CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. R6V-2005-0011
WDID NO. 6B369807003

REVISED WASTE DISCHARGE REQUIREMENTS
FOR

MOLYCORP, INC., MOUNTAIN PASS MINE AND MILL
FACIITY DISPOSAL OF WASTE TO LINED AND UNLINED PONDS

San Bernardino County

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

1. Discharger

On February 3, 2005, Molycorp, Inc. (Molycorp) submitted a complete Revised Report of Waste Discharge for the On-site, Lined Evaporation Ponds and Landscape Pond for discharge of treated wastewater. The information that constitutes a complete Revised Report of Waste Discharge is listed in Attachment A. For the purposes of this Regional Board Order (Order) Molycorp is referred to as the "Discharger" which is a wholly owned subsidiary of Union Oil Company of California. The Discharger's mine site includes a lanthanide open-pit mine (pit) and three mineral recovery plants (Mill Plant, Separations Plant and Specialty Plant). The On-site Lined Evaporation Ponds and associated Advanced Wastewater Treatment and Disposal/Reuse System provide treatment, collection, and reuse/disposal of wastewaters generated by the Discharger.

2. Facilities

The Discharger operates an open pit mine with milling, beneficiation, and mineral recovery facilities for the economic extraction of lanthanide elements. The purpose of the treatment system is to treat, dispose and partially recycle wastewater from the groundwater extraction system, water from the Open-Pit mine, stormwater runoff, tailings seepage water, Separations Plant mineral recovery wastewater, and reclaimed tailings water. See Attachment B for a simplified diagram of facility processes. For the purposes of this Order, the "Facility" proposed for the collection, treatment, and disposal of wastewater includes:

a. 204 Thickener,
b. Seepage Water Collection Tank,
c. Nanofiltration Wastewater Treatment System,
d. Hyperfiltration (or Reverse Osmosis) Wastewater Treatment System,
e. Four On-site Lined Evaporation Ponds (two existing Ponds, P-30A and P-30B, and two proposed, to be designated P-30C and P-30D),
f. Office Landscape Pond – P-6 (unlined),
g. Conveyance Facilities (Existing and Proposed),
h. Dust Control System and Associated Conveyance Facilities, and
i. Stormwater run-off into Frosty's Pond (P-2) and Mill Stormwater Pond (P-29).

When the Advanced Wastewater Treatment and Disposal/Reuse System is in full operation, it is anticipated to treat an average annual total flow-rate of up to 0.18 million gallons per day (mgd) of wastewater. Peak flows to the Advanced Wastewater Treatment and Disposal/Reuse System will be 0.26 mgd. The On-site Lined Evaporation Ponds will receive an annual average and peak flow of 0.12 mgd and 0.19 mgd, respectively. This waste stream will be comprised of brine (reject) streams and/or direct discharge of the groundwater Corrective Action Systems and mineral recovery wastewater when capacity in the On-site Lined Evaporation Ponds exists and pre-treatment is not required. The wastewaters (and average respective percent of the total flow-rate) are Corrective Action System Wastewater (56%), Separations Plant Mineral Recovery (40%), Flotation Bleed-Off Wastewater (16 %), and Plant Stormwater Runoff and Sampling Wastewater (1%). Generation of the Corrective Action System Wastewater, Stormwater and Sampling Wastewater is ongoing. The Flotation Bleed Off Wastewater is generated only when the Mill is operating. The Mill has not operated since November 5, 2002.

3. Order History

On May 10, 2000, the Board adopted Board Order No. 6-00-34, which prescribed Waste Discharge Requirements for discharge of wastewaters from the Corrective Action Systems, Flotation Bleed-Off, and Plant stormwater runoff.

4. Reason for Action

The Board is revising Waste Discharge Requirements to address the following proposals contained in the Revised Report of Waste Discharge filed by the Discharger:

a Discharge of additional wastewater from Separations Plant/Mineral Recovery Operations when operations resume. (This wastewater is of similar quality to that previously discharged to the New Ivanpah Evaporation Ponds [NIEPs] under WDR 6-90-41.) The anticipated average flow stream from this operation is 0.08 mgd, and the Advanced Wastewater Treatment and Disposal/Reuse System /On-site Lined Evaporation Ponds have sufficient capacity to accommodate these flows.

b. Implement a revised strategy for reuse/disposal of wastewaters including:

reuse of high-quality hyperfiltration water generated by the Advanced Wastewater Treatment and Disposal/Reuse System as makeup water for the Office Landscape Pond.

c. Revise the Monitoring and Reporting Program to accommodate additional monitoring of mercury in the pond wastewaters and pond salts.

5. Location of Facilities

The facilities that collect, convey, treat, dispose and reuse the wastewaters are located within the Mine Site, with the exception of a pipeline associated with the Wheaton Wash Corrective Action Systems. The Mine Site is on 2,223 acres of land in Mountain Pass, California adjacent to Interstate 15. The Mine Site straddles the boundary between the Ivanpah and Amargosa Hydrologic Units within Sections 11, 12, 13, 14 and 15, T16N, R13E and Sections 30 and 31, T16N, R14E, S.B., B&M as shown on Attachment C. The Mine Site land is owned by the Discharger. A portion of the Wheaton

Wash Corrective Action Systems pipeline extends along a one-mile section of Wheaton Wash in Section 31 and 32, T16N, R14E on land owned by the U.S. Government, administered by the U.S. Department of Interior, Bureau of Land Management.

6. Climatology

The climate at Mountain Pass is arid to semi-arid with rainfall varying from 3 to 10 inches per year. The mean annual precipitation at the mine site is 7.9 inches per year. Most precipitation occurs during the winter months. Daytime temperatures during the summer frequently exceed 100^{o}F and may fall to less than 10^{o}F at night during the winter. Estimated annual gross evaporation for the site is 65 inches per year, and net lake evaporation is approximately 87 inches per year.

7. Site Geology

The surface geology of the mine site is characterized by older gravels and outcropping bedrock in the topographically higher areas and by younger alluvial deposits and low terrace gravels in the wash areas. The wash deposits consist of moderately to well-sorted pebbles and cobbles within a fine to medium sand matrix, and range from a few feet to about 30 feet in thickness. These deposits are the most permeable at the site, exhibiting hydraulic conductivities on the order of 1 x 10^{-2} cm/sec.

The older (Tertiary-age) gravels (also referred to as older alluvium and debris flows) are the predominant natural overburden of the Mountain Pass area and are comprised of poorly sorted pebble-to boulder-sized clasts in a finer-grained matrix. These deposits extend to great depth (i.e., on the order of hundreds of feet) and probably represent debris flows that have infilled deep channels in the bedrock. These deposits are usually well cemented with calcareous mud and are less permeable than the shallow alluvium, exhibiting hydraulic conductivities on the order of 1 x 10^{-5} cm/sec (Environmental Solutions, Inc., October, 1994).

Bedrock in the area consists of Precambrian metamorphic and intrusive rocks. The older metamorphic rocks consist primarily of granitic gneiss. The two main igneous bodies at the mine site, which has intruded the older metamorphic complex, consist of shonkinite-syenite stock and associated carbonatite.

8. Mineralogy

The Discharger extracts ore from a Pre-Cambrian carbonatite ore body (igneous rock) surrounded by Pre-Cambrian metamorphic rock (primarily gneiss). The ore body and surrounding geologic formations contain elevated concentrations of a number of naturally occurring minerals. These minerals include the following: Bastnasite (mixed lanthanide fluoro carbonate), Calcite ($CaCO_3$), Strontianite ($SrCO_3$), Barite ($BaSO_4$), Celestite ($SrSO_4$), Silica (SiO_2), Galena (PbS), Cerrusite ($PbCO_3$), Hematite (Fe_2O_3), Monazite (mixed lanthanide thorium phosphate), and radioactive elements of the Thorium-232 and Uranium-238 decay series. Bastnasite is the predominate mineral in the ore body containing lanthanides. The lanthanide content of Bastnasite is roughly 49% cerium, 33% lanthanum, 12% neodymium, 4% praseodymium and 2% other lanthanides.

9. Site Hydrogeology

Groundwater at the Mine and Mill Site generally flows toward the south and then splits into an east and west component along a north-south-trending ground-water divide. Both the eastern and western flow follows the topographic drainages down Wheaton Wash and the Western Drainage, respectively, starting at the southern edge of the mine site.

Groundwater below the On-site Lined Evaporation Ponds is found approximately 70-90 feet below ground surface (see Table 1 below) and flows toward the southeast. The flow direction trends more southerly beneath the southwestern portion of the mine property and is then directed westward into the Shadow Valley Drainage and into the Upper Kingston Valley Basin. The eastern portion of the mine site drains to Wheaton Wash and then eastwardly into the Ivanpah Valley Basin. The groundwater levels and flows at the mine site have been significantly affected by corrective action -pumping and pit dewatering activities. These activities have created local "cones of depression" in the groundwater surface due to the capture and extraction of groundwater. See Attachment D to view the most recent measured groundwater contours and groundwater capture zones.

Groundwater migration velocities are highly variable due to the varying hydraulic conductivities and localized fracturing. Groundwater permeability within the bedrock is fracture controlled. Hydraulic conductivities in fractured zones range up to 6×10^{-3} cm/sec, while those in less fractured zones are estimated to be on the order of 1.5×10^{-5} cm/sec. Typical groundwater velocities are estimated to range from four to five feet per day (ft/day) in shallow alluvium and fractured bedrock; from 0.03 to 1.0 ft/day for old alluvium and moderately fractured bedrock; and from negligible to 0.02 ft/day for slightly fractured bedrock.

