

REPORT OF COMPLIANCE SAMPLING INSPECTION (CSI)

AT
Former Madison Mine
1050 County Road 263
Fredericktown, MO 63645

NPDES NO: MO-098752

October 19-20, 2022

BY
U. S. ENVIRONMENTAL PROTECTION AGENCY
Region 7
Enforcement and Compliance Assurance Division (ECAD)

INTRODUCTION

I performed a Compliance Sampling Inspection (CSI) at the Former Madison Mine in Fredericktown, Missouri from October 19, 2022, through October 20, 2022. The inspection was authorized by Section 308(a) of the Federal Water Pollution Control Act, as amended. This narrative report presents the findings of the inspection.

PARTICIPANTS

Environmental Operations Inc. (EOI)
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Aaron Callahan, Project Manager

Missouri Department of Natural Resources
Hannah Goetz, Environmental Specialist
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PROCEDURES

On October 18, 2022, I contacted Mr. Callahan via phone to inform him that I would be conducting an inspection at the Former Madison Mine starting on October 19, 2022. He stated that he would be available on October 19, 2022. I arrived at the Former Madison Mine facility at approximately 9:00 a.m. and met with Mr. Page and Mr. Callahan. I then introduced myself, presented my credentials, and explained the purpose and procedures of the inspection. These procedures included completing a comprehensive inspection which would include a facility walk-through with photos (attachment 1), a check of the self-monitoring records, and the collection of samples from Outfalls 001, 002, and an exit interview.

On October 19, 2022, and October 20, 2022, I collected grab samples of the effluent at the effluent structures of Outfalls 001 and 002. I collected the effluent using clean, pre-labeled containers for the analysis of Non-Filterable Solids (NFS), Total Metals, Chlorides, and Sulfates, and Total Phosphorus. I measured the pH and temperature using a field meter.

I placed the samples I collected on ice in an ice chest, sealed the container and hand delivered the samples to the EPA Region 7 Science and Technology Center (STC) for analysis on October 20, 2022. I followed Region 7's LSASD standard operating procedures in the collection, packaging, transportation, and handling of the samples. Field Sheets and Chain of Custody forms were electronically submitted each day following Region 7 procedures.

FACILITY DESCRIPTION

The Former Madison Mine facility is a former subsurface metals mine that ceased operations in the 1960's. The facility is currently owned by Missouri Mining Investments LLC of St. Louis, Missouri. The facility is operated by Missouri Cobalt LLC (MOCO). MOCO has contracted with Environmental Operations Inc. (EOI) for the day to day operations at the facility. The physical address of the facility is 1050 County Road 263, Fredericktown, MO 63645. The mailing address for Missouri Mining Investments LLC is 1530 South 2nd Street, St. Louis, MO 63104. The facility has two discharge outfalls. A description of the discharge for each outfall is listed below.

Outfall 001: Continuous dam toe/blanket drain dry weather discharge; intermittent stormwater runoff from D tailing piles, unvegetated areas, and areas adjacent to Tollar Branch; and land disturbance stormwater runoff. The design flow is 4.0 million gallons per day (MGD) however flow is dependent upon precipitation.

Outfall 002: Continuous groundwater seepage, and intermittent discharge from metallurgical (Met) pond; (stormwater runoff from A, B, C, and E tailings piles); areas adjacent to the tributary to Saline Creek; and discharge of land disturbance stormwater runoff.

MOCO operates a froth flotation plant for concentration of valuable metals from the surface tailings (currently from the west side of the Met Pond). Metals that are reclaimed from the excavated tailings include cobalt, nickel, and copper. The flotation plant was installed and

began operations in 2019. The concentrate is stored in piles that are covered by tarps or in roofed areas to limit exposure to stormwater. The processing plant utilizes water from Tailings Pond B. Process wastewater is recycled from the tailings pond and the pond does not discharge.

