pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

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

Application Type	**New**	Application No.	**PA0253308**
Facility Type	**Industrial**	APS ID	**988353**
Major / Minor	**Minor**	Authorization ID	**1264846**

Applicant and Facility Information

Applicant Name	**AK Steel Corporation**	Facility Name	**AK Steel Hillside Landfill**
Applicant Address	PO Box 832	Facility Address	2301 Duss Avenue
	Butler, PA 16003		Ambridge, PA 15003
Applicant Contact	Frank Monteleone	Facility Contact	Same as Applicant
Applicant Phone	(724) 284-3367	Facility Phone	Same as Applicant
Client ID	139851	Site ID	668156
SIC Code	9999	Municipality	Harmony Township
SIC Description	Public Admin. - Nonclassifiable Establishment	County	Beaver
Date Application Received	February 27, 2006	EPA Waived?	Yes
Date Application Accepted	March 3, 2006	If No, Reason	

Purpose of Application: New NPDES Permit Coverage for discharges of landfill seeps and stormwater

Summary of Review

The Department received a new NPDES permit application from AK Steel Corporation for discharges of wastewater from the former Armco Hillside Landfill site on February 27, 2006. AK Steel disposed of waste associated with the manufacturing of seamless steel tubular products at this site. An updated application was received on August 28, 2014.

AK Steel owns the Hillside Landfill located at the former Armco Ambridge Works in Harmony Township, Beaver County, Pennsylvania. AK Steel has assumed ownership of certain Armco assets, including certain parts of the former Ambridge Works property. The Ambridge Works produced seamless steel tubular products from 1913 to 1985. The Hillside landfill and Ninth Lagoon encompass approximately 23 acres of the property currently owned by AK Steel. The Hillside landfill was constructed along the slope of a river terrace above the floodplain of the Ohio River and is generally rectangular in shape, approximately 1,100 by 250 feet. Not all of this area was used for disposal activities. The hillside landfill was used by Armco Steel to dispose of solid waste from its Ambridge works from approximately 1952 to 1977. Fill materials placed into the landfill were produced from various activities at the Armco plant, which included oil and grease, mill scale, wastewater treatment plant sludge, cinders, fly ash, and demolition debris. Hydraulic oil containing polychlorinated biphenyls (PCBs) leaked form the hydraulic systems into the plant's hot mill sewer system, which in turn drained to the wastewater treatment plant. The treatment plant sludge was subsequently dumped into the Hillside Landfill. Armco also used cyanides and heavy metals in the plating and galvanizing processes at the plant. Electroplating waste and spent solvent were sent to the wastewater treatment plant, and the treatment plant sludge was subsequently dumped into the Hillside Landfill.
As a result of the placement of these materials, seeps present near the toe of the landfill are impacted with light, non-aqueous phase liquid (LNAPL) which contains polychlorinated biphenyls (PCBs).

In 1977, the Department notified Armco of an unauthorized oily discharge from the landfill. On February 12, 1990, Armco submitted an NPDES permit application for wastewater discharges from the landfill area. The Department returned the application on August 5, 2003 due to it being outdated and requested AK Steel to resubmit an updated application. On November 17, 2003, AK Steel submitted an NOI for Coverage under the NPDES General permit. This NOI was denied on

Approve	Deny	Signatures	Date
X		Adam Olesnanik / Environmental Engineering Specialist	4-4-19
✓		Michael E. Fifth / Environmental Engineer Manager	4/4/19

Summary of Review

November 19, 2005 because the site discharges industrial waste and not just stormwater and the Department requested AK Steel to submit an individual industrial waste NPDES permit. On February 27, 2006, AK Steel submitted an individual permit application. During inspections in 2005 and 2006, the Department observed numerous seeps discharging to the unnamed tributary that were not included in the permit application. On July 15, 2009 the Department and AK Steel entered into a Consent Order and Agreement to implement corrective actions with respect to the unpermitted discharges and seep collection system. The COA required AK Steel to submit a Surface Water and Seep Collection and Treatment Plan and Schedule and then, once the Department approved the plan, an updated NPDES permit application that included all discharges. The Plan was eventually approved, and the treatment system was constructed in 2013. The updated NPDES application was submitted on August 28, 2014.