Table No. 1
Depth to Local Groundwater

Authorized Disposal/Reuse Sites	Depth to Groundwater Below Ground Surface (bgs) in Feet	Underlying Geologic Material (bgs in Feet)
Office Landscape Pond	30	Older Alluvium (0 to >50)
OEP sand Dust Control Areas	70 - 90	Older alluvium (0 to 10) Fractured Bedrock (0 to > 150)
Mine Pit area	> 100	Fractured Bedrock (0 to > 500)

10. Site Surface Hydrology and Stormwater Runoff

Surface waters in the area include ephemeral surface water present during and following storm events. Other surface waters include springs located in the Ivanpah Hydrologic Unit. Downgradient to the mine site one spring (Roseberry Spring) is found in Wheaton Wash. This ephemeral spring appears on the USGS, 15-minute quadrangle published in 1912. It is also shown on the Ivanpah 60-minute quadrangle prepared by the War Department Corps of Engineers, U.S. Army in 1942. It does not appear on more recent USGS quadrangle maps. It is located within Section 31, T16N, R14E, SBB&M on Bureau of Land Management land. Other springs, which may be located either within or downgradient of the Mine Site are also ephemeral and do not appear on USGS quadrangle maps. Such springs are typically present for short periods during or following high rainfall events.

The Mine Site is not sited within a flood plain. There are, however, several natural drainage courses that may contain significant surface flow during heavy precipitation. The Discharger has constructed flood protection structures including stormwater diversion channels to redirect upgradient runoff around facilities to nearby natural drainage courses. Such protection is provided for the wastewater treatment facilities, On-site Lined Evaporation Ponds and the Office Landscape Pond.

Surface runoff in the area is primarily by sheet flow within localized drainage courses. As the site is located on a sloping bedrock surface, the area is not prone to flooding and the existing (and proposed) On-site Lined Evaporation Ponds are not located in a flood plain. Review of flood insurance rate map indexes published by the Federal Emergency Management Administration (FEMA) indicates the site has not been mapped for flooding potential.

11. Groundwater Quality

Groundwater in the three existing monitoring wells near the On-site Lined Evaporation Ponds exhibit total dissolved solids concentrations ranging from 400 to 600 mg/L, with low but detectable concentrations of barium, boron, strontium, and radiological constituents. However ambient water quality at the mine site is variable as indicated by sample results from other wells that have been determined to produce pre-mining water quality. For example, monitoring well 93-1MW is shallow and receives rapid recharge during wet years and years with good snow pack. The total dissolved solids concentrations in Well No. 93-1MW average 360 mg/l. Radiological constituents, metals, and minerals are present in the groundwater at low concentrations. Table 5 lists the average and upper 95 percent confidence level for concentrations of constituents in groundwater from four wells located around the On-site Lined Evaporation Ponds (93-2RMW, 98-5RMW, 98-9RMW, and 98-10RMW).

Releases of mining waste from facilities not regulated under this Order have impacted groundwater within and downgradient of the Mine Site. The On-site Lined Evaporation Ponds (existing and proposed) are outside of areas where groundwater is impacted. The Office Landscape Pond and Dust Control Areas are in areas where groundwater has been impacted. In 1998 the Board's Executive Officer issued cleanup and abatement orders requiring that the Discharger address mining waste constituents in groundwater.

Portions of the impacted groundwater exceed Upper WQOs for the beneficial use: Municipal and Domestic Supply. The constituents and their respective Upper WQOs are: Color (15 color units), TDS (500 mg/L), chloride (250 mg/L), strontium (4.2 mg/L), nitrate as N (10 mg/L), barium (1 mg/L), gross alpha (15 pCi/L), gross beta (50 pCi/L), radium (5/pCi/L) and uranium (20 pCi/L). The color is due to lignin sulfonate, which is a reagent used in the flotation operations in the Mill.

There are currently no active domestic water supply wells located within the Mine Site or within a distance of several miles downgradient of the Mine Site. The Discharger currently supplies domestic water to the Community of Mountain Pass from two separate well fields. One is located 10 miles to the west in the Amargosa Hydrologic Unit (Shadow Valley). The other is located 10 miles to the east in the Ivanpah Valley. The well fields are used to supply water to the Mine Site and the facilities described in Finding No. 14.

12. Faulting and Seismicity

The Mountain Pass Mine area is not within an Alquist-Priolo Earthquake Fault Zone. The Clark Mountain Fault is the most prominent fault in the area and trends northwesterly for approximately 20 miles along the western flank of the Clark Mountain Range. This fault is considered to be inactive based on its age and lack of geologic evidence of recent movement.

A search of the National Earthquake Information Center reveals that most earthquakes greater than magnitude (M) 4.0 are more than 100 km away. The largest earthquake within a 100-km radius was an estimated M6.1 in 1916 approximately 45 km west of the Mine site. The strongest historic earthquake in the northeastern Mojave Desert was the M7.1 Hector Mine Earthquake located approximately 120-km west of Mountain Pass. An M6.2 event on the Mannix Fault occurred in 1947 about 110-km west of the mine site (Real et.al. 1964).

The Pahrump-Stateline Fault located about 18 km east of the mine is the controlling fault for calculating the maximum credible earthquake (MCE) for the site. The fault is thought to have been last active in the Pleistocene (700,000 – 1,600,000 years ago) and is therefore considered potentially active. The MCE associated with this fault was calculated to be M7.5 with a peak acceleration of 0.32 gravity (g). This 0.32g figure was used to perform the design and stability analysis on the On-site Lined Evaporation Ponds' embankments.

13. Site Topography

The existing and proposed On-site Lined Evaporation Ponds are in the northwest portion of the Mountain Pass Mine property (Attachments C). The site lies on a bedrock surface which slopes towards the southeast. Elevations of the ground surface range from approximately 5,025-feet above mean sea level (msl) to 4,975-feet above msl.

14. Land Uses

Land in the vicinity of the Mine Site are public lands managed by the Bureau of Land Management and by the National Park Service (NPS). The Mojave National Preserve lands, administered by NPS, are located south of the Interstate 15 and north and west of Mountain Pass property. A public elementary school in Mountain Pass, is adjacent to the plant site (the School has been closed since June 2003). A California Department of Transportation (Caltrans) highway maintenance station and residences and California Highway Patrol (CHP) residences are near the mine at Mountain Pass. There are also several parcels of privately owned land, some with residences that are in the general area. The Discharger recently purchased Tract 37 adjacent to the southwestern edge of their property.

15. Wastewaters

Wastewater that is extracted from wells at the base of the North Tailings Pond (P-16) is part of an ongoing corrective action to extract mining-related wastes from the groundwater. This wastewater stream is hereafter referred to as the P-16 Corrective Action System Wastewater. These revised Waste Discharge Requirements allow the P-16 Corrective Action Systems wastewater to be discharged to the Advanced Wastewater Treatment and Disposal/Reuse System/On-site Lined Evaporation Ponds System. P-16 is scheduled for closure and will no longer be available for disposal of the wastewater

after closure is complete. Table No. 2, below, summarizes pH, total dissolved solids and annual-average flow-rates (given in million gallons per day, and gallons per minute) for the P-16 Corrective Action Systems Wastewater, and other wastewaters currently discharging or proposed for discharge to the Advanced Wastewater Treatment and Disposal/Reuse System/On-site Lined Evaporation Ponds System, which include wastewaters from other Corrective Action Systems extraction sites and Mineral Recovery Operations wastewater (Molycorp, 2004b, Appendix D- Project Water Balance).

Current average flow-rates shown in Table No. 2 are more than 50 percent lower than flow-rates that have occurred in the past because seepage from P-16 has decreased as a result of corrective action groundwater pumping and discontinued tailings discharge. Flow-rates for the Mine Site Corrective Action Systems over short-term periods (days) are relatively constant. Significant changes in the flow-rate can be expected due to seasonal changes in precipitation, a gradual decrease in seepage from P-16 with time, and additions/modifications of the wells.

Table No. 2
General Water Quality Parameters and Flow-rate of Wastewaters

Sources Wastewaters (Wastewater Treatment)	**pH (Ranges)**	**TDS (Range or Average) Mg/L**	**Projected Average Flow-rate[1] 10^6g/d (gpm)**	**Maximum Flow-rate[1] 10^6g/d (gpm)**
P-16 CAS	6.0 – 9.0	7200	0.05 (33)	0.05 (33))
Mine Pit CAS	6.0 – 9.0	3300	0.010 (6)	0.10 (60)
Wheaton Wash CAS (Mexican/Farmers)	6.0 – 9.0	1900	0.009 (7)	0.009 (7)
P-25B CAS (2000-3RW)	6.0 – 9.0	3500	0.0043 (3)	0.0043 (3)
P-1 CAS Wastewater (RW-2,2001-1RW)	6.0 – 9.0	10,000	0.0.017(12)	0.017 (12)
Future recovery wells	6.0 – 9.0	7,000	0.014 (10)	0.014 (10)
All CAS Average or Total	**6.0 – 9.0**	**6500**	**0.10 (71)**	**0.18(125)**
Flotation Bleed-Off Mineral Recovery Wastewater	6.0 – 9.0	10,000	0.036 (25)	0.036 (25)
Separations Plant Mineral Recovery Wastewater	6.0 – 9.0	30,000	0.08 (55)	0.08 (56)
Well sampling purge water and well development water (new well)	6.0 – 9.0	200 – 100,000	0.00014 (0.1)	0.00014 (0.1) (300 gallons from well development)
Plant Stormwater Runoff /Mill Stormwater Pond (P-29)	6.0 – 9.0	1000	0.0007 (0.5)	0.0014 (1)
Frosty's Pond (P-2) concrete-lined sump for emergency diversion of tailings wastewater. (collects stormwater also)	6.0 – 9.0	3500	Intermittent	

[1] Based on water balance model presented in the RWD (Molycorp, 2004b).

