STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Eastern Region Office
4601 North Monroe St., Spokane, WA 99205-1295 • 509-329-3400

August 2, 2023

Kevin Barron
Plant Manager
Kaiser Aluminum Washington, LLC
P.O. Box 15108
Spokane Valley, WA 99215

RE: NPDES Permit WA0000892 Kaiser Aluminum Washington, LLC Compliance Inspection

Dear Kevin Barron:

I have enclosed the inspection report from my site visit on June 15, 2023. I wish to thank Brent Downey and staff at wastewater and the laboratory for their time and assistance during the inspection.

Based on the inspection, I recommend you take the following actions:

- Replace (or reattach) the wear sheet used for offloading at the lagoon sludge evaporation pond.
- Take over responsibilities for routine monitoring and maintenance at the leak collection sump at the lagoon sludge evaporation pond. You should also update your operation and maintenance manual to reflect these procedures and any response actions if leaks are discovered in the liner system.
- Display the current Laboratory Accreditation Certificate in the laboratory area.
- Have wastewater personnel begin keeping a log of refrigerator temperatures at the 24-hour composite samplers for Outfalls 001, 003, and 006.

Please review the inspection report and enclosures. If you have any questions, please contact me at (509) 329-3500 or phal461@ecy.wa.gov.

Sincerely,

Pat Hallinan
Water Quality Section

PH:red
Enclosures: Inspection Form
Inspection Narrative
Site Map
Photo Log
cc/enc: Brent Downey, Kaiser Aluminum Washington
Art Jenkins, Ecology

DEPARTMENT OF ECOLOGY State of Washington

State of Washington Department of Ecology
Eastern Regional Office

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES #	yr/mo/day	Inspection Type	Inspector	Fac Type
1 **N** 2 **5**	3 **WA-0000892** 11	12 **23/06/15** 17	18 **C**	19 **S**	20 **2**

Remarks

21 Class I Inspection Report 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	QA	Reserved
67 **1.5** 69	70 **5**	71 **N**	72 **N**	73 ____ 74 75 _____ 80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*

Kaiser Aluminum Washington, LLC
Trentwood Works
15000 E Euclid Ave
Spokane Valley, WA 99215

Entry Time/Date: 9:00 AM 6/15/2023
Permit Effective Date: 6/01/2022
Exit Time / Date: 11:00 AM 6/15/2023
Permit Expiration Date: 5/31/2027

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)

Brent Downey
Manager - Environmental Affairs
Office Phone: (509) 927-6219
Mobile Phone: (509) 990-1327

Other Facility Data (*e.g. SIC NAICS, and other descriptive information)*

SIC 3353
NAICS 331315
Categorical Industry: 40 CFR Part 467, Aluminum Forming Point Source Category

Name, Address of Responsible Official/Title/Phone and Fax Number — Contacted? ☐ Yes ☒ No

Kevin Barron
Plant Manager
P.O. Box 15108, Spokane Valley, WA 99215-5108
(509) 924-1500

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)

☒ Permit	☒ Self-Monitoring Program	☐ Pretreatment	☐ MS4
☒ Records/Reports	☒ Compliance Schedules	☒ Pollution Prevention	☐ Other:
☒ Facility Site Review	☒ Laboratory	☐ Stormwater	
☒ Effluent/Receiving Water	☒ Operations & Maintenance	☐ Combined Sewer Overflow	
☐ Flow Measurement	☒ Sludge Handling/Disposal	☐ Sanitary Sewer Overflow	

Section D: Summary of Findings/Comments
(*Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary)*

SEV Codes SEV Description
*****
*****
*****
*****

See Separate Document for Summary of Findings/Comments

Name(s) and Signatures of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Pat Hallinan	Ecology/Eastern Regional Office/(509) 329-3500; phal461@ecy.wa.gov	7/26/2023
Signature of Management Q A Reviewer	Agency/Office/Phone and Fax Numbers	Date
Art Jenkins, Permit Unit Supervisor	Ecology/Eastern Regional Office/(509) 329-3504; ajen461@ecy.wa.gov	7/26/2023

Based on **EPA Form 3560-3 (Rev 4-06)** Previous editions are obsolete

INSTRUCTIONS

Section A: National Data System Coding *(i.e., PCS)*

Column 1: Transaction Code: Use N, C, or D for New, Change, or Delete. All inspections will be *new* unless there is an error in the data entered.