The site has one outfall, Outfall 001, that discharges to an unnamed tributary to Ohio River. Outfall 001 was originally believed to be discharged to an unnamed tributary to Legionville Run but was later determined to discharge to an unnamed tributary to the Ohio River. Outfall 001 discharges consist of collected landfill seeps and stormwater run-off. A seep and surface water run-off collection system was installed in accordance with the Surface Water and Seep Collection and Treatment Plan and Schedule. Construction of the collection system in its current form was completed in October 2013. The seeps are collected via underdrains and are directed by gravity to a seep transfer pipe. Oil skimmers are installed at various underdrain location to remove floating oil. The seep transfer pipe is directed to an oil/water separator, then the effluent is directed to a pond lined with alloyed polyethylene and grouted rip-rap. This pond is also known as the siphon pond. Overflow from the siphon pond is discharged to an unnamed tributary to Ohio River. A surface run-off channel lined with polyethylene and rip-rap collects surface water run-off from portions of the Site and is also directed to the oil/water separator. A berm constructed of compacted fill and erosion control matting is installed along the foot of the hillside to prevent surface water run-off from the hillside from entering the rip-rap lined source runoff channel. Stormwater from the hillside flows north along the berm toward the siphon pond. An underdrain directed to the oil/water separator is installed where the berm ends near the siphon pond. The underdrain serves to direct the stormwater to the oil/water separator under dry weather condition and rain events. Underdrains direct to the oil/water separator are also installed along the eastern and southern side of the siphon pond. A wall constructed of sealed sheet piling is installed below grade on the western edge of the site to prevent off-site migration of pollutants.

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)	0.004
Latitude	40º 36' 58.00"	Longitude	-80º 13' 51.00"
Quad Name	Ambridge	Quad Code	1404
Wastewater Description:	Seeps from landfill and stormwater surface run-off		
Receiving Waters	Unnamed Tributary to Ohio River	Stream Code	Not Applicable
NHD Com ID	99681044	RMI	0.24
Drainage Area	0.0399	Yield (cfs/mi^2)	0.003
Q_{7-10} Flow (cfs)	0.000122	Q_{7-10} Basis	USGS Streamstats
Elevation (ft)	703	Slope (ft/ft)	0.0001
Watershed No.	20-G	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Center Township Water Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	953.78	Distance from Outfall (mi)	8.82

USGS StreamStats Data is included in Attachment A.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.004
Latitude 40º 36' 58.00" **Longitude** -80º 13' 51.00"
Wastewater Description: Seeps from landfill and stormwater surface run-off

Technology-Based Effluent Limitations

Federal Effluent Limitation Guidelines (ELGs)

As described in 40 CFR 445.1 (e), the ELG for landfills point source category does not apply to this site because the captive landfill only received wastes generated by the industrial operation directly associated with the landfill.

Best Professional Judgment (BPJ) Effluent Limitations

Technology-based treatment requirements may be imposed in an NPDES permit on a case-by-case basis under Section 402(a)(1) of the Clean Water Act; to the extent that EPA-promulgated effluent limitations are inapplicable. Since the landfill ELG does not address the discharges from captive landfills, effluent limits and monitoring requirements are evaluated using DEP's Best Professional Judgment. Regulations under 40 CFR § 125.3(d) require that certain factors be considered when developing case-by-case effluent limitations using BPJ for the levels of technology-based control described in the Clean Water Act (as amended) including: Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) and Best Available Control Technology Economically Achievable (BAT).

A May 1981 EPA guidance document titled "Guidance for BAT-Equivalent Treatment of Selected Toxic Pollutants" contains a meta-analysis of treatability studies and ELG development documents; based on that analysis, the guidance document summarizes effluent concentrations that should be achievable using chemical precipitation technology independent of the industry generating the wastewater. As industry-neutral, BAT-equivalent concentrations, the values contained in that document may be applied to any metals-bearing wastewater pursuant to a permitting authority's BPJ. Per EPA and DEP guidance, the selection of pollutants of concern for regulation and technology-based limitation is predicated on the presence of a pollutant in a wastewater in treatable concentrations. Comparing Outfall 001 discharge concentration to these BAT concentrations, it was determined that Total Iron is a pollutant of concern. Based on this information Total Iron will be limited to BPJ TBELs of 1.5 mg/L average monthly and 3.0 mg/L daily maximum.