Sources Wastewaters (Wastewater Treatment)	**pH (Ranges)**	**TDS (Range or Average) Mg/L**	**Projected Average Flow-rate[1] 10^6g/d (gpm)**	**Maximum Flow-rate[1] 10^6g/d (gpm)**
Total Projected Influent to AWT			**0.22(152)**	**0.30(207)**
Nanofiltration (Reject Wastewater (Nanofiltration Brine)	6.0 – 9.0	8,000-18,300	0.027 (19)	0.03 (21)
Hyperfiltration Reject Wastewater (Brine)	6.0 – 9.0	32,700	0.089 (62)	0.12 (81)
Bypass CAS Wastewater	6.0 – 9.0	7,000	0.002 (1)	0.05 (37)
High-Quality Hyperfilitration treated water	6.0 – 9.0	200	0.09 (65)	0.15 (103)

a. Eastern Drainage

Seepage water that has made its way through the P-16 tailings is captured by the downgradient Corrective Action Systems and contains total dissolved solids concentrations as high as 10,000 mg/L. Wastewaters produced from the following Corrective Action Systems contain a mixture of P-16 seepage and non-impacted groundwater that is recharged from sources north of the Mine Site: P-16 Corrective Action Systems, P-25B Corrective Action Systems, Mine Pit Corrective Action Systems and Wheaton/Farmers Wash Corrective Action Systems. Provision has been made for an additional 10 gpm component from new wells that may be installed. The P-16 Corrective Action Systems Wastewater, close to P-16, can be high in lignin sulfonate a chemical derivative of tree sap used in the Mill Flotation mineral recovery operation. All These Corrective Action Systems Wastewaters can potentially contain mining waste constituents from sources other than P-16. The Discharger may either discharge these wastewaters directly to the lined, On-site Evaporation Ponds or treat them as described in Finding 15. g. All reject wastewater from the treatment system is discharged to the lined, On-site Evaporation Ponds.

b. Western Drainage

Wastewater from the P-1 Corrective Action Systems is a mixture of seepage from the West Tailings Pond (P-1) and non-impacted groundwater that is recharged from areas north of the Mine Site. It contains the same constituents as those present in the Corrective Action Systems wastewaters in the eastern drainage, but at higher concentrations. The P-1 Corrective Action Systems waters are unique in that they contain low levels of mercury (maximum concentration of 26 micrograms per liter), which are not present in other wastewaters. The Discharger may either discharge these wastewaters directly to the lined, On-site Evaporation Ponds or treat them as described in Finding 15. g. All reject wastewater from the treatment system is discharged to the lined, On-site Evaporation Ponds.

c. Flotation Bleed-Off Mineral Recovery Wastewater

The Flotation Bleed-Off Wastewater consists of flotation mineral recovery water. During prior tailings discharge to P-16, Flotation Mineral Recovery Water, consisting of a combination of waters used in the milling operation and the P-16 Corrective Action Systems Wastewater, were co- mingled in the P-16 impoundment. Because the Discharger recycles the majority of the Flotation Mineral Recovery Water back to the mill during operation, a portion (average 25 gpm) is removed (bleeds-off) to control a build-up in dissolved solids concentrations in the Operation. When mining operations resume, the Discharger estimates that bleed-off flow rate will be an average 25 gpm at an average total dissolved solids concentration of 10,000 mg/L. The Flotation Mineral Recovery Operation, which is part of the Mill, is subjected to pre-treatment (pH adjustment and water softening) in the 204 Thickener system prior to discharge to the Advanced Wastewater Treatment and Disposal/Reuse System. The pH adjustment ensures the pH of the wastewater remains within the 6.0 to 9.0 range.

The Flotation Bleed-Off Wastewater is high in total dissolved solids. Sources of total dissolved solids within the Flotation Mineral Recovery Operations include the tailings themselves (finely ground ore), as well as chemical reagents added to adjust pH and for water softening. Added chemicals consist of: sodium silica fluoride, calcium lignin sulfonate, sodium hydroxide and/or soda ash (sodium carbonate). The Discharger may either discharge these wastewaters directly to the lined, On-site Evaporation Ponds or treat them as described in Finding 15. g. All reject wastewater from the treatment system is discharged to the lined, On-site Evaporation Ponds.

d. Pre-treated Separations Plant/Mineral Recovery Wastewater

Wastewater from mineral recovery operations is projected to be generated at a maximum flow of 100 gpm (0.14 gpd), based on 204 Thickener system pre-treatment capacity, although a 55 gpm average flow rate and 56 gpm peak flow rate have been assumed for the water balance presented in the Report of Waste Discharge. This wastewater will be high in total dissolved solids (average 30,000 mg/L based on prior operations), and will be subjected to pre-treatment for pH neutralization and softening in the 204 Thickener system prior to discharge to the Advanced Wastewater Treatment and Disposal/Reuse System (Finding 15. g.). Water softening chemicals added to the 204 Thickener consist of hydroxide and/or soda ash (sodium carbonate), and a flocculent (polyacrylamide) to enhance settling of solids. All wastewater from this process stream is discharged to the lined, On-site Evaporation Ponds.

e. Sampling Wastewater - Well Purge water, Well development and Other wastewater streams

Purge wastewater and well development wastewater are generated during groundwater sampling of existing monitoring wells, and sampling of wastewater streams. These wastewaters are also generated during drilling of new wells at and around the Mine Site, the New Ivanpah Evaporation Pond Site (NIEP Site), the Old Ivanpah Evaporation Pond Site (OIEP Site), and off-site of the Discharger's property. These wastewaters would consists of either native groundwater or mining waste-contaminated groundwater. Groudwater is sampled quarterly generating less than 10,000 gallons of sampling wastewater during each event. For

each well, the Discharger has estimated that about 300 gallons is generated during development, or drilling. The constituents' concentration in this water are expected to be similar to what is present in existing wells or less.

f. Plant Stormwater Runoff

The Discharger collects Plant stormwater Runoff within a 5-acre, outdoor, concrete-lined area (Outdoor Mineral Recovery Area) that is part of the Mill, Separations and Specialty Plant areas. Precipitation onto the surface of the Outdoor Mineral Recovery Area generates plant stormwater runoff wastewater. The Outdoor Mineral Recovery Area surface is sloped and curbed so that fluids are directed to sumps to its downgradient edge. Other stormwater collection sites are: P-2 (Frosty's Pond), which collects stormwater from the Mill area; the 204 Thickener, which collects stormwater from the Separations and Specialty Plants; and the Mill Stormwater Retention Basin (P-29), which collects stormwater from the Mill and Crusher areas. The Discharger releases the stormwater to either ephemeral channels for discharge as stormwater or to the 204 Thickener for treatment followed by disposal to the On-site Lined Evaporation Ponds. Stormwater released to the ephemeral channels is regulated under the National Pollutant Discharge Elimination System (NPDES) – General Permit, which is separate from this Order. This Order does not authorize release of waste (which is generated by spill(s) within the Outdoor Mineral Recovery Area) to the ephemeral channels.

g. Wastewaters Generated by Treatment

Table No. 2, lists pH, total dissolved solids concentrations and estimated maximum (annual-average) flow-rates for wastewaters generated by Nanofiltration and Hyperfiltration Wastewater Treatment Facility. These wastestreams are the result of treatment of the wastestreams described above and therefore do not represent additional volumes of wastewater into the Advanced Wastewater Treatment and Disposal/Reuse System. The following describes these wastewater streams:

i) Nanofiltration Reject Wastewater

The Nanofiltration Reject Wastewater can contain high concentrations (1,200 mg/l) of lignin sulfonate, which is present in the wastewater in a colloidal state. Calcium lignin sulfonate is a flotation agent, which the Discharger adds to the mineral recovery water in the Mill. The Discharger has historically also used it as a dust suppressant. Lignin sulfonate has been historically used nation-wide as a dust suppressant on unpaved roads and other soil surface areas. The Discharger discharges the Nanofiltration Reject Wastewater to the On-site Lined Evaporation Ponds.

ii) High-Quality Hyperfiltration Water

The High-Quality Hyperfiltration Water is produced by the Hyperfiltration Wastewater Treatment Facility, which is the final treatment process in the Advanced Wastewater Treatment and Disposal/Reuse System. The Advanced Wastewater Treatment and Disposal/Reuse System treats the wastewaters described in Table No. 2. This Order includes discharge limits on the concentrations of constituents in the High-Quality Hyperfiltration Water. These limits are derived from the non-impacted (background)

water quality of groundwater, MCLs, and Detection Reporting Limits (DLRs) listed in Table 5 in this Order. The limits do not exceed applicable Upper Water Quality Objectives (WQOs), which include Maximum Contaminant Levels (MCLs). Attachment E Table No. E2 lists concentrations of constituents for the High-Quality Hyperfiltration Water, as predicted values (Molycorp, 2004b). This water will be used in the plants as needed, or will alternatively be discharged to the Office Landscape Pond or transported via pipeline to be evaporated using turbomisters in the mine pit.

iii) Hyperfiltration Reject Wastewater (Reverse Osmosis Brine)

The Hyperfiltration Reject Wastewater is produced by the Hyperfiltration Wastewater Treatment Facility. Attachment E Table Nos. E3 and E4 list recent laboratory results for this wastewater, and model-predicted values from the Report of Waste Discharge (Molycorp 2004b) respectively. The Discharger estimates that total dissolved solids of this wastewater will range from 12,500 mg/L to 21,000 mg/L. This wastewater is discharged to the lined, On-site Evaporation Ponds.