Column 3 - 11: NPDES Permit No.: Enter the facility's NPDES permit number – third character in permit number indicates permit type for U=unpermitted, G=general permit, etc.. *(Use the Remarks columns to record the State permit number, if necessary.)*

Columns 12 - 17: Inspection Date: Insert the date entry was made into the facility. Use the year/month/day format (e.g., 94/06/30 = June 30, 1994).

Column 18: Inspection Type*: Use one of the codes listed below to describe the type of inspection:

A	Performance Audit	U	IU Inspection with Pretreatment Audit	!	Pretreatment Compliance (Oversight)
B	Compliance Biomonitoring	X	Toxics Inspection	@	Follow-up (enforcement)
C	Compliance Evaluation (non-sampling)	Z	Sludge – Biosolids	{	Stormwater-Construction-Sampling
		#	Combined Sewer Overflow-Sampling	}	Stormwater-Construction-Non-Sampling
D	Diagnostic	$	Combined Sewer Overflow-Non-Sampling	:	Stormwater-Non-Construction-Sampling
F	Pretreatment Follow-up	+	Sanitary Sewer Overflow-Sampling	~	Stormwater-Non-Construction-Non-Sampling
G	Pretreatment (Audit)	&	Sanitary Sewer Overflow-Non-Sampling	<	Stormwater-MS4-Sampling
I	Industrial User (IU) Inspection	\	CAFO-Sampling	-	Stormwater-MS4-Non-Sampling
M	Multimedia	=	CAFO-Non-Sampling	>	Stormwater-MS4-Audit
N	Spill	2	IU Sampling Inspection		
O	Compliance Evaluation (Oversight)	3	IU Non-Sampling Inspection		
P	Pretreatment Compliance Inspection	4	IU Toxics Inspections		
R	Reconnaissance	5	IU Sampling Inspection With Pretreatment		
S	Compliance Sampling	6	IU Non-Sampling Inspection with Pretreatment		
		7	IU Toxics With Pretreatment		

Column 19: Inspector Code: Use one of the codes listed below to describe the *lead agency* in the inspection

A - State (Contractor)
B - EPA (Contractor)
E - Corps of Engineers
J - Joint EPA/State Inspectors-EPA Lead
L - Local Health Department (State)
N - NEIC Inspectors
O - Other Inspectors, Federal/EPA (Specify in Remarks columns)
P - Other Inspectors, State (Specify in Remarks columns)
R – EPA Regional Inspector
S – State Inspector
T – Joint State/EPA Inspectors-State Lead

Column 20: Facility Type: Use one of the codes below to describe the facility.

1 - Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.

2 - Industrial. Other than municipal, agricultural, and Federal facilities.

3 - Agricultural. Facilities classified with 1987 SIC 0111 to 0971.

4 - Federal. Facilities identified as Federal by the EPA Regional Office.

5 – Oil & Gas. Facilities classified with 1987 SIC 1311 to 1389

Columns 21-66: Remarks: These columns are reserved for remarks at the discretion of the Region.

Columns 67-69: Inspection Work Days: Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection and submit a QA reviewed report of findings. This estimate includes the accumulative effort participating inspectors; any effort for laboratory analyses, testing, and remote sensing; and the billed payroll time for travel and pre and post inspection preparation. This estimate does not require detailed documentation.

