pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0216038**
Facility Type	**Industrial**	APS ID	**1112328**
Major / Minor	**Minor**	Authorization ID	**1481945**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Keystone Land Resources, Inc.**	Facility Name	**Alicia Dock**
Applicant Address	46226 National Road	Facility Address	379 Alicia Road
	St. Clairsville, OH 43950		East Millsboro, PA 15433-1252
Applicant Contact	Justin Smith	Facility Contact	Robert McCallister
Applicant Phone	(740) 338-3100	Facility Phone	(412) 512-3060
Client ID	358023	Site ID	239958
SIC Code	4499; 4789	Municipality	Luzerne Township
SIC Description	Water Transportation Services, Not Elsewhere Classified; Transportation Services, Not Elsewhere Classified	County	Fayette
Date Application Received	April 18, 2024	EPA Waived?	Yes
Date Application Accepted	May 6, 2024	If No, Reason	

Purpose of Application: Renewal of NPDES permit for discharge of Industrial Waste in combination with Industrial Stormwater

Summary of Review

The Department received a NPDES permit application for renewal coverage of the Keystone Land Resources, Inc. Alicia Dock on 4/18/2024. The prior permit was issued on 10/4/2019 with an effective date of 11/1/2019 and an expiration date of 10/31/2024. One transfer occurred during the permit term from Murray American River Towing to Keystone Land Resources, Inc.

The Alicia Dock is a rail-to-barge clean coal transfer facility along the Monongahela River. Coal is received in the Railcar Dumper Building and is transferred via conveyer belt through Transfer Buildings No. 1 and No. 2 to awaiting barges. Equipment maintenance occurs in a building to the south of the coal transfer operations area. Three clay-lined sedimentation basins permitted by WQM Permit # 2696203—SB-1, SB-2, and SB-3—receive a mixture of process wastewater and industrial stormwater from the facility. SB-1, discharged via Outfall 001, collects stormwater runoff from the area surrounding the Transfer Buildings and receives pumped sump wastewater from washdown water of the floors, conveyer, and walkways within the Transfer Buildings. SB-2, discharged via Outfall 002, collects stormwater from the southwestern end of the property on the far side of the main entrance and receives sump wastewater from washdown of the floors, conveyer spillage pans, and walkways within the Railcar Dumper Building. SB-3, discharged via Outfall 003, collects stormwater northeast of the transfer station and along the railroad tracks and receives sump wastewater from washdown of floors and mobile equipment within the Equipment Maintenance Building. SB-3 also receives any runoff from the dredged sediment of SB-1 and SB-2 which is piled along its bank. Potassium permanganate is added to the pond for sedimentation of metals and hydrogen sulfide through oxidation along with soda ash for neutralization. Outfalls 001, 002, and 003 discharge to the Monongahela River which has a 25 PA Code Chapter 93 Warm Water Fishes designation and is impaired for polychlorinated biphenyls (PCBs) from an unknown source at the point of discharge. Figure 1 shows the sedimentation basins. The map

Approve	Deny	Signatures	Date
x		Jace William Marsh / Environmental Engineering Specialist	October 16, 2024
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	October 24, 2024

Summary of Review

provided with the application swapped the outfall labels for SB-2 and SB-3, which is corrected in Figure 1 to reflect prior permitting documents in DEP records.

The permittee has two open violations under the Oil & Gas Program regarding well plugging, but none under the Clean Water Program at this facility. A NPDES compliance evaluation inspection was performed by Howard Dunn on 9/29/2022 with no violations noted. Live fish were noted in all three sedimentation ponds during the inspection. The permittee has not exceeded their current effluent limits in at least the past two years (Attachment A).

Effluent limits for Outfall 001, Outfall 002, and Outfall 003 in the draft permit originate from Federal Effluent Limitation Guidelines for new source coal preparation plants and coal preparation plant associated areas in 40 CFR 434.25.

