq/Qtr: 3	Location Number: 6-GC
Facility Location: UPSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,595,542.8287	Easting: 10,470,422.5771
Stream: GARDEN CREEK			

MPID Number: 5720016	Action:	Sampling Freq/Qtr: 3	Location Number: 5-GC
Facility Location: DOWNSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,604,894.0000	Easting: 10,465,877.0000
Stream: GARDEN CREEK			

MPID Number: 0010834	Action:	Sampling Freq/Qtr: 0	Location Number: VS15-BC1
Facility Location: Upstream	Quad: PATTERSON	Northing: 3,633,978.0000	Easting: 10,493,699.0000
Stream: LOGGY BOTTOM BRANCH			

MPID Number: 0010825	Action:	Sampling Freq/Qtr: 3	Location Number: VS15-2
Facility Location: DOWNSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,630,905.0000	Easting: 10,494,137.0000
Stream: LOGGY BOTTOM BRANCH			

MPID Number: 0010824	Action:	Sampling Freq/Qtr: 3	Location Number: VS15-1
Facility Location: UPSTREAM	Quad: PATTERSON	Northing: 3,633,978.0000	Easting: 10,493,699.0000
Stream: LOGGY BOTTOM BRANCH			

MPID Number: 0010546	Action:	Sampling Freq/Qtr: 3	Location Number: GC-US-025B
Facility Location: Upstream	Quad: VANSANT	Northing: 3,611,243.0000	Easting: 10,462,385.0000
Stream: GARDEN CREEK			

MPID Number: 0010545	Action:	Sampling Freq/Qtr: 3	Location Number: RF- US-025B
Facility Location: Upstream	Quad: VANSANT	Northing: 3,611,171.0000	Easting: 10,462,329.0000
Stream: RIGHT FORK GARDEN CREEK			

MPID Number: 0010544	Action:	Sampling Freq/Qtr: 3	Location Number: GC-DS-008
Facility Location: Downstream	Quad: KEEN MOUNTAIN	Northing: 3,601,337.0000	Easting: 10,466,684.0000
Stream: GARDEN CREEK			

MPID Number: 0010543	Action:	Sampling Freq/Qtr: 3	Location Number: GC-US-008
Facility Location: Upstream	Quad: KEEN MOUNTAIN	Northing: 3,600,883.0000	Easting: 10,466,849.0000
Stream: GARDEN CREEK			

MPID Number: 0010531	Action:	Sampling Freq/Qtr: 3	Location Number: GC-DS-025B
Facility Location: Downstream	Quad: KEEN MOUNTAIN	Northing: 3,611,521.0000	Easting: 10,462,344.0000
Stream: GARDEN CREEK			

MPID Number: 0010530	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-025BUS
Facility Location: Upstream	Quad: KEEN MOUNTAIN	Northing: 3,611,171.0000	Easting: 10,462,329.0000
Stream: RIGHT FORK GARDEN CREEK			

MPID Number: 0009163	Action:	Sampling Freq/Qtr: 0	Location Number: VS15-BC2
Facility Location: Downstream	Quad: PATTERSON	Northing: 3,630,905.0000	Easting: 10,494,137.0000
Stream: LOGGY BOTTOM BRANCH			

MPID Number: 0009162	Action:	Sampling Freq/Qtr: 3	Location Number: RF-US-025A
Facility Location: Upstream	Quad: VANSANT	Northing: 3,602,254.0000	Easting: 10,458,816.0000
Stream: RIGHT FORK GARDEN CREEK			

MPID Number: 0009161	Action:	Sampling Freq/Qtr: 3	Location Number: RF-DS-025A
Facility Location: Downstream	Quad: VANSANT	Northing: 3,602,417.0000	Easting: 10,459,320.0000
Stream: RIGHT FORK GARDEN CREEK			

MPID Number: 0009073	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-2-VP3
Facility Location: Upstream	Quad: VANSANT	Northing: 3,628,272.9170	Easting: 10,437,734.8870
Stream: LEVISA FORK			

MPID Number: 0009071	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-3-VP3
Facility Location: Upstream	Quad: VANSANT	Northing: 3,627,384.9670	Easting: 10,435,273.2180
Stream: LEVISA FORK			

MPID Number: 0008869	Action: C	Sampling Freq/Qtr: 0	Location Number: VS16-DR2BC
Facility Location: downstream	Quad: JEWELL RIDGE	Northing: 3,626,075.0000	Easting: 10,507,187.0000
Stream: DISMAL CREEK			

MPID Number: 0008868	Action:	Sampling Freq/Qtr: 0	Location Number: VS16-DR1BC
Facility Location: upstream	Quad: JEWELL RIDGE	Northing: 3,627,271.0000	Easting: 10,507,857.0000
Stream: DISMAL CREEK			

MPID Number: 0008867	Action: C	Sampling Freq/Qtr: 3	Location Number: VS16-DR2
Facility Location: VS16-DOWN	Quad: JEWELL RIDGE	Northing: 3,626,075.0000	Easting: 10,507,187.0000
Stream: DISMAL CREEK			

MPID Number: 0008866	Action:	Sampling Freq/Qtr: 3	Location Number: VS16-DR1
Facility Location: VS16-UP	Quad: JEWELL RIDGE	Northing: 3,627,271.0000	Easting: 10,507,857.0000
Stream: DISMAL CREEK			

MPID Number: 0008865	Action:	Sampling Freq/Qtr: 0	Location Number: VS14BCLF2
Facility Location: US	Quad: JEWELL RIDGE	Northing: 3,613,301.0000	Easting: 10,508,177.0000
Stream: LAUREL FORK			

MPID Number: 0008864	Action:	Sampling Freq/Qtr: 3	Location Number: VS14 - LF2
Facility Location: US	Quad: JEWELL RIDGE	Northing: 3,613,301.0000	Easting: 10,508,177.0000
Stream: LAUREL FORK			

MPID Number: 0008862	Action:	Sampling Freq/Qtr: 3	Location Number: VS14-LF-1
Facility Location: DS	Quad: JEWELL RIDGE	Northing: 3,614,339.0000	Easting: 10,505,485.0000
Stream: LAUREL FORK			

MPID Number: 0003829	Action:	Sampling Freq/Qtr: 3	Location Number: BCH-IS-16
Facility Location: DOWNSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,617,139.1869	Easting: 10,488,999.4478
Stream: HONAKER BRANCH			

MPID Number: 0003224	Action: C	Sampling Freq/Qtr: 3	Location Number: BCH-015
Facility Location: UPSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,619,532.0000	Easting: 10,486,229.0000
Stream: CONTRARY CREEK			

MPID Number: 0003223	Action:	Sampling Freq/Qtr: 3	Location Number: BCH-014
Facility Location: DOWNSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,617,938.1620	Easting: 10,485,267.4686
Stream: CONTRARY CREEK			

MPID Number: 0001398	Action:	Sampling Freq/Qtr: 3	Location Number: BCH-IS-10
Facility Location: DOWN/TRIB	Quad: KEEN MOUNTAIN	Northing: 3,609,615.5092	Easting: 10,477,160.7048
Stream: LEVISA FORK			

MPID Number: 0001006	Action:	Sampling Freq/Qtr: 3	Location Number: BCH-IS-13
Facility Location: DOWNSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,605,173.9250	Easting: 10,483,850.1772
Stream: GRASSY CREEK			

MPID Number: 0002786	Action:	Sampling Freq/Qtr: 3	Location Number: VS7-BL2
Facility Location: DOWNSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,613,575.7380	Easting: 10,484,867.2070
Stream: CLIFTON FORK			

MPID Number: 0002785	Action:	Sampling Freq/Qtr: 3	Location Number: VS7-BL1
Facility Location: UPSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,610,969.8089	Easting: 10,485,609.9294
Stream: CLIFTON FORK			

MPID Number: 0001399	Action:	Sampling Freq/Qtr: 3	Location Number: BCH-IS-11
Facility Location: UP/TRIB	Quad: KEEN MOUNTAIN	Northing: 3,608,789.8850	Easting: 10,475,984.7223
Stream: LEVISA FORK			

MPID Number: 0001005	Action:	Sampling Freq/Qtr: 3	Location Number: BCH-IS-12
Facility Location: UPSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,605,001.1326	Easting: 10,485,623.4358
Stream: GRASSY CREEK			

MPID Number: 0011727	Action:	Sampling Freq/Qtr: 3	Location Number: VS18-1
Facility Location: Upstream	Quad: KEEN MOUNTAIN	Northing: 3,585,954.1125	Easting: 10,485,149.5600
Stream: LEVISA FORK			

MPID Number: 0011728	Action:	Sampling Freq/Qtr: 3	Location Number: VS18-2
Facility Location: Downstream	Quad: KEEN MOUNTAIN	Northing: 3,594,191.9300	Easting: 10,483,740.5900
Stream: LEVISA FORK			

MPID Number: 0011730	Action:	Sampling Freq/Qtr: 0	Location Number: VS18-BC1
Facility Location: Upstream	Quad: KEEN MOUNTAIN	Northing: 3,593,272.7100	Easting: 10,485,149.5600
Stream: LEVISA FORK			

MPID Number: 5720098	Action:	Sampling Freq/Qtr: 3	Location Number: CM-2
Facility Location: UPSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,604,904.1290	Easting: 10,476,452.5080
Stream: WHETSTONE BRANCH			

MPID Number: 5720081	Action:	Sampling Freq/Qtr: 3	Location Number: S-2- VP3
Facility Location: Upstream	Quad: VANSANT	Northing: 3,628,032.2055	Easting: 10,435,300.6970
Stream: LEVISA FORK			

MPID Number: 5720080	Action:	Sampling Freq/Qtr: 3	Location Number: S-1- VP3
Facility Location: Downstream	Quad: VANSANT	Northing: 3,629,773.5004	Easting: 10,433,703.0000
Stream: LEVISA FORK			

MPID Number: 5720057	Action:	Sampling Freq/Qtr: 3	Location Number: P- 18-10047
Facility Location:	Quad: KEEN MOUNTAIN	Northing: 3,608,005.2413	Easting: 10,464,893.3371
Stream: GARDEN CREEK			

MPID Number: 0008863	Action:	Sampling Freq/Qtr: 0	Location Number: VS14BCLF1
Facility Location: DS	Quad: JEWELL RIDGE	Northing: 3,614,339.0000	Easting: 10,505,485.0000
Stream: LAUREL FORK			

MPID Number: 0008306	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-10
Facility Location: Bio/ChemDS	Quad: JEWELL RIDGE	Northing: 3,616,700.0000	Easting: 10,504,963.0000
Stream: BUCK BRANCH			

MPID Number: 0008305	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-9
Facility Location: Bio/ChemDS	Quad: KEEN MOUNTAIN	Northing: 3,615,827.0000	Easting: 10,500,248.0000
Stream: LITTLE HURRICANE BRANCH			

MPID Number: 0008304	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-8
Facility Location: Bio/ChemDS	Quad: KEEN MOUNTAIN	Northing: 3,617,139.0000	Easting: 10,488,999.0000
Stream: HONAKER BRANCH			

MPID Number: 0011729	Action:	Sampling Freq/Qtr: 0	Location Number: VS18-BC2
Facility Location: Downstream	Quad: KEEN MOUNTAIN	Northing: 3,594,191.9300	Easting: 10,483,740.5900
Stream: LEVISA FORK			

MPID Number: 5720099	Action:	Sampling Freq/Qtr: 3	Location Number: CM-1
Facility Location: DOWNSTREAM	Quad: KEEN MOUNTAIN	Northing: 3,605,040.7017	Easting: 10,476,938.2142
Stream: WHETSTONE BRANCH			

MPID Number: 0009072	Action:	Sampling Freq/Qtr: 0	Location Number: BAS-1-VP3
Facility Location: Downstream	Quad: VANSANT	Northing: 3,631,561.2720	Easting: 10,434,574.8050
Stream: LEVISA FORK			

13. Ground Water Monitoring:

Ground water monitoring requirements and locations are addressed in Sections 5.3, 5.6, and 21.2 of the joint CSMO/NPDES permit.

14. Climatological Monitoring Description:

Climatological monitoring requirements and location information are addressed in Sections 5.12 and 21.2 of the joint CSMO/NPDES permit.

15. Threatened/Endangered Species

For additional information regarding Threatened/Endangered Species, refer to Section 8.7 of the joint CSMO/NPDES permit application.

16. Site Inspection:

Site inspections are required under the Surface Mining Control and Reclamation Act (SMCRA) permit under 4 VAC 25-130-840.11.

17. Storm Water Discharges Associated with Industrial Activity:

All outfalls from the facility which contain storm water runoff will be subject to the storm water provisions of the NPDES program as governed by 9 VAC 25-31 et seq. The Surface Mining Control and Reclamation Act (SMCRA) permit authorized under 4 VAC 25-130 and issued jointly with this NPDES permit contains extensive storm water monitoring and management requirements which are incorporated into this NPDES permit by reference.

The management and control of all storm water discharges not covered under 9 VAC 25-31 et seq is governed by the storm water management and drainage control provisions proposed in the SMCRA permit and meet or exceed the Storm Water Pollution Prevention Plan requirements of 9 VAC 25-151-80.

18. Anti-Degradation Review:

Stream Tier Designation(s):

There are 16 streams designated as affected surface waters for this permit.

Grassy Creek has a designation of Tier I.

North Branch has a designation of Tier I.

Clifton Fork has a designation of Tier I.

Honaker Branch has a designation of Tier I.

Little Hurricane Branch has a designation of Tier I.

Buck Branch has a designation of Tier I.

Levisa Fork has a designation of Tier I.

Lauders Branch has a designation of Tier I.

Benny Branch has a designation of Tier I.

Dismal Creek has a designation of Tier I.

Right Fork Garden Creek has a designation of Tier I.

Garden Creek has a designation of Tier I.

Loggy Bottom Branch has a designation of Tier I.

Whetstone Branch has a designation of Tier I.

Contrary Creek has a designation of Tier I.

Trace Branch has a designation of Tier I.

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

19. Anti-Backsliding:

For permit renewals and(or) permit modifications, the effluent limitations included in the permit are at least as restrictive as those in the preceding permit.

20. Permit Conditions:

Refer to the standard conditions and special conditions contained in the joint CSMO/NPDES permit.

The following special conditions are proposed to be included in Sections C and D of the NPDES permit:

- a. **Industrial Reopener.** The permit includes a standard reopener to address potential changes in the permit which may be required as a result of changes in effluent standards or limitations promulgated or approved under Section 307(a)(2) of the Clean Water Act. (Part I.B.1) [Section C]

Rationale: 40 CFR 122.44 requires all permits for primary industrial categories to include the requirements of Section 307(a)(2) of the Clean Water Act.