Column 70: Facility Evaluation Rating: Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Column 71: Biomonitoring Information: Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Column 72: Quality Assurance Data Inspection: Enter Q if the inspection was conducted as follow-up on quality assurance sample results. Enter N otherwise.

Columns 73-80: These columns are reserved for regionally defined information.

Section B: Facility Data

This section is self-explanatory except for "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, and other updates to the record).

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary. Support the findings, as necessary, in a brief narrative report. Use the headings given on the report form (e.g., Permit, Records/Reports) when discussing the areas evaluated during the inspection.

Section D: Summary of Findings/Comments

Briefly summarize the inspection findings. This summary should abstract the pertinent inspection findings, not replace the narrative report. Reference a list of attachments, such as completed checklists taken from the NPDES Compliance Inspection Manuals and pretreatment guidance documents, including effluent data when sampling has been done. Use extra sheets as necessary.

*Footnote: In addition to the inspection types listed above under column 18, a state may continue to use the following wet weather and CAFO inspection types until the state is brought into ICIS-NPDES: K-CAFO, V-SSO, Y-COS, W-Stormwater, 9-MS4. States may also use the new wet weather CAFO and MS4 inspection types show in column 19 of this form. The EPA regions are required to use the new wet weather CAFO and MS4 inspection types for inspections with an inspection date (DTIN) on or after July 1, 2005.

Water Quality Compliance Inspection Report
Eastern Regional Office
Summary of Findings/Comments

Facility Name & Address: Kaiser Aluminum Washington, LLC, Trentwood Works, PO Box 15108, Spokane Valley, WA 99215

NPDES Permit Number: WA0000892

Type of Inspection: Announced Compliance Inspection

Date of Inspection: June 15, 2023

Ecology Representative: Pat Hallinan

Facility Representative: Brent Downey

Report Date: July 26, 2023

Report Prepared by: Pat Hallinan

Report Reviewed by: Art Jenkins

1.0 Introduction

Ecology conducted an inspection at Kaiser Aluminum Washington, LLC (Kaiser), Trentwood Works on June 15, 2023, to assess compliance with NPDES Permit WA0000892. The permit authorizes discharge of treated wastewater to the Spokane River consisting of a combination of non-contact and contact cooling waters, treated industrial process wastewater, site stormwater, and treated sanitary wastewater. This report and attachments document the findings, observations, and recommendations based on the inspection and review of discharge monitoring reports, and other permit required reports.

Kaiser Aluminum Washington, LLC (Kaiser) owns and operates an aluminum rolling mill and metal finishing plant in Spokane Valley (See Attachments - Site Layout Map). The facility produces aluminum sheet, plate, and coil through the melting of aluminum, casting of ingots, and rolling with neat oils and emulsions.

2.0 Permit

Ecology issued NPDES Permit WA-0000892 on April 11, 2022, with an effective date of June 1, 2022, and an expiration date of May 31, 2027. The permit placed numeric limits on three waste streams:

1. The final effluent discharged to the Spokane River for cadmium, lead, zinc, total PCBs, and pH which apply year-round, and seasonal limits for total phosphorus, carboneous biochemical oxygen demand ($CBOD_5$), and ammonia.
2. Treated effluent from the walnut shell filtration (WSF) treatment system for aluminum, chromium, cyanide, and total suspended solids (TSS).
3. Treated effluent for the plant's sanitary sewage for biochemical oxygen demand (BOD_5), TSS, and fecal coliform bacteria.

The permit also specifies monitoring of intake water withdrawn from the Spokane River and allows an intake credit for chromium, aluminum, TSS, and oil and grease. Due to flow reduction efforts at the facility, the Permittee has ceased the surface water withdrawal and obtains process and cooling water from onsite groundwater wells.

The permit requires monitoring for compliance with the total PCB effluent limits using EPA method 608.3, and also requires total PCBs monitoring using EPA method 8082 (low level) at the influent to the WSF system to verify design loading rates. Results from PCB characterization monitoring at the final outfall using EPA method 1668 are included in the facility's Annual Report under the Pollutant Minimization Plan.