Figure 1. Sedimentation basins locations on satellite imagery

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.00625
Latitude	40º 00' 37"	Longitude	-79º 55' 46"
Quad Name	California	Quad Code	1806
Wastewater Description:	Discharge from sedimentation basin SB-1 receiving coal handling washdown water and industrial stormwater		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99411988	RMI	60
Drainage Area	4970 mi^2	Yield (cfs/mi^2)	0.107 cfs/mi^2
Q_{7-10} Flow (cfs)	530	Q_{7-10} Basis	USACE Q_{7-10} Flows of Major Rivers
Elevation (ft)	773	Slope (ft/ft)	0.215
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	n/a	Name	n/a
Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Brownsville WTP		
PWS Waters	Monongahela River	Flow at Intake (cfs)	530
PWS RMI	57.5	Distance from Outfall (mi)	1.45

Changes Since Last Permit Issuance: no significant changes

Other Comments: Only one receiving waters and water supply information summary was created and used for Outfalls 001, 002, and 003 due to negligible consequential differences between these three outfalls.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.075
Latitude	40º 00' 29"	Longitude	-79º 55' 49"
Quad Name	California	Quad Code	1806
Wastewater Description:	Discharge from sedimentation basin SB-2 receiving coal handling washdown water and industrial stormwater runoff		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99411988	RMI	60
Drainage Area	4970 mi^2	Yield (cfs/mi^2)	0.107 cfs/mi^2
Q_{7-10} Flow (cfs)	530	Q_{7-10} Basis	USACE Q_{7-10} Flows of Major Rivers
Elevation (ft)	773	Slope (ft/ft)	0.215
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	n/a	Name	n/a
Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Brownsville WTP		
PWS Waters	Monongahela River	Flow at Intake (cfs)	530
PWS RMI	57.5	Distance from Outfall (mi)	1.45

Changes Since Last Permit Issuance: no significant changes

Other Comments: n/a

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0.0245
Latitude	40º 00' 52"	Longitude	-79º 55' 31"
Quad Name	California	Quad Code	1806
Wastewater Description:	Discharge from sedimentation basin SB-3 receiving washdown water from the equipment maintenance building, industrial stormwater runoff, and runoff from sediment pile dredged from SB-1 & SB-2		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99411988	RMI	60
Drainage Area	4970 mi^2	Yield (cfs/mi^2)	0.107 cfs/mi^2
Q_{7-10} Flow (cfs)	530	Q_{7-10} Basis	USACE Q_{7-10} Flows of Major Rivers
Elevation (ft)	773	Slope (ft/ft)	0.215
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	n/a	Name	n/a
Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Brownsville WTP		
PWS Waters	Monongahela River	Flow at Intake (cfs)	530
PWS RMI	57.5	Distance from Outfall (mi)	1.45

Changes Since Last Permit Issuance: no significant changes

Other Comments: n/a

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.00625
Latitude	40º 00' 37"	**Longitude**	-79º 55' 46"
Wastewater Description:	Discharge from sedimentation basin SB-1 receiving coal handling washdown water and industrial stormwater		

Outfall No.	002	**Design Flow (MGD)**	0.075
Latitude	40º 00' 29"	**Longitude**	-79º 55' 49"
Wastewater Description:	Discharge from sedimentation basin SB-2 receiving coal handling washdown water and industrial stormwater runoff		

Outfall No.	003	**Design Flow (MGD)**	0.0245
Latitude	40º 00' 52"	**Longitude**	-79º 55' 31"
Wastewater Description:	Discharge from sedimentation basin SB-3 receiving washdown water from the equipment maintenance building, industrial stormwater runoff, and runoff from sediment pile dredged from SB-1 & SB-2		

Due to the similarity of all wastewater discharges, only one effluent limitation development section was created. No sample data was provided with the initial application. One point of sample data for Group 1 and Group 2 pollutants was provided for Outfall 001 and Outfall 002 on 10/10/2024. No data was provided for Outfall 003.

Technology-Based Effluent Limitations (TBEL)

Federal Effluent Limitation Guidelines

The Alicia Dock is subject to New Source Performance Standards (NSPS) effluent limitations for new source coal preparation plants and coal preparation plant associated areas in 40 CFR 434.25, shown in Table 1. Per 40 CFR 122.2:

> *New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:*
>
> *(a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or*
> *(b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.*

Any source under 40 CFR Part 434 Subpart B which was constructed following 5/4/1984 is subject to NSPS effluent limitations. This facility was being constructed as of the application submission for WQM Permit # 2696203 on 8/7/1996.