- b. **Notification Levels:** The permit includes a special condition which requires the permittee to notify the Department if they discharge certain toxic pollutants above established concentrations. [Section C]

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers.

- c. **TMDL Reopener.** The permit includes a standard reopener to address potential changes in the permit which may be required as a result of a new or revised TMDL. [Section D]

Rationale: Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other waste load allocation prepared under section 303 of the Act.

It is believed that the joint CSMO/NPDES permit effluent limitations and special conditions will maintain State water quality standards.

21. Materials Storage:

See Special Condition (p) 2 of the standard NPDES Permit Conditions in the NPDES Permit, Section C.

22. NPDES Permit Rating Worksheet:

The staff has completed the NPDES Permit Rating Worksheet and has determined that the facility meets the criteria to be classified as a Major Source. The completed worksheet is included in Appendix V.
Total Score: 570

23. Detailed Description - Location of Discharge Point(s)

Reference the mapping included in Section 21.2 of the permit application.

24. Public Participation:

Public Notice Information:

Public Notice required.

A copy of the application materials is made available for public inspection and comment at the designated public office. A copy of the draft NPDES permit and fact sheet are available for public inspection and comment at the Division’s Big Stone Gap office.

NPDES Permit Renewal/Modification

Public notice requires publication for 1 week in a newspaper of general circulation. The public comment period runs 30 days following the date of publication. Refer to Sections 2.6 and 2.7 of the joint CSMO/NPDES permit.

New Joint Permit, CSMO/NPDES Permit Renewal, or Significant Revision

Public notice requires publication for 4 consecutive weeks in a newspaper of general circulation. The public comment period runs 30 days following the date of last publication. Refer to Sections 2.6 and 2.7 of the joint CSMO/NPDES permit.

Public Comment Beginning Date:

1/19/2023 (1st publication, VIRGINIA MOUNTAINEER (Grundy))

Public Comment Ending Date:

3/11/2023 (30 days following last publication, VIRGINIA MOUNTAINEER (Grundy))

Public Comment Information:

Any person whose interests are or may be adversely affected by the proposed operation, or an Officer, or Head of any Federal, State, or local government agency or authority may within 30 days of the date of fourth publication may submit written comments or objections to the Division of Mined Land Reclamation concerning the proposed operation (and may also request, in writing, that the Division hold an Informal Conference concerning the application).

Any relevant comments received during the public comment period or provided during an Informal Conference are addressed in writing and provided to those who comment. Comments that were received after the public comment period were considered during the technical review process.

Procedures for requesting an informal conference:

A request for an informal conference shall follow the requirements of 4 VAC 25-130-773.13(c) of the Virginia Coal Surface Mining Reclamation Regulations.

All correspondence concerning the application should be submitted to:

Virginia Department of Energy
Attn: DMLR Permit Section
3405 Mountain Empire Rd
Big Stone Gap, VA 24219
Telephone: (276) 523-8200 - Attn: DMLR Permit Section

Written comments and a request for informal conference may be e-mailed to the Division at repurposingpublicnotice@energy.virginia.gov

Procedures for requesting a formal hearing:

4VAC25-130-775.11(g)

Administrative review:

Within 30 days after an applicant or permittee is notified of the decision of the division concerning an application for approval of exploration required under Part 772, a permit for surface coal mining and reclamation operations, a permit revision, a permit renewal, or a transfer, assignment, or sale of permit rights, the applicant, permittee, or any person with an interest which is or may be adversely affected by the decision may request, in writing, a formal public hearing to contest such action with the Director of the Division of Mined Land Reclamation:

Virginia Department of Energy
Attn: Director of the Division of Mined Land Repurposing
3405 Mountain Empire Rd
Big Stone Gap, VA 24219

Procedures for judicial review:

4VAC25-130-775.13:

Judicial review

(a) General. Any applicant, or any person with an interest which is or may be adversely affected by the final administrative decision and who has participated in the administrative hearings as an objector may appeal as provided in subsection (b) of this section if—

(1) The applicant or person is aggrieved by the director or his designee's final order under 4VAC25-130-775.11; or

(2) Either the division or the director failed to act within time limits specified in 4VAC25-130-775.11.

(b) Judicial review. The final order of the division pursuant to subsection (a) of 4VAC25-130-775.11 shall be subject to judicial review as provided by the Virginia Administrative Process Act and the rules of the Supreme Court of Virginia as promulgated thereto. The availability of such review shall not be construed to limit the operation of the rights established in Section 520 of the Federal Act.

(c) All notices of appeal for judicial review of a hearing officer's final decision, or the final decision on review and reconsideration, shall be filed with the Director, Division of Mined Land Reclamation:

Virginia Department of Energy
Attn: Director of the Division of Mined Land Repurposing
3405 Mountain Empire Rd
Big Stone Gap, VA 24219

25. Variations

This permit has applicable waiver variations. The permit standards with waivers and variations are as follows:

- Within 100 feet of the right of way of any public road (4 VAC 25-130-761.1)
- Within 100 feet of the right of way of any public road (4 VAC 25-130-761.1)
- WSI WITHIN 1/2 MILE OF THE WATER PIPELINE WAIVER (9408615) or 1003492
- INSTALL PIPELINE FROM MINEWATER TREATMENT PLANT TO BASIN 8
- OPERATE WITHIN 100 FT. OF BUCK BRANCH-1002031
- Drainage variance Concrete Plant at Vent Shaft 11-1002031
- Blasting within 500 feet of abandoned underground mine
- Operate within 100 feet of Levisa Fork River.
- Small Area Drainage Variance for Monitoring Wells and D-Shaft Sites-1004922
- OPERATE WITHIN 100 FEET OF CONTRARY CREEK (9407312)
- OPERATE WITHIN 100 FEET OF ROUTE 680 (9407639)
- VALID EXISTING RIGHTS FOR DWELLING 383 (9407312)
- GROUNDWATER MONITORING FREQUENCY FOR GW-13 (9407639)
- UTILIZE ACCESS ROAD W/IN 100 FEET OF HONAKER BRNCH
- GROUNDWATER MONITORING FREQUENCY FOR GW-14 (9408132)
- BLASTING DESIGN (1000199)
- Waterline from VS8 to VS9. & VS14 Haulroad
- Within 100 feet of a perennial or intermittent stream (4 VAC 25-130-816.57)
- Small area drainage variance (4 VAC 25-130-816.46 (e))
- Within 500 feet of known abandoned underground mine works (4 VAC 25-130-816)
- Small area drainage variance (4 VAC 25-130-816.46 (e))
- Within 100 feet of a perennial or intermittent stream (4 VAC 25-130-816.57)
- Small area drainage variance at VP Mine #3 - 1009907
- VP #3 is within 100 feet of Levisa Fork
- VP #3 is within 100 feet of Rt. 83
- Within 100 feet of a perennial or intermittent stream (1009907)(4 VAC 25-130-816.57)
- Small area drainage variance (4 VAC 25-130-816.46 (e))
- Small area drainage variance (4 VAC 25-130-816.46 (e))
- Small area drainage variance (4 VAC 25-130-816.46 (e))
- Small area drainage variance (4 VAC 25-130-816.46 (e))
- Within 100 feet of the right of way of any public road (4 VAC 25-130-761.1)
- Within 500 feet of known abandoned underground mine works (4 VAC 25-130-816)

26. Staff Comments

Staff comments and applicant responses are located in Section 21.3 of the joint CSMO/NPDES permit.

27. Impaired Segments/TMDL Watersheds

TMDL Wasteload Evaluation:

Aggregate/transient mining wasteloads for each TMDL watershed and stressor are calculated on a quarterly basis by the DMLR staff using reported monitoring data (including measurements taken when utilizing applicable AELs). These wasteload evaluations include each permit's contribution to the total TMDL wasteload. If the total TMDL wasteload exceeds the wasteload balance provided in the approved TMDL document, individual wasteload reductions for each permit are also calculated.

Wasteload evaluations for TMDL watersheds applicable to this permit are summarized in this factsheet. Full wasteload evaluation documents will be posted on the web when available at: <https://energy.virginia.gov/coal/mined-land-repurposing/water-quality.shtml>.

TMDL Summary for Permit 1402152 / 0082152:

There are 2 TMDL area which contain a wasteload allocation for active coal mining facilities affected by the outfalls of this permit - Garden Creek and Levisa River. The outfalls 001, 003, 004, 008, 010, 011, 012, 017, 018, 025, 025A, 025B, 043, 045, 046, and 047 on this permit are previously approved to discharge into the Garden Creek Watershed. There are no proposed discharges to the Garden Creek Watershed for this application. The outfalls 001, 003, 004, 008, 010, 011, 012, 017, 018, 021, 022, 024, 025, 025A, 025B, 026, 028, 029, 031, 032, 033, 034, 035, 036, 037, 038, 039, 043, 045, 046, 047, 049, 051, 052, 053, 054, 055, and Pond 32 on this permit are previously approved to discharge into the Levisa River Watershed. There are no proposed discharges to the Levisa River Watershed for this application.

Garden Creek CL TMDL Summary

The Virginia Department of Environmental Quality (VDEQ) requested a partial delisting for chloride in Garden Creek in its Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report. VDEQ’s report was approved by EPA on December 12, 2013. The following chloride evaluation summary is for the purpose of tracking waste loads only.

Garden Creek CL Wasteload Evaluation Summary for Q1 2024 4/1/2023 to 3/31/2024	
Watershed Wasteload Allocation for Mining Operations (kg/year):	357,149
Current Watershed Wasteload from Mining Operations (kg/year):	153,158
Mining Wasteload Balance (kg/year):	203,991
Permit Wasteload (kg/year):	153,158
Permit Wasteload Reduction Target (kg/year):	0.00
Est. Wasteload Change Due to this Application (kg/year):	0.00
Permit Offset Required (kg/year):	0.00

Based on the Garden Creek CL wasteload evaluation from 4/1/2023 to 3/31/2024, the aggregate/transient mining wasteload does not exceed the wasteload allocation. Therefore, the associated NPDES permit does not require the permittee to implement BMPs and/or offsets to reduce future CL wasteloads in the Garden Creek watershed.

There is no proposed wasteload change due to this application revision. Therefore, an offset is not required.

Garden Creek TDS TMDL Summary

Garden Creek TDS Wasteload Evaluation Summary for Q1 2024 4/1/2023 to 3/31/2024	
Watershed Wasteload Allocation for Mining Operations (kg/year):	466,331
Current Watershed Wasteload from Mining Operations (kg/year):	1,484,932
Mining Wasteload Balance (kg/year):	-1,018,601
Permit Wasteload (kg/year):	1,484,932
Permit Wasteload Reduction Target (kg/year):	1,165,535.83
Est. Wasteload Change Due to this Application (kg/year):	0.00
Permit Offset Required (kg/year):	1,018,601

Based on the Garden Creek TDS wasteload evaluation from 4/1/2023 to 3/31/2024, the aggregate/transient mining wasteload exceeds the wasteload allocation. Therefore, the permittee is required to implement BMPs and/or offsets to reduce future TDS wasteloads in the Garden Creek watershed.

The company has completed an offset for TDS for 674,694 kg/year as addressed in revision application 1010145. This offset is to be utilized in the event that the water use BMP (routing to preparation plant) does not provide sufficient wasteload reduction.

Permit revision application 1011096 proposed a TDS offset project in the Garden Creek watershed. The permittee proposed to completely remove the abandoned pre-SMCRA Page Gob pile. The gob pile was situated in an unnamed tributary of the Left Fork of Garden Creek, approximately 0.9 miles southeast of the intersection of State Routes 632 and 624 in Page, Buchanan County, Virginia. The gob pile removal was conducted as an Abandoned Mined Land (AML) enhancement project. The gob pile covered approximately 13 acres and had an estimated capacity of 879,000 cubic yards. The gob material was screened, and marketable material was reprocessed at Buchanan’s Prep Plant or transported to Dominion Virginia Power’s Virginia City Hybrid Energy Center for use as a fuel source. Unmarketable material was utilized to eliminate nearby AML highwall features or transported to the Buchanan No. 1 Mine Refuse Impoundment. The amount of proposed TDS offset credit to be generated by the gob pile removal was 2,013,947 kg/yr after taking a 2:1 mitigation ratio. Additional future TDS offset credit for AML highwall elimination is available at a rate of 30,983 kg/acre/year after taking a 10:1 mitigation ratio. Due to uncertainty related to the total acres of highwall that was eliminated, only the per acre credit amount was calculated in revision 1011096. The final credit for AML highwall elimination associated with the Page Gob Pile Offset Project will be addressed in a future permit revision. Refer to the Page Gob Pile Offset Project Report located in Section 6.1 of revision application 1011096 for project details and calculations.

Levisa River TSS TMDL Summary

Levisa River TSS Wasteload Evaluation Summary for Q1 2024 4/1/2023 to 3/31/2024	
Watershed Wasteload Allocation for Mining Operations (kg/year):	418,860
Current Watershed Wasteload from Mining Operations (kg/year):	81,405
Mining Wasteload Balance (kg/year):	337,455
Permit Wasteload (kg/year):	28,347
Permit Wasteload Reduction Target (kg/year):	0.00
Est. Wasteload Change Due to this Application (kg/year):	0.00
Permit Offset Required (kg/year):	0.00

Based on the Levisa River TSS wasteload evaluation from 4/1/2023 to 3/31/2024, the aggregate/transient mining wasteload does not exceed the wasteload allocation. Therefore, the

associated NPDES permit does not require the permittee to implement BMPs and/or offsets to reduce future TSS wasteloads in the Levisa River watershed.

There is no proposed wasteload change due to this application revision. Therefore, an offset is not required.

TMDL Offset Tracking and Evaluation

If an offset is required, the Department will track approved offset balances for this permit utilizing the Department's TMDL system. If the permit is required to have a mining waste load offset in order to discharge, then the following requirements will also be applied.

1. Permit compliance will be determined by comparing the rolling annualized aggregate mining waste load to the offset limitations. The permit will not be allowed to exceed the mining waste load offset amount credited to this permit except as described below:
 - a. Provided excess mining waste load is available when the aggregate watershed mining waste load is compared to the TMDL mining waste load allocation, the excess may be applied to the permitted waste load for that particular quarter.
 - b. On the condition of the rolling annualized aggregate waste load exceeding the offset limitation, then the permittee may request that additional available offset credit be applied to the permit.
2. If no excess mining waste load is available and no existing offset credit is available, then the excess mining waste load amount from this permit must have an additional offset. The additional offset must be reviewed and approved by the Department.

Future Growth

The Department will track the future growth balance for TMDL watersheds. The future growth allocation will be managed in a manner similar to an offset where new applications will draw from future growth if mining waste load is not available for the watershed. If the future growth is utilized as well as the mining waste load for the watershed, the permit will be required to have a mining waste load offset in order to discharge.