16. Wastes Contained Within the On-site Lined Evaporation Ponds

Results of the analysis for the settled solids (salt) and wastewater contained within the On-site Lined Evaporation Ponds are summarized in Attachment E, Tables No. E5 and E6. Since discharge began to the On-site Lined Evaporation Ponds in July 2001, Board staff and the Discharger have sampled solids and wastewater within the On-site Lined Evaporation Ponds. Of particular note is the mercury concentration in the solids. Although samples do not at this time represent statistically significant set, the discrete values approach or (in one sample) exceed hazardous waste limits as compared to Total Threshold Limit Concentrations values (TTLC) from Title 22, Section 66261.24 Table II.

Preliminary results from a focused investigation and sampling program of mercury, conducted in late 2003 through May 2004, did not indicate any obvious source of mercury, except from one extraction well (2001-1RW) that showed a higher total mercury level than other extraction wells samples. (It would appear that well 2001-1RW has been impacted.) The Discharger has proposed a working hypothesis; the shallow areas of the pond promote algal growth, which in turn has bio-accumulated the mercury resulting in higher-than predicted values. However, the Discharger has concluded that not enough data has been collected to make such a definitive finding. The Discharger proposes to prevent algal growth by increasing the flow to the On-site Lined Evaporation Ponds, and treating with algaecide if necessary. Verification monitoring will also be required. The Discharger has conducted sampling of the precipitated solids recently removed from the ponds, these analytical results indicate the concentration of mercury is non-detect.

Metal concentrations in the salt solids are predicted based on full operation of the On-site Lined Evaporation Ponds and chemical modeling using worst-case solubility factors (Attachment E, Table E6). Under these conservative assumptions, the maximum predicted metal concentrations, except lead, are significantly lower than Title 22, California Code of Regulation levels. Lead is predicted to reach 5.5 mg/L, which is slightly higher than the toxic Soluble Threshold Limit Concentrations (STLC) as defined in Title 22, of the California Code of Regulations for lead (5 mg/L). However, the complete solubility assumed under this scenario would potentially be expected only under acidic conditions, which are not the conditions maintained under current operations of the On-site Lined Evaporation Ponds. Lead concentration is not expected to reach the predicted levels given the proposed operating conditions of the ponds.

The Discharger will collect samples from the ponds on a quarterly frequency in accordance with the Monitoring and Reporting Program, which is attached and made part of this WDR. In addition, weekly inspections to detect algae occurrence, and monthly sampling of sediment/salt precipitates in the ponds will be required for the first year of operations to verify that mercury and lead concentrations remain low and within predicted concentration ranges. This Order requires that the Discharger prepare a contingency plan should the constituents continue to increase or do not decrease with increase flow to the On-site Lined Evaporation Ponds. If mercury levels do not decrease with the increase flow, or they continue to rise, the Discharger proposes to treat the effluent discharge for mercury.

The Discharger has proposed to apply an algaecide to the pond influent if algal growth is observed. The three types of algaecide proposed contain active ingredients that are either a Dicarboxylic Acid (N,N-Dimethylalkaylamine salt), or a Poly{oxyethylene (dimethylimino) ethylene (dimethylimino) ethylene dichloride}, which is a polymeric, catatonic alkaline compound. All of these algaecides are classified as pesticides and are considered to be health hazards during handling based on acute toxicity from direct exposure (contact, ingestion, inhalation). Depending on the density of algae in the pond, the Discharger proposes to apply these algaecides at the manufactures' prescribed amounts, which range from 0.3 gallons per acre-ft to24 gallons per acre-ft depending on the type of algaecide used. Regardless of the type, maximum prescribed application rates will result in a maximum algaecide (active ingredients) concentration of 5 parts per million in the On-site Lined Evaporation Ponds. These compounds are consumed or degraded in the environment from biological activity. Provided the maximum application rates are not exceeded, it is determined that the use of these algaecides does not represent a threat to water quality. The monitoring and reporting program, which is attached and made part of these Waste Discharge Requirements, requires that after application of algaecide the Discharger shall report the type, amount, frequency, and method of application.

17. Treatment and Disposal/Reuse Facilities

The existing Advanced Wastewater Treatment and Disposal/Reuse System/On-site Lined Evaporation Ponds has an average annual reuse/disposal capacity of 0.30 mgd based on the water balance presented in the Report of Waste Discharge. This capacity is sufficient to reuse/dispose of the wastewaters at current flows (0.16 mgd) and future increases in flow to the Advanced Wastewater Treatment and Disposal/Reuse System including the proposed additional wastewater stream from the Separations Plant Mineral Recovery operations (0.08 mgd). The Hyperfiltration Wastewater Treatment Facility's capacity of 0.288 mgd is also sufficient for treating the current flow and the flow of the additional wastewater.

a. 204 Preliminary Wastewater Treatment Facility

The 204 Preliminary Wastewater Treatment Facility (204 Clarifier/ Thickener) is used to remove settled solids from wastewaters generated from mineral recovery operations.

b. Nanofiltration Wastewater Treatment Facility

The Nanofiltration Wastewater Treatment Facility removes lignin sulfonate from wastewaters before they are treated by the Hyperfiltration facility. The lignin sulfonate molecule is large and therefore needs to be removed before Hyperfiltration to prevent fouling of the reverse osmosis membranes. The Nanofiltration Wastewater Treatment Facility's treatment capacity

is 60 gpm (0.086 mgd). It produces two waste streams: Nanofiltered Wastewater and Nanofiltration Reject Wastewater. During periods when the Nanofiltration Wastewater Treatment Facility is not operating, the Discharger releases wastewaters listed in Table No. 2 directly to the On-site Lined Evaporation Ponds.

c. Hyperfiltration Wastewater Treatment Facility

The Hyperfiltration Wastewater Treatment Facility treats the wastewaters listed in Table No. 2 producing two waste streams: the High-Quality Hyperfiltration Water that is low in total dissolved solids, and the reject wastewater that is high in total dissolved solids (R.O. Brine). The reject wastewater is discharged to the On-site Lined Evaporation Ponds for disposal. The treatment capacity of the Hyperfiltration Wastewater Treatment Facility is 200 gpm (0.288 mgd), although it is assumed for the water balance presented in the RWD that over extended periods it would typically operate at a 90% of this value overall, or 180 gpm capacity (0.26 mgd). During periods when the Hyperfiltration Wastewater Treatment Facility is not operating, the Discharger releases wastewaters listed in Table No. 2 directly to the On-site Lined Evaporation Ponds.

The Hyperfiltration Wastewater Treatment Facility includes a programmable control system that automatically shuts down the Wastewater Treatment Facility in the event of filter membrane breakthrough. The control system includes a conductivity meter that continuously monitors the total dissolved solids of the High-Quality Hyperfiltration Water. In the event the total dissolved solids exceeds the programmed value, the entire Wastewater Treatment Facility is shut down.

d. On-site Lined Evaporation Ponds

In July 2001, the Discharger completed construction and began operation of two On-site Lined Evaporation Ponds (Ponds P-30A and P-30B), and plans to construct an additional two ponds (P-30C and P-30D) as part of this project. The Discharger plans to use On-site Lined Evaporation Ponds as the primary long-term method for disposal of wastewater. The Discharger proposes to ultimately file an additional Report of Waste Discharge with the Board for construction of additional On-site Lined Evaporation Ponds as needed, in addition to the four permitted under this Order, based on recent approval of the Environmental Impact Report (EIR) for the Discharger's 30-Year Mining Plan,

The existing On-site Lined Evaporation Ponds (Ponds P-30A and P-30B) have a combined evaporation surface area of approximately 11.5 acres and storage capacity of approximately 19 million gallons. The two additional proposed ponds (P-30C and P-30D) will have an approximate additional combined evaporative surface area of 8.5 acres and estimated capacity of 13 million gallons. The net evaporation rate for these ponds is 83 inches per year (4.3 gpm/acre), adjusted from an estimated pan evaporation rate of 115 inches/year accounting for observed rates in onsite ponds, salt content and precipitation.

Stormwater runoff control facilities upgradient and adjacent to the ponds are designed to direct stormwater runoff for a 1,000-year, 24-hour storm, around the On-site Lined Evaporation Ponds. Access to Ponds P-30A and P-30B by large animals, including the desert tortoise, is restricted by a fence with a locked gate. The liner system and sub-base for each On-site Lined Evaporation Ponds is discussed in Table 3 below.