Kaiser has also received approval under Ecology's underground injection control (UIC) program to route once-through, non-contact cooling water into the Spokane Valley-Rathdrum Prairie (SVRP) aquifer underlying the site. Kaiser utilizes two UIC systems to reduce the volume of wastewater treated and discharged at the final outfall. The permit required a Quality Assurance Project Plan (QAPP) that outlines monitoring procedures for flow, temperature, and PCB concentrations of injected non-contact cooling water as well as temperature and elevations of groundwater associated with the two UIC systems.

3.0 Facility Site Review

The industrial wastewater treatment system (internal Outfall 002) receives oil- and metal-contaminated wastewater from the aluminum rolling operations. Treatment consists of an acid break system for oil recovery, lime addition then settling.

The sanitary waste treatment system (internal Outfall 003) includes primary clarification, biological treatment using a trickling filter, secondary clarification, followed by chlorine disinfection. Primary and secondary sludge are digested onsite using an anaerobic digester.

A 4-million-gallon lined settling lagoon receiving discharges from internal Outfalls 002 and 003 along with non-contact and contact cooling waters from internal Outfalls 004 (South Outfall) and 005 (North Outfall). Effluent from the settling lagoon flows through the WSF system (internal Outfall 006) prior to discharge to the Spokane River through Outfall 001.

Kaiser had constructed two steel structure bypass lagoons (north and south) to isolate the main settling lagoon during sludge removal operations. During the inspection, contractors had begun earthwork for replacing the north bypass lagoon with an inground, double lined pond with leak collection and recovery.

4.0 Records/Reports

Laboratory staff collects refrigerated, 24-hour composite samples at the final effluent, WSF effluent, and treated sanitary sewage effluent. The lab staff records and maintains a log of temperatures upon collection. During the inspection, Ecology recommended that wastewater staff also log refrigerator temperatures to ensure the composite refrigerators continue to function properly.

Tables 1 and 2 provide a summary of discharge data beginning with June 1, 2022, (the effective date of the permit) through May 2023. During this period, the Permittee has met all effluent limitations. Effluent flow averaged about 5.1 million gallons per day including a treated sanitary sewage flow of 89,000 gallons per day.

The Permittee reported brief (< 3 minutes) pH excursions in June 2022 and March 2023 which resulted from pH probe calibrations. Ecology does not consider these as violations because they resulted from the calibrations and were brief. The Permittee has implemented procedures to not record pH values during these routine calibrations.

5.0 Laboratory

Kaiser's onsite laboratory is accredited for oil and grease, TSS, pH, ammonia, orthophosphate and total phosphorus, BOD, CBOD, and fecal coliform bacteria. The Permittee has applied to Ecology's Laboratory Accreditation Unit for accreditation for metals (aluminum, chromium, arsenic, lead, and zinc) but have not received final approval. During the inspection, Ecology recommended that Kaiser display the current laboratory accreditation certificate in the lab area.

6.0 Operations and Maintenance

Kaiser had constructed a double lined evaporation pond to hold and dewater solids from wastewater lagoon cleanouts, and other ancillary sludges generated at the lagoon. During the inspection, a vactor truck was collecting accumulated solids at the wastewater lagoon and transferring these into the evaporation pond. At one time, a wear sheet had been placed at the vactor trucks offloaded area. However, the wear sheet had detached from the upper liner area and settled in the pond. Ecology recommends that the wear sheet be replaced or reattached.

Also, the liner system was constructed with a leak collection and recovery system. The engineering firm who constructed the liner system monitors and maintains the leak collection sump. Ecology recommends that plant personnel take over these responsibilities to ensure that routine observations and maintenance are occurring.