PCBs

PCBs were widely used as dielectric and coolant fluids in transformers, capacitors, and electric motors from approximately 1920 until regulated by the Toxic Substance Control Act in 1978. Subsequently, production was banned in the United States in 1979 and equipment containing PCBs was required to be registered by EPA. Most PCB use in the Virginia coalfields would be associated with power reticulation and industrial electrical applications of which underground mining and prep plants would have been included.

Permit History Addressing PCBs

Revision 1008460

PCB Monitoring and Analysis

Effluent characterization analyses detected PCB in discharges from outfall 003, which is a representative monitoring location for Class V outfalls. Outfalls 004 and P18-004 are also Class V outfalls and will be required to have PCB monitoring. Based on the single representative monitoring sample, discharges from outfall 003 may exceed the PCB allocation for the permit, therefore additional monitoring for PCB is required and the permittee is required to confirm the presence of and monitor PCB in the discharges from this class of outfalls. The permittee is also required to meet with DMLR to review the monitoring data once sufficient data is collected or within a year to confirm the presence of PCB in the discharges. If it is determined that the presence of PCB in one or more of these discharges alone or in combination has a reasonable potential to exceed the PCB allocation for the permit, then a pollutant minimization plan will be required for the permit to reduce PCB contributions to the receiving stream.

PCBs were not detected in analyses from representative monitoring locations 018, 022, or 025 at levels exceeding the method blank. Analyses for PCB from outfall 033 were submitted for review, however, the analyses were conducted by EPA Method 8082A rather than EPA Method 1668.

Revision 1009907

PCB Monitoring and Analysis

The effluent at NPDES Outfalls 003 and 004 for PCBs has been sampled and analyzed in accordance with the approved NPDES permit. Monitoring results appear to show that implementation of a Pollutant Minimization Plan (PMP) may be necessary at NPDES Outfalls 003 and 004. Based upon the sampling results at NPDES Outfall 045, no additional sampling is warranted nor will implementation of a PMP be necessary. Results from the PCB monitoring at NPDES Outfalls 003 and 004 are detailed in the tables below.

PCB Sample Results for Outfall 003

<i>Compliance Schedule Condition</i>	<i>Sample Date</i>	<i>Flow (GPM)</i>	<i>Total PCBs (pg/L)</i>	<i>Annual PCB Loading (mg/year)</i>	<i>Annual Waste Load Allocation (mg/year)</i>
<i>Wet</i>	<i>06/30/2014</i>	<i>325</i>	<i>2.93</i>	<i>24.9</i>	<i>225</i>
<i>Dry</i>	<i>07/09/2014</i>	<i>500</i>	<i>228.8</i>		
<i>Dry (SGS)</i>	<i>08/27/2014</i>	<i>339</i>	<i>21.0</i>		
<i>Dry (Lancaster)</i>	<i>08/27/2014</i>	<i>339</i>	<i>0</i>		
<i>Wet</i>	<i>03/11/2015</i>	<i>400</i>	<i>16.03</i>	<i>42.1</i>	<i>225</i>
<i>Dry</i>	<i>08/12/2015</i>	<i>325</i>	<i>95.3</i>		
<i>Wet</i>	<i>07/07/2016</i>	<i>100</i>	<i>74.4</i>	<i>13.7</i>	<i>225</i>
<i>Dry</i>	<i>12/22/2016</i>	<i>75</i>	<i>68.8</i>		

PCB Sample Results for Outfall 004

<i>Compliance Schedule Condition</i>	<i>Sample Date</i>	<i>Flow (GPM)</i>	<i>Total PCBs (pg/L)</i>	<i>Annual PCB Loading (mg/year)</i>	<i>Waste Load Allocation (mg/year)</i>
<i>Wet</i>	<i>06/30/2014</i>	<i>0</i>	<i>N/A</i>	<i>0.0</i>	<i>225</i>

Dry	07/09/2014	0	N/A		
Wet	03/11/2015	50	1,406.36	56.0	225
Dry	08/12/2015	0	0		
Wet	07/07/2016	0	0	0.0	225
Dry	12/22/2016	0	0		

PCB Pollutant Minimization Plan

NPDES Outfalls 003 and 004 monitor surface water runoff from Buchanan’s Page Warehouse, Service Shaft and Bathhouse. The majority of the site draining to Ponds 3 and 4 is either paved or rooftop. Therefore, Buchanan inventoried the PCB-containing electrical equipment stored at the Page Warehouse as their PCB PMP. First, equipment containing PCBs was marked for easy recognition to ensure proper protocols were utilized for reuse or disposal. PCB-containing equipment not in use, but stored for reuse, currently meets Title 40 Part 761.35 of the Code of Federal Regulations (CFR). PCB articles previously removed from service with no intention of reuse were stored for disposal in accordance with CFR Title 40 Part 761.65. All known PCB articles stored for disposal were eliminated in accordance with applicable regulations based upon the concentration of the waste. PCB PMP implementation was completed in early December 2016. NPDES Outfalls 003 and 004 were sampled and analyzed for PCBs in accordance with EPA Method 1668C upon completion of PMP implementation. Buchanan collected a dry weather sample on December 22, 2016 and a wet weather sample on March 10, 2017. Testing results for the dry sample are provided in the previous tables. Testing results for the wet sample shall be reported in Progress Report No. 9, due July 10, 2017.

Revision 1009147

Effluent characterization analyses detected PCB in discharges from outfall 003, which is a representative monitoring location for Class V outfalls. Outfalls 004 and 045 (previously identified as P18-004) are also Class V outfalls and will be required to have PCB monitoring. Based on the single representative monitoring sample, discharges from outfall 003 may exceed the PCB allocation for the permit, therefore additional monitoring for PCB is required and the permittee is required to confirm the presence of and monitor PCB in the discharges from this class of outfalls. The permittee is also required to meet with DMLR to review the monitoring data once sufficient data is collected or within a year to confirm the presence of PCB in the discharges. If it is determined that the presence of PCB in one or more of these discharges alone or in combination has a reasonable potential to exceed the PCB allocation for the permit, then a pollutant minimization plan will be required for the permit to reduce PCB contributions to the receiving stream.

PCBs were not detected in analyses from representative monitoring locations 018, 022, or 025 at levels exceeding the method blank. Analyses for PCB from outfall 033 were submitted for review, however, the analyses were conducted by EPA Method 8082A rather than EPA Method 1668. Subsequent sampling and analysis of outfall 033 by EPA method 1668 has been submitted.

Renewal 1010260

PCBs were detected in analyses from representative monitoring locations 003, 008, 018, 022, and 033 at or exceeding levels in the method blank. The adjusted total PCB concentrations were calculated according to Virginia’s Department of Environmental Quality (DEQ) TMDL Guidance Memo No. 14-2004 and the “How To” Review, Blank Correct and Calculate Total PCB (Supplemental document to TMDL GM14-2004).

Representative NPDES Outfall	Method Blank	Reported Total PCB Concentrations	Adjusted Total PCB Concentrations
003	38.5 pg/L	68.8 pg/L	27 pg/L
008	91.4 pg/L	96.8 pg/L	4 pg/L
018	91.4 pg/L	80 pg/L	16 pg/L
022	77.1 pg/L	114 pg/L	68 pg/L
033	77.1 pg/L	202 pg/L	153 pg/L

The information contained in the table above in conjunction with 2017 flow data was used to determine this permit's annual wasteload for PCBs. Please note that representative outfall data was used to calculate the annual wasteload of total PCBs for all outfalls according to their classification. The annual wasteload for total PCBs in the Levisa Fork River is 456 mg/yr and 9 mg/yr in the Garden Creek watershed. This permit's annual wasteload allocation for total PCBs is 468.85 mg/yr for Levisa Fork River according to the Levisa Fork River TMDL. This permit's annual wasteload allocation for total PCBs is 225.02 mg/yr for Garden Creek according to the Levisa Fork River TMDL. This operation is below the assigned annual wasteload allocation for PCBs in the Levisa Fork River and Garden Creek TMDL watersheds.

Revision 1010668

The annual wasteload allocation for total PCBs for this operation in the Levisa Fork River is 456 mg/yr. Proposed outfalls 054 and 055 are Class I outfalls, and are not expected to discharge on a regular basis; therefore, the addition of outfalls 054 and 055 are not anticipated to cause an exceedance in the wasteload allocation assigned to this operation. Existing outfall 022 is designated as representative for outfalls in Class I. PCB monitoring is required at outfall 022, and the data collected will be used when calculating this permit's annual wasteload.

Revision 1010858

The annual wasteload allocation for total PCBs for this operation in the Levisa Fork River is 456 mg/yr. This application does not include additional NPDES outfalls, and only a small portion of surface acreage is being added. PCBs are not anticipated to increase due to the changes in this application.

Renewal 1011356

This permit's annual wasteload allocation for total PCBs is 468.85 mg/year for Levisa River according to the Levisa River TMDL. Based upon PCB results from samples collected for representative NPDES Outfalls 003, 008, 022 and 033 in May 2022 and discharge data for each outfall reported from July 2021 thru June 2022 this operation has a total PCB wasteload of 214.63 mg/year. This operation is below the assigned annual wasteload allocation for PCBs in the Levisa River and Garden Creek TMDL watersheds; therefore, a pollution minimization plan is not required at this time.

List of Appendices

1. Appendix I: Representative Sampling/Effluent Screening
2. Appendix II: Evaluation of Effluent Limitations
3. Appendix III: Reasonable Potential Analysis
4. Appendix IV: Evaluation of Alternate Effluent Limitations- Remining
5. Appendix V: NPDES Major/Minor Permit Rating Worksheet
6. Appendix VI: TMDL Wasteload Change Estimations

Appendix I. Representative Sampling/Effluent Screening:

Representative Sampling

Typical surface mine discharges can be divided into five categories based on the area controlled and whether the outfall is expected to discharge continuously, intermittently, or rarely/never.

Discharges within each of the five categories are located in the same geological strata and receive precipitation runoff from the same sources. Due to the similarities between discharges within each classification, the Department is allowing representative sampling from one outfall of each class with the exception of outfalls expected to rarely/never discharge, which require no representative sampling. Initial permit conditions will be imposed based on the representative data. Permit limits will be modified as appropriate at renewal once discharge data is collected from the outfall when constructed. If any outfalls begin to have frequent discharges then representative sampling will be required and any necessary permit limits will be developed. If the representative outfall is not constructed first or is not the first outfall of the type represented to discharge, the first discharging outfall should be utilized.

There are five classes of outfalls on this permit:

Class I, Basins Controlling Surface Area of an Underground Mine, includes vent shaft areas, vent shaft areas with direct discharge from shaft rings, and surface area from vertical vent hole sites. The representative outfall for Class I is outfall 022. Outfall 022 has the highest average flow of the outfalls that are in this class. Other outfalls in this class are 001, 011, 012, 017, 021, 023, 024, 026, 028, 029, 031, 032, 034, 035, 036, 037, 038, 039, 049, 051, 052, 053, 054, and 055.

Class II, Pocahontas No. 3 Mine Discharge, includes a diffuser, which discharges underground mine water containing elevated levels of sodium, chloride, iron, and TDS to the Levisa River. The representative outfall for the Class II is outfall 033. This is the only outfall in this class.

Class III, Basins Controlling Impoundment Subsurface Flow, includes four outfalls that control runoff from surface and subsurface flow from a refuse impoundment. The representative outfall for the Class III is outfall 008. Outfall 008 has the highest average flow of the four outfalls that are in this class. Outfall 025, 025A, and 025B are the other outfalls in this class.

Class IV, Basins Controlling Coal Stockpile Areas, includes surface area from raw coal silos, haulroads, and coal stockpile areas. The representative outfall for the Class IV is outfall 018. Outfall 018 has the highest average flow of outfalls in this class (the other outfalls do not have a discharge). Other outfalls in this class are 010, 043, 046, and 047.

Class V, Basins Controlling Equipment Storage and Operational Areas, includes surface area from equipment storage, paved parking, shaft, shop, and de-chlorination plant. The representative outfall for the Class V is outfall 003. Outfall 003 has the highest average flow of outfalls in this class. Other outfalls in this class are 004 and 045.

Effluent Screening

WET Assays – Effluent

WET assays are utilized as a screening tool to determine if a reasonable potential for effluent toxicity exists. Acute and/or chronic bioassays as appropriate will be utilized to measure whole effluent toxicity in discharge samples for four consecutive quarters. Effluents demonstrating toxicity will receive appropriate WET limits for the discharge. Discharges not exhibiting toxicity will not receive WET limits and will only be required to submit additional WET tests at renewal and/or mid-term. Characterization will be

conducted by a qualified laboratory per DEQ protocol. WET assays will utilize standard WET testing organisms and toxicity will be determined utilizing the results from such testing.

Four quarterly acute and chronic WET tests were provided in renewal application 1011356 for outfalls 003, 008, 022, and 033. The WET testing requirements for outfalls 003, 008, and 022 have been satisfied for the permit term ending 03/08/2028. WET testing results for outfall 018 were unable to be provided during renewal application 1011356 due to no discharge. Four quarterly acute and chronic WET tests should be collected and analyzed for outfall 018 if a routine discharge is observed. The permittee shall continue to sample outfall 033 until ten quarters have been collected (per Schedule A). If the permittee chooses to renew this permit, the representative outfalls must be sampled again prior to submittal of the renewal application.

Chemical Analyses – Effluent

The permit requires sampling for the parameters in Table 1 within 6 months of commencing the permitted activity and at renewal for each representative outfall, and in receiving streams. If any outfalls begin to have frequent discharges then representative sampling will be required and any necessary permit limits will be developed. If the representative outfall is not constructed first or is not the first outfall of the type represented to discharge, the first discharging outfall should be utilized. This chemical effluent screening data will be utilized for the RP and appropriate numerical limits will be applied if necessary. These parameters will be compared to instream baseline data and numerical water quality standards to determine whether numerical limits and/or mixing zones are required. The chemical analyses for effluent screening are in addition to the currently required bi-weekly sampling required for NPDES monitoring compliance purposes.

Effluent characterization data for outfalls 003, 008, 022, and 033 were provided in Renewal Application 1011356. Effluent characterization data for outfall 018 was unable to be provided during renewal application 1011356 due to no discharge. The effluent characterization requirement for Application 1011356 has been satisfied for outfalls 003, 008, 022, and 033. Effluent screening for representative outfall 018 should be collected and analyzed as soon as a measurable discharge occurs. Additional effluent characterization will be required if the permittee chooses to renew the permit for a subsequent permit term. Additional effluent characterization may also be required if the permit is revised or if a substantive change to the nature of the effluent occurs.