Table No. 3
Liner System for On-site Lined Evaporation Ponds

Liner Component	**Component Description** (from top to bottom)
Composite Upper Liner	80-mil high-density polyethylene (HDPE) liner on top of a geosynthetic clay liner (GCL)
Leachate Collection Recovery System (LCRS)	Blanket type LCRS consisting of HDPE geonet extending throughout the entire pond area. The LCRS drains to a 7,000-gallon LCRS sump lined with a 80-mil rub sheet over an 80-mil HDPE liner.
Composite Lower Liner	60-mil HDPE on top of a GCL
Sub-Base	Six-inch (6- inch) of soil (100% passing ¾-inch, 70-100% passing #4 mesh) compacted to 90 percent of the maximum dry density according to the American Society of Testing and Materials procedure D1557.

e. Dust Control System

Since the mid-1980s, the Discharger has used the Mine Pit Corrective Action Systems Wastewater (Wastewater) for dust control in unlined areas (Unlined Dust Control Areas). The Wastewater is generated by extraction wells located in the bottom of the Pit. The Unlined Dust Control Areas consist of unlined ground surface areas where the Discharger is conducting mining activities, including surface areas located:

i) within the Pit, which is currently 400 feet deep and 1600 feet in diameter at the rim;
ii) on the north and west Overburden Storage Piles (OSPs), which currently have heights ranging from 100 to 150 feet and a combined area of approximately 90 acres;
iii) on dirt haul roads between the Mine Pit and OSPs and between the Mine Pit and Mill; and
iv) dirt roads within the Mineral Recovery Plant areas.

Wastewater application to the areas described in i) – iv) above for dust control is by tank trucks with application bars, stationary sprinklers and mechanical evaporators. The Discharger uses tank trucks and sprinklers to apply an annual-average rate of approximately 45 gpm (0.065 mgd), with a peak of 60 gpm (0.086 mgd) during the summer. The Discharger intermittently uses two to four mechanical evaporators located within the Mine Pit, which were installed in May 2000. The evaporators are used to reduce volume of the wastewater. Each evaporator has an evaporation capacity of approximately 60 gpm (0.086 mgd).

The Discharger restricts use of the evaporators to periods when there is not sufficient need for reuse of the wastewater. The evaporators are located in an area (bench) within the Mine Pit, approximately 60 feet below the rim of the Pit. The length and area of the evaporator mist plume is less than 200 feet and one acre, respectively. A few gallons per minute of wastewater drips to the area underlying the evaporator. Water drains to the bottom of the Pit where extraction wells are operating.

f. Office Landscape Pond (Pond P-6)

Pond P-6 is within the landscaped area adjacent to the mine site administrative offices. It is unlined and has a surface area when full of approximately 1.5 acres.

18. Wastewater/Treated water Conveyance Facilities

The Conveyance Facilities include pipelines, pumping facilities and aboveground storage tanks (AGSTs). The approximate percentages of pipeline length located on grade, on pipe racks, and below grade are:

a. between the Hyperfiltration Wastewater Treatment Facility and On-site Lined Evaporation Ponds: 5% on grade, 15% on pipe racks, and 80% below grade; and
b. between Hyperfiltration Wastewater Treatment Facility and treated water discharge areas: 100% on grade.

Pipelines transporting the Hyperfiltration Reject Wastewater are steel pipes with an inner polyethylene liner. The annular space between the steel pipe and liner are monitored to detect leaks in the polyethylene liner. This pipeline is pigged as needed during periods when it conveys the Hyperfiltration Reject Wastewater. Pipelines transporting High-Quality Hyperfiltration Water are constructed of high-density polyethylene (HDPE).

19. Authorized Disposal Sites

Table No. 4 lists the authorized disposal and/or reuse sites (ADRSs). For the purposes of this Order, the term "ADRSs" refers to ADRSs within the Mine Site boundaries.

a. On-site Lined Evaporation Ponds

The authorized disposal facility for the high-total dissolved solids wastewater (brine) at the site is the On-site Lined Evaporation Ponds. The high-total dissolved solids wastewater waste streams include: the Nanofiltration Reject wastewater (Finding 15 g. i.), the Hyperfiltration reject wastewater (Finding 15 g.iii), the Corrective Action System wastewaters (East P-16, P-25B) (Findings 15 a. and b.), the Pre-treated Separations Plant/Mineral Recovery wastewater (Finding 15 d.), and the Flotation Bleed-off Mineral Recovery Wastewater (Finding 15 c.)

The On-site Lined Evaporation Ponds are an ADRS for the plant stormwater-generated runoff wastewater. This Order does not regulate the discharge of the plant stormwater runoff wastewater (which is classified stormwater) to ephemeral channels or the reuse of wastewaters for dust control and/or compaction within tailings disposal facilities. Those activities are regulated by requirements contained in separate Orders. Reuse of wastewaters within the Mill is not regulated by Waste Discharge Requirements.

b. Landscape Pond and Dust Control Areas

The authorized disposal sites for the High-Quality Hyperfiltration wastewater (Finding 15. g. ii.) is the Landscape Pond (Finding 17. f.) and the Dust control areas (Finding 17. e.). The authorized disposal sites for the Mine Pit Corrective Action System wastewaters (Finding 15. and Table 2) are the Dust control areas.

Table No. 4
Authorized Disposal/Reuse Sites (ADRSs)

Wastewaters / ADRSs	High-Quality Hyperfiltration Water	Nanofiltration Reject Wastewater	Hyperfiltration Reject Wastewater (Brine)	East P-16 CAS, P-25B CAS, P-1 CAS, Wheaton Wash CAS Wastewaters, Mineral Recovery Wastewater, Flotation Bleed and Well Sampling and Development Purgewaters	Mine Pit CAS	OEP Salt	Mill Storm Water Containment (P-29)
OEPs (Lined)	X	X	X	X	X	X	X
Dust Control Areas	X				X		
Office Landscape Pond (Unlined)	X						
Pit Evaporators	X				X		

20. Engineered Alternative to Prescriptive Standard for the Evaporation Ponds

Title 27 Code of Regulations, Section 20310, requires Class II waste management units (**Class II** Impoundments) shall be designed and constructed to prevent migration of wastes from the Units to adjacent geologic materials, ground water, or surface water, during disposal operations, closure, and the post closure maintenance period. The prescriptive standards in Title 27 allows for Class II Impoundments to be constructed using a single or double liner system composed of a minimum of a two-foot thick, compacted clay with a permeability no greater than 1×10^{-6} cm/sec. Title 27, Section 20080, California Code of Regulations allows for engineered alternatives to such standards. Alternatives shall only be approved where the Discharger demonstrates that: 1) the construction of prescriptive standard is not feasible because it is unreasonably and unnecessarily burdensome and will cost substantially more than alternatives which meet the criteria, or is impractical and will not promote attainment of applicable performance standards; and 2) there is specific engineered alternative that is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment.

The Discharger's geotechnical testing of the subgrade material below the area proposed for the On-site Lined Evaporation Ponds shows that, even after compaction to its maximum density, the soil cannot consistently meet the 1×10^{-6} centimeters per second (cm/s) permeability requirement of Title 27. Therefore, the Discharger liner design consists of a double liner system with a composite basal liner consisting of a geosynthetic clay liner (GCL) overlain by a 60-mil (0.060 inch-thick) high-density polyethylene (HDPE) geomembrane. The upper liner consists of an 80-mil (0.08 inch-thick) high-density polyethylene (HDPE) overlaying a geosynthetic clay liner (GCL). A leachate collection and recovery system installed between the upper and lower liners is designed to collect any leakage through the upper liner system. Leakage through the lower liner will be collected in lined trenches constructed beneath areas of the ponds where flow is expected to be highest. Based on the demonstration provided by the Discharger, which evaluated flow rates, break-through time, chemical-adsorption capacity/compatibility with the leachate, bearing capacity, slope stability, puncture resistance, and construction requirements, the alternative engineered liner system exceeds the

prescriptive standards. For example, given a permeability of 2.9×10^{-8} cm/sec for the GCL, the site specific unit flow rate through three feet of compacted clay (prescriptive standard) is calculated to be 29 times the unit rate through the geosynthetic clay liner. Break through time for the three feet clay layer is calculated to be about 9 years whereas for the geosynthetic clay liner it is calculated to be almost 17 years.

21. Waste Classification

Approximately 43 percent, or 0.05 mgd (yearly average), of the wastewater that could potentially be discharged to the On-site Lined Evaporation Ponds is derived from extraction wells as part of Corrective Action Systems. The remaining, approximately 56 percent, or 0.07 mgd, of the wastewater could be considered as part of the milling process and so is classified as Mining waste under Title 27, Section 20164 which states: "**Mining waste** (SWRCB) means all waste materials (solid, semi solid, and liquid) from the mining and processing of ores and minerals including soil, waste rock, and other forms of overburden as well as tailings, slag, and other processed mining wastes."

The high-total dissolved solids wastewater (brine) is here classified as a liquid designated waste. The high quality treated wastewater does not contain soluble pollutants in concentrations that exceed applicable upper Water Quality Objectives (i.e., it is not a designated waste) and is therefore classified as a nonhazardous waste.

Residual solids remaining after evaporation are predominantly sodium chloride with associated calcium, magnesium and sulfate. Other salt components include barium, boron, fluorine, molybdenum, and strontium. The residual solids (salt) has so far contained less than 1 pico-Curies per gram (pCi/g) total radium, less than 5 pCi/g total thorium, and less than 90 pCi/g total uranium. The residual settled solid (salt) is classified as a designated waste under the California Water Code.

22. Characteristics of Hazardous Waste (Division 4.5, Title 22, California Code of Regulations)

The California Department of Toxic Substance Control regulates hazardous waste under Division 4.5, Title 22, California Code of Regulations (Division 4.5). Division 4.5 includes threshold criteria used in determining if a waste may be regulated as a hazardous waste. Laboratory results for the wastes regulated under this Order do not exceed these threshold criteria.