Table 1. BAT-Equivalent Concentrations Vs. Discharge Concentrations

Parameter	BAT-Equivalent Concentration (µg/L) [30-day]	Outfall 001 Maximum Discharge Concentrations (µg/L)	Treatment Technology
Aluminum	2,000	6.6	Precipitation as AL(OH)3
Arsenic	200	0.47	Arsenite oxidation; lime precipitation or iron/alum co-precipitation; gravity clarification
Barium	1,000	104	Sulfate precipitation; coagulation; gravity clarification
Cadmium	100	0.088	High pH precipitation; gravity clarification or filtration where caustic is substituted for lime
Chromium (VI)	50	10	Acidic reduction to trivalent chromium or ion exchange at pH below 6.0
Chromium, Total	500	5	Precipitation; gravity clarification for lime or filtration for caustic
Copper	400	5	Precipitation; gravity clarification
Cyanide	100	0.01	Two-stage alkaline chlorination
Fluoride	10,000	0.28	High pH lime precipitation; gravity clarification
Iron	1,500	3,290	Oxidation at neutral pH of ferrous to ferric iron; precipitation, gravity clarification or filtration
Lead	150	6.4	High-pH precipitation; gravity clarification for lime or filtration for caustic
Mercury	3	0.2	Ion exchange or coagulation plus filtration

Table 1. BAT-Equivalent Concentrations Vs. Discharge Concentrations

Parameter	BAT-Equivalent Concentration (µg/L) [30-day]	Outfall 001 Maximum Discharge Concentrations (µg/L)	Treatment Technology
Nickel	750	10	High pH precipitation; gravity clarification and/or filtration
Silver	100	0.09	Ion exchange or ferric chloride co-precipitation plus filtration
Zinc	500	15.4	Precipitation at optimized pH; gravity clarification and/or filtration

Regulatory Effluent Standards and Monitoring Requirements

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

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code §§ 95.2(1) which is displayed in Table 2 below.

As oil-bearing wastewaters, discharges from Outfall 001 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2).

Table 2: Regulatory Effluent Standards and Monitoring Requirements for Outfall 001

Parameter	Monthly Average	Daily Maximum	Units
Flow	Monitor and Report		MGD
Oil & Grease	15.0	30.0	mg/L
pH	Not less than 6.0 nor greater than 9.0		S.U.

Total Dissolved Solids Considerations

Outfall 001 is also subject to Chapter 95.10 Effluent Standards for total dissolved solids (TDS). The provisions of Chapter 95.10 were adopted on August 20, 2010 and became effective August 21, 2010. Chapter 95.10 of the Department's regulations establishes the effluent standards applicable to new and expanding discharges of TDS. Under the provisions of this regulation, dischargers that are subject to the requirements of 95.10 must be identified; discharges that are exempt from any treatment requirements under this chapter must be identified; the existing mass loadings of TDS that are exempt from the treatment requirements must be identified and quantified; and discharges of new and expanding mass loadings of TDS must be evaluated.

Integral to the implementation of Chapter 95.10 is the principle that existing, authorized mass loadings of TDS are exempt from any treatment requirements under these provisions. Existing mass loadings of TDS up to and including the maximum daily discharge loading for any existing discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Generally, no permit actions are required until an NPDES permit is issued, renewed, or amended. Discharge loadings of TDS authorized by the Department are typically exempt from the treatment requirements of Chapter 95.10 until the net TDS loading is increased, an existing discharge proposes a hydraulic expansion or there is a change in the waste stream. If there are existing mass or production based TDS effluent limits, then these are used as the basis for the existing mass loading.

This discharge would be considered a new discharge. The concentration of TDS reported in the permit application is 468 mg/L. There is no reasonable potential for TDS loadings to be at levels of concern as the concentration is less than 1,000 mg/L. No limitations or monitoring requirements will be imposed for TDS based on 95.10.

Water Quality-Based Limitations

Toxics Screening Analysis – Procedures for Evaluating Reasonable Potential and Developing WQBELs

DEP's procedures for evaluating reasonable potential are as follows:

1. For IW discharges, the design flow to use in modeling is the average flow during production or operation, and may be taken from the permit application.

2. Perform a Toxics Screening Analysis to identify toxic pollutants of concern. 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 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]. List all toxic pollutants of concern in a Toxics Screening Analysis section of the fact sheet (see Attachment B).