MOCO is also currently constructing a hydrometallurgical (hydromet) operation for metals reclamation from the tailings concentrate. The location of the future hydromet plant is southeast of the current processing area. Transfer of concentrate from the concentrate storage building will be conducted via covered conveyor systems.

Site drainage is designed so that disturbed areas drain through one of the two permitted outfalls, Outfall 001 or 002. Each outfall is equipped with sedimentation basins sized to treat a local 2-year, 24-hour storm. Currently the existing Met Pond, and Basin G located upstream of Outfall 002, and the D Tailings Lake Dam upstream of Outfall 001 are used for this purpose. As part of the ongoing Early Removal Action, the D Tailings Lake has been drained and capped. The Met Pond will be drained, sediment removed for processing and metals reclamation, and then filled and capped. A series of six sedimentation basins (designated as Basins A, B, D, E, G and F) are currently under construction or have been constructed throughout the site to provide sedimentation for all storm water runoff discharges to Outfalls 001 and 002. Currently stormwater from B, C and E tailings areas flows in a northerly direction then is diverted to around the “Met” Pond and Stormwater Basin G, meets up with effluent from the “groundwater seep” below Stormwater Basin G outfall before discharging through Outfall 002. Mr. Page stated that eventually the stormwater will be diverted back through Stormwater Basin G, before being discharged through Outfall 002.

There is currently a construction project that is occurring north of the metal processing buildings that is disturbed. Stormwater from this area flows to the north through a series of ditch checks and sediment traps before discharging into a wooded area north of the facility.

Stormwater from the disturbed areas surrounding the proposed mine water pond area and the north surface plant area flows north and east through a series of ditch checks and sediment traps before it will discharge into a ditch along Z Highway through a proposed new outfall that will be designated as Outfall 008.

In addition, drainage channels are currently being constructed to collect and channel runoff to the stormwater basins. All stormwater discharges from disturbed areas which leave the site will pass through the existing or new detention basins described above, and/or through other sediment control measure such as silt fences or check dams prior to leaving the site.

The WWTF’s National Pollutant Discharge Elimination System (NPDES) Permit NE-098752 was issued on February 1, 2019 (attachment 3). The permit was modified on November 1, 2019 and expired on September 30, 2021. The MDNR has administratively extended the current permit until a new permit has been issued. The facility has applied for a new NPDES permit, a draft permit was public noticed and is currently under review.

REGULATED HISTORY

The facility is currently under a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Consent Order (CERCLA-07-2018-0296) and is undergoing an Early Removal Action under the oversight of USEPA Region 7.

The MDNR last inspected the facility on March 28, 2022 (attachment 4). MDNR found the facility to be in non-compliance for the following reasons:

- Failure to comply with effluent limits for Outfalls 001 and 002.
- The facility discharged water contaminants that violated the Missouri Water Quality Standards.
- The facility failed to update and implement a Stormwater Pollution Prevention Plan (SWPPP) as required by the NPDES permit.

MDNR issued a Letter of Warning for the above-mentioned violations and required that the facility take corrective action to resolve the continued non-compliance.

FINDINGS AND OBSERVATIONS

The following findings were noted during the plant and record review. These findings were discussed with Mr. Page during the exit meeting.

Self-Monitoring Data Review:

I obtained a spreadsheet of the NetDMR data for the Former Madison Mine from January 2019, through October 2022, and reviewed the data. During the inspection, I also obtained an electronic copy of the facility's Discharge Monitoring Reports for the years 2019 – 2022.

Tables 1A – 1D below represents the effluent violations noted at Outfalls 001 and 002 during the review.