Attachments:

Table 1 – Monitoring Data Summary
Table 2 – Effluent Limits Summary
EPA Inspection Form 3560-3 (Rev 4-06)
Site Layout Map
Photographs (17)

Table 1. Kaiser Aluminum Washington, LLC - Monitoring Data Summary, June 2022 to May 2023

Final Effluent:

Parameter	Units	Number of Non-Detects	Number of Samples	Min	Median	Mean	Max
Alkalinity	mg/L	0	12	150	175	174	190
Ammonia	lbs/day	0	349	0.5	2.3	2.6	11.1
Ammonia	mg/L	0	209	0	0.057	0.060	0.244
Arsenic	ug/L	0	53	3.19	3.76	3.75	4.09
CBOD5	lbs/day	0	330	136.2	249.8	258.0	542.9
CBOD5	mg/L	0	207	3	5.9	6.3	13.9
Cadmium	ug/L	42	52	0.004	0.004	0.005	0.016
Flow	MGD	-	365	3.71	5.12	5.13	6.28
Hardness	mg/L	0	12	170	200	202.5	230
Lead	ug/L	0	105	0	0.056	0.066	0.47
Ortho P	lbs/day	0	105	0	0	0.02	0.6
Ortho P	ug/L	96	105	4	4	4.1	12
Temp	deg F	-	365	67.5	76.1	76.0	84.4
Total P	lbs/day	0	167	0.1	0.4	0.5	3.4
Total P	ug/L	0	105	3.4	9.5	12.4	86
Zinc	ug/L	0	105	3.5	6.2	7.3	16.9
pH Max	su	-	365	6.8	7.3	7.3	14
pH Min	su	-	365	4.8	7.1	7.1	7.5

Sanitary Sewage Effluent:

BOD5	lbs/day	0	207	0.5	6.2	6.5	17.1
BOD5	mg/L	0	207	0.7	8.3	8.7	19.2
Escherichia c	#/100ml	52	103	0	0.9	56	1600
Fecal Colifor	#/100ml	89	103	0.5	0.5	3.7	184
Flow	gpd	-	365	59,000	89,000	88,584	135,000
TSS	lbs/day	0	105	1.7	4.1	4.3	11.5
TSS	mg/L	0	105	3.1	5.4	5.8	13.2
pH	su	-	365	6.1	6.8	6.8	7.4

Walnut Shell Filtration Effluent:

Aluminum	lbs/day	0	105	2.2	3.3	3.5	7.1
Aluminum	mg/L	0	105	0.057	0.08	0.091	0.91
Chromium	lbs/day	0	105	0.007	0.025	0.025	0.081
Chromium	mg/L	0	105	0.0002	0.0006	0.0006	0.0018
Cyanide	lbs/day	0	105	0	0	0	0
Cyanide	mg/L	1	1	<0.0005	<0.0005	<0.0005	<0.0005
Flow	MGD	-	365	3.71	5.12	5.13	6.28
Oil & Grease	lbs/day	0	103	18.1	77.5	81.8	206.5
Oil & Grease	mg/L	0	103	0.4	1.8	1.9	4.9
TSS	lbs/day	0	105	9.3	69.3	81.0	376.5
TSS	mg/L	0	105	0.2	1.6	1.9	8.1

Walnut Shell Filtration Influent:

Flow	MGD	-	365	3.71	5.12	5.13	6.28
PCBs	g/day	0	27	0	0.27	0.25	0.62
PCBs	ng/L	0	27	0	14	13.0	35

Table 2. Kaiser Aluminum Washington, LLC - Summary of Effluent Limits, June 2022 to May 2023

Final Effluent:	Average Monthly			Maximum Daily		
Parameter	Max Reported	Limit	No. of Excursions	Max Reported	Limit	No. of Excursions
Cadmium (ug/L)	0.006	1.3	0	0.016	2.2	0
Lead (ug/L)	0.12	7	0	0.47	12.1	0
Zinc (ug/L)	12.5	75	0	16.9	146	0