3. For any outfall with an applicable design flow, perform PENTOXSD modeling for all pollutants of concern. Use the maximum reported value from the application form or from DMRs as the input concentration for the PENTOXSD model run.

4. Compare the actual WQBEL from PENTOXSD with the maximum concentration reported on DMRs or the permit application. Use WQN data or another source to establish the existing or background concentration for naturally occurring pollutants, but generally assume zero background concentration for non-naturally occurring pollutants.

    - Establish limits in the draft permit where the maximum reported concentration equals or exceeds 50% of the WQBEL. Use the average monthly and maximum daily limits for the permit as recommended by PENTOXSD. Establish an IMAX limit at 2.5 times the average monthly limit.

    - For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.

    - For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are collected on a spreadsheet titled "Toxics Screening Analysis" and is displayed in Attachment B.

PENTOXSD Water Quality Modeling Program

PENTOXSD Version 2.0 for Windows is a single discharge, mass-balance water quality modeling program 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 and discharge flow rate are entered into PENTOXSD 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. Pollutants are then selected for analysis based on those present or likely to be present in a discharge at levels that may cause, have the reasonable potential to cause, or contribute to excursions above state water quality standards (i.e., a reasonable potential analysis). Discharge concentrations for the selected pollutants are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). PENTOXSD then evaluates each pollutant 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, PENTOXSD recommends average monthly and maximum daily WQBELs.

Zero Q7-10 / Headwaters

Due to the outfall location there is no upland flow contribution at the point of discharge. The receiving stream has a Q_{7-10} of zero. For this reason, PENTOXSD water quality modeling program was not run for Outfall 001. Whenever industrial facilities discharge wastewater to an intermittent or zero-flow stream, the discharges must meet the water quality criteria published in PA Code Chapter 93.8.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and are used for toxics screening as described above. The pollutants selected for analysis include those identified as candidates for modeling by the Toxics Screening Analysis spreadsheet (in accordance with Step 2 of the Toxics Screening Analysis procedure discussed above). Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis.

As described above PENTOXSD was not run for the pollutants of concern because there is no instream capacity, as there is no upland flow. The pollutants of concern from the Toxics Screening Analysis spreadsheet are imposed as WQBELs at the water quality criteria published in PA Code Chapter 93.8. The WQBELs are displayed in Table 3 below. The maximum daily limits (MDL), as described in Section III.C.3.h on Page 13 of the Water Quality Toxics Management Strategy (Doc. # 361-0100-003) may be set at 2 times the average monthly limit (AML). The Toxics Screening Analysis spreadsheet recommended modeling PENTOXSD for total dissolved solids (TDS). TDS is a potable water supply (PWS) parameter,

where the Department models the effect the discharge has at the nearest downstream potable water supply intake. In this case, the nearest PWS intake is on the Ohio River. Based on the discharge flow and TDS concentration, if the discharge is modeled on the Ohio River the Toxics Screening Analysis Spreadsheet would not recommend TDS for modeling based on the dilution ratio. Therefore, it is presumed that this discharge on a tributary of the Ohio River further away from the PWS intake will not receive limits for these parameters as well.

Additionally, because PCB-1242 and PCB-1016 are known to be present in the discharge and are contributing to the Total PCBs, these parameters will receive monitor and report requirements in the Draft Permit.

Table 3. WQBELs from PENTOXSD and Toxics Screening Analysis for Outfall 001

Parameter	Monthly Average	Daily Maximum
Total Boron (mg/L)	1.6	3.2
Total Iron (mg/L)	1.5	3.0
Dissolved Iron (mg/L)	0.3	0.6
Total Manganese (mg/L)	1.0	2.0
Total PCBs (µg/L)	0.000064	0.000064
PCB-1016 (µg/L)	Monitor	Monitor
PCB-1242 (µg/L)	Monitor	Monitor

Total Maximum Daily Load

The Ohio River has a TMDL for PCBs and Chlordane. The TMDL outlines a plan to achieve water quality standards in the water body. The TMDL goal is for levels of PCB and chlordane in the water column to be equal to or less than the Commonwealth's water quality criteria. The production and use of PCB in the United States was banned in July of 1979. While it is now illegal to manufacture, distribute, or use PCB in the United states, these synthetic oils were used in the past. PCB was introduced into the environment while use was unrestricted, as is the case with this facility. The site has been shown to have PCBs in its discharge. The TMDL required that all discharges that are known to contain PCBs have effluent limitations and a requirement of "not detectable" for limits lower than detection. The Hillside Landfill was not given a WLA for PCBs. So, the TMDL assumes that the PCBs pollutant load from the site will be zero. To be consistent with this assumption with respect to 40 CFR 122.44(d)(1)(vii)(B) and the Department permitting procedures, the permit's WQBEL for Total PCBs will be equal to the water quality criterion. Compliance with the PCB WQBELs will be evaluated based on the achievement of the Department's quantitation limits (QLs). Table 4 summarizes the TMDL WQBELs for Outfall 001.