Table 1. NSPS effluent limitations

Parameter	Monthly Average (mg/L)	Daily Maximum (mg/L)
Total Iron	3.0	6.0
Total Manganese	2.0	4.0
Total Suspended Solids (TSS)	35	70
pH (S.U.)	6.0-9.0 at all times	

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) as indicated in Table 2 below.

Pursuant to 25 Pa. Code § 95.2(4) effluent standards for industrial wastes may not contain more than 7 mg/L of dissolved iron as indicated in Table 2 below.

The pH effluent range for all Industrial waste process and non-process discharges pursuant with 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2 as indicated in Table 2 below.

Table 2. Regulatory Effluent Standards

Parameter	Monthly Avg	Daily Max	Instantaneous Max
Flow (MGD)	Monitor	Monitor	----
Iron, Dissolved	----	----	7.0 mg/L
pH (S.U.)	Wastes must have a pH of not less than 6.0 nor greater than 9.0		

Total Dissolved Solids (TDS)

This facility is exempt from 25 Pa. Code § 95.10 which outlines treatment requirements for new and expanding mass loadings of TDS and clarifies which facilities are exempt. The relevant section qualifying the exemption states:

> *(a) The following are not considered new and expanding mass loadings of TDS and are exempt from the treatment requirements in this section:*
>
> *(1) Maximum daily discharge loads of TDS or specific conductivity levels that were authorized by the Department prior to August 21, 2010. These discharge loads will be considered existing mass loadings by the Department.*

Water Quality-Based Effluent Limitations (WQBEL)

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

Annual sampling of PFAS, a group of emerging contaminants, is now a minimum requirement for all individual industrial waste discharges regardless of industry. The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detects at or below Quantitation Limits (QLs) of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees should enter a No Discharge Indicator (NODI) Code of “GG” on DMRs. This monitoring is imposed based on 25 Pa. Code § 92a.61(b) which states:

> *The Department may impose reasonable monitoring requirements on any discharge, including monitoring of the surface water intake and discharge of a facility or activity, other operational parameters that may affect effluent quality, and of surface waters adjacent to or associated with the intake or discharge flow of a facility or activity. The Department may require submission of data related to the monitoring.*

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are man-made chemicals, are resistant to heat, water and oil, and persist in the environment and the human body. PFAS are not found naturally in the environment, and can be found in air, soil, and water (both groundwater and surface water). They have been used to make cookware, carpets, clothing, fabrics for furniture, paper packaging for food, and other materials that are resistant to water, grease, or stains. They are also used in firefighting foams and in a number of industrial processes. One effluent sample result at both Outfall 001 and Outfall 002 was provided for the four relevant PFAS compounds, shown in Table 3, which demonstrated concentrations below the above mentioned QLs.

Table 3. PFAS sample data provided

Outfall	Parameter	Concentration (ng/L)
001	PFOA	1.3
	PFOS	1.6
	PFBS	<0.92
	HFPO-DA	<3.7
002	PFOA	1.2
	PFOS	1.4
	PFBS	<0.93
	HFPO-DA	<3.7

Toxics Management Spread Sheet

The Department of Environmental Protection has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The TMS is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The TMS is a single discharge, mass-balance water quality calculation spread sheet that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, the TMS recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development

Discharges are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the TMS. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the TMS. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion are considered to be pollutants of concern. This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion. The TMS is run with the discharge and receiving stream characteristics shown in Table 4. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 10% - 50% of the WQBEL.

Only Outfall 002 was modeled in the TMS since it is assumed to be representative of pollution potential from this facility. Group 1 and Group 2 pollutant data provided for Outfall 001 and Outfall 002 were very similar. Pollutant concentrations were also very similar between all three outfalls from eDMR data provided in the past two years (Attachment A). In addition, Outfall 002 is the most significant discharge at this facility with about 3x the design flow of Outfall 003, the second largest outfall by flow. No WQBELs were recommended. The Output from the TMS is included in Attachment C.