A special condition has been added to require analyses for Solcenic hydraulic oil analyses as detailed below:

(II) Solcenic hydraulic oil analyses

Solcenic GM 20 is a fire-resistant hydraulic fluid developed for global use in longwall mining applications, which is currently utilized at the Buchanan No. 1 Mine. The standard emulsion mix ratio is approximately 98% water and 2% product. The fluid is a formulation of primarily mineral oil, triazine compound, sulfonic acids, petroleum, sodium salts, chelating agent, and ethoxylated oleamide. Solcenic GM 20 replaced Solcenic HL that was originally required for testing on Schedule A. The Solcenic HL product was linked to fish kills at another Virginia facility in the early 2000's; therefore, testing for the product was required as part of the original NPDES permit for Outfall 033. Due to the change from Solcenic HL to Solcenic GM 20, the permittee shall utilize an existing analytical method or develop an analytical method to determine the presence of both Solcenic HL and Solcenic GM 20 in the Outfall 033 discharge for effluent characterization purposes. This analytical method shall be developed and in use within one year of the approval date of this NPDES permit.

TABLE 1 - Parameters

Parameter

Flow (gpm)
Temperature (°C)
pH (std units)
TSS (mg/L)
Specific Conductance (uS/cm)
TDS (mg/L)
Sulfates (mg/L)
Bromide (mg/L)
Chlorides (mg/L)
Aluminum (mg/L)
Iron (mg/L)
Manganese (mg/L)
Magnesium (mg/L)
Total Acidity (mg/L)
Total Alkalinity (mg/L CaCO₃)
Bicarbonate Alkalinity (mg/L)
Carbonate Alkalinity (mg/L)
Hardness (mg/L CaCO₃)
Total Zinc (µg/L)
Total Antimony (µg/L)
Total Arsenic (µg/L)
Total Beryllium (µg/L)
Total Cadmium (µg/L)
Total Chromium (µg/L)
Total Copper (µg/L)
Total Lead (µg/L)
Total Mercury (µg/L)
Total Nickel (µg/L)
Total Selenium (µg/L)
Total Silver (µg/L)
Total Thallium (µg/L)
Total Barium (µg/L)
Total Boron (µg/L)
Total Cobalt (µg/L)
Total Cyanide (µg/L)
Total Phenols (µg/L)
Nitrate (mg/L)
Nitrite (mg/L)
Dissolved Organic Carbon (mg/L)
Hydrogen Sulfide (mg/L)¹
PCBs ²

¹ This parameter need only be analyzed for underground mine discharges.

² PCBs to be analyzed by EPA Method 1668.

Appendix II: Evaluation of Effluent Limitations

Sediment control structures and the associated NPDES outfalls for surface coal mining operations primarily receive precipitation runoff from mined areas and discharge in response to precipitation events. Technology-based effluent limitations per 40 CFR 434 apply.

Buchanan Minerals, LLC. has met the conditions of the Schedule of Compliance contained in the previous NPDES permit with respect to chloride and selenium instream concentrations. A reasonable potential exists for chloride and selenium concentrations to exceed the instream standard; therefore, selenium and chloride mixing zones have been established for outfalls 008, 025 (025A and 025B), and chloride only at 033.

NPDES Outfall 025A will monitor the discharge from the Phase I Mixing Zone Pipeline. The lower limit of the chronic mixing zone for both chloride and selenium is monitored by instream monitoring location RF-DS-025A. The NPDES discharge data for outfall 025A will be collected prior to discharge to the receiving stream with the exception for chloride and selenium concentrations which will be measured at the instream monitoring location RF-DS-025A. The concentrations of chloride and selenium measured at RF-DS-025A will be reported with the remaining NPDES discharge data collected at outfall 025.

Proposed NPDES Outfall 025B will monitor the discharge from the Phase II Mixing Zone Pipeline, if constructed. The lower limit of the chronic mixing zone for both chloride and selenium is monitored by instream monitoring location GC-DS-025B. The NPDES discharge data for outfall 025B will be collected prior to discharge to the receiving stream with the exception for chloride and selenium concentrations which will be measured at the instream monitoring location GC-DS-025B. The concentrations of chloride and selenium measured at GC-DS-025B will be reported with the remaining NPDES discharge data collected at outfall 025.

NPDES Outfall 008 will monitor the discharge from the discharge from the impoundment. The lower limit of the chronic mixing zone for both chloride and selenium is monitored by instream monitoring location GC-DS-008. The NPDES discharge data for outfall 008 will be collected prior to discharge to the receiving stream with the exception for chloride and selenium concentrations which will be measured at the instream monitoring location GC-DS-008. The concentrations of chloride and selenium measured at GC-DS-008 will be reported with the remaining NPDES discharge data collected at outfall 008.

NPDES outfall 033 is required to meet water quality based effluent limits for chloride. The effluent limit for chloride is established as the modeled value at downstream sampling location LFR-2 that corresponds to the minimum discharge rate (low flow condition). The chloride results will be reported with the outfall 033 monitoring results.

Appendix III: Reasonable Potential Analysis

DMLR must perform a Reasonable Potential Analysis (RPA) (9VAC 25-31-220 D.1) for each proposed discharge in determining which permit conditions are needed for a new or expanded discharge permit. This analysis is based primarily on the potential for the permit’s sediment control structures to discharge and upon the nature of the discharge, whether or not dilution is available in the receiving streams, mining practices, including the geology, drainage area, etc. DMLR may utilize applicable WET screening data, effluent chemical monitoring data, instream chemical data, and instream biological survey data in conducting the RPA. As part of any RPA, DMLR will consider whether or not there are representative discharges that can be used to determine the RP for a given outfall. In TMDL watersheds, DMLR will consider whether discharges will comply with the TMDL as a portion of the RPA.

In summary, Virginia’s approach will include some or all of these measures to address the potential impact of mining discharges and to address Virginia’s Narrative Water Quality Standards.

1. The potential for discharge, including both flow rate and duration
2. Chemical characterization of discharges and receiving streams
3. Instream biologic characterization including benthic surveys, fish surveys, chemical water quality analyses, and habitat surveys to address effects on sensitive species
4. WET assays to determine effluent toxicity when deemed necessary by DMLR

A reasonable potential exists for chloride and selenium concentrations to exceed the instream standard; therefore, selenium and chloride mixing zones have been established for outfalls 008, 025 (025A and 025B), and chloride only at 033.

Comparison of Effluent Characterization Data with Applicable Virginia Surface Water Criteria						
Outfall 003 (MPID 5785457)						
Hardness (mg/l) =	100	Required for calculated limits - minimum of 25 and max of 400 for most limits				
PWS	FALSE	(TRUE/FALSE) Determines whether PWS criteria are included in "Most Stringent Virginia Criteria"				
Parameter	Result	Virginia Aquatic Life		Virginia Human Health		Most Stringent Virginia Criteria
		Acute	Chronic	PWS	All Other	
Antimony (ug/l)	<0.184	NA	NA	5.6	640	640.00
Arsenic (ug/l)	0.21	340	150	10	NA	150
Barium (ug/l)	364.00	NA	NA	2,000	NA	NA
Cadmium (ug/l)	<0.022	1.8	0.72	5.00	NA	0.72
Chloride (ug/l)	24,700.00	860,000	230,000	250,000	NA	230,000
Chromium III (ug/l)		569.76	74.11			74.11
Chromium VI (ug/l)		16.00	11.00			11.00
Chromium Total (ug/l)	0.28	16.00	11.00	100.00	NA	11.00
Copper (ug/l)	0.36	13	9.0	1,300.00	NA	8.96
Cyanide (ug/l)	<4.31	22	5.2	4	400	5.20
Hydrogen Sulfide (ug/l)	NA	NA	2.00	NA	NA	2.00
Iron (ug/l)	186.00	NA	NA	300.00	NA	NA
Lead (ug/l)	0.07	94	11	15.00	NA	10.69
Mercury (ug/l)	<0.13	1.4	0.77	NA	NA	0.77
Nickel (ug/l)	0.45	182	20	610	4,600	20.27
Nitrate (ug/l)	132.00	NA	NA	10,000	NA	NA
PCB Total (ug/l)	0.0000375	NA	0.0140	0.0006	0.0006	0.0006
Phenol (ug/l)	<50	NA	NA	4,000	300,000	300,000
Selenium (ug/l)	<0.514	20	5.0	170	4,200	5.00
Silver (ug/l)	<0.053	3.4	NA	NA	NA	3.45
Sulfate (ug/l)	3,540.00	NA	NA	250,000	NA	NA
Thallium (ug/l)	<0.103	NA	NA	0.24	0.47	0.47
TDS (ug/l)	178,000.00	NA	NA	500,000	NA	NA
Zinc (ug/l)	13.40	117	118	7,400	26,000	117
Version 1.2.1	Updated 10/29/2019 from https://townhall.virginia.gov/L/ViewXML.cfm?textid=13400					
Virginia Regs:	http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+9VAC25-260-140					

**Comparison of Effluent Characterization Data with Applicable Virginia Surface Water Criteria
Outfall 008 (MPID 5785459)**

Hardness (mg/l) =	100	<i>Required for calculated limits - minimum of 25 and max of 400 for most limits</i>
PWS	FALSE	<i>(TRUE/FALSE) Determines whether PWS criteria are included in "Most Stringent Virginia Criteria"</i>

Parameter	Result	Virginia Aquatic Life		Virginia Human Health		Most Stringent Virginia Criteria
		Acute	Chronic	PWS	All Other	
Antimony (ug/l)	0.375	NA	NA	5.6	640	640.00
Arsenic (ug/l)	1.09	340	150	10	NA	150
Barium (ug/l)	251.00	NA	NA	2,000	NA	NA
Cadmium (ug/l)	<0.022	1.8	0.72	5.00	NA	0.72
Chloride (ug/l)	470,000.00	860,000	230,000	250,000	NA	230,000
Chromium III (ug/l)		569.76	74.11			74.11
Chromium VI (ug/l)		16.00	11.00			11.00
Chromium Total (ug/l)	1.51	16.00	11.00	100.00	NA	11.00
Copper (ug/l)	2.82	13	9.0	1,300.00	NA	8.96
Cyanide (ug/l)	<4.31	22	5.2	4	400	5.20
Hydrogen Sulfide (ug/l)	NA	NA	2.00	NA	NA	2.00
Iron (ug/l)	547.00	NA	NA	300.00	NA	NA
Lead (ug/l)	1.14	94	11	15.00	NA	10.69
Mercury (ug/l)	<0.13	1.4	0.77	NA	NA	0.77
Nickel (ug/l)	9.96	182	20	610	4,600	20.27
Nitrate (ug/l)	236.00	NA	NA	10,000	NA	NA
PCB Total (ug/l)	0.000110	NA	0.0140	0.0006	0.0006	0.0006
Phenol (ug/l)	<50	NA	NA	4,000	300,000	300,000
Selenium (ug/l)	3.55	20	5.0	170	4,200	5.00
Silver (ug/l)	<0.053	3.4	NA	NA	NA	3.45
Sulfate (ug/l)	116,000.00	NA	NA	250,000	NA	NA
Thallium (ug/l)	<0.064	NA	NA	0.24	0.47	0.47
TDS (ug/l)	1,508,000.00	NA	NA	500,000	NA	NA
Zinc (ug/l)	4.62	117	118	7,400	26,000	117

Version 1.2.1 Updated 10/29/2019 from <https://townhall.virginia.gov/L/ViewXML.cfm?textid=13400>
 Virginia Regs: <http://lis.virginia.gov/cgi-bin/leqp604.exe?000+reg+9VAC25-260-140>

The effluent characterization sample for outfall 008 was collected prior to the mixing zone calculated for this outfall and therefore exceeds the instream chronic limit of 230 mg/L. Samples collected at the lower extent of the mixing zone are in compliance with the instream chronic limit.

**Comparison of Effluent Characterization Data with Applicable Virginia Surface Water Criteria
Outfall 022 (MPID 5770140)**

Hardness (mg/l) =	100	<i>Required for calculated limits - minimum of 25 and max of 400 for most limits</i>
PWS	FALSE	<i>(TRUE/FALSE) Determines whether PWS criteria are included in "Most Stringent Virginia Criteria"</i>

Parameter	Result	Virginia Aquatic Life		Virginia Human Health		Most Stringent Virginia Criteria
		Acute	Chronic	PWS	All Other	
Antimony (ug/l)	0.25	NA	NA	5.6	640	640.00
Arsenic (ug/l)	0.17	340	150	10	NA	150
Barium (ug/l)	60.80	NA	NA	2,000	NA	NA
Cadmium (ug/l)	<0.022	1.8	0.72	5.00	NA	0.72
Chloride (ug/l)	<762	860,000	230,000	250,000	NA	230,000
Chromium III (ug/l)		569.76	74.11			74.11
Chromium VI (ug/l)		16.00	11.00			11.00
Chromium Total (ug/l)	0.24	16.00	11.00	100.00	NA	11.00
Copper (ug/l)	<0.294	13	9.0	1,300.00	NA	8.96
Cyanide (ug/l)	<4.31	22	5.2	4	400	5.20
Hydrogen Sulfide (ug/l)	NA	NA	2.00	NA	NA	2.00
Iron (ug/l)	195.00	NA	NA	300.00	NA	NA
Lead (ug/l)	<0.066	94	11	15.00	NA	10.69
Mercury (ug/l)	<0.13	1.4	0.77	NA	NA	0.77
Nickel (ug/l)	0.51	182	20	610	4,600	20.27
Nitrate (ug/l)	147.00	NA	NA	10,000	NA	NA
PCB Total (ug/l)	0.0000788	NA	0.0140	0.0006	0.0006	0.0006
Phenol (ug/l)	<50	NA	NA	4,000	300,000	300,000
Selenium (ug/l)	<0.514	20	5.0	170	4,200	5.00
Silver (ug/l)	<0.053	3.4	NA	NA	NA	3.45
Sulfate (ug/l)	71,400.00	NA	NA	250,000	NA	NA
Thallium (ug/l)	<0.064	NA	NA	0.24	0.47	0.47
TDS (ug/l)	220,000.00	NA	NA	500,000	NA	NA
Zinc (ug/l)	1.37	117	118	7,400	26,000	117

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 Virginia Regs: <http://lis.virginia.gov/cgi-bin/leqp604.exe?000+reg+9VAC25-260-140>