Table 4. PCB WQBELs

	Effluent Limits as Specified in Part A of the Permit (µg/L)		Effluent Limits as Specified on DMRs/eDMR for Compliance Evaluations (µg/L)	
Parameter	**Average Monthly**	**Daily Maximum**	**Average Monthly**	**Daily Maximum**
PCBs, Total	0.000064	0.000064	<0.25	<0.25

Proposed Effluent Limitations

The proposed effluent limitations for Outfall 001 are displayed in Table 5 below, they are the most stringent values from the above effluent limitation development.

Table 5: Final Effluent Limitations Imposed at Outfall 001

Parameter	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Flow (MGD)	XXX	Report	Report	XXX	2/ Month	Measured
pH (S.U.)	6.0	XXX	9.0	XXX	2/ Month	Grab
Oil & Grease (mg/L)	XXX	15.0	30.0	XXX	2/ Month	Grab
Total Boron (mg/L)	XXX	1.6	3.2	XXX	2/ Month	Grab
Total Iron (mg/L)	XXX	1.5	3.0	XXX	2/ Month	Grab
Dissolved Iron (mg/L)	XXX	0.3	0.6	XXX	2/ Month	Grab
Total Manganese (mg/L)	XXX	1.0	2.0	XXX	2/ Month	Grab
Total PCBs (µg/L)	XXX	0.000064	0.000064	XXX	2/ Month	Grab
PCB-1016 (µg/L)	XXX	Monitor	Monitor	XXX	2/ Month	Grab
PCB-1242 (µg/L)	XXX	Monitor	Monitor	XXX	2/ Month	Grab

The WQBEL for Total PCBs is more stringent that the Department's quantitation limits. For the purpose of compliance, a Part C Condition will be included in the permit stating that a statistical value report on the DMR that is less than the QLs (I.E. non-detect) will be considered to be incompliance. The results for the PCBs must be non-detect at the QL for all of the congeners, to be in compliance. If one of the congeners is detected at or above the QL, it is a violation of the total PCB effluent limitation. The QLs for the PCBs are displayed below in Table 6.

Table 6: Quantitation Limitation for Compliance

Parameter Name	Quantitation Limit
Total PCBs	0.25 µg/L
PCB-1016	0.25 µg/L
PCB-1242	0.25 µg/L

Compliance Schedule and Interim Monitoring

AK Steel does not have the necessary controls in place to ensure compliance with the WQBELs listed in Table 5 above for Total Boron, Total Iron, Dissolved Iron, Total Manganese and Total PCBs upon permit issuance. Therefore, the permit will include a Schedule of Compliance, in accordance with 25 Pa. Code § 92a.51(a) of DEP's regulations, which grants AK Steel three years to come into compliance with the WQBELs. Because the WQBELs will not be effective upon permit issuance, the permit will be tiered to have interim and final monitoring requirements and effluent limits. For the first three years, a reporting requirement will be imposed for these parameters. After three years, the WQBELs will take effect. A Part C condition will be included in the Draft NPDES Permit outlining a compliance schedule for these parameters.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☒	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Attachments