23. Radiological (Title 17, California Code of Regulations)

Comparison of regulatory levels to concentrations of radiological parameters in the solids and wastewaters (which are regulated by this Order) indicate concentrations are below those that would:

a. Necessitate California Department of Health Services, Radiological Health Branch (CDHS, RHB) issuance of a source material license (17CCR§30180(c)), which is issued for materials greater than a combined thorium and uranium concentration of 0.05% by weight. (A concentration of 0.05% equals 500 mg/kg for solids and approximately 500 mg/l for liquids.), or

b. Exceed the US Nuclear Regulatory Commission occupational radiation dose limit of 5 rems/year (0.57 millirems/hour). (10 Code Federal Regulations [CFR] part 20.1302)

(A radiological survey of the On-site Lined Evaporation Ponds was conducted in September, 2003 and indicate levels within the ponds were nearly identical to readings taken outside the ponds. They ranged from 0.018-0.020 millirems/hour).

24. Waste Management Unit Classification

Since the wastewater brine and residual solid material contained in the On-site Lined Evaporation Ponds are classified as designated wastes the surface impoundments must meet the containment requirements for a Class II facility as defined in Title 27. The Office Landscape Pond (Unlined) and mine pit evaporation areas are not classified in Title 27.

25. Water Quality Protection Standard - On-site Lined Evaporation Ponds

The Discharger submitted a Water Quality Monitoring and Response (WQM&R) Plan dated December 1998 to the Board. Amendments to the WQM&R Plan are described in the Discharger's Report of Waste Discharge. WQM&R Plans propose a Water Quality Protection Standards (WQPSs) that consists of Constituents of Concern (COCs), Monitoring Parameters, Concentration Limits, Monitoring Points, and the Point of Compliance. WQPSs apply over the active life of the On-site Lined Evaporation Ponds, closure and post-closure maintenance period, and the compliance period as defined in 27CCR, Section 20410 (Section 20410 Compliance Period). The attached MRP describes the COCs, Monitoring Points, and Points of Compliance.

26. Statistical Methods

Title 27 requires statistical analyses of the monitoring data. Statistical analyses of monitoring data are necessary for the earliest possible detection of any release of waste from the On-site Lined Evaporation Ponds.

27. Detection Monitoring

The Discharger must comply with detection monitoring requirements prescribed in Title 27 and in this Order under "Requirements for Water Quality Monitoring and Response Programs." Detection monitoring is required to identify any releases from the On-site Lined Evaporation Ponds.

The Discharger uses a vadose zone monitoring system (VZMS) to monitor the unsaturated zone beneath the On-site Lined Evaporation Ponds. The vadose zone monitoring system consists of V-shaped trenches lined with 60-mil HDPE and filled with gravel. The trenches are four feet wide. vadose zone monitoring system trenches are located in areas beneath the ponds where flows in the LCRS are expected to be the greatest (e.g., the sumps and breaks in grade). Groundwater is monitored using one upgradient monitoring well and two down-gradient, point-of-compliance monitoring wells.

28. Evaluation Monitoring

If there is evidence of a release under the Detection Monitoring Program, an Evaluation Monitoring Program may be required, pursuant to Section 20425 of Title 27, California Code of Regulations, to further evaluate evidence of a release.

29. Corrective Action

A Corrective Action Program (CAP) to remediate released wastes from the On-site Lined Evaporation Ponds may be required pursuant to Section 20430, Title 27, California Code of Regulations, should results of an Evaluation Monitoring Program warrant a Corrective Action Program.

30. Action Leakage Rate

An action leakage rate (ALR) of 20 gallons/acre/day continues to be applied for the upper liner of the double lined On-site Lined Evaporation Ponds and is identical to the requirements contained in the previous Waste Discharge Requirements. The total leakage at this rate is detailed in Table 8 in Section II.C.1 of the Requirements and Prohibitions. Liquid collected in the sumps will be removed and pumped to an On-site Lined Evaporation Pond that is not leaking above the ALR, or an approved holding facility.

31. Rapid and Large Leakage Rate

The Rapid and Large Leakage Rate (RLLR) of 2,970 gallons/acre/day continues to be applied for the upper liner of the double lined On-site Lined Evaporation Ponds and is identical to the requirements contained in the previous Waste Discharge Requirements. The total leak rates for each pond are detailed in Table 9, Section II.C.2 of the Requirements and Prohibitions. These Rapid and Large Leakage Rates are conservative in comparison with a 1992 US EPA rule for maximum design flow rates that the leachate collection and recovery system can remove without the fluid head on the bottom liner exceeding one foot. The RLLRs include an adequate safety margin to allow for uncertainties in design and construction and are 10 percent of the most conservative calculated RLLRs.

This Order requires the Discharger to immediately notify the Board and cease discharge of waste to the affected impoundment if liquids are detected in the leachate collection and recovery system sumps at rates greater than the RLLRs. This Order also requires that the discharge of waste to the affected impoundment be discontinued until the appropriate repairs are made and approval by the Regional Board Executive Officer for discharge is granted.

32. Closure and Post-Closure Maintenance Plan (CPCMP)

The Discharger's Preliminary CPCMP proposes to clean close three of the four On-site Lined Evaporation Ponds permitted under this Order. Materials generated by clean closure would be placed into the remaining On-site Lined Evaporation Ponds. The Discharger would then close the remaining On-site Lined Evaporation Pond as a landfill. The total estimated cost for closure is $1,551,000 (2004 present worth value). This estimate includes post-closure monitoring and maintenance for a period of 30 years.

33. Closure and Post-Closure Maintenance of the On-site Lined Evaporation Ponds

The Discharger has submitted a preliminary closure plan for the On-site Lined Evaporation Ponds. Closure requirements for surface impoundments are contained in Title 27, Section 21400 (CCR) *Closure Requirements for Surface Impoundments*, which requires:

a. Remove free liquids - All free liquid remaining in a surface impoundment at the time of closure shall be removed and discharged at an approved waste management unit (Unit). All residual liquid shall be treated to eliminate free liquid. Following removal and treatment of liquid waste, impoundments shall be closed in one of two ways, as approved by the Regional Board.

i) Mandatory clean-closure attempt - Unless the Discharger demonstrates, and the Regional Board finds, that it is infeasible to attempt clean-closure of the impoundment, then all residual wastes, including sludges, precipitates, settled solids, and liner materials contaminated by wastes, shall be completely removed from the impoundment and discharged to an approved Unit. Remaining containment features shall be inspected for contamination and, if not contaminated, can be dismantled. Any natural geologic materials beneath or adjacent to the closed impoundment that have been contaminated shall be removed for disposal at an appropriate Unit. For surface impoundments that are successfully clean-closed, as herein described, the Regional Board shall declare the Unit no longer subject to the State Water Resources Control Board-promulgated requirements of this title. If, after reasonable attempts to remove such contaminated materials, the Discharger demonstrates that removal of all remaining contamination is infeasible, the surface impoundment shall be closed as a landfill or land treatment unit, as appropriate, pursuant to (b)(2).

ii) Fallback Closure Options — In cases where clean-closure [under &(a)(1)] is infeasible, the Discharger shall propose for Regional Board approval either:

(A) Closure As a Landfill — that all residual wastes, including sludges, precipitates, settled solids, and liner materials, shall be compacted, and the Unit shall be closed as a landfill pursuant to §21090, provided that the closed Unit meets applicable standards for landfill Units in Articles 3 and 4 of Subchapter 2, Chapter 3, Subdivision 1 of this division (§20240 et seq.), and further provided that the moisture content of residual wastes, including sludges, does not exceed the moisture holding capacity of the waste either before or after closure; or

(B) Closure As an Land Treatment Unit — for surface impoundments which contain only decomposable wastes at closure, that the Unit be closed as a land treatment unit under §21420(a)(2 B 4).

34. Financial Assurances for Closure and Post-Closure Maintenance

The Discharger has established financial guarantee bonds for the Mine Site in the following amounts: $22,954,494 for closure, $693,418 for post closure maintenance, and $7,301,644 for known or reasonably foreseeable releases. These amounts of financial assurance are sufficient to cover the cost of closure, post closure maintenance, and known or reasonably foreseeable releases for P-16 and other Mine Site facilities regulated by the Board.

35. Receiving Waters

The receiving waters are the groundwaters of the Amargosa and Ivanpah Hydrologic Units.

36. Lahontan Basin Plan

The Board adopted a Water Quality Control Plan for the Lahontan Region (Basin Plan), which became effective on March 31, 1995. This Order implements the Basin Plan.

37. Beneficial Uses

The present and potential beneficial uses of the groundwaters of the Amargosa and Ivanpah Hydrologic Units as set forth and defined in the Basin Plan are:

a. Municipal and Domestic Supply (MUN);
b. Agricultural Supply (AGR);
c. Industrial Service Supply (IND); and
d. Freshwater Replenishment (FRSH).

38. California Environmental Quality Act (CEQA)

The County of San Bernardino, Planning Commission (County) prepared an Initial Study dated June 18, 1999 for the Project. The County subsequently completed the Initial Study and adopted a Negative Declaration on June 28, 1999. Later, the County prepared a Revised Initial Study, which was dated December 3, 1999. The County completed the Revised Initial Study and re-adopted the Negative Declaration on April 6, 2000. The Project consists of the activities associated with the construction and operation of the wastewater treatment facilities. The April 6, 2000 action was in accordance with CEQA (Public Resources Code, Section 21000 et seq.) and Section 15164, Title 14, California Code of Regulations (CEQA Guidelines). Additionally, in July 2004, the County certified an Environmental Impact Report for the 30-Year Plan at the mine, including the expansion of the On-site Lined Evaporation Ponds, and including use of the On-site Lined Evaporation Ponds for wastewaters from the mineral recovery plants. The EIR analyzed impacts to surface and ground water from the expanded On-site Lined Evaporation Ponds and found that no significant impacts would occur.

39. Notification of Interested Parties

The Board has notified the Discharger and all known interested parties of its intent to adopt Revised Waste Discharge Requirements for the discharge.

40. Consideration of Public Comments

The Board, in a public meeting, will consider all comments pertaining to the discharge.

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

I. DISCHARGE SPECIFICATIONS

A. Documentation Requirements

1. The Discharger shall submit to Regional Board staff, for review and approval, any revisions to the following documents at least 30 days prior to the start of construction of the proposed On-site Lined Evaporation Ponds: Construction Design Plans; Construction Drawings and Specifications; Cut and Fill Plan; Construction Quality Assurance/Quality Control; and Contractor Quality Control.

2. As required in Section 20324, Title 27, California Code of Regulations, **Final Documentation -** at the completion of the On-site Lined Evaporation Ponds construction project, the Discharger shall prepare Final Documentation, which contains all reports submitted concerning the placement of the containment system. This document shall provide evidence that the Construction Quality Assurance plan was implemented as proposed and that the construction proceeded in accordance with design criteria, plans, and specifications. The Discharger shall submit copies of the Final Documentation report to the Regional Board as prepared by the Construction Quality Assurance officer.

3. Once construction is complete, the document originals shall be stored by the Discharger in a manner that will allow for easy access while still protecting them from any damage. All documentation shall be maintained throughout the post-closure maintenance period at the Discharger's office of operation.

B. Discharge Limits

1. All High-Quality Hyperfiltration Water discharged to the Office Landscape Pond shall not contain concentrations of parameters in excess of the limits in Table 5, which represent either upper concentration limits of constituents determined in background groundwater, or detection limits for purposes of reporting (DLR) as listed in Table 64432-A from Title 22, the laboratory Practical Quantitation Limits (PQLs) for that particular constituent, or other criteria as defined in Table 5.

2. All wastewaters discharged to the On-site Lined Evaporation Ponds or located within the On-site Lined Evaporation Pond shall not contain concentrations of parameters that either equal or exceed the limits in Table 6, which are included in Title 22, Section 66261.24. All extractants obtained from settled solids or salt samples collected from within the On-site Lined Evaporation Ponds shall not contain concentrations of parameters that either equal or exceed the limits in Table 6, below. The laboratory extractant is generated by conducting the Waste Extraction Test (WET) or Toxicity Characteristic Leaching Procedure (TCLP) on a sample of Salt precipitate, which has been dried in accordance with USEPA Method 160.1. The WET and TCLP shall be conducted in accordance with Section 66261.24, Title 22, California Code of Regulations (22CCR§66261.24).

3. All solids or salt within the On-site Lined Evaporation Ponds shall not contain concentrations of parameters that either equal or exceed the limits in Table 7.

4. All wastewater discharged to the On-site Lined Evaporation Ponds, and the wastewater and solids or salt within each On-site Lined Evaporation Pond shall not exhibit characteristics of: (a) ignitability, (b) corrosivity, (c) reactivity or (d) toxicity as defined in Title 22, California Code of Regulations §66261.21, §66261.22, §66261.23 and §66261.24, respectively.

Table 5

Upper 95% Confidence Interval/Average Background Groundwater Quality for the On-Site Evaporation Pond Area
Discharge limits of Treated Wastewater to the Landscape Office Pond

		On-Site Evaporation Ponds Area		Office Pond		
ANALYTE	**Units**	**Upper 95% Conf. Interval ***	**Average Background**	**Discharge Limit**	**T22 DLRs**	**T22 MCL**
Alkalinity, Total (as CaCO3)	mg/L	278.84	258.41	**20 (1)**		
Aluminum		--	--	**0.05**	0.05	1
Antimony	mg/L	NA	<0.003	**0.006**	0.006	0.006
Arsenic	mg/L	NA	<0.003	**0.002**	0.002	0.05
Barium	mg/L	0.16	0.12	**0.1**	0.1	1
Beryllium	mg/L	NA	<0.002	**0.001**	0.001	0.004
Boron	mg/L	0.26	0.24	**0.24**		
Cadmium	mg/L	NA	<0.01	**0.001**	0.001	0.005
Calcium	mg/L	72.20	68.26	**70**		
Cerium	mg/L	NA	<0.003	**PQL**	PQL	
Chloride	mg/L	51.33	48.45	**50**		250
Total Chromium	mg/L	NA	<0.01	**0.01**	0.01	0.05
Cobalt	mg/L	NA	<0.01	**PQL**	PQL	
Copper	mg/L	0.005	0.0040	**0.005**		1.3
Fluoride	mg/L	0.86	0.81	**0.86**	0.1	2.0
Iron, Ferrous	mg/L	0.30	0.20	**0.20**		0.300
Lanthanum	mg/L	NA	<0.003	**PQL**		
Lead	mg/L	NA	<0.003	**PQL**		0.015
Lignosulfonate	mg/L	NA	PQL	**PQL**		
Magnesium	mg/L	47.76	44.42	**47.0**		
Manganese	mg/L	0.10	0.06	**0.05**		0.05
Mercury	mg/L	NA	<0.0001	**0.001**	0.001	0.002
Molybdenum	mg/L	0.01	0.01	**0.01**		
Nickel	mg/L	NA	<0.02	**0. 1**	0.01	0.1
Nitrate (as N)	mg/L	6.95	5.82	**5.0**		10
Potassium	mg/L	3.62	3.23	**3.6**		
Radioactivity, gross alpha	pCi/L	14.45	6.42	**6.4**		15
Radioactivity, gross beta	pCi/L	14.87	7.27	**7.2**		50
Radium (226 + 228)	pCi/L			**1.0**		5.0
Radium-226	pCi/L	0.15	0.12	**0.15**		
Radium-228	pCi/L	0.79	0.5532	**0.79**		
Selenium	mg/L	NA	<0.003	**0.005**	0.005	0.05

	On-Site Evaporation Ponds Area			Office Pond		
ANALYTE	**Units**	**Upper 95% Conf. Interval ***	**Average Background**	**Discharge Limit**	**T22 DLRs**	**T22 MCL**
Silver	mg/L	NA	<0.01	**PQL**	PQL	0.1
Sodium	mg/L	59.94	54.59	**59**		
Strontium	mg/L	0.47	0.4237	**0.47**		
Strontium - 90	pCi/L					8.0
Sulfate	mg/L	115.98	110.2609	**115.0**		250
Thallium	mg/L	0.002	0.002	**0.001**	0.001	0.002
Thorium	mg/L	NA	<0.003	**PQL**		
Thorium 228	pCi/L	0.08	0.05	**0.1**		
Thorium 230	pCi/L	0.22	0.16	**0.3**		
Thorium 232	pCi/L	0.05	0.03	**0.1**		
Thorium 234	pCi/L	NA	NA	**PQL**		
Total dissolved solids (TDS)	mg/L	516.94	495.48	**500**		500
Uranium	mg/L	0.01	0.004	**0.005 (4.0** pCi/L)		20.0 pCi/L
Uranium 234	pCi/L	1.76	1.6	**1.8**		
Uranium 235	pCi/L	1.82	0.73	**1.8**		
Uranium 238	pCi/L	1.07	.96	**1.1**		
Vanadium	mg/L	NA	<0.0025	**PQL**	PQL	
Yttrium	mg/L	NA	<0.0025	**PQL**	PQL	
Zinc	mg/L	0.09	0.07	**0.10**		5.0
PH	pH units	7.82	7.58	**6.5 – 9.0**		7.5

1) USEPA National Recommended Water Quality Criteria for fresh water aquatic life (continuous / 4-day average).

* NA not available values. Greater than 90% Analyses results are below the detection limit.

Table No. 6
Discharge Limits for Wastewater/Limits of Wastewaters within On-site Lined Evaporation Ponds

Parameter	Units	Maximum
Antimony (Sb)	mg/L	15
Arsenic (As)	mg/L	5
Barium (Ba)	mg/L	100
Beryllium (Be)	mg/L	0.75
Cadmium (Cd)	mg/L	1
Chromium (Cr)	mg/L	5
Cobalt (Co)	mg/L	80
Copper (Cu)	mg/L	25
Lead (Pb)	mg/L	5.0
Mercury (Hg)	mg/L	0.2
Molybdenum (Mo)	mg/L	350
Nickel (Ni)	mg/L	20
Selenium (Se)	mg/L	1
Silver (Ag)	mg/L	5
Thallium (Tl)	mg/L	7
Vanadium (V)	mg/L	24
Zinc (Zn)	mg/L	250
Fluoride (F)	mg/L	180

Table No. 7
Discharge Limits for Settled Solids/Limits of Solids within OEP

Parameter	Units	Maximum
Antimony (Sb)	mg/kg	500
Arsenic (As)	mg/kg	500
Barium (Ba)	mg/kg	10,000
Beryllium (Be)	mg/kg	75
Cadmium (Cd)	mg/kg	100
Chromium (Cr)	mg/kg	500
Cobalt (Co)	mg/kg	8000
Copper (Cu)	mg/kg	2,500
Lead (Pb)	mg/kg	1,000
Mercury (Hg)	mg/kg	20
Molybdenum (Mo)	mg/kg	3,500
Nickel (Ni)	mg/kg	2,000
Selenium (Se)	mg/kg	100
Silver (Ag)	mg/kg	500
Thallium (Tl)	mg/kg	700
Vanadium (V)	mg/kg	2,400
Zinc (Zn)	mg/kg	5,000
Fluoride (F)	mg/kg	18,000

C. Receiving Water Limits

1. The discharge of waste shall not cause the presence of the following substances or conditions in groundwaters of the Ivanpah Valley or Shadow Valley Groundwater Basins:

   a) any perceptible color, odor, taste, or foaming;
   b) any presence of toxic substances in concentrations that individually, collectively, or cumulatively cause detrimental physiological response in humans, plants, animals, or aquatic life; and
   c) the presence of constituents of concern listed in Table 5 in concentrations that exceed Average Background levels.