Comparison of Effluent Characterization Data with Applicable Virginia Surface Water Criteria						
Outfall 033 (MPID 0006505)						
Hardness (mg/l) =	100	Required for calculated limits - minimum of 25 and max of 400 for most limits				
PWS	FALSE	(TRUE/FALSE) Determines whether PWS criteria are included in "Most Stringent Virginia Criteria"				
Parameter	Result	Virginia Aquatic Life		Virginia Human Health		Most Stringent Virginia Criteria
		Acute	Chronic	PWS	All Other	
Antimony (ug/l)	0.184	NA	NA	5.6	640	640.00
Arsenic (ug/l)	0.49	340	150	10	NA	150
Barium (ug/l)	6,945.00	NA	NA	2,000	NA	NA
Cadmium (ug/l)	<0.022	1.8	0.72	5.00	NA	0.72
Chloride (ug/l)	1,989,000.00	860,000	230,000	250,000	NA	230,000
Chromium III (ug/l)		569.76	74.11			74.11
Chromium VI (ug/l)		16.00	11.00			11.00
Chromium Total (ug/l)	0.39	16.00	11.00	100.00	NA	11.00
Copper (ug/l)	0.83	13	9.0	1,300.00	NA	8.96
Cyanide (ug/l)	<4.31	22	5.2	4	400	5.20
Hydrogen Sulfide (ug/l)	NA	NA	2.00	NA	NA	2.00
Iron (ug/l)	511.00	NA	NA	300.00	NA	NA
Lead (ug/l)	<0.066	94	11	15.00	NA	10.69
Mercury (ug/l)	<0.13	1.4	0.77	NA	NA	0.77
Nickel (ug/l)	15.40	182	20	610	4,600	20.27
Nitrate (ug/l)	3,950.00	NA	NA	10,000	NA	NA
PCB Total (ug/l)	0.0000147	NA	0.0140	0.0006	0.0006	0.0006
Phenol (ug/l)	<50	NA	NA	4,000	300,000	300,000
Selenium (ug/l)	<0.514	20	5.0	170	4,200	5.00
Silver (ug/l)	<0.053	3.4	NA	NA	NA	3.45
Sulfate (ug/l)	1,880.00	NA	NA	250,000	NA	NA
Thallium (ug/l)	<0.103	NA	NA	0.24	0.47	0.47
TDS (ug/l)	5,854,000.00	NA	NA	500,000	NA	NA
Zinc (ug/l)	1.71	117	118	7,400	26,000	117
Version 1.2.1	Updated 10/29/2019 from https://townhall.virginia.gov/L/ViewXML.cfm?textid=13400					
Virginia Regs:	http://lis.virginia.gov/cgi-bin/leqp604.exe?000+reg+9VAC25-260-140					

The effluent characterization sample for outfall 033 was collected prior to the mixing zone calculated for this outfall and therefore exceeds the instream chronic limit of 230 mg/L. Samples collected at the lower extent of the mixing zone are in compliance with the instream chronic limit.

Diesel Range Organics

Diesel range organic (DRO) compounds were detected in the effluent characterization sample collected at the sampling location for outfall 033 prior to the instream diffuser at a concentration of 138 ug/L. Therefore, DRO analyses are required at this sampling location at the same twice per month frequency as other chemical parameters. This requirement is for monitoring to confirm the presence or absence of these compounds and to determine whether further permit requirements may be necessary.

Instream Biological Surveys

Biological Monitoring Plan

Biological surveys are to be completed to determine the benthic health of LEVISA FORK at locations BAS-1-VP3, VS18-BC2, VS18-BC1, BAS-3-VP3, BAS-2-VP3, LVF01, LVF02, LVF03, and LVF04, HONAKER BRANCH at location BAS-8, LITTLE HURRICANE BRANCH at location BAS-9, BUCK BRANCH at location BAS-10, LAUREL FORK at locations VS14BCLF1 and VS14BCLF2, DISMAL CREEK at locations VS16-DR1BC and VS16-DR2BC, LOGGY BOTTOM BRANCH at locations VS15-BC2 and VS15-BC1, RIGHT FORK GARDEN CREEK at locations BAS-025BUS, BAS-1-VP6, BAS-2-VP6, and BAS-3-VP6, GARDEN CREEK at locations BAS-025BDS, BAS-1, and BAS-6, LAUDERS BRANCH at location VS13-LB-1, TRACE BRANCH at location BAS-2, CONTRARY

CREEK at locations VS8-CC1BC and BAS-7, NORTH BRANCH at locations BAS-4 and BAS-5, WHETSTONE BRANCH at location BAS-11, and GRASSY CREEK at location BAS-14 as outlined in the joint CSMO/NPDES permit. Fall annual biological monitoring at Biological Aquatic Stations BAS-025BDS, BAS-025BUS, BAS-1, BAS-10, BAS-11, BAS-14, BAS-1-VP3, BAS-1-VP6, BAS-2, BAS-2-VP3, BAS-2-VP6, BAS-3-VP3, BAS-3-VP6, BAS-4, BAS-5, BAS-6, BAS-7, BAS-8, BAS-9, LVF01, LVF02, LVF03, LVF04, VS13-LB-1, VS14BCLF1, VS14BCLF2, VS15-BC1, VS15-BC2, VS16-DR1BC, VS16-DR2BC, VS18-BC1, VS18-BC2, and VS8-CC1BC is required (See Part I Section 8.3 and the applicable map in Part I Section 21.2 in the DMLR Electronic Permit Application for location information). The Virginia Stream Condition Index (VASCI) protocol will be used. Also, stream habitat scores and chemical data will be collected at these locations. All biologic sampling shall be done in accordance with the Virginia Department of Wildlife Resources scientific collection permit requirements.

Fall season VASCI scores reported for the 2017 to 2022 period were reviewed to give an indication of whether effluent limits applied for the Buchanan No.1 Mine NPDES permit were protective of the aquatic life use standard. A regional flooding event during 2022 resulted in severe scouring of stream channels, which adversely affected VASCI scores. However, VASCI trends indicate stream conditions are nearly supportive of the standard with six-year trends vacillating near, but on average slightly below a VASCI score of 60. Location BAS-007 indicated a declining trend and an additional upstream monitoring location was added to assess whether the decline was due to offsite impacts or is related to the discharge at outfall 028. In general, the limits appear to be supportive of the standard.

Appendix IV: Evaluation of Alternate Effluent Limitations: Remining

None Requested.

Appendix V: NPDES Permit Rating Worksheet

Date: 13 November 2024

DMLR Application No: 1011356

DMLR Permit No: 1402152

VPDES Permit No: 0082152

FACTOR 1 Toxic Pollutant Potential

Determine the *Total Toxicity* potential:

SICCode	Permit Has Prep Plant	Total Toxicity Group	Points
1221		5	25
1221	X	5	25
1222		5	25
1222	X	6	30

Factor 1 Score: 30

FACTOR 2 Flow/Stream Flow Volumes

Coal industry discharges are always Type III

Sum of average discharges for each outfall for permit: 3.54 MGD

Flow Class	Code	Points
< 1 MGD	31	0
< 5 MGD	32	10
<10 MGD	33	20
>10 MGD	34	30

Factor 2 Score: 10

FACTOR 3 Conventional Pollutants

TSS load for all outfalls on permit

Flow (gpm):	30.00
Concentration (mg/L):	35.00
Days:	1
Load (lbs/day):	1,032.96

Load Class	Code	Points
< 100 lbs/day	1	0
< 1000 lbs/day	2	5
<5000 lbs/day	3	15
>5000 lbs/day	4	20

Factor 3 Score: 15

FACTOR 4 Public Health Impact

Is a public drinking water intake located within 50 miles downstream of discharge?

Answer	Points
No	0
Yes	See below

If yes, determine the *human health* toxicity potential:

SICCode	Permit Has Prep Plant	Human Health Toxicity Group	Points
1221		5	5
1221	X	6	10
1222		5	5
1222	X	6	10

Factor 4 Score: 0

FACTOR 5 Water Quality Factors

A) Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a waste load allocation been assigned to the discharge?

Answer	Code	Points
Yes	1	10
No	2	0

Factor 5a Score: 10

B) Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

Answer	Code	Points
Yes	1	0
No	2	5

Factor 5b Score: 5

C) Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

Answer	Code	Points
Yes	1	10
No	2	0

Factor 5c Score: 0

Factor 5 Total Score: 15

Factor 6 Proximity to Near Coastal Waters

Is the permit within 50 miles of near coastal waters?

Answer	Points
Yes	5
No	0

Factor 6 Score: 0

Worksheet Score (factors 1 through 6): 70

Appendix D (Coal Facility Discretionary Major Weighting Factor Guideline)

1) Annual Coal Mined or Processed

Tons/year	Points
≥ 1,500,000	4
≥ 500,000 and < 1,500,00	2
< 500,000	0

Factor D1 Score: 4

2) Coal Origin

Is the coal mined from an acidic seam?

Answer	Points
Yes	5
No	0

Factor D2 Score: 5

3) Average Discharge Rate

Discharge	Points
≥ 1,500 GPM	5
< 1,500 and ≥ 500 GPM	3
< 500 GPM	1

Factor D3 Score: 5

4) Receiving Stream

Classification	Points
Trout (cold-water fishery)	5
Other high quality	3
Other	0

Factor D4 Score: 0

5) Average Discharge to TMDL Watershed(s)

TMDL Discharge	Points
≥ 500 GPM	10
< 500 GPM	0

Factor D5 Score: 10

Appendix D Score: 24

Score Summary

If the worksheet score for factors 1 through 6 is less than 80 and the Appendix D score is greater or equal to 15, add 500 points to worksheet score.

Final Worksheet Score: 570

Major or Minor Source: Major Source

Appendix VI: TMDL Wasteload Change Estimations

There are no estimated wasteload changes to outfalls in applicable TMDL watersheds for this permit/application.

Appendix VII: TMDL Offset Balances

Levisa River TSS Offset Summary

Company Credits

Permit	Operation	Application	Offset Name	Credit Status	Wasteload Reduction	Mitigation Ratio	Credit Granted
1402152	BUCHANAN NO. 1 MINE	1009907	new project	NC	0.00	2.0	0.00
Total Active Credit							0.00
Total Inactive/Not Constructed Credit							0.00

Company Balance

	Credit	Draw	Balance
Active	0.00	0.00	0.00
Not Constructed/Inactive	0.00	0.00	0.00
Total	0.00	0.00	0.00

Garden Creek TDS Offset Summary

Company Credits

Permit	Operation	Application	Offset Name	Credit Status	Wasteload Reduction (kg/year)	Mitigation Ratio	Credit Granted (kg/year)
1402152	BUCHANAN NO. 1 MINE	1009907	new project	NC	0.00	2.0	0.00
1402152	BUCHANAN NO. 1 MINE	1010145	Paving Roads I, II, and PR-1	Completed in 2017	2,085,168	2.0	1,042,584
1402152	BUCHANAN NO. 1 MINE	1011096	Page Gob Pile Removal and Highwall Elimination	100% complete 2024	4,027,894	2.0	2,655,295*
1402152	BUCHANAN NO. 1 MINE	1011295	Vent Shaft 2 Highwall Elimination	Approximately 80% complete	505,020	10.0	50,502
Total Active Credit							3,697,879
Total Inactive/Not Constructed Credit							50,502

* Additional offset credits granted as more highwall elimination was described in the PHC narrative of application 1011356 than was estimated in the original offset proposal associated with application 1011096.

Company Draws

Permit	Operation	Application	Number of Outfalls	Draws for NC Outfalls (kg/year)	Draw for Active Outfalls (kg/year)
1402152	BUCHANAN NO. 1 MINE	1010145	38	0.0	244,540
1402152	BUCHANAN NO. 1 MINE	1011356	38	0.0	1,165,536
Total					1,410,076

Company Balance

	Credit (kg/year)	Draw (kg/year)	Balance (kg/year)
Active	3,697,879	1,410,076	2,287,803
Not Constructed/Inactive	50,502	0.00	50,502
Total	3,748,381	1,410,076	2,338,305

Garden Creek CL Offset Summary

The Virginia Department of Environmental Quality (VDEQ) requested a partial delisting for chloride in Garden Creek in its Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report. VDEQ's report was approved by EPA on December 12, 2013. Therefore offsets are not necessary at this time.

Company Credits

Permit	Operation	Application	Offset Name	Credit Status	Wasteload Reduction	Mitigation Ratio	Credit Granted
1402152	BUCHANAN NO. 1 MINE	1009907	new project	VOID	10,000,000.00	2.0	5,000,000.00
Total Active Credit							0.00
Total Inactive/Not Constructed Credit							5,000,000.00

Company Balance

	Credit	Draw	Balance
Active	0.00	0.00	0.00
Not Constructed/Inactive	5,000,000.00	0.00	5,000,000.00
Total	5,000,000.00	0.00	5,000,000.00

Renewal Application

Application No: 1011356
CSMO No: 1402152

Approval Date: 11/12/2024
NPDES No: 0082152

I. APPLICANT INFORMATION

Name: BUCHANAN MINERALS, LLC
Address: P. O. DRAWER L

Facility: BUCHANAN NO. 1 MINE
Location: 2.9 MILES SOUTH OF KEEN MOUNTAIN

City: OAKWOOD
State: VA
Telephone: (276)209-5159
Operator: JEFFREY D. BITZER

Zip: 24631
State Plane - North: 3601000.0000
State Plane - East: 10467000.0000
Total Acres: 829.59
Inspector: LAIL DEEL

Types of Mining
Undergrd. - R P
Undergrd. - LW
AF-Refuse Disp
Surf-Steep Slop

County
BUCHANAN

Quadrangle
JEWELL RIDGE
VANSANT
KEEN MOUNTAIN

Receiving Stream	Code	Watershed	Wtr #	Basin
BUCK BRANCH	1026	LEVISA FORK - DISMAL CREEK	LF59	BIG SANDY
BENNY BRANCH	1027	LEVISA FORK - DISMAL CREEK	LF59	BIG SANDY
LEVISA FORK	5	LEVISA FORK	LF	BIG SANDY
DISMAL CREEK	751	LEVISA FORK - DISMAL CREEK	LF59	BIG SANDY
GARDEN CREEK	797	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
RIGHT FORK GARDEN CREEK	802	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
NORTH BRANCH	805	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
GRASSY CREEK	902	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
WHETSTONE BRANCH	909	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
CONTRARY CREEK	915	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
HONAKER BRANCH	918	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
CLIFTON FORK	919	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
TRACE BRANCH	923	LEVISA FORK-UPPER LEVISA FORK	LF57	BIG SANDY
LOGGY BOTTOM BRANCH	939	LEVISA FORK - DISMAL CREEK	LF59	BIG SANDY
LAUDERS BRANCH	942	LEVISA FORK - DISMAL CREEK	LF59	BIG SANDY

LITTLE HURRICANE BRANCH	944	LEVISA FORK - DISMAL CREEK	LF59	BIG SANDY
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II. CONTRACT LABORATORY SERVICES

Laboratory Services will be performed by:

Laboratory Name: ENV. MONITORING, INC. (EMI)

Address: 5730 Industrial Park Rd.