Attachment A: USGS StreamStats Data

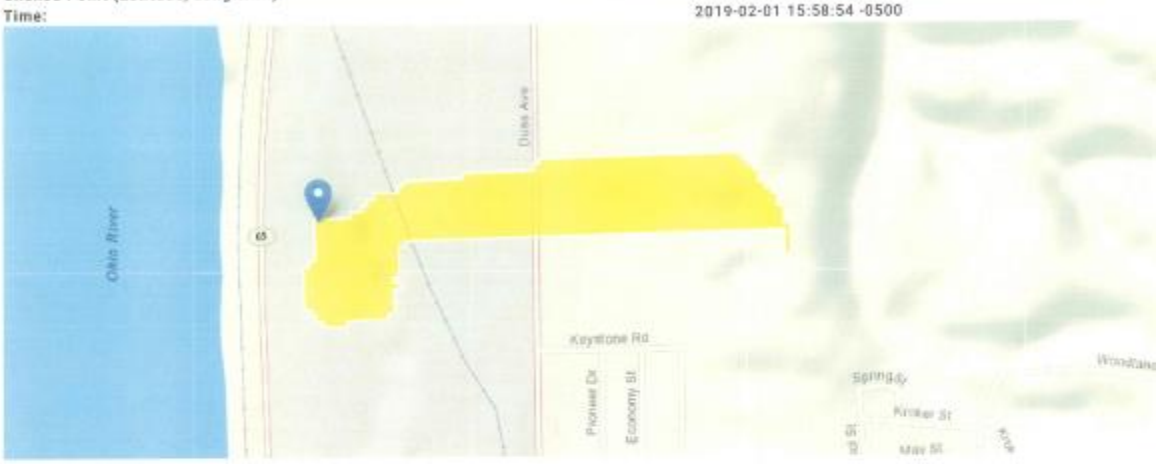
Attachment B: Toxics Screening Analysis Results for Outfall 001

Attachment A:

USGS StreamStats Data

StreamStats Report

Region ID:	PA
Workspace ID:	PA20190201205840028000
Clicked Point (Latitude, Longitude):	40.61467, -80.23069
Time:	2019-02-01 15:58:54 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0399	square miles
ELEV	Mean Basin Elevation	790.5	feet

Low-Flow Statistics Parameters (Low Flow Region 4)

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0399	square miles	2.26	1400
ELEV	Mean Basin Elevation	790.5	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	0.000505	ft^3/s
30 Day 2 Year Low Flow	0.0011	ft^3/s
7 Day 10 Year Low Flow	0.000122	ft^3/s
30 Day 10 Year Low Flow	0.000321	ft^3/s
90 Day 10 Year Low Flow	0.000699	ft^3/s

Attachment B:

Toxics Screening Analysis Results for Outfall 001

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.6

CLEAR FORM

Facility: **AK Steel Ambridge Hillside Landfill**
NPDES Permit No.: **PA0253308**
Outfall: **001**
Analysis Hardness (mg/L): **100**
Discharge Flow (MGD): **0.004**
Analysis pH (SU): **7**
Stream Flow, Q_{7-10} (cfs): **0**

	Parameter	Maximum Concentration in Application or DMRs (µg/L)		Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 1	Total Dissolved Solids		468000	500000	Yes		
	Chloride			250000			
	Bromide	<	87	N/A	No		
	Sulfate		68000	250000	No		
	Fluoride		0.28	2000	No		
Group 2	Total Aluminum		6.6	750	No		
	Total Antimony		0.31	5.6	No		
	Total Arsenic		0.47	10	No		
	Total Barium		104	2400	No		
	Total Beryllium	<	0.087	N/A	No		
	Total Boron		895	1600	Yes	1600	Establish Limits
	Total Cadmium	<	0.088	0.271	No (Value < QL)		
	Total Chromium	<	5	N/A	No		
	Hexavalent Chromium	<	0.0032	10.4	No (Value < QL)		
	Total Cobalt	<	5	19	No		
	Total Copper		1.3	9.3	No		
	Total Cyanide		0.01	N/A	No		
	Total Iron		3290	1500	Yes	1500	Establish Limits
	Dissolved Iron		160	300	Yes	300	Establish Limits
	Total Lead	<	1	3.2	No (Value < QL)		
	Total Manganese		772	1000	Yes	1000	Establish Limits
	Total Mercury	<	0.2	0.05	No (Value < QL)		
	Total Molybdenum	<	20	N/A	No		
	Total Nickel	<	10	52.2	No		
	Total Phenols (Phenolics)		51	5	Yes		
	Total Selenium	<	0.81	5.0	No (Value < QL)		
	Total Silver	<	0.09	3.8	No (Value < QL)		
	Total Thallium	<	0.12	0.24	No (Value < QL)		
	Total Zinc		15.4	119.8	No		
Group 3	Acrylamide	<		0.07			
	Acrylonitrile	<	2	0.051	No (Value < QL)		
	Benzene	<	0.5	1.2	No (Value < QL)		
	Bromoform	<	1	4.3	No		
	Carbon Tetrachloride	<	0.5	0.23	No (Value < QL)		
	Chlorobenzene	<	1	130	No		
	Chlorodibromomethane	<	0.5	0.4	No (Value < QL)		
	Chloroethane	<	1	N/A	No		
	2-Chloroethyl Vinyl Ether	<	2	3500	No (Value < QL)		
	Chloroform	<	1	5.7	No		
	Dichlorobromomethane	<	0.5	0.55	No (Value < QL)		
	1,1-Dichloroethane	<	1	N/A	No		
	1,2-Dichloroethane	<	0.5	0.38	No (Value < QL)		
	1,1-Dichloroethylene	<	1	33	No		
	1,2-Dichloropropane	<	1	2200	No		
	1,3-Dichloropropylene	<	0.5	0.34	No (Value < QL)		
	Ethylbenzene	<	1	530	No		
	Methyl Bromide	<	5.9	47	No		
	Methyl Chloride	<	1	5500	No		
	Methylene Chloride	<	1	4.6	No		
	1,1,2,2-Tetrachloroethane	<	0.5	0.17	No (Value < QL)		
	Tetrachloroethylene	<	0.47	0.69	No (Value < QL)		
	Toluene	<	1	330	No		
	1,2-trans-Dichloroethylene	<	1	140	No		
	1,1,1-Trichloroethane	<	1	610	No		
	1,1,2-Trichloroethane	<	0.45	0.59	No (Value < QL)		
	Trichloroethylene	<	1	2.5	No		
	Vinyl Chloride	<	0.5	0.025	No (Value < QL)		