Table 1A: Effluent violations reported for Outfall 001 from January 2019 – April 2022

	Copper (Cu)	Limit (ug/L)	Lead (Pb)	Limit (ug/L)	Nickel (Ni)	Limit (ug/L)	Chlorides + Sulfates	Limit (mg/L)	Total Suspended Solids (TSS)	Limit (mg/L)
Sep-20	16.2	13							31	30/45
Feb-21	7.2	5.6/15.3	7.9	2.2/6.5						
Mar-21	16.1/18	5.6/15.3	21.3/28.1	2.2/6.5						
Apr-21	8.4	5.6/15.3	8.1	2.2/6.5						
May-21	19.4	5.6/15.3	19.8	2.2/6.5	235	49.9/80.9				
Jun-21	17.9	5.6/15.3	20.9	2.2/6.5						
Jul-21		5.6/15.3	4.1	2.2/6.5	54.8	49.9/80.9				
Aug-21	7.2	5.6/15.3	4.1	2.2/6.5	96.7	49.9/80.9	1437	1000		
Sep-21	31.2	5.6/15.3	29.8	2.2/6.5	115	49.9/80.9	1306	1000		
Oct-21	8.1	5.6/15.3	3	2.2/6.5	132	49.9/80.9	1609	1000		
Nov-21	27.1	5.6/15.3	41.9	2.2/6.5					144	30/45
Dec-21	13.5	5.6/15.3	10.5	2.2/6.5						
Jan-22	6.5	5.6/15.3	6.7	2.2/6.5						
Feb-22	7.9	5.6/15.3	7.2	2.2/6.5						
Mar-22	13.6	5.6/15.3	13.6	2.2/6.5						
Apr-22	9.4	5.6/15.3	9	2.2/6.5						
May-22	21.55/37.6	5.6/15.3	32.75/57.4	2.2/6.5					72.5/128	30/45
Jun-22		5.6/15.3			52.9	49.9/80.9				
Aug-22		5.6/15.3			63.6	49.9/80.9				

Limits are daily limits followed by monthly averages.

Table 1B: Effluent violations reported for Outfall 002 from January 2019 – December 2020

	Cobalt (Co)	Limit (ug/L)	Copper (Cu)	Limit (ug/L)	Nickel (Ni)	Limit (ug/L)	Cadmium (Cd)	Limit (mg/L)	Lead (Pb)	Limit (mg/L)	Zinc (Zn)	Limit (mg/L)	Total Suspended Solids (TSS)	Limit (mg/L)
Nov-19	1550	817/1103			2480	407/818								
Jan-20	1420	817/1103			2310	407/818								
Feb-20	1675/2020	817/1103	510.2/963	13/26	2625/3050	407/818					116.8	104		
Mar-20	1520	817/1103	182	13/26	2480	407/818								
Apr-20	1330	817/1103	24.1	13/26	2150	407/818								
May-20	1580	817/1103	13.7	13/26	2570	407/818							450	30/45
Jun-20	1470	817/1103	14.2	13/26	2410	407/818								
Jul-20	1460	817/1103		13/26	2340	407/818								
Aug-20	1540	817/1103	29.6	13/26	2560	407/818								
Sep-20	1380	817/1103	43.6	13/26	2160	407/818								
Oct-20	1820	817/1103		13/26	2870	407/818								
Nov-20	1710	817/1103		13/26	2950	407/818								
Dec-20	1680	817/1103	14.7	13/26	2370	407/818								

Limits are daily limits followed by monthly averages.

Table 1C: Effluent violations reported for Outfall 002 from January 2021 – December 2021