City: NORTON

State: VA

Zip: 24273

Telephone: (276)679-6544

Comments: [11/14/2024, dmmemfs]APPNO 1011356 REN/REISSUE C/N
INSTREAM ADDED: VS8-CC1BC (0012533) INSTREAM CHANGED: BCH-015 (0003224) , BAS-3-VP6 (0008022) , VS16-DR2 (0008867) , VS16-DR2BC (0008869) INSTREAM DELETED: VS8-CC1BC (0012531) NPDES CHANGED: 038 (0008859) , 018 (5785465) INSTREAM LOCATION CHANGES: CORRECTS LOCATION COORDINATES OF BAS-3-VP6 AND BCH-015, RELOCATES VS16-DR2 AND VS16-DR2BC, DELETES AND ADDS VS8-CC1BC. NPDES CHANGES FOR 018 AND 038 UPDATE ACREAGES.

TDS ANALYSES WERE ADDED TO REGULAR MONITORING FOR THE REPRESENTATIVE OUTFALL 022 FOR CLASS I OUTFALLS IN ORDER TO DETERMINE WHETHER WET ANALYSES ARE NEEDED FOR REASONABLE POTENTIAL FOR THIS CLASS OF OUTFALLS. TDS ANALYSES ARE NOT REQUIRED FOR THE REMAINING OUTFALLS IN THIS CLASS UNLESS THE REPRESENTATIVE OUTFALL INDICATES A NEED.

EFFLUENT SAMPLING FOR OUTFALL 033 IS TO BE CONDUCTED PER SCHEDULE A OF THIS PERMIT. PERMIT DISCHARGES TO TMDL WATERSHEDS GARDEN (TSS, CL, AND PCB) AND LEVISA FORK (TSS AND PCB). THIS FACILITY IS A MAJOR DISCHARGER AND ENTERS FISH TRAP LAKE IN KENTUCKY APPROXIMATELY 15 MILES DOWNSTREAM. DIESEL RANGE ORGANICS ANALYSES WERE ADDED TO MONITORING REQUIREMENTS FOR THIS OUTFALL DUE TO THE DETECTION OF DRO IN THE EFFLUENT CHARACTERIZATION SAMPLE.

SOLCENIC GM 20 IS A FIRE-RESISTANT HYDRAULIC FLUID DEVELOPED FOR GLOBAL USE IN LONGWALL MINING APPLICATIONS, WHICH IS CURRENTLY UTILIZED AT THE BUCHANAN NO. 1 MINE. THE STANDARD EMULSION MIX RATIO IS APPROXIMATELY 98% WATER AND 2% PRODUCT. THE FLUID IS A FORMULATION OF PRIMARILY MINERAL OIL, TRIAZINE COMPOUND, SULFONIC ACIDS, PETROLEUM, SODIUM SALTS, CHELATING AGENT, AND ETHOXYLATED OLEOAMIDE. SOLCENIC GM 20 REPLACED SOLCENIC HL THAT WAS ORIGINALLY REQUIRED FOR TESTING ON SCHEDULE A. THE SOLCENIC HL PRODUCT WAS LINKED TO FISH KILLS AT ANOTHER VIRGINIA FACILITY IN THE EARLY 2000'S; THEREFORE, TESTING FOR THE PRODUCT WAS REQUIRED AS PART OF THE ORIGINAL NPDES PERMIT FOR OUTFALL 033. DUE TO THE CHANGE FROM SOLCENIC HL TO SOLCENIC GM 20, THE PERMITTEE SHALL UTILIZE AN EXISTING ANALYTICAL METHOD OR DEVELOP AN ANALYTICAL METHOD TO DETERMINE THE PRESENCE OF BOTH SOLCENIC HL AND SOLCENIC GM 20 IN THE OUTFALL 033 DISCHARGE FOR EFFLUENT CHARACTERIZATION PURPOSES. THIS ANALYTICAL METHOD SHALL BE DEVELOPED AND IN USE WITHIN ONE YEAR OF THE APPROVAL DATE OF THIS NPDES PERMIT.

THERE ARE FIVE CLASSES OF OUTFALLS ON THIS PERMIT:

CLASS I, BASINS CONTROLLING SURFACE AREA OF AN UNDERGROUND MINE, INCLUDES VENT SHAFT AREAS, VENT SHAFT AREAS WITH DIRECT DISCHARGE FROM SHAFT RINGS, AND SURFACE AREA FROM VERTICAL VENT HOLE SITES. THE REPRESENTATIVE OUTFALL FOR CLASS I IS OUTFALL 022. OUTFALL 022 HAS THE HIGHEST AVERAGE FLOW OF THE OUTFALLS THAT ARE IN THIS CLASS. OTHER OUTFALLS IN THIS CLASS ARE 001, 011, 012, 017, 021, 023, 024, 026, 028, 029, 031, 032, 034, 035, 036, 037, 038, 039, 049, 051, 052, 053, 054, AND 055.

CLASS II, POCAHONTAS NO. 3 MINE DISCHARGE, INCLUDES A DIFFUSER, WHICH DISCHARGES UNDERGROUND MINE WATER CONTAINING ELEVATED LEVELS OF SODIUM, CHLORIDE, IRON, AND TDS TO THE LEVISA RIVER. THE REPRESENTATIVE OUTFALL FOR THE CLASS II IS OUTFALL 033. THIS IS THE ONLY OUTFALL IN THIS CLASS.

CLASS III, BASINS CONTROLLING IMPOUNDMENT SUBSURFACE FLOW, INCLUDES FOUR

OUTFALLS THAT CONTROL RUNOFF FROM SURFACE AND SUBSURFACE FLOW FROM A REFUSE IMPOUNDMENT. THE REPRESENTATIVE OUTFALL FOR THE CLASS III IS OUTFALL 008. OUTFALL 008 HAS THE HIGHEST AVERAGE FLOW OF THE FOUR OUTFALLS THAT ARE IN THIS CLASS. OUTFALL 025, 025A, AND 025B ARE THE OTHER OUTFALLS IN THIS CLASS.

CLASS IV, BASINS CONTROLLING COAL STOCKPILE AREAS, INCLUDES SURFACE AREA FROM RAW COAL SILOS, HAULROADS, AND COAL STOCKPILE AREAS. THE REPRESENTATIVE OUTFALL FOR THE CLASS IV IS OUTFALL 018. OUTFALL 018 HAS THE HIGHEST AVERAGE FLOW OF OUTFALLS IN THIS CLASS (THE OTHER OUTFALLS DO NOT HAVE A DISCHARGE). OTHER OUTFALLS IN THIS CLASS ARE 010, 043, 046, AND 047.

CLASS V, BASINS CONTROLLING EQUIPMENT STORAGE AND OPERATIONAL AREAS, INCLUDES SURFACE AREA FROM EQUIPMENT STORAGE, PAVED PARKING, SHAFT, SHOP, AND DE-CHLORINATION PLANT. THE REPRESENTATIVE OUTFALL FOR THE CLASS V IS OUTFALL 003. OUTFALL 003 HAS THE HIGHEST AVERAGE FLOW OF OUTFALLS IN THIS CLASS. OTHER OUTFALLS IN THIS CLASS ARE 004 AND 045.

[2/9/2023, dmmesh]RA APPNO 1011295 APPROVED 02/06/2023 TO AMEND 1.60 ACRES FOR EXPANDING THE CLEAN COAL STOCKPILE WHICH REQUIRES RELOCATION OF STATE ROUTE 632 AND TO UTILIZE THE EXCESS SPOIL GENERATED DURING THE RELOCATION OF THE STATE ROAD TO FACILITATE RECLAMATION OF VENT SHAFT #2.

[12/2/2021, dmmeaxh]RP APPNO 1011162/1402152 APPROVED 11/30/2021 TO ENLARGE UNDERGROUND MINING AREA BY ADDING 2,720.00 ACRES TO THE PMU IN THE POCAHONTAS #3 SEAM. NO WATER MONITORING POINTS WERE ADDED OR DELETED IN THIS APPLICATION.

[8/23/2021, dmmesh]08/23/2021: RP APPNO 1011096/1402152 APPROVED 07/13/2021 TO REMOVE THE PAGE GOB PILE AS AN AML ENHANCEMENT PROJECT IN ORDER TO OBTAIN TDS OFFSET CREDIT FOR OPERATIONS WITHIN THE GARDEN CREEK WATERSHED. ADMINISTRATIVE ERROR APPLICATION TECHNICALLY APPROVED ON 07/13/2021, ACCURATE APPROVAL DATE 07/23/2021. OPERATION DID NOT COMMENCE UNTIL ACCURATE APPROVAL DATE OF 07/23/2021.

[4/26/2021, dmmeaxh]RA APPNO 1010858 APPROVED 4/22/21 TO AMEND 16.67 ACRES FOR A NEW COAL PREPARATION PLANT WHICH ALSO REQUIRES RELOCATION OF STATE ROUTE 632, A TOPSOIL STORAGE AREA, A BENCH FILL, NEW ROADS, NEW CONVEYORS AND A COAL STORAGE AND HANDLING EQUIPMENT AREA FOR THE NEW PLANT, TO ENLARGE THE UNDERGROUND MINING AREA BY ADDING 1,580.00 ACRES TO THE PMU IN THE POCAHONTAS #3 SEAM, TO ADD A BOREHOLE FOR WATER INJECTION, TO ADDRESS CLEAN-OUT OF THE IRON TREATMENT POND, TO REQUEST A SMALL AREA DRAINAGE VARIANCE AT THE POWDER MAGAZINE STORAGE AREA, TO SHOW THE REMOVAL OF POND 5, AND TO REVISE THE CULVERT AT VENT SHAFT #8. GROUNDWATER ADDED: GW-27 (0011980) , GW-29 (0011981) INSTREAM CHANGED: BAS-2-VP3 (0009073) NPDES CHANGED: 008 (5785459).

[5/28/2020, dmmeaxh]RA APPNO 1010668 APPROVED 3/4/20 TO AMEND 12.84 ACRES FOR ADDING VENTILATION SHAFT #18, ONE HAULROAD AND ONE ANCILLARY ROAD, PONDS 054 AND 055 AND NPDES OUTFALLS 054 AND 055, TEMPORARY VALLEY FILL #T-VS18-1, AREA AT VENTILATION SHAFT #9 TO REMOVE UNSTABLE ROCK FROM THE HIGHWALL AND AREA AT VENTILATION SHAFT #15 FOR HAULROAD SLOPING, AND ALSO TO ENLARGE THE UNDERGROUND MINING AREA BY ADDING 253.00 ACRES TO THE PMU IN THE POCAHONTAS #3 SEAM. GROUNDWATER ADDED: GW-28 (0011723) , GW-26 (0011724) , GWB-VS18-1 (0011725) , GWB-VS18-2 (0011726) INSTREAM ADDED: VS18-BC2 (0011729) , VS18-BC1 (0011730) , VS18-2 (0011728) , VS18-1 (0011727) NPDES ADDED: 055 (0011731) , 054 (0011732).

09/12/2018: TJ APPNO 1010260 APPROVED 9/11/18 AS CSMO/NPDES PERMIT 1402152/0082152. BUCHANAN MINERALS, LLC - BUCHANAN NO. 1 MINE. DELETE BIO/CHEM MONITORING POINTS BAS-12 & BAS-13 (MPID 0008299 & 0008300). NEW FORMAT NPDES PERMIT COMBINED WITH APPLICATION 1010145. AXH/PRB/MFS

** LAB: ENV. MONITORING, INC. (EMI)(1) SIGNING DMRs: BRETT HOLBROOK, ED FANNING, & CHRIS STURGELL **

09/12/2018: RA APPNO 1010145 APPROVED 8/30/18 TO AMEND 9.73 ACRES AND DELETE 0.48 ACRE FOR ADDING VENTILATION SHAFT VS-15 AS WELL AS CORRECTING THE PERMIT BOUNDARY NEAR VS-2 AND VS-12, TO ENLARGE THE UNDERGROUND MINING AREA BY ADDING 1,751.48 ACRES TO THE PMU IN THE POCAHONTAS #3 SEAM, TO ADD A SUBSTATION ADJACENT TO THE VS-6 SITE, TO ADD POND 18-C TO THE EXISTING POND 18 AREA, TO ADD PONDS 52 & 53 AND NPDES

OUTFALLS 052 & 053 (MPID 0010832 & 0010833), AND TO ADD A TMDL OFFSET PROPOSAL IN THE GARDEN CREEK WATERSHED AT NPDES OUTFALL 025 (MPID 0002431). PRB/AXH
7/3/2018 NPDES OUTFALL 023

(MPID 0001000) DELETED BY INSPECTION TLD0000341
EFFECTIVE DATE 6/28/2018 (Sediment Structures Removed). prb.
05/24/2017: REVISION 1009907-6 ISSUED 05/17/2017 TO AMEND 24.03 ACRES AND DELETE 1.19 ACRES FOR CORRECTING THE EXISTING PERMIT BOUNDARY IN NORTH BRANCH, ADDING AREA FOR THE KENNEDY MINE MONITORING WELL, ADDING AREA FOR AN EQUIPMENT SUPPLY/STORAGE NEAR VENT SHAFT 8, ADDING AREA FOR PHASE 1 AND 2 MIXING ZONES FOR NPDES OUTFALL 025 WITH THE RELINQUISHMENT OF 0.99 ACRE FROM PN 1401531, ADDING AREA FOR 22 RIGHT BOREHOLE ACCESS ROAD, ADDING AREA FOR THE EXISTING IRON TREATMENT SYSTEM WITH THE RELINQUISHMENT OF 17.52 ACRES FROM PN 1400496, ADD 139.04 PMU ACRES IN POCAHONTAS NO. 3 SEAM. ADD MIXING ZONES FOR OUTFALLS 008 AND 025. ADDRESS DETAILS ASSOCIATED WITH THE FINAL COMPLIANCE DEADLINE EXTENSION APPROVED IN 1010038. ADD PCB POLLUTION MINIMIZATION PLAN FOR OUTFALLS 003 AND 004. REVISE RAINFALL MONITORING LOCATION. ADD GW-1-VP3 (5755708) AND GW-2-VP3 (5755709) WHICH ARE BEING RELINQUISHED FROM PN 1400496. ADD NPDES OUTFALL 051 (5785712, PREVIOUSLY NAMED 002) WHICH IS BEING RELINQUISHED FROM PN 1400496. ADD INSTREAM POINTS S-1-VP3 (5720080) AND S-2-VP3 (5720081) WHICH ARE BEING RELINQUISHED FROM PN 1400496. ADD BIOLOGICAL/CHEMICAL POINTS BAS-1-VP3 (0009072), BAS-2-VP3 (0009073), AND BAS-3-VP3 (0009071) WHICH ARE BEING RELINQUISHED FROM PN 1400496. ADD BIOLOGICAL/CHEMICAL POINTS BAS-1-VP6 (0008020), BAS-2-VP6 (0008021), AND BAS-3-VP6 (0008022) WHICH ARE BEING SHARED WITH PN 1401531. PRB.