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.6

CLEAR FORM

Facility: **AK Steel Ambridge Hillside Landfill**
NPDES Permit No.: **PA0253308**
Outfall: **001**
Analysis Hardness (mg/L): **100**
Discharge Flow (MGD): **0.004**
Analysis pH (SU): **7**
Stream Flow, Q_{7-10} (cfs): **0**

	Parameter	Maximum Concentration in Application or DMRs (µg/L)		Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 4	2-Chlorophenol	<	11.1	81	No		
	2,4-Dichlorophenol	<	11.1	77	No		
	2,4-Dimethylphenol	<	11.1	130	No		
	4,6-Dinitro-o-Cresol	<	1.5	13	No (Value < QL)		
	2,4-Dinitrophenol	<	27.8	69	No		
	2-Nitrophenol	<	11.1	1600	No		
	4-Nitrophenol	<	11.1	470	No		
	p-Chloro-m-Cresol	<	0.064	30	No (Value < QL)		
	Pentachlorophenol	<	0.25	0.27	No (Value < QL)		
	Phenol	<	11.1	10400	No		
	2,4,6-Trichlorophenol	<	0.071	1.4	No (Value < QL)		
Group 5	Acenaphthene	<	0.068	17	No (Value < QL)		
	Acenaphthylene	<	11.1	N/A	No		
	Anthracene	<	11.1	8300	No		
	Benzidine	<	11.1	0.000086	No (Value < QL)		
	Benzo(a)Anthracene	<	0.078	0.0038	No (Value < QL)		
	Benzo(a)Pyrene	<	0.055	0.0038	No (Value < QL)		
	3,4-Benzofluoranthene	<	0.1	0.0038	No (Value < QL)		
	Benzo(ghi)Perylene	<	11.1	N/A	No		
	Benzo(k)Fluoranthene	<	0.092	0.0038	No (Value < QL)		
	Bis(2-Chloroethoxy)Methane	<	11.1	N/A	No		
	Bis(2-Chloroethyl)Ether	<	0.042	0.03	No (Value < QL)		
	Bis(2-Chloroisopropyl)Ether	<	11.1	1400	No		
	Bis(2-Ethylhexyl)Phthalate	<	4.8	1.2	No (Value < QL)		
	4-Bromophenyl Phenyl Ether	<	11.1	54	No		
	Butyl Benzyl Phthalate	<	11.1	35	No		
	2-Chloronaphthalene	<	11.1	1000	No		
	4-Chlorophenyl Phenyl Ether	<	11.1	N/A	No		
	Chrysene	<	0.084	0.0038	No (Value < QL)		
	Dibenzo(a,h)Anthrancene	<	0.075	0.0038	No (Value < QL)		
	1,2-Dichlorobenzene	<	11.1	160	No		
	1,3-Dichlorobenzene	<	11.1	69	No		
	1,4-Dichlorobenzene	<	11.1	150	No		
	3,3-Dichlorobenzidine	<	0.61	0.021	No (Value < QL)		
	Diethyl Phthalate	<	11.1	800	No		
	Dimethyl Phthalate	<	11.1	500	No		
	Di-n-Butyl Phthalate	<	0.77	21	No (Value < QL)		
	2,4-Dinitrotoluene	<	0.053	0.05	No (Value < QL)		
	2,6-Dinitrotoluene	<	0.063	0.05	No (Value < QL)		
	1,4-Dioxane	<	2	N/A	No		
	Di-n-Octyl Phthalate	<	11.1	N/A	No		