	Cobalt (Co)	Limit (ug/L)	Copper (Cu)	Limit (ug/L)	Nickel (Ni)	Limit (ug/L)	Cadmium (Cd)	Limit (mg/L)	Lead (Pb)	Limit (mg/L)	Zinc (Zn)	Limit (mg/L)	Total Suspended Solids (TSS)	Limit (mg/L)
Jan-21	1550	817/1103		13/26	2400	407/818								
Feb-21	1370	693/1103	12.6	5.6/15.3	2200	49.9/80.9	0.3	0.2/0.5	2.3	2.2/6.5				
Mar-21	1900	693/1103	81.4	5.6/15.3	2920	49.9/80.9	0.8	0.2/0.5	5.1	2.2/6.5				
Apr-21	1390	693/1103	13.1	5.6/15.3	2200	49.9/80.9	0.3	0.2/0.5	3.4	2.2/6.5				
May-21	1230	693/1103	43.9	5.6/15.3	1530	49.9/80.9	0.6	0.2/0.5	9.2	2.2/6.5				
Jun-21	997	693/1103	17.6	5.6/15.3	1530	49.9/80.9	0.3	0.2/0.5	4.5	2.2/6.5				
Jul-21	1050	693/1103	8.2	5.6/15.3	1990	49.9/80.9	0.3	0.2/0.5	2.4	2.2/6.5				
Aug-21		693/1103	11	5.6/15.3	1220	49.9/80.9		0.2/0.5	3.7	2.2/6.5				
Sep-21	1380	693/1103	19	5.6/15.3	2210	49.9/80.9	0.4	0.2/0.5	9.4	2.2/6.5			61	30/45
Oct-21	1150	693/1103	18.4	5.6/15.3	2050	49.9/80.9	0.3	0.2/0.5	12.6	2.2/6.5			108	
Nov-21	1610	693/1103	20.3	5.6/15.3	2390	49.9/80.9	0.3	0.2/0.5	5.7	2.2/6.5				
Dec-21	1380	693/1103	12.3	5.6/15.3	2080	49.9/80.9	0.3	0.2/0.5	3.7	2.2/6.5				

Limits are daily limits followed by monthly averages.

Table 1D: Effluent violations reported for Outfall 002 from August 2022 – December 2022

	Cobalt (Co)	Limit (ug/L)	Copper (Cu)	Limit (ug/L)	Nickel (Ni)	Limit (ug/L)	Cadmium (Cd)	Limit (mg/L)	Lead (Pb)	Limit (mg/L)	Zinc (Zn)	Limit (mg/L)	Total Suspended Solids (TSS)	Limit (mg/L)
Jan-22	953	693/1103	20.3	5.6/15.3	2440	49.9/80.9	0.3	0.2/0.5	7.5	2.2/6.5				
Feb-22	1470	693/1103	22.4	5.6/15.3	2310	49.9/80.9	0.3	0.2/0.5	9.3	2.2/6.5				
Mar-22	1160	693/1103	9	5.6/15.3	1960	49.9/80.9		0.2/0.5	3.7	2.2/6.5				
Apr-22	1350	693/1103	10.1	5.6/15.3	2000	49.9/80.9	0.3	0.2/0.5	4.5	2.2/6.5				
May-22	1090	693/1103	8.4	5.6/15.3	1680	49.9/80.9		0.2/0.5		2.2/6.5				
Jun-22	1250	693/1103	6.6	5.6/15.3	1930	49.9/80.9	0.3	0.2/0.5	3.6	2.2/6.5				
Jul-22	1270	693/1103		5.6/15.3	1970	49.9/80.9		0.2/0.5		2.2/6.5				
Aug-22	1560	693/1103	6.4	5.6/15.3	2360	49.9/80.9	0.3	0.2/0.5	3.9	2.2/6.5				

Limits are daily limits followed by monthly averages.

Based on the review of the DMRs submitted, the facility has violated the effluent limits set forth in the permit **19 out of 46 months** reviewed for Outfall 001 and **33 out of 46 months** for Outfall 002. Furthermore, the facility has violated effluent limits for Cobalt at Outfall 002 for the **past 32 of 33 months**. The facility also has not complied with the effluent limits for Nickel at Outfall 002 for the **past 33 months**. I did note that the violations were a combination of daily limits and monthly averages.