Table 4. TMS Inputs for Outfall 002

Discharge Information	
Parameter	**Value**
River Mile Index	60
Discharge Flow (MGD)	0.075
Basin/Stream Information	
Parameter	**Value**
Drainage Area (mi^2)	4970
Q_{7-10} (cfs)	530
Low-flow yield (cfs/mi^2)	0.107
Elevation (ft)	773

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l), and are displayed below in Table 5.

Table 5. Effluent limitations from previous permit

Parameter	Mass (pounds)		Concentration (mg/L)		Samples	
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	—	—	2/month	Calculation
Total Iron	—	—	3.0	6.0	2/month	Grab
Total Manganese	—	—	2.0	4.0	2/month	Grab
TSS	—	—	35.0	70.0	2/month	Grab
pH (S.U.)	—	—	6.0-9.0 at all times		2/month	Grab

001.D. Proposed Effluent Limitations and Monitoring Requirements

Effluent limits applicable at Outfall 001, Outfall 002, and Outfall 003 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in Table 6. Limits remain the same except for the addition of PFAS monitoring.

Table 6. Effluent limits and monitoring requirements for Outfalls 001, 002, and 003

Parameter	Mass (pounds)		Concentration (mg/L)		Samples	
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	—	—	2/month	Calculation
Total Iron	—	—	3.0	6.0	2/month	Grab
Total Manganese	—	—	2.0	4.0	2/month	Grab
TSS	—	—	35.0	70.0	2/month	Grab
pH (S.U.)	—	—	6.0-9.0 at all times		2/month	Grab
PFOA (ng/L)	—	—	—	Report	1/year	Grab
PFOS (ng/L)	—	—	—	Report	1/year	Grab
PFBS (ng/L)	—	—	—	Report	1/year	Grab
HFPO-DA (ng/L)	—	—	—	Report	1/year	Grab

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment B)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP: Establishing Effluent Limits for Individual Industrial Permits (BCW-PMT-032)
☐	Other: USGS StreamStats (see Attachment A)

Attachment A:
Most Recent Two Years of eDMR Data Maximums vs. Effluent Limits

Outfall	Parameter	Maximum "Max Daily" (mg/L)	Max Daily Limit (mg/L)	Maximum "Average Monthly" (mg/L)	Average Monthly Limit (mg/L)	# of Data Points
001	Flow (MGD)	0.0129	*Report*	0.0095	*Report*	21
	Total Iron	0.646	*6.0*	0.492	*3.0*	21
	Total Manganese	1.28	*4.0*	0.926	*2.0*	21
	TSS	12	*70*	9.5	*35*	21
	pH (S.U.)	7.39-8.8	*6.0-9.0*	n/a	*n/a*	21
002	Flow (MGD)	0.0251	*Report*	0.0132	*Report*	18
	Total Iron	1.58	*6.0*	0.902	*3.0*	18
	Total Manganese	0.921	*4.0*	0.587	*2.0*	18
	TSS	12	*70*	10	*35*	18
	pH (S.U.)	6.73-8.11	*6.0-9.0*	n/a	*n/a*	18
003	Flow (MGD)	0.0223	*Report*	0.0144	*Report*	20
	Total Iron	0.524	*6.0*	0.3235	*3.0*	20
	Total Manganese	0.669	*4.0*	0.522	*2.0*	20
	TSS	12	*70*	<7.5	*35*	20
	pH (S.U.)	7.36-8.44	*6.0-9.0*	n/a	*n/a*	20

Attachment B:
USGS StreamStats at Point of Discharge

StreamStats Report PA0216038 Alicia Dock

Region ID: PA
Workspace ID: PA20241010153346523000
Clicked Point (Latitude, Longitude): 40.01503, -79.92612
Time: 2024-10-10 11:34:13 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	12.1184	degrees
DRNAREA	Area that drains to a point on a stream	4970	square miles
ELEV	Mean Basin Elevation	1876	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	4970	square miles	2.26	1400
ELEV	Mean Basin Elevation	1876	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	663	ft^3/s
30 Day 2 Year Low Flow	883	ft^3/s
7 Day 10 Year Low Flow	382	ft^3/s