07/18/2016: SJ APPLICATION 1009816-3 APPROVED 07/18/16 AS CSMO/NPDES PERMIT 1402152/0082152, BUCHANAN MINERALS, LLC - BUCHANAN NO. 1 MINE. SUCCESSION TO PERMIT 1402103. ADD GROUNDWATER MONITORING POINTS GW-14, GW-5, NBM-001, NBM-002, GW-13, P-15, GW-17, GW-18, GW-19, GW-20, GW-21, GW-22, GW-23, GW-1, GW-2, GW-3, GW-6, MCD, GW-24, GW-25, GW-7, GW-8, GW-9, & GW-10 (MPID 0003828 5755453 0003023 0003024 0003222 0004849 0005951 0005952 0006162 0006504 0007758 0008857 0008858 5755449 5755450 5755451 5755454 5755455 5755690 5755691 0001002 0001003 0001004 0002784). ADD SURFACE WATER IN-STREAM MONITORING POINTS VS14-LF-1, VS14-LF2, VS16-DR2, 5-GC, 6-GC, P-18-100-8, P-18-10023, CM-2, CM-1, BCH-IS-11, VS7-BL1, VS7-BL2, BCH-IS-10, VS16-DR1, P-18-10047, BCH-IS-12, BCH-IS-13, BCH-014, BCH-015, BCH-IS-16, VS10-LH17, VS10-LH18, VS11-BB19, VS11-BB20, VS12-GC22, LFR-1, LFR-2, VS13-LB-1, NB-US, & NB-DS (MPID 0008862, 0008864, 0008867, 5720016, 5720017, 5720055, 5720056, 5720098, 5720099, 0001399, 0002785, 0002786, 0001398, 0008866, 5720057, 0001005, 0001006, 0003223, 0003224, 0003829, 0004851, 0004852, 0005954, 0005955, 0006165, 0006506, 0006507, 0007761, 0007768, & 0007769); ADD BIOLOGICAL/CHEMICAL MONITORING POINTS BAS-13, BAS-14, BAS-6, BAS-8, BAS-9, BAS-10, VS14BCLF1, VS14BCLF2, VS16-DR1BC, VS16-DR2BC, BAS-7, BAS-1, BAS-2, BAS-4, BAS-5, BAS-11, & BAS-12 (MPID 0008300, 0008301, 0008302, 0008304, 0008305, 0008306, 0008863, 0008865, 0008868, 0008869, 0008303, 0007763, 0007764, 0007766, 0007767, 0008298, & 0008299); ADD BIOLOGICAL ONLY MONITORING POINTS LVF01, LVF02, LVF03, & LVF04 (MPID 0007770, 0007771, 0007772, & 0007773); AND ADD BASELINE ONLY MONITORING POINT VS13-LB-1

(MPID 0007762). ADD RAIN GAUGE (MPID 0000036). ADD NPDES OUTFALL 024, 029, 031, 032, 034, 035, 033, 037, 036, 038, 039, 049, 025, 026, 021, 046, 045, 001, 003, 004, 008, 010, 011, 012, 017, 023, 022, 028, 047, 018, & 043 (MPID 0001001, 0003826, 0004850, 0005953, 0006163, 0006164, 0006505, 0007759, 0007760, 0008859, 0008860, 0008861, 0002431, 0002783, 5770100, 5784746, 5784748, 5785456, 5785457, 5785458, 5785459, 5785461, 5785462, 5785463, 5785464, 0001000, 5770140, 5783254, 5784745, 5785465, & 5785694) BASIN 24, BASIN 29, POND 31, POND 32, Pond 34, Pond 35, DIFFUSER, Pond 37, Pond 36, POND 38, POND39, POND 49, BASIN 025, BASIN 26, POND 21, Pond 46, Pond 45, BCH 1, POND 3, POND 4, POND 8, POND 10, POND 11, POND 12, POND 17, BASIN 23, BASIN 22, POND 28, Pond 47, POND 18, SB 43 & 44. AXH

** LAB: ENV. MONITORING, INC. (EMI)(1) SIGNING DMR'S: BRETT HOLBROOK, ED FANNING, & CHRIS STURGELL **

III. NPDES DISCHARGE SITES

MPID	Outfall Facility	State Plane N State Plane E	Stream Name	Quad Section	Added Deleted	Limit	Stat
0001000	023 BASIN 23	3605386.042000 10485169.104700	902 GRASSY CREEK	KEEN MOUNTAIN 5	7/12/2016 6/28/2018	21-13	ND
0001001	024 BASIN 24	3605329.468900 10484491.952600	902 GRASSY CREEK	KEEN MOUNTAIN 5	7/12/2016	21-13	ND
0002431	025 BASIN 025	3600897.500000 10462016.460000	805 NORTH BRANCH	VANSANT 9	7/12/2016	50-09	ND
0002783	026 BASIN 26	3611289.566600 10485125.146000	919 CLIFTON FORK	KEEN MOUNTAIN 5	7/12/2016	30-13	ND
0003826	029 BASIN 29	3618182.560000 10491319.360000	918 HONAKER BRANCH	KEEN MOUNTAIN 3	7/12/2016	21-13	ND
0004850	031 POND 31	3617289.777200 10498963.204600	944 LITTLE HURRICANE BRANCH	KEEN MOUNTAIN	7/12/2016	21-13	ND
0005953	032 POND 32	3617149.856300 10505933.516100	1026 BUCK BRANCH	JEWELL RIDGE	7/12/2016 2/6/2023	21-13	ND
0006163	034 Pond 34	3604849.493900 10498588.143300	902 GRASSY CREEK	KEEN MOUNTAIN	7/12/2016	21-13	ND
0006164	035 Pond 35	3603779.463100 10498088.119400	902 GRASSY CREEK	KEEN MOUNTAIN	7/12/2016	21-13	ND
0006505	033 DIFFUSER	3646184.172900 10433815.508000	5 LEVISA FORK	GRUNDY	7/12/2016	21-41	A
0007759	037 Pond 37	3622296.200000 10495732.000000	942 LAUDERS BRANCH	KEEN MOUNTAIN	7/12/2016	30-13	ND
0007760	036 Pond 36	3622565.500000 10496891.500000	942 LAUDERS BRANCH	KEEN MOUNTAIN	7/12/2016	30-13	ND
0008859	038 POND 38	3618779.310000 10515366.760000	1027 BENNY BRANCH	JEWELL RIDGE	7/12/2016	21-13	NC
0008860	039 POND39	3617696.350000 10512625.960000	1027 BENNY BRANCH	JEWELL RIDGE	7/12/2016	21-13	NC
0008861	049 POND 49	3626191.000000 10507460.000000	751 DISMAL CREEK	JEWELL RIDGE	7/12/2016	21-13	A

MPID	Outfall Facility	State Plane N State Plane E	Stream Name	Quad Section	Added Deleted	Limit	Stat
0010532	025A Phase I	3602321.000000 10459222.000000	802 RIGHT FORK GARDEN CREEK	VANSANT	5/17/2017	50-09	ND
0010533	025B Phase II	3611338.000000 10462354.000000	797 GARDEN CREEK	KEEN MOUNTAIN	5/17/2017	50-09	NC
0010832	052 Pond 52	3632675.000000 10493920.000000	939 LOGGY BOTTOM BRANCH	PATTERSON	8/30/2018	30-13	ND
0010833	053 Pond 53	3633420.000000 10493570.000000	939 LOGGY BOTTOM BRANCH	PATTERSON	8/30/2018	30-06	ND
0011731	055 Pond 55	3594830.000000 10484836.000000		KEEN MOUNTAIN	3/4/2020	30-13	A
0011732	054 Pond 54	3594005.000000 10484794.000000	5 LEVISA FORK	KEEN MOUNTAIN	3/4/2020	30-13	A
0012216	Pond 32 VS-11	3617149.856300 10505933.516000	1026 BUCK BRANCH	JEWELL RIDGE	2/6/2023	30-13	NC
5770100	021 POND 21	3604873.918100 10477080.533000	909 WHETSTONE BRANCH	KEEN MOUNTAIN 5	7/12/2016	21-06	A
5770140	022 BASIN 22	3609191.894400 10476385.987000	5 LEVISA FORK	KEEN MOUNTAIN 5	7/12/2016	30-06	A
5783254	028 POND 28	3618577.397800 10485402.973700	915 CONTRARY CREEK	KEEN MOUNTAIN 2	7/12/2016	30-13	A
5784745	047 Pond 47	3608238.521000 10464300.623500	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	30-05	ND
5784746	046 Pond 46	3607599.533700 10464235.063800	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	30-05	ND
5784748	045 Pond 45	3606393.000000 10465031.000000	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	30-05	ND
5785456	001 BCH 1	3600798.958400 10467606.937500	797 GARDEN CREEK	KEEN MOUNTAIN 7	7/12/2016	30-03	ND
5785457	003 POND 3	3600817.337900 10467885.635400	797 GARDEN CREEK	KEEN MOUNTAIN 7	7/12/2016	30-06	A
5785458	004 POND 4	3600349.210200 10468564.102000	797 GARDEN CREEK	KEEN MOUNTAIN 7	7/12/2016	30-06	ND
5785459	008 POND 8	3600751.501600 10466366.765700	797 GARDEN CREEK	KEEN MOUNTAIN 7	7/12/2016	70-06	A
5785461	010 POND 10	3600959.263100 10466768.341900	797 GARDEN CREEK	KEEN MOUNTAIN 7	7/12/2016	30-06	ND
5785462	011 POND 11	3602394.646100 10471181.814000	923 TRACE BRANCH	KEEN MOUNTAIN 7	7/12/2016	30-06	ND
5785463	012 POND 12	3605314.866300 10472494.223600	923 TRACE BRANCH	KEEN MOUNTAIN 4	7/12/2016	30-06	ND
5785464	017 POND 17	3595842.299800 10470066.124800	797 GARDEN CREEK	KEEN MOUNTAIN 7	7/12/2016	30-14	ND
5785465	018 POND 18	3604143.154900 10466276.548400	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	30-14	ND
5785694	043 SB 43 & 44	3603944.926900 10459005.629100	797 GARDEN CREEK	KEEN MOUNTAIN 6	7/12/2016	30-25	ND

MPID	Outfall Facility	State Plane N State Plane E	Stream Name	Quad Section	Added Deleted	Limit	Stat
5785712	051 Pond 51	3628448.106800 10434121.751000	5 LEVISA FORK	VANSANT 1	5/17/2017	21-06	ND

IV. GROUNDWATER MONITORING SITES

MPID	Outfall Facility	State Plane N State Plane E	Elevation Type	Quad Section	Added Deleted	Stat
0001002	GW-7 SHAFT 4	3604833.411600 10476678.892300	1865.00 PIEZOMETER	KEEN MOUNTAIN 5	7/12/2016	A
0001003	GW-8 SHAFT 5	3609098.920200 10476150.477800	1660.00 UNDERDRAIN	KEEN MOUNTAIN 5	7/12/2016	A
0001004	GW-9 SHAFT 6	3605415.699800 10485229.232100	1776.00 UNDERDRAIN	KEEN MOUNTAIN 5	7/12/2016	A
0002784	GW-10 SHAFT 7	3605432.387400 10485202.731000	1800.00 UNDERDRAIN	VANSANT	7/12/2016	A
0003023	NBM-001 DRIFT MTH	3600739.503600 10462146.679900	1902.00 MINE DISCH	VANSANT 9	7/12/2016	A
0003024	NBM-002 DRIFT MTH	3600736.097900 10462190.993700	1902.00 MINE DISCH	VANSANT 9	7/12/2016	A
0003222	GW-13 SHAFT 8	3618902.627100 10485613.295300	1880.00 PIEZOMETER	KEEN MOUNTAIN 2	7/12/2016	A
0003828	GW-14 SHAFT 9	3618154.972100 10492599.609100	2280.00 MINE DISCH	KEEN MOUNTAIN 3	7/12/2016	A
0004849	P-15 FILL VS10	3617453.781400 10499008.207300	2200.00 UNDERDRAIN	KEEN MOUNTAIN	7/12/2016	A
0005951	GW-17 VS-11	3616724.837500 10505113.476900	1895.00 SPRING	JEWELL RIDGE	7/12/2016	A
0005952	GW-18 VS-11	3617112.857300 10506083.522700	2030.00 UNDERDRAIN	JEWELL RIDGE	7/12/2016	A
0006162	GW-19 VS-12	3604179.477900 10498508.137600	2500.00 PIEZOMETER	KEEN MOUNTAIN	7/12/2016	A
0006504	GW-20 Garden Crk	3608593.832400 10464143.029100	1470.00 WELL	KEEN MOUNTAIN	7/12/2016	A
0007758	GW-21 FILL VS-13	3622240.200000 10495652.000000	2220.00 UNDERDRAIN	KEEN MOUNTAIN	7/12/2016	NC
0008857	GW-22 VS-14 Fill	3618864.500000 10515543.860000	2480.00 UNDERDRAIN	JEWELL RIDGE	7/12/2016	NC
0008858	GW-23 VS16 FILL	3625978.200000 10507941.350000	1740.00 UNDERDRAIN	JEWELL RIDGE	7/12/2016	NC
0010826	GW-VS15-1	3633352.000000 10493435.000000	1856.00 UNDERDRAIN	PATTERSON	8/30/2018	NC
0011723	GW-28 VS-18 Fill	3594779.000000 10485129.000000	2225.00 UNDERDRAIN	KEEN MOUNTAIN	3/4/2020	A
0011724	GW-26 VS-18	3594146.290000 10484653.370000	2040.00 PIEZOMETER	KEEN MOUNTAIN	3/4/2020	NC
0011725	GWB-VS18-1 VS-18	3594035.380000 10466085.160000	2030.00 BASELINE ONLY	KEEN MOUNTAIN	3/4/2020	BO
0011726	GWB-VS18-2 Spring	3595566.430000 10485275.720000	2275.00 BASELINE ONLY	KEEN MOUNTAIN	3/4/2020	BO