During the exit briefing, I provided to Mr. Page a Notice of Preliminary Findings (NOPF) that included the reported effluent violations for Outfalls 001 and 002 (attachment 5). Mr. Page provided a response to the NOPF on with the following explanation to the effluent violations, “Effluent violations have historically been an issue for the Madison Mine Site dating back to the early 1990s. MMI has been striving improve the water quality of the effluent since it acquired the property in March 2019. Activities to improve the water quality have included implementing an Early Removal Action (consolidating and capping environmentally impacted surface materials) under USEPA oversight, constructing six (6) stormwater detention bases around the

capped areas and site, and renewing the current MDNR NPDES permit containing revised effluent limits reflective of site-specific data. Following completion of the Early Removal Action, the critical activity to improve water quality will be the commencement of mine dewatering. Mine dewatering will cease water flow from a seep located near Outfall 002, the primary source of water influencing water quality. The mine dewatering is currently awaiting MDNR issuance of an Anti-Degradation Permit.” (attachment 5)

Sample Results

The analytical results from the inspection were received on November 8, 2022, from the Region 7 STC laboratory. This data was not discussed during the exit interview. The analytical results for NFS, Metals, Chlorides, and Sulfates, pH, and temperature of the samples I collected are presented in Tables 2A and 2B. See attachment 6 for the analytical data packet.

Table 2A: Analytical Results for Effluent Samples Collected During Inspection for Outfall 001

Parameter	(October 19) Sample # 2200380-1	(October 20) Sample# 2200381-1	Concentration Permit Limits ²
NFS (mg/L)	10.1	21.6	45/30
Arsenic (ug/L)	ND	2.58	*
Cadmium(ug/L)	ND	ND	0.5/0.2
Cobalt (ug/L)	127	146	1103/693
Copper (ug/L)	10.6	9.50	15.3/5.6
Lead (ug/L)	ND	13.3	6.5/2.2
Nickel (ug/L)	80.1	94.1	80.9/49.9
Zinc (ug/L)	3.53	7.42	130.2/87.0
Chloride (lbs/day)	3.88	3.88	*
Sulfate (mg/L)	866	849	*
Chloride+Sulfate	869.88	852.88	1000/1000
Temperature (°C) ¹	7.1	3.7	NA
pH ¹	7.17	7.07	6.5 – 9.0
Flow in MGD	NA	NA	NA

¹ °C = degrees Celsius, pH is not to be averaged, pH and temperature was measured in the field.

²Permit limits are the Daily Maximum followed by the Monthly Average.

Table 2B: Analytical Results for Effluent Samples Collected During Inspection for Outfall 002

Parameter	(October 19) Sample # 2200380-2	(October 20) Sample# 2200381-2	Concentration Permit Limits ²
NFS (mg/L)	11.6	4.16	45/30
Arsenic (ug/L)	1.03	ND	*
Cadmium(ug/L)	ND	ND	0.5/0.2
Cobalt (ug/L)	1210	1230	1103/693
Copper (ug/L)	6.87	4.0	15.3/5.6
Lead (ug/L)	2.53	1.56	6.5/2.2
Nickel (ug/L)	1870	1900	80.9/49.9
Zinc (ug/L)	62.8	55.6	130.2/87.0
Chloride (lbs/day)	12.3	5.69	*
Sulfate (mg/L)	670	682	*
Chloride+Sulfate	682.3	687.69	1000/1000
Temperature (°C) ¹	17.3	12.9	NA
pH ¹	7.42	7.27	6.5 – 9.0
Flow in MGD	NA	NA	NA

¹ °C = degrees Celsius, pH is not to be averaged, pH and temperature was measured in the field.

²Permit limits are the Daily Maximum followed by the Monthly Average.

Based on the sampling data, the facility violated the daily effluent limits for Lead and Copper at Outfall 001 on October 20, 2022. The facility also violated the daily effluent limits for Cobalt and Nickel at Outfall 002 on October 19 and 20, 2022.

Laboratory

Fomer Madison Mine utilizes Teklab of Collinsville, Illinois for all of its regulatory analysis with the exception of Whole Effluent Toxicity (WET) Testing. Analysis for WET is conducted by Pace Analytical Laboratories in Salina, Kansas.