Statistic	Value	Unit
30 Day 10 Year Low Flow	450	ft^3/s
90 Day 10 Year Low Flow	673	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Attachment C:
Toxics Management Spreadsheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Keystone Land Resources, Inc. Alicia Dock** NPDES Permit No.: **PA0216038** Outfall No.: **002**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **IW Process Effluent without ELG**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.075	31.8	8.11						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		318									
	Chloride (PWS)	mg/L		21.5									
	Bromide	mg/L	<	0.1									
	Sulfate (PWS)	mg/L		156									
	Fluoride (PWS)	mg/L		0.058									
Group 2	Total Aluminum	µg/L		27									
	Total Antimony	µg/L	<	0.5									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		51.1									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		113									
	Total Cadmium	µg/L	<	0.5									
	Total Chromium (III)	µg/L	<	2.5									
	Hexavalent Chromium	µg/L	<	1									
	Total Cobalt	µg/L	<	2.5									
	Total Copper	mg/L	<	0.0025									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	0.00001									
	Dissolved Iron	µg/L		157									
	Total Iron	µg/L		420									
	Total Lead	µg/L	<	0.5									
	Total Manganese	µg/L		728									
	Total Mercury	µg/L	<	0.005									
	Total Nickel	µg/L	<	2.5									
	Total Phenols (Phenolics) (PWS)	µg/L	<	0.00001									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	0.4									
	Total Thallium	µg/L	<	0.2									
	Total Zinc	mg/L	<	0.005									
	Total Molybdenum	µg/L	<	2.5									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										

Group 3	Chlorobenzene	µg/L												
	Chlorodibromomethane	µg/L	<											
	Chloroethane	µg/L	<											
	2-Chloroethyl Vinyl Ether	µg/L	<											
	Chloroform	µg/L	<											
	Dichlorobromomethane	µg/L	<											
	1,1-Dichloroethane	µg/L	<											
	1,2-Dichloroethane	µg/L	<											
	1,1-Dichloroethylene	µg/L	<											
	1,2-Dichloropropane	µg/L	<											
	1,3-Dichloropropylene	µg/L	<											
	1,4-Dioxane	µg/L	<											
	Ethylbenzene	µg/L	<											
	Methyl Bromide	µg/L	<											
	Methyl Chloride	µg/L	<											
	Methylene Chloride	µg/L	<											
	1,1,2,2-Tetrachloroethane	µg/L	<											
	Tetrachloroethylene	µg/L	<											
	Toluene	µg/L	<											
	1,2-trans-Dichloroethylene	µg/L	<											
	1,1,1-Trichloroethane	µg/L	<											
	1,1,2-Trichloroethane	µg/L	<											
	Trichloroethylene	µg/L	<											
	Vinyl Chloride	µg/L	<											
Group 4	2-Chlorophenol	µg/L	<											
	2,4-Dichlorophenol	µg/L	<											
	2,4-Dimethylphenol	µg/L	<											
	4,6-Dinitro-o-Cresol	µg/L	<											
	2,4-Dinitrophenol	µg/L	<											
	2-Nitrophenol	µg/L	<											
	4-Nitrophenol	µg/L	<											
	p-Chloro-m-Cresol	µg/L	<											
	Pentachlorophenol	µg/L	<											
	Phenol	µg/L	<											
	2,4,6-Trichlorophenol	µg/L	<											
Group 5	Acenaphthene	µg/L	<											
	Acenaphthylene	µg/L	<											
	Anthracene	µg/L	<											
	Benzidine	µg/L	<											
	Benzo(a)Anthracene	µg/L	<											
	Benzo(a)Pyrene	µg/L	<											
	3,4-Benzofluoranthene	µg/L	<											
	Benzo(ghi)Perylene	µg/L	<											
	Benzo(k)Fluoranthene	µg/L	<											
	Bis(2-Chloroethoxy)Methane	µg/L	<											
	Bis(2-Chloroethyl)Ether	µg/L	<											
	Bis(2-Chloroisopropyl)Ether	µg/L	<											
	Bis(2-Ethylhexyl)Phthalate	µg/L	<											
	4-Bromophenyl Phenyl Ether	µg/L	<											
	Butyl Benzyl Phthalate	µg/L	<											
	2-Chloronaphthalene	µg/L	<											
	4-Chlorophenyl Phenyl Ether	µg/L	<											
	Chrysene	µg/L	<											
	Dibenzo(a,h)Anthrancene	µg/L	<											
	1,2-Dichlorobenzene	µg/L	<											
	1,3-Dichlorobenzene	µg/L	<											
	1,4-Dichlorobenzene	µg/L	<											
	3,3-Dichlorobenzidine	µg/L	<											
	Diethyl Phthalate	µg/L	<											
	Dimethyl Phthalate	µg/L	<											
	Di-n-Butyl Phthalate	µg/L	<											
	2,4-Dinitrotoluene	µg/L	<											
	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											