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.6

CLEAR FORM

Facility: **AK Steel Ambridge Hillside Landfill**
Analysis Hardness (mg/L): **100**
Stream Flow, Q_{7-10} (cfs): **0**

NPDES Permit No.: **PA0253308**
Discharge Flow (MGD): **0.004**

Outfall: **001**
Analysis pH (SU): **7**

	Parameter		Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
	2,4-Dinitrotoluene	<	0.053	0.05	No (Value < QL)		
	2,6-Dinitrotoluene	<	0.063	0.05	No (Value < QL)		
	1,4-Dioxane	<	2	N/A	No		
	Di-n-Octyl Phthalate	<	11.1	N/A	No		
	1,2-Diphenylhydrazine	<	0.051	0.036	No (Value < QL)		
	Fluoranthene	<	11.1	40	No		
	Fluorene	<	11.1	1100	No		
	Hexachlorobenzene	<	0.58	0.00028	No (Value < QL)		
	Hexachlorobutadiene	<	0.072	0.44	No (Value < QL)		
	Hexachlorocyclopentadiene	<	0.52	1	No (Value < QL)		
	Hexachloroethane	<	0.065	1.4	No (Value < QL)		
	Indeno(1,2,3-cd)Pyrene	<	0.089	0.0038	No (Value < QL)		
	Isophorone	<	11.1	35	No		
	Naphthalene	<	11.1	43	No		
	Nitrobenzene	<	0.17	17	No (Value < QL)		
	n-Nitrosodimethylamine	<	0.07	0.00069	No (Value < QL)		
	n-Nitrosodi-n-Propylamine	<	0.074	0.005	No (Value < QL)		
	n-Nitrosodiphenylamine	<	0.12	3.3	No (Value < QL)		
	Phenanthrene	<	0.059	1	No (Value < QL)		
	Pyrene	<	11.1	830	No		
	1,2,4-Trichlorobenzene	<	11.1	26	No		
Group 6	Aldrin	<		0.000049			
	alpha-BHC	<		0.0026			
	beta-BHC	<		0.0091			
	gamma-BHC	<		0.098			
	delta BHC	<		N/A			
	Chlordane	<		0.0008			
	4,4-DDT	<		0.00022			
	4,4-DDE	<		0.00022			
	4,4-DDD	<		0.00031			
	Dieldrin	<		0.000052			
	alpha-Endosulfan	<		0.056			
	beta-Endosulfan	<		0.056			
	Endosulfan Sulfate	<		N/A			
	Endrin	<		0.036			
	Endrin Aldehyde	<		0.29			
	Heptachlor	<		0.000079			
	Heptachlor Epoxide	<		0.000039			
	PCB-1242		0.18	N/A	No		
	PCB-1254	<	0.0029	N/A	No		
	PCB-1221	<	0.0029	N/A	No		
	PCB-1232	<	0.0029	N/A	No		
	PCB-1248	<	0.0029	N/A	No		
	PCB-1260	<	0.0029	N/A	No		
	PCB-1016		0.65	N/A	No		
	Toxaphene	<		0.0002			
	2,3,7,8-TCDD	<		0.000000005			
Group 7	Gross Alpha (pCi/L)	<		N/A			
	Total Beta (pCi/L)	<		N/A			
	Radium 226/228 (pCi/L)	<		N/A			
	Total Strontium	<		4000			
	Total Uranium	<		N/A			
	PCBs, Total		0.8445	0.000064	Yes	0.000064	Establish Limits