After the completion of the inspection, Mr. Page provided the Analytical Data Sheets provided by Teklab for the years 2019 – 2022. I reviewed the data sheets and compared them with the Discharge Monitoring Reports and noted that there was consistency between the data sheets and DMRs. I also reviewed the data sheets to ensure that all sample analysis performed conforms with the NPDES permit and Chapter 40 Part 136 of the Federal Code of Regulations (40 CFR Part 136). I noted that all sample analysis does conform with the requirements of the NPDES permit and 40 CFR Part 136 of the Federal Regulations except for pH. 40 CFR Part 136 Table II requires that pH analysis is conducted within 15 minutes of the sample being collected. The laboratory data sheets indicate that a lab pH is being conducted after the sample has been received by the laboratory. I confirmed by reviewing the DMRs that the facility was using the lab pH as the reported pH on the DMR. I also reviewed the chain of custody records provided by

the facility and it was confirmed that a field pH was not conducted on the received samples. The laboratory did note on the chain of custody forms that all holding times were met when in fact the holding times for pH were not being met. After my review, I placed the laboratory data sheets within the ECAD electronic file system.

SWPPP

The NPDES Permit requires that the facility has a SWPPP. During the inspection, I did a general review of the SWPPP documents that were available. During the exit briefing, I issued an NOPF for an inadequate SWPPP (NOPF 2). After the completion of the inspection, Mr. Page provided a copy of the SWPPP (attachment 7). After receiving a copy of the SWPPP from Mr. Page, I did a more comprehensive review. The following deficiencies of the SWPPP were noted during my review.

- The SWPPP does not have an adequate site map that shows the location of permanent and temporary BMPs to control stormwater discharges from the facility.
- The NPDES permit requires that the SWPPP reflect the current conditions of the facility and must be updated to reflect any changes. The current SWPPP does not include all sections of the facility. The SWPPP does not include Stormwater Basin F, which receives stormwater from the production area before discharging through the Met pond and into Basin G.
- The SWPPP states that all stormwater will pass through stormwater basins before discharging through either Outfall 001 or 002. Stormwater from Tailings Area B, C, and E are currently diverted west and north around the Met pond and Basin G. Stormwater flows around these structures and directly discharges into the tributary of Saline Creek through Outfall 002 (photos 1 & 41-43).
- The SWPPP does not mention all areas of the facility including the areas east of the production areas identified as the Mine Water Pond area and the North Surface Mine area. Stormwater from these areas flows to the east and through a series of sediment traps and other BMPs before discharging through a proposed Outfall 008 into a ditch along Highway Z (photos 17-19).
- The SWPPP does not mention areas east of the current production area. Stormwater in this area flows north through a series of rock checks and sediment traps, then discharges into a wooded area north of the area (photos 20-22).
- The SWPPP requires that track out areas be at all entrances to the facility. I did not observe track out BMPs at the east entrance along Highway Z.

The SWPPP requires routine inspections of the stormwater structures. The SWPPP states that inspections will be conducted once every seven calendar days and within 48 hours after a rain

event equal to or greater than the 2 year-24 hour rain events. During the inspection, I reviewed inspection records from 2020 through the present and Mr. Page provided copies of the quarterly inspection reports from January 2021 through the time of the inspection. I reviewed the records provided by Mr. Page and noted that there were no inspections for January – March 2021. Each inspection report from April 2021 – September 2022, identified that the BMPs throughout the facility were deficient, however the inspections did not make it clear if those deficiencies were corrected. The permit requires that all actions that were taken to fix deficient BMPs be noted on the inspection report and to include any photos taken to note the corrective actions taken place. The inspection reports reviewed did not contain any corrective action reports and or photographs to document that deficiencies were corrected as required by the SWPPP and permit. After my review, I placed the SWPPP inspection reports that were provided into the ECAD electronic file system.