MPID	Outfall Facility	State Plane N State Plane E	Elevation Type	Quad Section	Added Deleted	Stat
0011980	GW-27 Kennedy	3599699.010000 10466085.160000	2070.00 PIEZOMETER	KEEN MOUNTAIN	4/22/2021 6/1/2022	NC
0011981	GW-29 Permac Fil	3607895.748900 10464563.569000	1520.00 PIEZOMETER	KEEN MOUNTAIN	4/22/2021	NC
5755449	GW-1 SITE	3604492.875300 10465708.335900	1776.00 WELL	KEEN MOUNTAIN 7	7/12/2016	A
5755450	GW-2 SITE	3604473.874700 10465702.023300	1522.00 WELL	KEEN MOUNTAIN 7	7/12/2016	A
5755451	GW-3 SITE	3599038.868300 10468947.625400	1620.00 WELL	KEEN MOUNTAIN 7	7/12/2016	A
5755453	GW-5 SHAFT 3	3595317.948200 10470454.079600	1706.00 WELL	KEEN MOUNTAIN 7	7/12/2016	A
5755454	GW-6 SHAFT 3	3595729.454500 10470148.753500	1698.00 WELL	KEEN MOUNTAIN 7	7/12/2016	A
5755455	MCD SITE	3600919.036100 10466267.135700	1698.00 UNDERDRAIN	KEEN MOUNTAIN 7	7/12/2016	A
5755690	GW-24 upstream	3601970.142000 10458288.190000	1560.00 PIEZOMETER	KEEN MOUNTAIN 9	7/12/2016	A
5755691	GW-25 below	3603953.929000 10459112.190000	1533.00 PIEZOMETER	KEEN MOUNTAIN 6	7/12/2016	A
5755708	GW-1-VP3 Upstream	3627743.710000 10435486.300000	1130.00 WELL	VANSANT 7	5/17/2017	A
5755709	GW-2-VP3 Downstream	3629710.582300 10433586.727000	1100.00 WELL	VANSANT 1	5/17/2017	A

V. IN-STREAM MONITORING SITES

MPID Mp Is No	Outfall Facility	State Plane N State Plane E	Stream Name	Quad Section	Added Deleted	Stat
0001005	BCH-IS-12 UPSTREAM	3605001.132600 10485623.435800	902 GRASSY CREEK	KEEN MOUNTAIN 5	7/12/2016	A
0001006	BCH-IS-13 DOWNSTREAM	3605173.925000 10483850.177200	902 GRASSY CREEK	KEEN MOUNTAIN 5	7/12/2016	A
0001398	BCH-IS-10 DOWN/TRIB	3609615.509200 10477160.704800	5 LEVISA FORK	KEEN MOUNTAIN 5	7/12/2016	A
0001399	BCH-IS-11 UP/TRIB	3608789.885000 10475984.722300	5 LEVISA FORK	KEEN MOUNTAIN 5	7/12/2016	A
0002785	VS7-BL1 UPSTREAM	3610969.808900 10485609.929400	919 CLIFTON FORK	KEEN MOUNTAIN 5	7/12/2016	A
0002786	VS7-BL2 DOWNSTREAM	3613575.738000 10484867.207000	919 CLIFTON FORK	KEEN MOUNTAIN 5	7/12/2016	A
0003223	BCH-014 DOWNSTREAM	3617938.162000 10485267.468600	915 CONTRARY CREEK	KEEN MOUNTAIN 2	7/12/2016	A
0003224	BCH-015 UPSTREAM	3619532.000000 10486229.000000	915 CONTRARY CREEK	KEEN MOUNTAIN 2	7/12/2016	A
0003829	BCH-IS-16 DOWNSTREAM	3617139.186900 10488999.447800	918 HONAKER BRANCH	KEEN MOUNTAIN 6	7/12/2016	A
0004851	VS10-LH17 UPSTREAM	3616974.759900 10498094.164800	944 LITTLE HURRICANE BRANCH	KEEN MOUNTAIN	7/12/2016	A

MPID Mp Is No	Outfall Facility	State Plane N State Plane E	Stream Name	Quad Section	Added Deleted	Stat
0004852	VS10-LH18 DOWNSTREAM	3615826.759900 10500248.256300	944 LITTLE HURRICANE BRANCH	JEWELL RIDGE	7/12/2016	A
0005954	VS11-BB19 DOWNSTREAM	3616699.835200 10504963.470100	1026 BUCK BRANCH	JEWELL RIDGE	7/12/2016	A
0005955	VS11-BB20 UPSTREAM	3618594.899800 10507018.574100	1026 BUCK BRANCH	JEWELL RIDGE	7/12/2016	A
0006165	VS12-GC22 BELOW	3603779.447400 10496948.074000	902 GRASSY CREEK	KEEN MOUNTAIN	7/12/2016	A
0006506	LFR-1 Upstream	3646153.243600 10433904.227400	5 LEVISA FORK	GRUNDY	7/12/2016	A
0006507	LFR-2 Downstream	3647978.206500 10429325.106300	5 LEVISA FORK	GRUNDY	7/12/2016	A
0007761	VS13-LB-1 Instream	3622054.000000 10501800.000000	942 LAUDERS BRANCH	JEWELL RIDGE	7/12/2016	A
0007762	VS13-LB-1 Downstream	3622054.000000 10501800.000000	942 LAUDERS BRANCH	JEWELL RIDGE	7/12/2016	BO
0007763	BAS-1 BIO/CHEMDS	3599380.000000 10468656.000000	797 GARDEN CREEK	KEEN MOUNTAIN	7/12/2016	A
0007764	BAS-2 BIO/CHEMDS	3600924.000000 10469718.000000	923 TRACE BRANCH	KEEN MOUNTAIN	7/12/2016	A
0007766	BAS-4 BIO/CHEMUS	3600671.000000 10460799.000000	805 NORTH BRANCH	KEEN MOUNTAIN	7/12/2016	A
0007767	BAS-5 BIO/CHEMDS	3601204.000000 10460554.000000	805 NORTH BRANCH	KEEN MOUNTAIN	7/12/2016	A
0007768	NB-US Upstream	3600671.000000 10460799.000000	805 NORTH BRANCH	KEEN MOUNTAIN	7/12/2016	A
0007769	NB-DS Downstream	3601204.000000 10460554.000000	805 NORTH BRANCH	KEEN MOUNTAIN	7/12/2016	A
0007770	LVF01 Downstream	3651457.000000 10427504.000000	5 LEVISA FORK	HARMAN	7/12/2016	A
0007771	LVF02 Downstream	3647195.000000 10430216.000000	5 LEVISA FORK	GRUNDY	7/12/2016	A
0007772	LVF03 Downstream	3646428.000000 10433002.000000	5 LEVISA FORK	GRUNDY	7/12/2016	A
0007773	LVF04 Upstream	3646044.000000 10434220.000000	5 LEVISA FORK	GRUNDY	7/12/2016	A
0008020	BAS-1-VP6 Downstream	3605323.000000 10459447.000000	802 RIGHT FORK GARDEN CREEK	VANSANT	5/17/2017	A
0008021	BAS-2-VP6 Upstream	3602037.000000 10458319.000000	802 RIGHT FORK GARDEN CREEK	VANSANT	5/17/2017	A
0008022	BAS-3-VP6 Downstream	3602417.000000 10459320.000000	802 RIGHT FORK GARDEN CREEK	VANSANT	5/17/2017	A
0008298	BAS-11 Bio/ChemDS	3605052.000000 10477942.000000	909 WHETSTONE BRANCH	KEEN MOUNTAIN	7/12/2016	A
0008299	BAS-12 Bio/ChemDS	3603120.000000 10481031.000000	5 LEVISA FORK	KEEN MOUNTAIN	7/12/2016 9/11/2018	A

MPID Mp Is No	Outfall Facility	State Plane N State Plane E	Stream Name	Quad Section	Added Deleted	Stat
0008300	BAS-13 Bio/ChemDS	3602793.000000 10491567.000000	902 GRASSY CREEK	KEEN MOUNTAIN	7/12/2016 9/11/2018	A
0008301	BAS-14 Bio/ChemDS	3603779.000000 10496948.000000	902 GRASSY CREEK	KEEN MOUNTAIN	7/12/2016	A
0008302	BAS-6 Bio/ChemDS	3609890.000000 10463456.000000	797 GARDEN CREEK	KEEN MOUNTAIN	7/12/2016	A
0008303	BAS-7 Bio/ChemDS	3617938.000000 10485267.000000	915 CONTRARY CREEK	KEEN MOUNTAIN	7/12/2016	A
0008304	BAS-8 Bio/ChemDS	3617139.000000 10488999.000000	918 HONAKER BRANCH	KEEN MOUNTAIN	7/12/2016	A
0008305	BAS-9 Bio/ChemDS	3615827.000000 10500248.000000	944 LITTLE HURRICANE BRANCH	KEEN MOUNTAIN	7/12/2016	A
0008306	BAS-10 Bio/ChemDS	3616700.000000 10504963.000000	1026 BUCK BRANCH	JEWELL RIDGE	7/12/2016	A
0008862	VS14-LF-1 DS	3614339.000000 10505485.000000	941 LAUREL FORK	JEWELL RIDGE	7/12/2016	A
0008863	VS14BCLF1 DS	3614339.000000 10505485.000000	941 LAUREL FORK	JEWELL RIDGE	7/12/2016	A
0008864	VS14 - LF2 US	3613301.000000 10508177.000000	941 LAUREL FORK	JEWELL RIDGE	7/12/2016	A
0008865	VS14BCLF2 US	3613301.000000 10508177.000000	941 LAUREL FORK	JEWELL RIDGE	7/12/2016	A
0008866	VS16-DR1 VS16-UP	3627271.000000 10507857.000000	751 DISMAL CREEK	JEWELL RIDGE	7/12/2016	A
0008867	VS16-DR2 VS16-DOWN	3626075.000000 10507187.000000	751 DISMAL CREEK	JEWELL RIDGE	7/12/2016	A
0008868	VS16-DR1BC upstream	3627271.000000 10507857.000000	751 DISMAL CREEK	JEWELL RIDGE	7/12/2016	A
0008869	VS16-DR2BC downstream	3626075.000000 10507187.000000	751 DISMAL CREEK	JEWELL RIDGE	7/12/2016	A
0009071	BAS-3-VP3 Upstream	3627384.967000 10435273.218000	5 LEVISA FORK	VANSANT	5/17/2017	A
0009072	BAS-1-VP3 Downstream	3631561.272000 10434574.805000	5 LEVISA FORK	VANSANT	5/17/2017	A
0009073	BAS-2-VP3 Upstream	3628272.917000 10437734.887000	5 LEVISA FORK	VANSANT	5/17/2017	A
0009161	RF-DS-025A Downstream	3602417.000000 10459320.000000	802 RIGHT FORK GARDEN CREEK	VANSANT	5/17/2017	A
0009162	RF-US-025A Upstream	3602254.000000 10458816.000000	802 RIGHT FORK GARDEN CREEK	VANSANT	5/17/2017	A
0009163	VS15-BC2 Downstream	3630905.000000 10494137.000000	939 LOGGY BOTTOM BRANCH	PATTERSON 0	8/30/2018	A
0010529	BAS-025BDS Downstream	3611749.000000 10462264.000000	797 GARDEN CREEK	KEEN MOUNTAIN	5/17/2017	PP
0010530	BAS-025BUS Upstream	3611171.000000 10462329.000000	802 RIGHT FORK GARDEN CREEK	KEEN MOUNTAIN	5/17/2017	PP

MPID Mp Is No	Outfall Facility	State Plane N State Plane E	Stream Name	Quad Section	Added Deleted	Stat
0010531	GC-DS-025B Downstream	3611521.000000 10462344.000000	797 GARDEN CREEK	KEEN MOUNTAIN	5/17/2017	A
0010543	GC-US-008 Upstream	3600883.000000 10466849.000000	797 GARDEN CREEK	KEEN MOUNTAIN	5/17/2017	A
0010544	GC-DS-008 Downstream	3601337.000000 10466684.000000	797 GARDEN CREEK	KEEN MOUNTAIN	5/17/2017	A
0010545	RF-US-025B Upstream	3611171.000000 10462329.000000	802 RIGHT FORK GARDEN CREEK	VANSANT	5/17/2017	A
0010546	GC-US-025B Upstream	3611243.000000 10462385.000000	797 GARDEN CREEK	VANSANT	5/17/2017	A
0010824	VS15-1 UPSTREAM	3633978.000000 10493699.000000	939 LOGGY BOTTOM BRANCH	PATTERSON	8/30/2018	A
0010825	VS15-2 DOWNSTREAM	3630905.000000 10494137.000000	939 LOGGY BOTTOM BRANCH	KEEN MOUNTAIN	8/30/2018	A
0010834	VS15-BC1 Upstream	3633978.000000 10493699.000000	939 LOGGY BOTTOM BRANCH	PATTERSON	8/30/2018	A
0011727	VS18-1 Upstream	3585954.112500 10485149.560000	5 LEVISA FORK	KEEN MOUNTAIN	3/4/2020	A
0011728	VS18-2 Downstream	3594191.930000 10483740.590000	5 LEVISA FORK	KEEN MOUNTAIN	3/4/2020	A
0011729	VS18-BC2 Downstream	3594191.930000 10483740.590000	5 LEVISA FORK	KEEN MOUNTAIN	3/4/2020	PP
0011730	VS18-BC1 Upstream	3593272.710000 10485149.560000	5 LEVISA FORK	KEEN MOUNTAIN	3/4/2020	PP
0012533	VS8-CC1BC Upstream	3619532.000000 10486229.000000	915 CONTRARY CREEK	KEEN MOUNTAIN	11/12/2024	PP
5720016	5-GC DOWNSTREAM	3604894.000000 10465877.000000	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	A
5720017	6-GC UPSTREAM	3595542.828700 10470422.577100	797 GARDEN CREEK	KEEN MOUNTAIN 7	7/12/2016	A
5720055	P-18-100-8	3608725.310600 10463930.604200	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	A
5720056	P-18-10023	3606213.288500 10465071.921700	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	A
5720057	P-18-10047	3608005.241300 10464893.337100	797 GARDEN CREEK	KEEN MOUNTAIN 4	7/12/2016	A
5720080	S-1-VP3 Downstream	3629773.500400 10433703.000000	5 LEVISA FORK	VANSANT 1	5/17/2017	A
5720081	S-2-VP3 Upstream	3628032.205500 10435300.697000	5 LEVISA FORK	VANSANT 1	5/17/2017	A
5720098	CM-2 UPSTREAM	3604904.129000 10476452.508000	909 WHETSTONE BRANCH	KEEN MOUNTAIN 5	7/12/2016	A
5720099	CM-1 DOWNSTREAM	3605040.701700 10476938.214200	909 WHETSTONE BRANCH	KEEN MOUNTAIN 5	7/12/2016	A

VI. RAINFALL MONITORING SITES

MPID	Facility	State Plane N	State Plane E	Added	Deleted	Stat
0000036	BUCH #1	3618800.000000	10485525.000000	7/12/2016		A