MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park AvenueVictorville,CA92392-2310
760.245.1661 -- 800.635.4617 -- FAX760.245.2022

PERMIT TO OPERATE

B001916

Operation under this permit must be conducted in compliance with all information included with the initial application, initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If a copy is posted, the original must be maintained on site, available for inspection at all times.

EXPIRES LAST DAY OF:DECEMBER 2025

OWNER OF OPERATOR (Co.#9)

Searles Valley Minerals Operations, Inc
13200 Main Street
Trona,CA93562

EQUIPMENT LOCATION (Fac.#2)

SVM - Trona Plant
13200 Main Street
Trona,CA93562

Description:
LIQUID/LIQUID EXTRACTION PROCESS (LLX) consisting of:Recovers the boron fraction from lake brine for conversion to boric acid. The process consists of a series of mixers and settlers. The loading mixers provide for the contact of brine, a proprietary organic reactant (P-20) and kerosene for specified times. Outputs from the LLX Basin include boric acid solution and partially depleted brine. The unit is equipped with Induced Gas Flotation Units (Wemcos) to strip residual kerosene from the partially depleted brine before it is returned to Searles Lake. Kerosene stripping is increased by the introduction of 40 psig plant steam into the Wemcos. A vapor collection system is connected to the process settlers and the Wemcos, which conveys the vapors to Boilers 25 & 26 for combustion.

EQUIPMENT

Capacity	Equipment Description
50	No. 1 Brine Feed Pump (50 hp)
0	No. 2 Brine Feed Pump (Standby - 50 hp)
20	Loading Mixers; two (2) @ 10 hp each
50	West Barren Extractant Transfer Pump (50 hp)
50	East Barren Extractant Transfer Pump (50 hp)
25	No. 4 Stripping Mixer (25 hp)
25	No. 5 Stripping Mixer (25 hp)
30	No. 5 Stripping Settler, two (2) Pumps, 10 hp & 20 hp
25	No. 4 Stripping Mixer (25 hp)
25	No. 3 Stripping Mixer (25 hp)

Fee Schedule:1 (d) Rating:1393.5bhp SIC:1474 SCC:30188801 Location/UTM(Km):466E/3957N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Searles Valley Minerals Operations, Inc
P.O. Box 367
Trona,CA93592-0367

By: **COPY**
Brad Poiriez
Air Pollution Control Officer

UNOFFICIAL

Capacity	Equipment Description
20	No. 1 Stripping Mixers, one (1) @ 15 hp, one @ 5 hp
40	No. 2 Stripping Mixers, two (2) @ 20 hp each
25	F.S.S. Settler Pump (2 @ 25 hp, one is standby)
3	P-20 Storage Circulation Pump (3 hp)
2	LLX Kerosene Pump (2 hp)
1	P-20 Kerosene Pump (1 hp)
12.5	Sulfuric Acid Pumps, one (1) @ 7.5 hp, one (1) @ 5 hp
10	P-20 Pit Sump Pump (10hp)
10	South Pit Sump Pump (10 hp)
40	Sump Pumps, three (3); #1 & #2 (spare), 30 hp each; #3, 10 hp
10	North Pit Sump Pump (10 hp)
720	Induced Gas Floatation Units, Wemco's three (3) each w/ four (4) 60 hp agitators
75	Spent Brine Pumps (2 @ 75 hp, one is standby)
125	Centrifugal Fans (2 @125 hp, one is standby)
0	WEMCO Recycle Tank, 10,000-gallon effluent brine

CONDITIONS:

1.The daily loss of kerosene (as NMHC) to the atmosphere due to evaporation shall not exceed 485.6 pounds per day.
(a) The Flotation/Air Strip Project (F/ASP) will collect the vapors from the settlers and the Induced Gas Flotation Units (Wemcos) and they will be conveyed to the Argus boilers (25 & 26) for combustion except when operating in accordance with Conditions 7(a). or 7(b).
(b) The Wemcos will remove kerosene from the effluent for recycling before it is returned to the Searles Lake.
(c) Therefore, the loss of kerosene due to evaporation is that amount contained in the effluent and returned to the settling ponds on the Searles Lake.
(d) For purposes of permit conditions, kerosene shall be estimated to be 100 percent NMHC.

2.The F/ASP requires that negative pressure be maintained on the LLX basin settlers. The minimum vacuum shall be 0.2" w.c.
(a) Magnahelic gauges or manometers (Max. range of 1" w.c.) shall be installed on all of the settler vacuum pickup lines. Operators shall record readings from these gauges for each shift of operation.
(b) The gas flow rate from the LLX basin to the boilers shall be maintained above 5000 cfm. Operators shall record this flow rate for each shift of operation. The minimum required flow rate of 5000 cfm should be indicated on the log sheet, for reference by the operators.
(c) All inspection doors and covers on the air stripping and gas collection system shall be kept closed, except during essential maintenance.
(d) The seals on the loading mixer launders and the inspection doors, plus the covers on the air stripping and gas collection system shall be inspected on a monthly basis to ensure that they are maintained in good working condition. A log sheet of the monthly inspection shall be maintained.
(e) The containment pit surrounding the LLX basin shall be properly maintained such that any spills or leaks can be readily detected.

3.A daily composite of spent brine being returned to the Searles Lake shall be collected and analyzed for concentration of kerosene. The composite shall contain a minimum of one sample taken during each shift and USEPA Method 8015 shall be used for the analyses.

4.If any kerosene other than Calumet 142, EXXSOL D 60 or Shell Solvent 142 HT is to be used in this process, prior written approval from the District shall be obtained.

5.The amount of kerosene being sent to the Searles Lake shall be collected and analyzed for concentration determined in item 3 above and the flow rate of the effluent entering the LLX Basin. If the maximum allowable daily loss is exceeded, the District Compliance Supervisor shall be notified not later than the day following the exceedance.

6.Logs shall be maintained which include but are not limited to the following:
(a) The readings from the Magnahelic gauges or manometers per item 2a above.
(b) The gas flow rates from the Basin to the Boilers per item 2b above.
(c) Results of monthly inspection of seals and covers per item 3 above.

(d) Results of daily analyses for the kerosene concentration per item 3 above.
(e) The daily flow of the effluent into the Wemcos.
(f) The daily amount of kerosene in pounds being sent to Searles Lake.
(g) Daily estimated emissions of VOC into the atmosphere from all equipment covered by this permit.
This information shall be maintained on site for a minimum of five (5) years and be provided to District, state or federal personnel upon request.

7.The vapors are collected in accordance with Condition 1a may be vented to the atmosphere:
(a) When both boilers 25 & 26 have a planned outage at the same time. The District must be notified in writing of the scheduled outage 30 days in advance. The owner/operator shall state what the facilities expected emissions will be while under this mode of operation.
(b) When there is an emergency shutdown of both boilers 25 and 26 at the same time. The District is to be notified per Rule 430 of the breakdown. The owner/operator is to notify the District in writing within ten (10) working days after normal operation is resumed giving the net effect upon emissions while in this mode of operation.

8.NMHC emitted to the atmosphere from this equipment, when added to the NMHC emissions from Boiler No. 25 (B000555) and Boiler No. 26 (B000554), shall not exceed 773.6 pounds per day.