The SWPPP also requires that the facility maintain records of all SWPPP trainings that the facility has performed. I reviewed the training records for the facility during the inspection and noted that they were complete in accordance with the SWPPP and the permit. After the completion of the inspection, Mr. Page provided copies of the SWPPP training roster that was conducted in 2021 and 2022. After my review, I placed the SWPPP training records that were provided into the ECAD electronic file system.

Operational Issues and Observations

During the facility tour, I observed all areas of the facility including the stormwater flow paths throughout the facility and the two outfalls (photos 1-48). I noted that many areas of the facility had BMPs that were not adequate to protect the receiving streams for protecting water quality. These observations include:

- Throughout the facility, areas were bare of vegetation (photos 7-11, 14-19, 35-38, and 41-43). According to Mr. Page, the facility has purchased a hydro seeder to seed the bare areas. He also stated that the type of hydroseed does not utilize mulch, but a tacky substance to hold the seed in place. An issue with this method is that it is not as protective as utilizing mulch to hold seed down. Not mulching these areas also allow for the transportation of sediment during precipitation events.
- Silt fencing and straw waddles are utilized as a primary BMPs in many areas of the facility (photos 7-8, 17-19, 31-32, and 37-39). Much of the silt fencing was in need of repair and the straw waddles need to be replaced. Silt fencing was utilized on slopes that had steep grades (photos 17-19, and 28). Silt fencing is practical in these areas if it is used properly, however, in many instances there was one strand of silt fence for the entire slope instead of utilizing multiple strands of fencing on the slopes to control runoff from the slopes.
- Rock check dams were also observed throughout the facility (photos 18-20, and 28). The rock check dams that were observed during the inspection do not appear to be constructed as stated in the SWPPP. The SWPPP states that rock check dams will be constructed with 2-3 inch rock (attachment 7 page 30 of 49). All of the check dams observed were made

with rock that was much larger than the 2-3 inch rock as stated in the SWPPP.

During the exit briefing, I issued a NOPF for the inadequate land disturbance controls in place at the time of the inspection (NOPF 3).

As stated above, I observed both outfalls during the inspection. Outfall 001 discharges intermittent stormwater runoff from D tailing piles, unvegetated areas, and areas adjacent to Tollar Branch along with land disturbance stormwater runoff from these areas. According to Mr. Page, groundwater seeping from the toe of the old tailings pond allows water to discharge on a continuous basis. During the inspection, there was little measurable flow discharging through the outfall (photos 12-13).

Outfall 002 receives continuous groundwater seepage, and intermittent discharge from the metallurgical (Met) pond; (stormwater runoff from A, B, C, and E tailings piles), areas adjacent to the tributary to Saline Creek, and discharge of land disturbance stormwater runoff. During the inspection, I noted that the continuous ground water seep contributes the majority of the flow through Outfall 002 (photos 3 and 34). I also noted that the seepage is not treated before being discharged through the outfall. Mr. Page stated during the inspection that the facility believes that once a new NPDES permit is issued that allows the facility to de-water the existing subsurface mine, this will cause the groundwater seep to stop discharging and violations of the NPDES permit will be eliminated.

Summary

The facility has had continuous effluent violations of the NPDES permit for both Outfalls 001 and 002.

The facility has an inadequate SWPPP that needs to include a site map and is updated to reflect the current conditions of the facility.

BMPs utilized by the facility are inadequate in providing protection from stormwater runoff from the facility.

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Life Scientist

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JOSEPH HEAFNER
Date: 2022.11.29
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**NICOLE
MORAN**
Nicole Moran
Section Chief

Digitally signed by
NICOLE MORAN
Date: 2022.12.01
08:10:56 -06'00'

Attachments:

1. Digital Photographs with Photo Log (28 pages)
2. Facility Satellite Photos/Maps (3 pages)
3. NPDES permit issued on November 1, 2019 (15 pages)
4. MDNR Inspection Report from April 22, 2022 (24 pages)
5. Notice of Preliminary Findings and Facility Response (5 pages)
6. Laboratory Analytical Report for Activity JAH2301 (19 pages)
7. SWPPP (49 pages)