



Central Valley Regional Water Quality Control Board

1 July 2020

Vaughn Frei
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Homestake Mining Company of California
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VIA EMAIL
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AMENDED NOTICE OF APPLICABILITY (NOA); GENERAL WASTE DISCHARGE REQUIREMENTS ORDER R5-2016-0076-01 FOR LIMITED THREAT DISCHARGES TO SURFACE WATER; HOMESTAKE MINING COMPANY OF CALIFORNIA, MCLAUGHLIN MINE TREATMENT SYSTEM, LAKE, NAPA, AND YOLO COUNTIES

Our office received a Notice of Intent on 11 December 2017 from Homestake Mining Company of California (Discharger), for discharge of treated mine-impacted surface drainage. Based on the application packet and subsequent information submitted by the Discharger, staff has determined that the McLaughlin Mine Treatment System (Project) meets the required conditions for approval under the General Order for Limited Threat Discharges to Surface Water (Limited Threat General Order), Tier 2. On 13 September 2019, this Project was issued a NOA under the Limited Threat General Order R5-2016-0076-031 and assigned Limited Threat General Order and National Pollutant Discharge Elimination System (NPDES) Permit CAG995002. Please reference your Limited Threat General Order number, **R5-2016-0076-031**, in your correspondence and submitted documents.

The project activities shall be operated in accordance with the requirements contained in the Limited Threat General Order and as specified in this NOA. You are urged to familiarize yourself with the entire contents of the enclosed [Limited Threat General Order](#) (https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf).

AMENDMENT

On 1 April 2020, the Discharger requested an amendment of the NOA to move the effluent discharge point (EFF-001) and the respective upstream and downstream receiving water monitoring points (RSW-001 and RSW-002) all downstream 200 feet to avoid backflow of discharged effluent into the North Pit Lake. Therefore, this NOA has been amended as of the date of this issuance to include updates to the Monitoring Station Locations (Table 2) and Project Location Map (Attachment A) to reflect these changes and supersedes the previously issued NOA R5-2016-0076-031.

KARL E. LONGLEY SCD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

CALIFORNIA TOXICS RULE / STATE IMPLEMENTATION POLICY MONITORING

The Limited Threat General Order incorporates the requirements of the California Toxics Rule (CTR) and the State Water Resources Control Board's (State Water Board), Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, 2005, also known as the State Implementation Policy (SIP). Screening levels for CTR constituents and other constituents of concern are found in Attachment I of the Limited Threat General Order. Review of your water quality data in comparison to the screening values, showed reasonable potential for the discharge to cause or contribute to an exceedance of water quality objectives for mercury in the rock-lined drainage ditch, a tributary to Davis Creek Reservoir, a water of the United States. However, the proposed treatment system addresses the water quality concern by reducing constituent concentrations below the included mercury effluent limitations; therefore, the Project qualifies for the Limited Threat General Order.

PROJECT DESCRIPTION

McLaughlin Mine, in Lower Lake, California, is a former gold mine owned by the Discharger that ceased operation in 1996. The postal address for McLaughlin Mine is 26775 Morgan Valley Road, Lower Lake, California in Lake County. The Project is located at the North and South mine pits, approximately 4 miles southeast of the postal address, where mine waste rock was placed as partial backfill. After closure, the North Pit Lake, located on the border of Napa and Yolo County, and the South Pit Lake, located in Napa County, developed due to the inflow of surface runoff, groundwater, and direct precipitation into the North and South mine pits. Water from the former Knoxville Mine and nearby waste rock dump sites is also pumped to the South Pit Lake.

Closure and post-closure maintenance of North and South Pit Lakes is addressed by Waste Discharge Requirements Order R5-2012-0010-01 (WDR). Provision E.7 of the WDR specifies that water levels in the North and South Pit Lakes shall not exceed an elevation of 1720 and 1731 feet above mean sea level, respectively. In order to manage the water levels for both pit lakes, approximately 17 spray evaporators were initially installed. Due to the above average rainfall in the 2017 water year, the Discharger increased the number of evaporators to 45 in May 2017. Eight new high-capacity evaporators were installed in 2019 to replace the existing evaporators and increase the evaporative capacity. Although evaporative capacity was increased, the Discharger has determined that treatment and discharge of the North and South Pit Lake water is necessary to meet requirements in the existing WDR and address the pit lakes' capacity.

The Project includes treating influent from the North and South Pit Lakes through a temporary reverse osmosis (RO) treatment system and discharging to a rock-lined drainage ditch tributary to Davis Creek Reservoir. The Discharger aims to reduce the current pit lake levels to create sustainable freeboard with respect to projected inflow into the pit lakes. Mine-influenced water from the North and South Pit Lake will be pumped and treated until adequate freeboard is established as follows:

1. Sodium hydroxide is added in the equalization tank for pH adjustment.
2. Flocculent is added prior to water entering the clarifier to aid in separation of solids and liquids.
3. Once effluent enters the clarifier, solids are separated from the liquids.
4. From the clarifier, effluent flows by gravity, and an antiscalant is added prior to entering the micro-filtration (MF) unit where residual suspended solids are removed.
5. Effluent continues to the RO feed tank where sulfuric acid is added for pH adjustment and optimization of the RO process.
6. Antiscalant is also added prior to continuing to the RO unit for additional removal of salts, metals, and other contaminants of concern.
7. Sulfuric acid and calcium hydroxide are added for pH-adjustment prior to storage in a finish water storage tank.

Approximately 3.8 million gallons per day of treated effluent will be pumped 0.5 miles to a rock-lined drainage ditch which flows to a small pond connected by a culvert to Davis Creek Reservoir. The concentrated brine waste stream from the RO unit, clarifier sludge, and MF blowdown will be discharged back to the South Pit Lake.

EFFLUENT LIMITATIONS

Effluent limitations are specified in Section V. Effluent Limitations and Discharge Specifications of the Limited Threat General Order. Based on the information provided in the NOI, effluent limitations are only required for the parameters identified in items 1 – 4 below:

1. **pH (Section V.A.1.b.i).** The pH of all limited threat discharges within the Sacramento and San Joaquin River Basins (except Goose Lake) shall at all times be within the range of 6.5 and 8.5.
2. **Whole Effluent Toxicity, Chronic (Section V.A.2.a).** There shall be no chronic toxicity in the discharge.
3. **Whole Effluent Toxicity, Acute (Section V.A.3.a).** Survival of aquatic organisms in 96-hour bioassays of undiluted waste for all limited threat discharges shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.
4. **Constituents and Parameters of Concern (Section V.A.1.e).** The following constituents and parameters in Table 1 below have been identified as having reasonable potential to cause or contribute to an in-stream excursion from water quality objectives based on a hardness of 100 milligrams per liter (mg/L), and shall not exceed the effluent limitations as listed.

Table 1. Effluent Limitations for Constituents and Parameters of Concern

Parameter	Units	Average Monthly Effluent Limitations	Maximum Daily Effluent Limitations	Section Reference
Mercury, Total Recoverable	µg/L	0.05	0.10	V.A.1.f

The rock-lined drainage ditch tributary to Davis Creek Reservoir is not listed under the Clean Water Act 303(d) List of impaired water bodies. Therefore, no additional 303(d) based effluent limitations or monitoring requirements are included in this NOA (R5-2016-0076-031).

RECEIVING WATER LIMITATIONS

The Limited Threat General Order includes receiving surface water limitations in Section VIII.A. Based on the information provided in the NOI, only the following receiving surface water limitations are applicable to this discharge:

- Bacteria (VIII.A.2)
- Biostimulatory substances (VIII.A.3)
- Chemical constituents (VIII.A.4)
- Color (VIII.A.5)
- Dissolved oxygen (VIII.A.6.a)
- Floating material (VIII.A.7)
- Oil and grease (VIII.A.8)
- pH (VIII.A.9.a)
- Pesticides ((VIII.A.10)
- Radioactivity (VIII.A.11)
- Suspended sediments (VIII.A.12)
- Settleable substances (VIII.A.13)
- Suspended material (VIII.A.14)
- Taste and odors (VIII.A.15)
- Temperature (VIII.A.16)
- Toxicity (VIII.A.17)
- Turbidity (VIII.A.18.a)

MONITORING AND REPORTING

Monitoring and reporting requirements are contained in Attachment C of the Limited Threat General Order. The Discharger is required to comply with the following specific monitoring and reporting requirements for the effluent and receiving water in accordance with Attachment C of the Limited Threat General Order.

Monitoring Locations – The Discharger shall monitor the effluent and receiving water at the specified location as follows:

Table 2. Monitoring Station Locations

Discharge Point Name (If Applicable)	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of the effluent can be collected prior to discharging to the rock-lined drainage ditch (38° 50' 35.62" North, 122° 21' 37.7" West) tributary to Davis Creek Reservoir.
Not Applicable	RSW-001	Rock-lined drainage ditch tributary to Davis Creek Reservoir, approximately 400 feet upstream from the point of discharge. (38° 50' 36.72" North, 122° 21' 42.51" West)
Not Applicable	RSW-002	Rock-lined drainage ditch tributary to Davis Creek Reservoir, approximately 200 feet downstream from the point of discharge. (38° 50' 37.44" North, 122° 21' 38.56" West)

Effluent Monitoring – When discharging to surface water, the Discharger shall monitor the effluent at EFF-001 in accordance with Table C-3 of the Limited Threat General Order and this NOA. The applicable monitoring requirements are as follows in Table 3 and subsequent Table 3 Notes:

Table 3. Effluent Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Flow	MGD	Estimate	1/Day
Electrical Conductivity @ 25°Celsius (C)	micromhos per centimeter (µmhos/cm)	Grab	1/Month
pH	standard units	Grab	1/Month
Turbidity	Nephelometric Turbidity Units (NTU)	Grab	1/Month
Temperature	°Fahrenheit (°F)	Grab	1/Month
Dissolved Oxygen	mg/L	Grab	1/Month
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Month
Mercury, Total Recoverable	micrograms per liter (µg/L)	Grab	1/Month
Acute Toxicity	% survival	Grab	1/Project Term

Parameter	Units	Sample Type	Minimum Sampling Frequency
Chronic Toxicity	--	Grab	1/Project Term

Table 3 Notes

- All parameters.** Pollutants shall be analyzed using the analytical methods described in 40 Code of Regulations (C.F.R.) part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- Total Flow, Electrical Conductivity, pH, Turbidity, Temperature, Dissolved Oxygen.** A hand-held field meter may be used, provided the meter utilizes a United States Environmental Protection Agency (U.S. EPA)-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- Mercury.** Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels*, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by U.S. EPA method 1630/1631 (Revision E) with a reporting limit of 0.05 nanograms per liter (ng/L) for methyl mercury and 0.5 ng/L for total mercury.
- Acute and Chronic Toxicity.** Chronic and acute toxicity testing shall be conducted within 3 months of initiation of discharge. For acute toxicity testing, the test species shall be fathead minnows (*Pimephales promelas*). See the Monitoring and Reporting Program (Attachment C, Section V) for toxicity monitoring requirements.

Receiving Water Monitoring - When discharging to surface water, the Discharger shall monitor the receiving water at RSW-001 and RSW-002, in accordance with Table C-5 of the Limited Threat General Order and this NOA. If there is no upstream receiving water flow, monitoring at RSW-001 is not required and the self-monitoring report shall state that monitoring was not conducted due to no upstream receiving water flow. The applicable monitoring requirements are as follows in Table 4 and Table 4 Notes:

Table 4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Frequency
Dissolved Oxygen	mg/L	Grab	1/Month
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
Hardness, Total (as Calcium Carbonate, CaCO ₃)	mg/L	Grab	1/Month
pH	standard units	Grab	1/Month
Temperature	°F	Grab	1/Month
Turbidity	NTU	Grab	1/Month

Table 4 Notes

1. **All parameters.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
2. **All parameters except for hardness.** A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained by the Discharger.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002. Attention shall be given to the presence or absence of:

- a. Floating or suspended matter
- b. Discoloration
- c. Bottom deposits
- d. Aquatic life
- e. Visible films, sheens, or coatings
- f. Fungi, slimes, or objectionable growths
- g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the Monitoring Report.

Monitoring Report Submittals - Monitoring in accordance with the Limited Threat General Order shall begin upon initiation of discharge. Monitoring Reports shall be submitted to the Central Valley Water Board on a quarterly basis, beginning with the **Third Quarter 2019**. This report shall be submitted on **1 November 2019**. If monitoring samples were not obtained within 24 hours of initiation of the discharge, the Discharger must document the reasons in the corresponding Monitoring Report. If the discharge has not begun there is no need to monitor. However, a certified Monitoring Report must be submitted stating that there has been no discharge. Table 5, below, summarizes the Monitoring Report due dates required under the Limited Threat General Order. Quarterly Monitoring Reports must be submitted until your coverage is formally terminated in accordance with the Limited Threat General Order, even if there is no discharge during the reporting quarter.

Table 5. Monitoring Periods and Reporting Schedule

Monitoring Period for All Sampling Frequencies	Quarterly Report Due Date
First Quarter (1 January through 31 March)	1 May
Second Quarter (1 April through 30 June)	1 August
Third Quarter (1 July through 30 September)	1 November
Fourth Quarter (1 October through 31 December)	1 February of the following year

GENERAL INFORMATION AND REQUIREMENTS

The Discharger must notify Central Valley Water Board staff within 24 hours of having knowledge of 1) the start of each new discharge, 2) noncompliance, and 3) when the discharge ceases. The Central Valley Water Board shall be notified immediately if any effluent limit violation is observed during implementation of the project.

Discharge of material other than what is described in the application is prohibited. The required annual fee (as specified in the annual invoice you will receive from the State Water Resources Control Board) shall be submitted until this NOA is officially terminated. You must notify this office in writing when the discharge regulated by the Limited Threat General Order is no longer necessary by submitting the Request for Termination of Coverage (Attachment E). If a timely written request is not received, the Discharger will be required to pay additional annual fees as determined by the State Water Resources Control Board.

ENFORCEMENT

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to a Mandatory Minimum Penalty (MMP) of \$3,000 per violation. In addition, late Monitoring Reports may be subject to MMPs or discretionary penalties of up to \$1,000 per day late. When discharges do not occur during a quarterly monitoring period, the Discharger must still submit a quarterly certified Monitoring Report indicating that no discharge occurred to avoid being subject to enforcement actions.

COMMUNICATION

We have transitioned to a paperless office; therefore, please convert all documents to a searchable Portable Document Format (pdf). All documents, including Monitoring Reports, written notifications, and documents submitted to comply with this NOA and the Limited Threat General Order, should be submitted to the NPDES Compliance and Enforcement Unit, Attention: Mohammad Farhad at centralvalleysacramento@waterboards.ca.gov and Mohammad.Farhad@waterboards.ca.gov. Mr. Farhad may also be reached by phone at (916) 464-1181.

Please include the following information in the body of the email:

- Attention: NPDES Compliance Unit
- Discharger: Homestake Mining Company of California
- Facility: McLaughlin Mine Treatment System
- County: Lake, Napa, and Yolo
- CIWQS place ID: 240112

Documents that are 50 megabytes or larger must be transferred to a DVD, or flash drive and mailed to our office, attention "ECM Mailroom-NPDES". Please include the attached Monitoring Report Transmittal Form as the first page of each Monitoring Report.

Vaughn Frei
McLaughlin Closure Manager
Homestake Mining Company of California

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McLaughlin Mine Treatment System
R5-2016-0076-031

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this NOA, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Links to the law and regulations applicable to filing petitions may be found on the [Water Quality Petitions Page](https://www.waterboards.ca.gov/public_notices/petitions/water_quality/) (https://www.waterboards.ca.gov/public_notices/petitions/water_quality/) or will be provided upon request.

Patrick Pulupa
Executive Officer

Enclosures (3):
Attachment A - Project Location Map
Monitoring Report Transmittal Form (Discharger only)
Limited Threat General Order (Discharger only)

cc:

Peter Kozelka, U.S. EPA, Region IX, San Francisco (email only)
Elizabeth Sablad, U.S. EPA, Region IX, San Francisco (email only)
Afrooz Farsimadan, Division of Water Quality, State Water Board, Sacramento (email only)
Sarah Torres, PG Environmental (icis-npdes@pgenv.com)

ATTACHMENT A – PROJECT LOCATION MAP