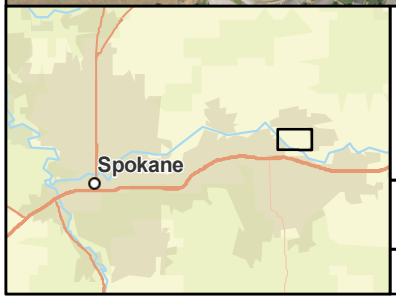
Final Effluent:	Minimum			Maximum		
	Min Reported*	Limit	No. of Excursions	Max Reported*	Limit	No. of Excursions
pH (su)	4.8	6.0	0	14.0	9.0	0

* - Values resulted from recording data during pH probe calibrations. These are not considered violations as the length of the excursions were below those allowed in the permit for continuous pH measurements.

Final Effluent:	Seasonal Average		
Parameter	Max Reported	Limit	No. of Excursions
Ammonia (lbs/day)	2.2	9.0	0
CBOD5 (lbs/day)	198.1	462.7	0

Walnut Shell Effluent:	Average Monthly			Maximum Daily		
Parameter	Max Reported	Limit	No. of Excursions	Max Reported	Limit	No. of Excursions
Aluminum (lbs/day)	4.7	7.5	0	7.1	14.4	0
Chromium (lb/day)	0.032	2.1	0	0.081	5.1	0
Cyanide (lbs/day)	0	0.53	0	0	1.27	0
TSS	151.7	406.1	0	376.5	903.9	0

Sanitary Sewage Effluent:	Average/Geometric Mean Monthly			Average/Geometric Mean Weekly		
Parameter	Max Reported	Limit	No. of Excursions	Max Reported	Limit	No. of Excursions
BOD5 (lbs/day)	9.3	42	0	10.9	72	0
BOD5 (mg/L)	12.1	30	0	13.6	45	0
Fecal Coliform (#/100ml)	20	200	0	14.0	400	0
TSS (lbs/day)	7.1	42	0	10.2	72	0
TSS (mg/L)	8.3	30	0	12.1	45	0



Kaiser Aluminum Washington, LLC
Site Location

City of Spokane, Spokane County, WA State Parks GIS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, HxGN Content Program

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

N

0 500 1,000 Feet

Description	Photographs
Photo 1: Area on west side of the hot rolling line where the Permittee had repaired damaged waste water piping	
Photo 2: Sludge drying lagoon	
Photo 3: Sludge drying lagoon. A wear sheet had been attached to the side of the lagoon for offloading. This wear sheet came loose and slid into the lagoon.	

Photo 4: Clarifier at industrial wastewater treatment system	
Photo 5: Dewatered sludge at the industrial wastewater treatment system	
Photo 6: Sanitary wastewater influent wet well.	

Photo 7: Ferric chloride and sodium hydroxide dosing setup used at the site's sanitary treatment plant. Ferric chloride is used to reduce phosphorus levels in the sanitary wastewater prior to discharge to the wastewater settling lagoon. Sodium hydroxide is used for pH control.	
Photo 8: Primary clarifier at the site's sanitary wastewater treatment system	
Photo 9: Trickling filter at the site's sanitary wastewater treatment system	

Photo 10: Secondary clarifier at the site's sanitary wastewater treatment system	
Photo 11: Wastewater settling lagoon	
Photo 12: Wastewater settling lagoon. Algae/biological growth had formed on the pond surface. During the inspection, the facility was using a vactor truck to collect the material and transfer it to their sludge drying lagoon.	

Photo 13: Hydrogen peroxide/UV treatment pilot system for PCB treatment located at the wastewater treatment area	
Photo 14: Walnut shell filtration system inlet wet well and pumps	
Photo 15: Castor oil pumps and feed system to walnut shell filtration system	

Photo 16: North Bypass Lagoon inlet piping	
Photo 17: North Bypass Lagoon construction site