	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

Instructions | Discharge | Stream

Receiving Surface Water Name: **Monongahela River**

No. Reaches to Model: **1**

◉ Statewide Criteria
○ Great Lakes Criteria
○ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	037185	60	745	4970			Yes
End of Reach 1	037185	59.614	744	4970.1			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	60	0.107										100	7		
End of Reach 1	59.614	0.107													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	60														
End of Reach 1	59.614														

Model Results

Keystone Land Resources, Inc. Alicia Dock, NPDES Permit No. PA0216038, Outfall 002

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ *AFC* CCT (min): 15 PMF: 0.039 Analysis Hardness (mg/l): 99.621 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	135,047	
Total Antimony	0	0		0	1,100	1,100	198,069	
Total Arsenic	0	0		0	340	340	61,221	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	3,781,313	
Total Boron	0	0		0	8,100	8,100	1,458,506	
Total Cadmium	0	0		0	2.006	2.12	383	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	567.995	1,797	323,654	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	2,934	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	17,106	
Total Copper	0	0		0	13.391	13.9	2,512	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.315	81.3	14,630	Chem Translator of 0.792 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	297	Chem Translator of 0.85 applied
Total Nickel	0	0		0	466.735	468	84,210	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.196	3.76	677	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	11,704	
Total Zinc	0	0		0	116.804	119	21,505	Chem Translator of 0.978 applied

☑ *CFC* CCT (min): 720 PMF: 0.271 Analysis Hardness (mg/l): 99.945 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	273,148	
Total Arsenic	0	0		0	150	150	186,237	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,090,484	
Total Boron	0	0		0	1,600	1,600	1,986,531	
Total Cadmium	0	0		0	0.246	0.27	336	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.081	86.1	106,951	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	12,906	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	23,590	
Total Copper	0	0		0	8.952	9.32	11,577	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	6,876,613	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.515	3.18	3,947	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1,125	Chem Translator of 0.85 applied
Total Nickel	0	0		0	51.982	52.1	64,735	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	6,194	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	16,141	
Total Zinc	0	0		0	118.084	120	148,693	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 720 PMF: 0.271 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	6,953	
Total Arsenic	0	0		0	10	10.0	12,416	
Total Barium	0	0		0	2,400	2,400	2,979,796	
Total Boron	0	0		0	3,100	3,100	3,848,903	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	

Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	372,474	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,241,582	
Total Mercury	0	0		0	0.050	0.05	62.1	
Total Nickel	0	0		0	610	610	757,365	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	298	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): 720 PMF: 0.404 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

Pollutants	*Mass Limits*		*Concentration Limits*				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	86,560	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	2,423,669	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	934,844	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	245	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	106,951	µg/L	Discharge Conc < TQL
Hexavalent Chromium	1,880	µg/L	Discharge Conc < TQL
Total Cobalt	10,964	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	1.61	mg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	372,474	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	6,876,613	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	3,947	µg/L	Discharge Conc < TQL
Total Manganese	1,241,582	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	62.1	µg/L	Discharge Conc < TQL
Total Nickel	53,975	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	6,194	µg/L	Discharge Conc < TQL
Total Silver	434	µg/L	Discharge Conc < TQL
Total Thallium	298	µg/L	Discharge Conc < TQL
Total Zinc	13.8	mg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS