CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. R6V-2005-0024
WDID NO. 6B368905004

REVISED WASTE DISCHARGE REQUIREMENTS
FOR

SEARLES VALLEY MINERALS,
U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT
SEARLES DRY LAKE OPERATIONS - ARGUS PLANT

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (Regional Board), finds:

1. Discharger

On May 27, 2005[1], Searles Valley Minerals (SVM) submitted a complete revised Report of Waste Discharge (RWD) for the Argus Plant that it operates. SVM owns the Argus Plant, the land on which it is located and portions of Searles Lake where the discharge occurs. The U.S. Government owns a portion of Searles Lake where the discharge occurs. The U.S. Government owned lands are managed by the Bureau of Land Management. For the purposes of this Regional Board Order (Order), SVM and the BLM are referred to collectively as the "Discharger."

As a landowner of portions of Searles Lake on which SVM operations occur, U.S. Government, BLM is a responsible party for the discharge and any condition or threatened condition of pollution or nuisance resulting from the discharge as it affects surface or ground waters on BLM managed land. Naming BLM as a Discharger in this Order is consistent with past determinations by Regional Boards and the State Water Resources Control Board (SWRCB) in naming landowners as Dischargers. SVM is held primarily responsible for compliance with this Order. If SVM fails to meet the requirements of this Order or future enforcement Orders, the Regional Board will look to BLM to meet and/or complete the requirements of this Order and/or future enforcement Orders for discharges on BLM managed lands. Before BLM is required to meet and/or complete such requirements, BLM will be so informed of such requirements in writing by the Regional Board Executive Officer, and a new time schedule for compliance with such requirements, will formally be established. Hereinafter, the term "Dischargers" will be used to signify the scheme of primary responsibility for SVM and secondary responsibility for BLM for compliance actions specified in this Order as they affect surface or ground waters on BLM managed lands.

2. Facility

The Argus Plant is the Facility from which the discharge occurs (Attachment "A"). The Facility also includes the areas of the Searles Lake brine extraction and disposal operations, which provide feed brine to the Argus Plant and to which partially depleted brine from the Argus Plant is returned. Portions of the Searles Lake discharge locations are shared with the Westend and Trona Plants which are regulated by separate WDRs. For the purposes of this

[1] RWD consists of information dated 5-4-05 and 5-27-05 submitted by SVM.

Order, the Argus Plant is referred to as the "Facility." The Facility produces soda ash and sodium bicarbonate.

The Discharger withdraws highly mineralized brine from the ground waters of Searles Lake. Minerals are extracted from the brine by methods involving washing, dissolution, crystallization, filtration, drying, and precipitation. Effluent (partially depleted brine) is discharged to Searles Lake through direct injection and surface recharge by percolation.

3. Permit History

Discharges from the Facility have taken place since 1978. The Regional Board first established Waste Discharge Requirements (WDRs) for the Facility under Board Order No. 6-84-28, which was adopted on March 8, 1984, for the partially depleted brine and domestic wastewater discharges. On June 14, 2000, the Regional Board adopted Board Order No. 6-00-52, which rescinded the previous WDRs and issued revised WDRs for the Argus Plant. On April 11, 2001, the Regional Board adopted Board Order No. 6-00-52A1, amending WDRs for the Facility. On October 11, 2001, the Regional Board adopted Board Order No. 6-00-52A2, amending the WDRs for the Facility.

4. Reason for Action

The Regional Board adopted Board Order No. 6-00-52 establishing interim effluent limits for the discharge and requiring SVM to complete focused studies and implement control measures to improve effluent quality. SVM has implemented control measures and best management practices to reduce contaminant concentrations in its effluent discharge. SVM has also conducted a series of studies and pilot tests to develop additional treatment and process change technologies to further reduce contaminants in the brine effluent. Based on data developed from implementation of these technologies and measures, SVM has proposed site-specific final effluent limits for the Argus Facility discharge.

SVM has requested that the Regional Board consider allowing periodic discharges to the surface of Searles Lake for the purposes of routine pipeline maintenance. SVM proposes to discharge to additional surface lakebed in the areas of the injection zone based on current and future mining operations. SVM has prepared a maintenance plan describing the steps that are used to monitor and control maintenance discharges from Facility pipelines to the Lakebed.

5. Facility Location

The Facility is located about 20 miles east of Ridgecrest in the Community of Trona within T25S, R43E, S.B. B&M. The Argus Plant and the discharge are located in T25S, R43E: Section 8, 17, 18, 19, 20, 23, 25, 26, 28, 29, 34, 35, 36; T26S, R43E: Sections: 1, 2, 3, 11, 12; and T26S, R44E: Sections 6, 7 of that township. Location maps and facility diagrams, Attachments "A", “B” and "C," are made part of this Order.

6. Description of Facility and Discharge

The Discharger presently withdraws a highly mineralized brine from the ground waters of Searles Dry Lake. The brine undergoes beneficiation for extraction of soda ash and sodium bicarbonate. Once piped to the Facility, the brine is pH adjusted to form sodium bicarbonate, which is then crystallized to create a slurry. The slurry is dewatered and the sodium bicarbonate is dried at sufficiently high temperature to form light density soda ash. The light ash is recrystallized in solution to form high-density soda ash. The high-density ash is then dewatered, dried, screened and conveyed to shipping. In addition to Lake brine, brackish water from groundwater wells is used throughout the process for cooling, scrubber systems and equipment washing. Approximately 10 – 15 million gallons/day of partially depleted brine, also called end liquor (EL), and another 1.5 to 5.1 million gallons/day of mixed (mostly brackish) water are discharged to Searles Lake from the Argus Plant through an open unlined channel into the effluent disposal (dredge) pond and then a percolation pond, or re-injected into Searles Lake. SVM identifies the mixed water as all other liquors (AOL). Additionally, an average of 60,000 gallons of brine are discharged to the surface of Searles Dry Lakebed per month from brine extraction/injection wells and the pipelines that carry brine from the Argus Plant to where the disposal areas are located.

In addition to soda ash production at Argus, there are two coal-fired boilers that provide steam and electricity to the Argus and Trona production operations. The boilers and support equipment utilizes brackish and potable water and discharge to the re-injection system.

The ACE Cogeneration facility, adjacent to Searles Valley Minerals, discharges its effluent to the Argus effluent system. The ACE effluent is primarily brackish water with a small percentage of domestic wastewater. The discharge from the ACE facility is regulated under Board Order No. 6-01-16.

Approximately 50 percent of the effluent from the Argus Plant is re-injected to the Lake through underground injection wells regulated by the U.S. Environmental Protection Agency. The remaining 50 percent of the effluent is conveyed through a channel to the percolation pond.

The final effluent from the Facility to the re-injection wells contains approximately 162,000 – 236,000 mg/l of total dissolved solids (TDS), arsenic and other constituents as described in the RWD. Included among these constituents are ammonia and total recoverable petroleum hydrocarbons (TRPH). Some non-native constituents within the effluent are not fully removed.

The final effluent from the Facility to the percolation pond contains approximately 190,000 – 270,000 mg/l of TDS, arsenic, TRPH, and other constituents as described in the revised RWD.

The domestic wastewater is treated by conventional septic tanks. The effluent from some of the septic tanks goes to the Facility discharge and the effluent from other septic tanks goes to leach fields. Septage from these systems is disposed of at the Ridgecrest Waste Treatment Facility.

7. Petroleum Hydrocarbon Cleanup

Currently, the Discharger is conducting cleanup activities for petroleum hydrocarbons that have accumulated on portions of the surface and the shoreline of the effluent pond(s) due to past waste disposal operations. Degradation of Searles Lake, a hydrologically closed basin, has occurred from past discharges from the SVM facilities. Cleanup actions directed by the Regional Board are contained in CAO No. 6-00-64A2, issued on October 11, 2001.

8. Off Specification Product Recycling

SVM re-dissolves product material back into Searles Lake that does not meet product specifications. These materials are soda ash and sodium bicarbonate.

9. Authorized Disposal Sites

The Argus effluent channel, the percolation ponds, the injection wells and the injection well surface area and re-injection areas, are the authorized disposal sites for the depleted brine, that is described in the findings. This area is shown in Attachment "D".

Portions of the authorized disposal sites are located on land owned by SVM and the remainder on land (percolation pond area) owned by the U.S. Government. The U.S. Department of the Interior, Bureau of Land Management (BLM), is the controlling agency for these U.S. Government lands. Since December 1978, the BLM has been administering federal land in the Searles Dry Lake, including for the purpose of recharging the brine reserves as required for resource management by the BLM.

10. Site Geology

Searles Lake is located in a closed structural basin filled with alluvium and non-marine evaporites. The basin is in the southwest part of the Basin and Range geologic province of Southern California. Geological units in the basin consist of alluvial deposits, saline deposits, and the surrounding bedrock complex. Within the basin, evaporite deposits alternate with mud beds. Thickness of the alluvial deposits range from about 20 feet in the northern portion of the basin to several thousand feet in the center of the valley.

11. Site Hydrogeology

Groundwater within the Searles Lake area occurs as brackish groundwater and brine within Quaternary alluvial deposits of the Searles Valley Basin. There is no potable groundwater occurring within Searles Lake or the valley floor, and therefore all potable water is imported approximately 24 miles from the west from (Indian Wells Valley in the Ridgecrest area). The brackish groundwater occurs along the western boundary of the Searles Lake, occasionally rising to the surface. The TDS in the brackish water ranges from 3,000 to 60,000 mg/L.

The brine groundwater deposits occur in Searles Lake in fine sediments deposited in a subsiding basin. Over years of alternating wet/dry climate cycles, a distinctive suite of evaporate minerals were formed. Based on wave-cut terraces on the surrounding mountains,

the depth of historic Searles Lake was up to 600 feet.[2] The brine deposits occur in three major brine-bearing zones at Searles Lake (upper, middle, and lower mixed zone) separated by clay/mud layers. The mud layers were deposited during major wet periods and the slats were formed during major dry episodes that correlate with major glacial advances and retreats in the Sierra Nevada Mountains. The TDS of the brine groundwater in the area of the discharge ranges from 250,000 to 400,00 mg/L.

Searles Lake lies within a "closed basin." The low precipitation of the area results in limited recharge of the basin. The extraction of the brine, the beneficiation of the brine, and the percolation/injection of the brine compose a "closed system" with limited fresh water recharge.

12. Receiving Waters

The receiving waters are the surface waters and ground waters of the Searles Valley Hydrologic Area of the Trona Hydrologic Unit as set forth and defined in the Water Quality Control Plan for the South Lahontan Basin. The Department of Water Resources (DWR) designation for the Searles Valley Hydrologic Area is 621.10.

13. Lahontan Basin Plan

The Regional Board adopted a Water Quality Control Plan for the Lahontan Region (Basin Plan), which became effective on March 11, 1995, and this Order implements the Basin Plan, as amended.

14. Beneficial Uses - Surface Water and Ground Water

a. Ground Water

The beneficial uses of the ground waters of Searles Valley (DWR 6.52) listed in the Basin Plan, (Table 2-2) as set forth and defined in the Basin Plan is Industrial Service Supply (IND).

b. Surface Water

The beneficial uses of the surface waters of Searles Dry Lake bed (621.00) of the Trona Hydrologic Unit as set forth and defined in the Basin Plan are:

i. industrial process supply (PRO);
ii. industrial service supply (IND);
iii. contact recreation (REC-1);
iv. non-contact recreation (REC-2);
v. saline water habitat (SAL); and
vi. wildlife habitat (WILD).

15. Basis for Effluent Limits

[2] Smith, G.I., 1979, "Subsurface stratigraphy and geochemistry of late Quaternary evaporates, Searles Lake, California", U.S. Geological Survey Professional Paper 1043, 130 pages.

This Order contains numeric and narrative effluent and receiving water limits for the protection of beneficial uses. These effluent limits are based on operational data developed after implementation of technology improvements and best management practices. Focused monitoring of the effluent disposal area demonstrates that the effluent treatment and other discharge controls are effective for protection of beneficial uses. This Order contains final effluent limits set at levels that have been attainable using the technologies and control measures developed. Board staff conducted a thorough review of the information submitted, including sample results from daily samples over the past three years, and the final effluent limits presented in this Order are protective and achievable.

16. California Environmental Quality Act

These revised WDRs govern an existing facility, which the Discharger is currently operating. The issuance of WDRs for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Section 15301.

17. Notification of Interested Parties

The Regional Board has notified the Discharger and interested parties of its intent to revise WDRs for this discharge.

18. Consideration of Public Comments

The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger shall comply with the following:

I. DISCHARGE SPECIFICATIONS

A. Discharge Location

The discharge locations for this facility are: 1) effluent channel leading from the discharge pipe under Cement Plant Road; 2) the depleted brine percolation and re-injection areas, and 3) the lakebed surface in areas where brine conveyance pipelines and brine extraction/injection wells are located (Attachment “D”).

B. Effluent Limitations

The discharge shall meet the following effluent limits as shown in Table 1.

Table 1

Parameter	Effluent Limits	Basis of Limits
Total Petroleum Hydrocarbons as Kerosene	1.0 mg/l	This limit is based on achievable method detection limits and reporting limits for California certified laboratory conducting EPA Method 8015M-Kerosene or other equivalent method.
Total Recoverable Petroleum Hydrocarbons (Monthly Average)	3.5 mg/l	This limit is based on performance data using current treatment technologies, and is based on California certified laboratory conducting EPA Method 418.1 (SM5520F) or other equivalent method.
Total Recoverable Petroleum Hydrocarbons (Maximum Daily)	8.5 mg/l	This limit is based on performance data using current treatment technologies, and is based on California certified laboratory conducting EPA Method 418.1 (SM5520F) or other equivalent method.
Formaldehyde	10 μg/l	This limit is based on achievable method detection limits and reporting limits for California certified laboratory conducting EPA Method 8315 or other equivalent method

C. Narrative Standards

The industrial effluent discharged to surface and ground waters of Searles Lake shall not contain any of the following substances other than substances naturally occurring in Searles Lake:

i. Chlorinated hydrocarbons
ii. Toxic substances
iii. Harmful substances that may bioconcentrate or bioaccumulate
iv. Radioactive substances

D. Receiving Water Limitations

This discharge shall not cause a violation of any applicable water quality standard for receiving water adopted by the Regional Board or the SWRCB and regulations adopted thereunder.

The discharge shall not cause the presence of the following substances or conditions in ground or surface waters of the Trona Hydrologic Unit.

1. Nondegradation

The existing water quality shall be maintained until or unless it has been demonstrated to the State that any change in water quality will be consistent with the maximum benefit of the people of the State, and will not unreasonably affect present and probable future beneficial uses of such water.

2. Surface Waters

The discharge shall not cause the presence of the following substances or conditions in surface waters of the Trona Hydrologic Unit:

a. Bacteria - Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock waste.

b. Biostimulatory Substances - Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance, or adversely affect the water for beneficial uses.

c. Chemical Constituents – Waters shall not contain concentrations of chemical constituents in amounts that cause nuisance, or adversely affect the water for beneficial uses.

d. Color - Waters shall be free of coloration that causes nuisance, or adversely affects the water for beneficial uses.

e. Floating Materials - Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses.

f. Oil and Grease - Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses.

g. Pesticides and Herbicides - Pesticide (as defined in the Basin Plan) concentrations individually or collectively shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation in pesticides in aquatic life, as a result of the discharge.

h. Radioactivity - Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

i. Sediment - The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance, or adversely affect the water for beneficial uses.

j. Settleable Materials - Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance, or that adversely affects the water for beneficial uses.

k. Suspended Materials - Waters shall not contain suspended material in concentrations that cause nuisance, or adversely affect the water for beneficial uses.

l. Taste and Odors - Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses.

m. Temperature - The natural receiving water temperature shall not be altered so that such alteration in temperature causes a nuisance, or adversely affects the water for beneficial uses.

n. Toxicity - All waters shall be maintained free of toxic substances, as a result of the discharge, in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. The survival of aquatic life in surface waters subjected to the waste discharge shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as described in Standard Methods for the Examination of Water and Wastewater, latest edition.

3. Ground Waters

The discharge shall not cause the presence of the following substances or conditions in the ground water of the Trona Hydrologic Unit:

a. Chemical Constituents - Ground waters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

b. Radioactivity - Waters shall not contain concentrations of radionuclides in excess of limits specified in the California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443.

c. Taste and Odors - Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses.

E. Best Management Practices

Best Management Practices (BMPs) shall be used to contain and properly dispose of, to the extent practicable, all drippings, leaks, seepages and similar flows of materials non-native to Searles Dry Lake, and native materials which have been concentrated to levels exceeding those naturally occurring in Searles Dry Lake, from all plant equipment, vehicles, unit beneficiation processes, in-plant industrial wash water uses, piping, storage and treatment facilities. These materials shall not be routinely discharged to the depleted brine discharge system. This limitation shall not apply to native materials removed from the lake and produced by the Argus, Trona and Westend Facilities. These materials are soda ash, sodium bicarbonate, sodium sulfate, borax and boric acid. Bird monitoring and other controls shall be used for discharges to the lakebed surface.

II. GENERAL REQUIREMENTS AND PROHIBITIONS

1. Surface flow or visible discharge of industrial or domestic wastewater from the disposal sites to adjacent land areas or surface waters is prohibited.

2. The discharge of waste except to the authorized disposal sites is prohibited.

3. There shall be no discharge, bypass, or diversion of raw or partially treated industrial and domestic wastewater, wastewater biosolids, grease, or oils from the collection, transport, treatment, emergency storage, or disposal facilities to adjacent land areas, or surface waters.

4. These WDRs only allow discharge of waste defined in the findings.

5. The discharge shall not cause a pollution, as defined by Section 13050(l) of the California Water Code, or a threatened pollution.

6. The collection, transport, treatment, storage, or discharge of waste shall not cause a nuisance as defined by Section 13050(m) of the California Water Code.

7. All petroleum waste generated as a result of cleanup shall be disposed in a legal manner and in a legal location.

8. Visible petroleum hydrocarbons shall not be allowed to accumulate on surface waters of Searles Lake.

9. Discharge of non-native constituents in the off specification material discharge is prohibited.

10. Prior to disposal, all off specification material shall be stored in a clearly marked staging area in a manner that allows for sorting and inspection to preclude introduction of non-native material.

III. PROVISIONS

A. Rescission of WDRs

1. Board Order Nos. 6-00-52, 6-00-52A1, and 6-00-52A2 are hereby rescinded.

2. The Discharger shall comply with Monitoring and Reporting Program No. R6V-2005-0024 and the "General Provisions for Monitoring and Reporting" as specified by the Executive Officer pursuant to Section 13267 of the California Water Code.

B. Standard Provisions

1. The Discharger shall comply with the “Standard Provisions for WDRs,” dated September 1, 1994 (Attachment “E”).

2. "Surface waters," and "receiving waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters.

3. "Ground water," as used in this Order, includes, but is not limited to, all subsurface waters being above atmospheric pressure and the capillary fringes of these waters.

4. "Hazardous," "designated," "nonhazardous solid" and "inert" wastes as used in this Order, are defined by Sections 20200, 20210, 20220, 20230 of Title 27, California Code of Regulations.

5. "Beneficiation" of ores and minerals, as used in this Order, and defined in the Resource Conservation and Recovery Act, 40 C.F.R. 261.4(b)(7), includes those activities involving: washing; dissolution; crystallization; filtration; drying; solvent extraction; and precipitation.

6. The Regional Board may reconsider this Order to prescribe more stringent discharge specifications if sampling conducted in accordance with the monitoring and reporting program, or other pertinent data, indicate that the discharge has caused, or threatens to cause, a significant adverse impact on beneficial uses of the ground water or surface waters of Searles Dry Lake.

IV. MONITORING AND REPORTING

1. Pursuant to Section 13267(b) of the California Water Code, the Discharger shall comply with Monitoring and Reporting Program No. R6V-2005-0024 as specified by the Executive Officer.

2. The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of the Monitoring and Reporting Program.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on September 14, 2005.

"Original Signed By"

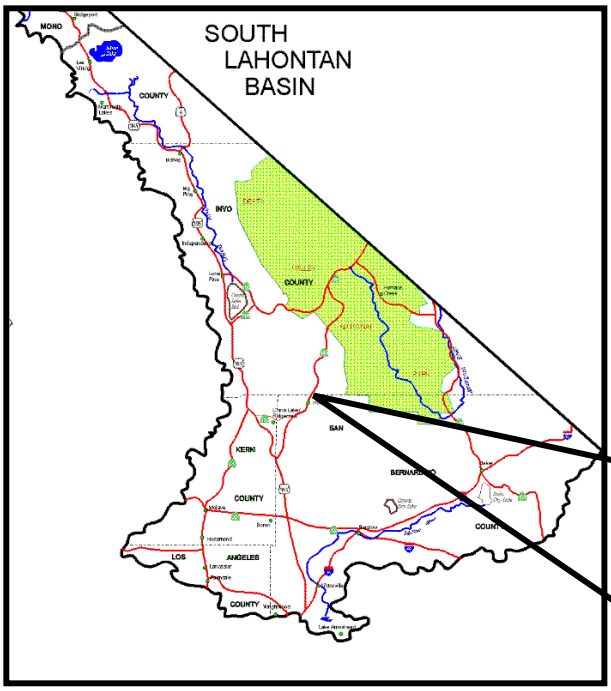
_____

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. Location Map
B. Facility Diagram
C. Utility Diagram
D. Discharge Location Map
E. Standard Provisions for Waste Discharge Requirements

GC/rp 9/2005 R6V-2005-0024 SVM Order

WDR - ATTACHMENT A

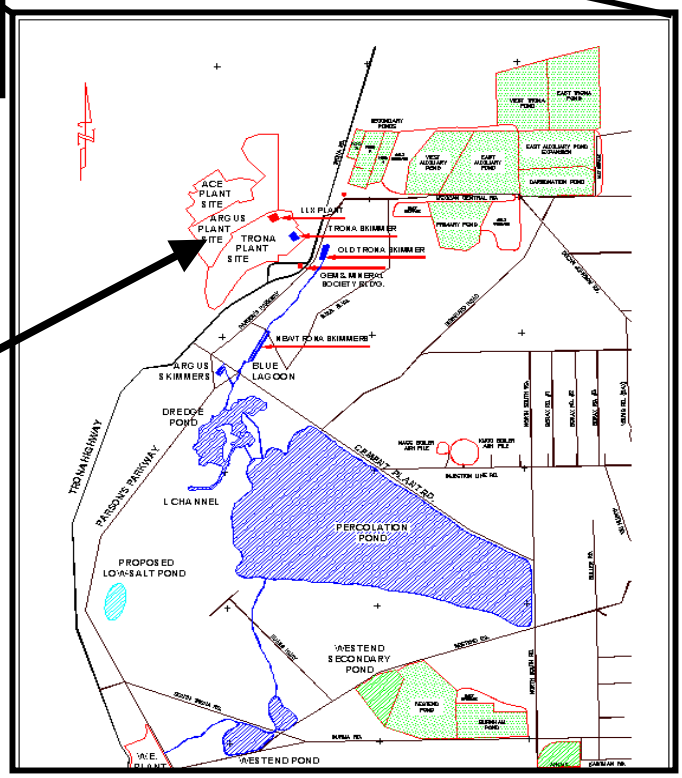


REGIONAL MAP

N

Not to Scale

ARGUS PLANT



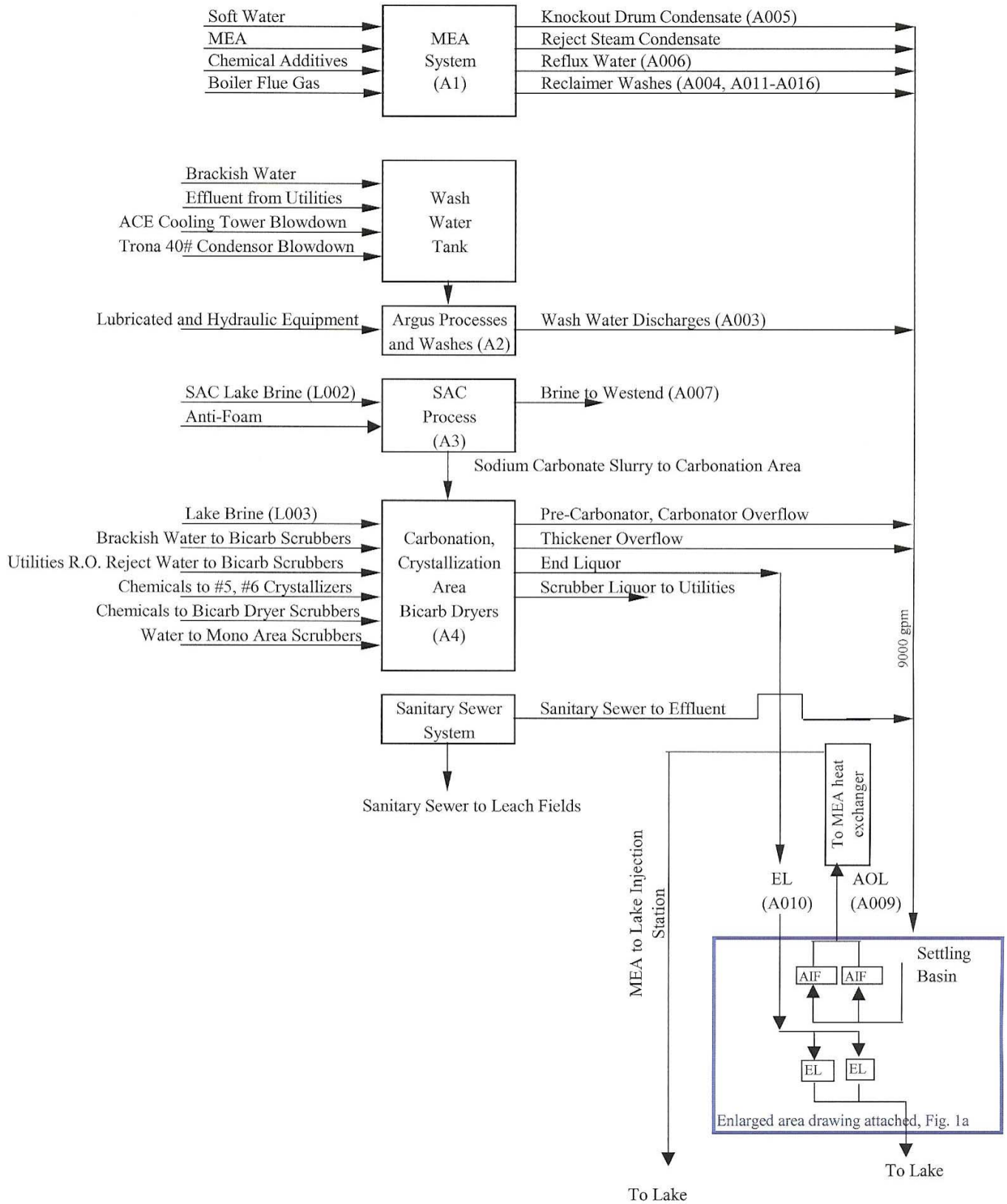
SITE MAP

LOCATION MAP

ARGUS PLANT - SEARLES VALLEY MINERALS

SAN BERNARDINO COUNTY

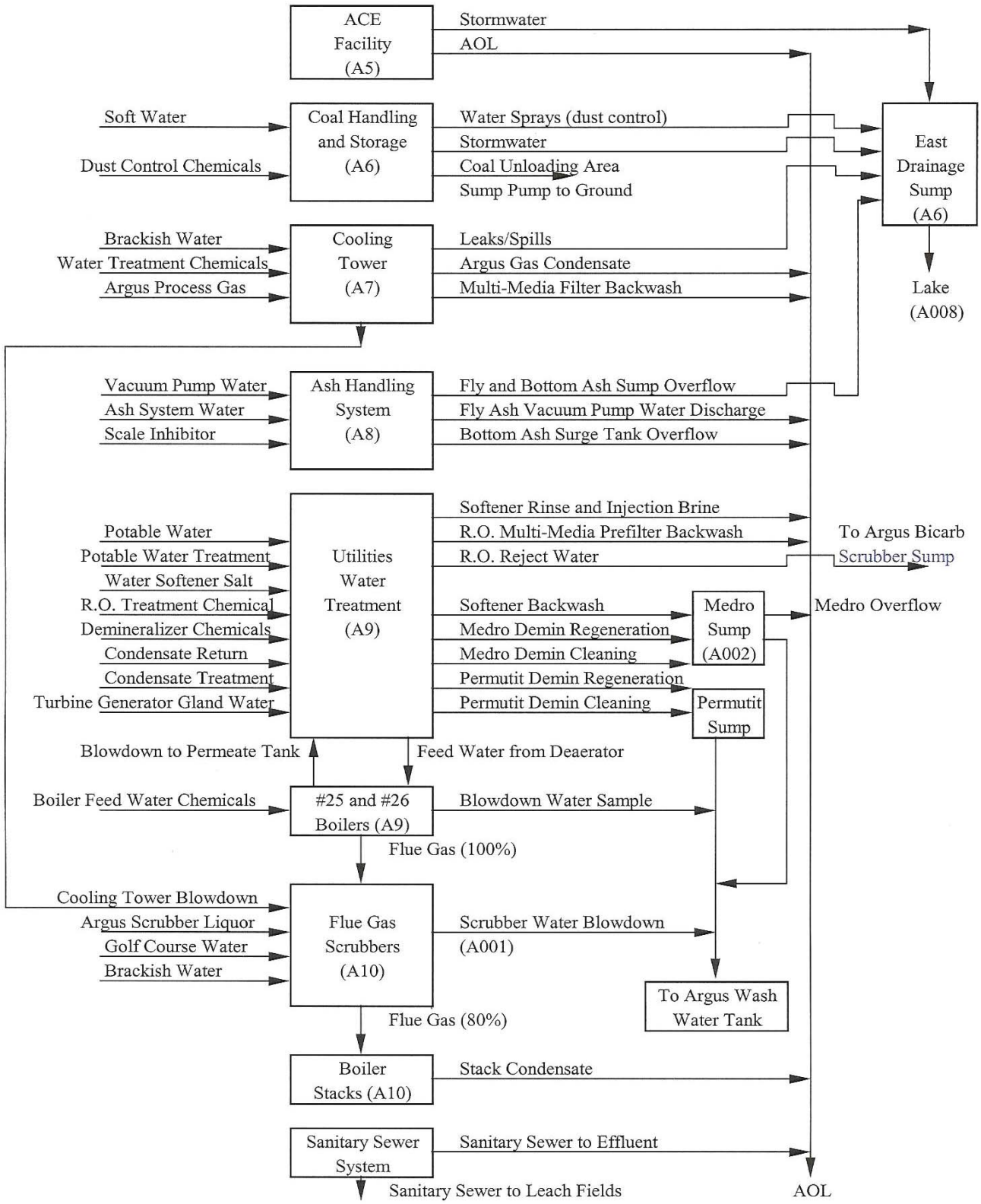
WDR - ATTACHMENT B



ARGUS FACILITY DIAGRAM

ARGUS PLANT - SEARLES VALLEY MINERALS

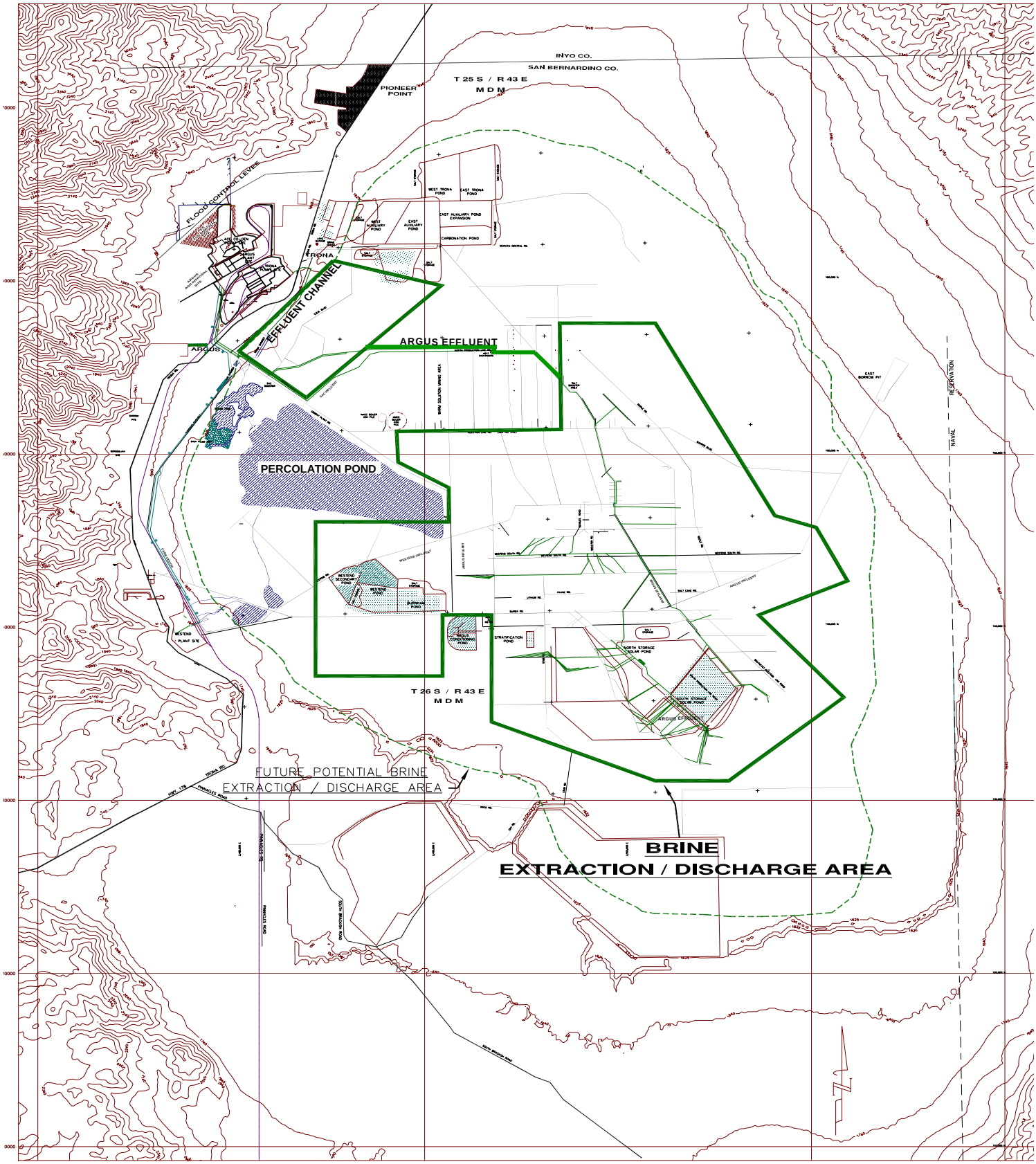
WDR - ATTACHMENT C



ARGUS UTILITY DIAGRAM

ARGUS PLANT - SEARLES VALLEY MINERALS

WDR - ATTACHMENT D



DISCHARGE LOCATION MAP

ARGUS PLANT - SEARLES VALLEY MINERALS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

a. to enter upon premises in which an effluent source is located or in which any required records are kept;

b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);

c. to inspect monitoring equipment or records; and

d. to sample any discharge.

2. Reporting Requirements

a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.

c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.

d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation.

f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

REVISED MONITORING AND REPORTING PROGRAM NO. R6V-2005-0024
WDID NO. 6B368905004

FOR

SEARLES VALLEY MINERALS,
U.S. DEPARTMENT OF INTERIOR - BUREAU OF LAND MANAGEMENT
SEARLES DRY LAKE OPERATIONS - ARGUS PLANT

San Bernardino County

I. MONITORING

A. Sampling Locations

Sampling locations necessary to conduct the monitoring program shall be identified by narrative description and on a map/figure in a Sampling and Analysis Plan (SAP) prepared by the Discharger. The SAP shall also contain procedures for sample collection, handling and analysis. The SAP shall be updated as appropriate. Specifically, the sample points are: 1) Open channel upstream of interim skimmer (Sample Point A009) and 2) Argus injection line, from pipe at Cement Plant Rd, east of Parson's Parkway (Sample Point A010). The sample points are shown on Attachment "A". A request should be submitted for approval for any alternate sampling locations.

B. Flow Monitoring

The following shall be recorded in a permanent bound logbook or equivalent electronic record.[1] and reported quarterly:

1. The volume and source location of brine flow, in million gallons, to the Argus plant for each month.

2. The total volume, in million gallons, of the facility effluent (including partially depleted brine) discharged to Searles Dry Lake each month for both percolating and injection.

3. The quantity of hydrocarbon product removed from the oil skimmer, the identity of the transporting company(s) that removed the product and the name of the facility(s) that received this material, for each month.

4. The total volume, in million gallons, of brackish water pumped and utilized within the plant, each month.

[1] An equivalent electronic record may be used to satisfy General Provision for Monitoring and Reporting 2.b.

C. Plant Influent Monitoring

Influent grab samples taken of the brine prior to the plant shall be collected quarterly and analyzed to determine of the magnitude of the following parameters as shown in Table 1.

Table 1

Parameter	Units	EPA Method	Sampling Frequency
Total Petroleum Hydrocarbons [1]	mg/l	EPA 418.1	Quarterly
Kerosene	mg/l	EPA 8015(M)	Annually
Total Dissolved Solids	mg/l	EPA 160.1	Semi-Annually
Semi-volatile Organics	mg/l	EPA 8270	Quarterly
Volatile Organics	mg/l	EPA 8260	Quarterly
Heavy metals [2]	mg/l	EPA 6010/7471	Annually
pH	pH units	EPA 9040	Quarterly
Ammonia	mg/l	EPA 350.2	Quarterly
Formaldehyde	µg/l	EPA 8315	Annually

Notes: [1] One sample per year should be sent to an outside laboratory for analysis.
[2] List of 17 metals as defined in Table II, Section 66261.24, Title 22, CCR

D. Effluent Monitoring

Representative grab samples of the final effluent (surface and subsurface) discharged to Searles Lake shall be collected and analyzed to determine the magnitude of the parameters listed below in Table 2.

Table 2

Parameter	Units	EPA Method	Sampling Frequency
Total Petroleum Hydrocarbons [1]	mg/l	EPA 418.1	Monthly
Kerosene	mg/l	EPA 8015(M)	Annually
Formaldehyde	µg/l	EPA 8315	Annually
Total Dissolved Solids	mg/l	EPA 160.1	Quarterly
Semi-volatile Organics	mg/l	EPA 8270	Quarterly
Volatile Organics	mg/l	EPA 8260	Quarterly
Heavy metals [2]	mg/l	EPA 6010/7471	Annually
pH	pH units	EPA 9040	Quarterly
Ammonia	mg/l	EPA 350.2	Quarterly

Daily visible monitoring of the effluent streams shall be recorded and the results submitted with the quarterly monitoring report. The visible monitoring should include any indication of floating oil, scums, and other information needed to observe the visual quality of the effluent discharges.

E. Searles Lake Surface Water Monitoring

A representative grab sample of the surface water in the percolation pond on Searles Lake as a result of the SVM discharges shall be collected quarterly and analyzed to determine the magnitude of the parameters listed under influent monitoring. Observations of the Searles Lake surface water shall be conducted for the presence of color, odor, foam, floating material and oil and grease, and shall be reported each quarter.

F. Chemical Additive Monitoring

A list of the names and quantities of all chemical additives and their chemical constituents used in the Argus plant process must be submitted annually.

G. Offsite Disposal

The Discharger shall include in each monitoring report the volume and type of all hazardous waste hauled off site for disposal. The person or company doing the hauling and the legal point of disposal shall also be recorded.

H. Bioenvironmental Monitoring

The Discharger shall report quarterly any adverse impacts from the Facility on biological related beneficial uses of Searles Dry Lake caused by the discharge of non-native materials and native materials which have been concentrated to levels exceeding those naturally occurring in Searles Lake. If an adverse impact is identified, a remedial action plan, including a schedule and completion date for each proposed action, shall be provided within 60 days of discovery by the Discharger.

I. Operation and Maintenance

A brief summary of any operational problems and maintenance activities affecting effluent discharges shall be submitted to the Regional Board with each monitoring report.

This summary shall discuss:

1. Any significant modifications or additions to the depleted brine conveyance system, treatment facilities, or disposal facilities.

2. Any major maintenance conducted on the depleted brine conveyance system, treatment facilities, or disposal facilities.

3. Any major problems occurring in the depleted brine conveyance system, treatment Facilities, or disposal facilities.

4. A summary of any reportable spill events occurring during the monitoring period including dates(s), materials(s) and quantities spilled, date of telephone and written reports(s), final disposal sites, and disposition of cleanup activities.

II. REPORTING

A. General Provisions

The Discharger shall comply with the "General Provisions for Monitoring and Reporting," (GPMR) dated September 1, 1994, which is attached to and made part of this Monitoring and Reporting Program.

B. Submittal Periods

The following reports shall be submitted as specified.

1. Quarterly Report

A quarterly report shall be submitted to the Regional Board by the **15th day of the month following the quarter** and include the following monitoring information for the prior month:

a. tabular summary of all analytical data from the prior quarter
b. summary of the off specification monitoring
c. summary of offsite disposal
d. summary of any operational problems and maintenance activities affecting effluent discharges.

2. Annual Report

An annual report shall be submitted to the Regional Board by **January 15** each year. This report shall include the following:

a. summary and an evaluation of BMP
b. graphical and tabular summary of all analytical data from the prior year
c. all chemicals used within the Facility
d. summary of the quarterly reports

The report submittal dates are summarized as follows:

Report Designation	**Monitoring Period**	**Report Submittal Date**
First Quarter	Jan 1 - March 31	April 15

Second Quarter	April 1 - June 30	July 15
Third Quarter	July 1 - Sept 30	October 15
Fourth Quarter	Oct 1 - Dec 31	January 15
Annual	Jan 1 - Dec 31	January 15

The Annual and Fourth Quarter Monitoring Reports can be submitted as one combined report. Attachment "B" contains a summary of the testing and submittal information for the Facility. These reports shall also include the items described in the General Provisions for Monitoring and Reporting (Attachment "C").

C. Reporting Limits

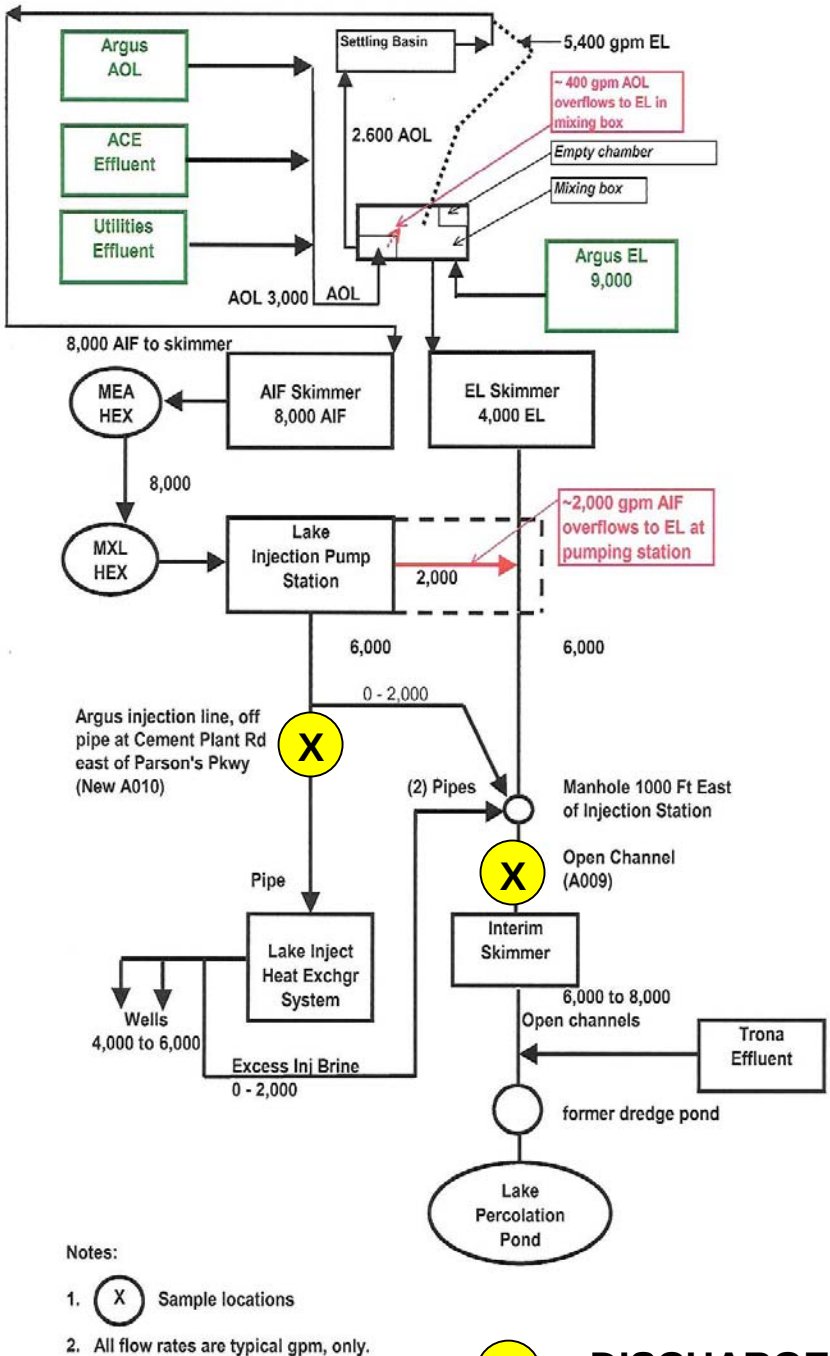
For the purposes of this Monitoring and Reporting Program, the Reporting Limit (RL) is the lowest technically valid quantifiable concentration above the method detection limit (MDL) that can be reported with confidence. The MDL is the minimum concentration of an analyte that can be measured and reported with 99% confidence that the actual analyte concentration in the sample is greater than zero. A matrix-specific MDL is experimentally determined through analysis of replicate samples containing the target analyte. The reference for determination of MDL is provided in 40 CFR Part 136, Appendix B.

Ordered by: "Original Signed By" Dated: September 14, 2005
HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments:
A. Argus Effluent Sample Locations
B. Summary of Monitoring Requirements
C. General Provisions for Monitoring and Reporting

GC/rp BO 9/2005/ R6V-2005-0024 SVM MRP

MRP - ATTACHMENT A



X **DISCHARGE SAMPLE LOCATIONS**

ARGUS SAMPLE LOCATION MAP

ARGUS PLANT - SEARLES VALLEY MINERALS

MRP - ATTACHMENT B

Summary of Monitoring Requirements

Parameters	Units	1st Quarter (Jan - Mar)	2nd Quarter (Apr - June)	3rd Quarter (July - Sep)	4th Quarter and Annual (Oct - Dec)
Flow Monitoring					
Total Flow Volume to Argus	(million gallons/mth)	Monthly	Monthly	Monthly	Monthly
Total Flow Volume from Argus to Lake	(million gallons/mth)	Monthly	Monthly	Monthly	Monthly
Total Volume of hydrocarbons removed from in-plant skimmers	(gallons/mth)	Monthly	Monthly	Monthly	Monthly
Total Volume of brackish water utilized	(million gallons/mth)	Monthly	Monthly	Monthly	Monthly
Plant Influent Monitoring					
Total Petroleum Hydrocarbons	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Kerosene	(mg/L)		Annual		
Total Dissolved Solids	(mg/L)		Semi-Annual		Semi-Annual
Semi-volatile Organics	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Volatile Organics	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Heavy Metals	(mg/L)		Annual		
pH	pH units	Quarterly	Quarterly	Quarterly	Quarterly
Ammonia	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Formaldehyde	(ug/L)		Annual		
Plant Effluent Monitoring					
Total Petroleum Hydrocarbons	(mg/L)	Monthly	Monthly	Monthly	Monthly
Kerosene	(mg/L)		Annual		
Formaldehyde	(ug/L)		Annual		
Total Dissolved Solids	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Semi-volatile Organics	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Volatile Organics	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Heavy Metals	(mg/L)		Annual		
pH	pH units	Quarterly	Quarterly	Quarterly	Quarterly
Ammonia	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly

MRP - ATTACHMENT B

Summary of Monitoring Requirements

Parameters	Units	1st Quarter (Jan - Mar)	2nd Quarter (Apr - June)	3rd Quarter (July - Sep)	4th Quarter and Annual (Oct - Dec)
Searles Lake Surface Water					
Total Petroleum Hydrocarbons	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Kerosene	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Total Dissolved Solids	(mg/L)		Semi-Annual		Semi-Annual
Semi-volatile Organics	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Volatile Organics	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Heavy Metals	(mg/L)		Annual		
pH	pH units	Quarterly	Quarterly	Quarterly	Quarterly
Ammonia	(mg/L)	Quarterly	Quarterly	Quarterly	Quarterly
Formaldehyde	(ug/L)		Annual		
Chemical Additive					
List of names/quantities of all chemical additives	(gallons or pounds/yr)				Annual
Offsite Disposal					
Volume and type of all hazardous waste hauled offsite for disposal	(gallons or pounds)	Quarterly	Quarterly	Quarterly	Quarterly
Bionevironmental Monitoring					
Any adverse impacts from the Facility on biological related beneficial uses of Searles Dry Lake		Quarterly	Quarterly	Quarterly	Quaterly
General Reporting					
Operation and Maintenance Information		Quarterly	Quarterly	Quarterly	Quaterly
Name/Telephone #		Quarterly	Quarterly	Quarterly	Quaterly
MRP No.R6V-2005-(TENTATIVE)		Quarterly	Quarterly	Quarterly	Quaterly
WDID No. 6B3689015004		Quarterly	Quarterly	Quarterly	Quaterly
Due Date		15-Apr	15-Jul	15-Oct	15-Jan

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. SAMPLING AND ANALYSIS

a. All analyses shall be performed in accordance with the current edition(s) of the following documents:

   i. Standard Methods for the Examination of Water and Wastewater

   ii. Methods for Chemical Analysis of Water and Wastes, EPA

b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.

c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.

d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.

e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.

f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.

g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

d. Monitoring reports shall be signed by:

i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;

ii. In the case of a partnership, by a general partner;

iii. In the case of a sole proprietorship,by the proprietor; or

iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

e. Monitoring reports are to include the following:

i. Name and telephone number of individual who can answer questions about the report.

ii. The Monitoring and Reporting Program Number.

iii. WDID Number.

f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation under Section 13268 of the Water Code.