2. This discharge shall not cause a violation of any applicable water quality standards adopted by the Regional Board or the State Water Resources Control Board.

II. REQUIREMENTS AND PROHIBITIONS

A. General

1. There shall be no discharge, bypass, or diversion of wastewater from the collection, conveyance, or disposal facilities to adjacent land areas or surface waters.

2. All facilities used for the collection, conveyance, 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.

3. Direct pipeline discharge to the On-site Lined Evaporation Ponds shall be either equipped with devices or shall have fail-safe operating procedures to prevent overfilling. Discharges shall be stopped immediately in the event of any containment system failure, as described in Section II.C.1-7, and the system repaired.

4. There shall be no discharge from the On-site Lined Evaporation Ponds except as authorized by Waste Discharge Requirements.

5. The On-site Lined Evaporation Ponds shall be designed and constructed to prevent scouring of the containment structures at points of discharge into the impoundments and by wave action at the waterline.

6. The discharge of waste exhibiting hazardous waste characteristics as defined in Title 22, California Code of Regulations, to the On-site Lined Evaporation Ponds or generation of waste exhibiting hazardous waste characteristics in the On-site Lined Evaporation Ponds is prohibited.

7. The Discharger shall not cause a pollution, or threatened pollution, as defined in Section 13050 of the California Water Code.

8. Neither the treatment nor the discharge shall cause a nuisance as defined in Section 13050 of the California Water Code.

9. Any discharge of waste to surface water except as authorized in the Stormwater permit is prohibited.

B. <u>On-site Lined Evaporation Ponds</u>

1. The discharge of wastewater streams at the facility except to the authorized disposal sites cited in Finding 19 and Table 4 in this Order is prohibited.

2. All lined facilities shall be effectively sealed to prevent the exfiltration of liquids. For this project, "effectively sealed" facilities are the Impoundments that are designed and constructed in accordance with the requirements of Title 27.

3. The On-site Lined Evaporation Ponds shall have sufficient free board to accommodate seasonal precipitation and the design storm specified in Table 4.1 of Title 27, California Code of Regulations. But in no case will the vertical distance between the liquid surface elevation and the lowest part of a pond dike or the invert of an overflow structure be less than two feet.

4. As a part of each regularly scheduled monitoring report [Title 27, Article 1, Subchapter 3, Chapter 3 of this division (Section 20380 et seq.)], the total volume of leachate collected each month since the previous monitoring report shall be reported.

5. All visible portions of the liners shall be inspected weekly until all free liquid is removed as part of the pond closure. If, during the active life of the ponds the wastes are removed and the impoundment is cleaned down to the liner, an inspection shall be made of the bottom of the liner prior to refilling the impoundment.

C. Leachate Collection and Removal System (LCRS)

1. If liquids are detected in the LCRS sumps at a rate equal to or greater than the "Action Leakage Rate" as described in Table 8, then the Discharger shall comply with the notice of evidence of response to exceeding the action leakage rate requirements presented in Standard Provisions for Waste Discharge Requirements, Section 2.a., (Attachment F).

Table 8
Action Leakage Rates

Impoundment	Surface Area (Acres)	Action Leakage Rate (gallons per day)
Pond 1	4.6	92
Pond 2	6.9	138
Pond 3	4.25	85
Pond 4	4.25	85

Note: The Action Leakage Rate is the equivalent of 20 gallons per acre per day

2. If liquids are detected in the LCRS sumps at rates greater than the "Rapid and Large Leakage Rate" as described in Table 9, the Discharger shall immediately notify the Regional Board and cease discharge of waste to the affected impoundment. Discharges of waste to the affected impoundment shall be prohibited until the appropriate repairs are made and approval for discharge is granted.

Table 9
Rapid and Large Leakage Rates

Impoundment	Surface Area (Acres)	Rapid and Large Leakage Rate? (gallons per day)
Pond 1	4.6	13,662
Pond 2	6.9	20,493
Pond 3	4.25	12,623
Pond 4	4.25	12,623

Note: The Rapid and Large Leakage Rate is the equivalent of 2,970 gallons per acre per day

3. The level of leachate in the leachate collection sump shall be no higher than needed to ensure efficient sump dewatering pump operation.

4. The LCRSs shall be operated to function without clogging throughout the life of the project including closure and post closure maintenance periods.

5. The LCRSs shall be tested in the event no leachate is being generated by the system and the vadose zone monitoring system (VZMS) indicates no seepage for a period of 12 months. If leachate is collected in either the LCRS or VZMS, it is inferred that the system is operating as designed. If testing is warranted, any tests performed shall be by an approved method.

6. The LCRSs shall be capable of removing twice the maximum anticipated daily volume of leachate from the waste management unit.

7. Any leachate collected in an LCRS shall be pumped into an On-site Lined Evaporation Ponds that is not leaking above the ALR or to an another approved holding facility.

D. Detection Monitoring Program

The Discharger shall maintain a Detection Monitoring Program as required in Section 20385(a)(1) of Title 27.

E. Evaluation Monitoring Program

The Discharger shall establish an Evaluation Monitoring Program whenever there is statistically significant evidence of a release from the Facility as required in Section 20385(a)(2) or (3) of Title 27.

F. Corrective Action Program

The Discharger shall institute a Corrective Action Program when required pursuant to Section 20385(a)(4) of Title 27, California Code of Regulations.

III. WATER QUALITY MONITORING AND RESPONSE PROGRAMS

A. Water Quality Protection Standard

1. The Discharger shall propose to the Regional Board any constituents of concern not included in the list and proposed for discharge to the Impoundments at least 180 days before discharge of any new constituents of concern. Before a new discharge commences, the Discharger shall estimate the concentration for such constituents within the wastewater stream and submit written statistical method(s) in order to detect a release of such constituents.

2. At any given time, the concentration limit for each monitoring parameter constituent of concern shall be equal to the background value of that constituent.

3. If the Discharger or Executive Officer determines that concentration limits were or are exceeded, the Discharger may immediately institute verification procedures upon such determination as specified below or submit an amended Report of Waste Discharge within 90 days of such determination in order to establish an Evaluation Monitoring Program.

B. Statistical Methods

1. The Discharger shall use approved statistical data analysis methods to evaluate Point of Compliance data in order to determine “measurably significant” (as defined in Section 20164 of Title 27) evidence of a release from the On-site Lined Evaporation Ponds. Approved methods may include an intrawell statistical approach proposed by the Discharger.

2. Allowable statistical methods include: Parametric Analysis of Variance (ANOVA) Nonparametric ANOVA, Tolerance Interval, Control Chart, or other statistical method approved by the Regional Board.

3. The Discharger shall determine, within 60 days after completion of sampling, whether there is statistically significant evidence of a release from the Impoundments at each Monitoring Point. The analysis shall consider all monitoring parameters and constituents of concern. The Executive Officer may make an independent finding that there is statistically significant evidence of a release or physical evidence of a release.

4. If there is statistically significant evidence of a release, the Discharger shall immediately notify the Regional Board by certified mail (see notification procedures contained in the Attachment F). Subsequently, the Discharger may immediately initiate verification procedures as specified below whenever there is a determination by the Discharger or Executive Officer that there is statistically significant evidence of a release.

5. If the Discharger does not use verification procedures to evaluate evidence of a release, then there is confirmation that there is statistically significant evidence of a release. The Discharger is required to submit, within 90 days of such confirmation, an amended Report of Waste Discharge in order to establish evaluation monitoring (see subsection, II.E) or make a demonstration to the Regional Board that there is a source other than the Impoundments that caused evidence of a release (see notification procedures contained in the Monitoring and Reporting Program).

C. Nonstatistical Methods

The Discharger shall determine whether there is significant physical evidence of a release from the Facility. Significant physical evidence may include, but is not limited to, unexplained volumetric changes in the Facility, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, and unexplained water table mounding beneath or adjacent to the Facility, or any other change in the environment that could reasonably be expected to be the result of a release from the Facility (see notification procedures contained in the Monitoring and Reporting Program).

D. Verification Procedures

1. The Discharger shall immediately initiate verification procedures as specified below whenever there is a determination by the Discharger or Executive Officer that there is evidence of a release. If the Discharger declines the opportunity to conduct verification procedures, the Discharger shall submit a technical report as described below under the heading Technical Report without Verification Procedures.

2. The verification procedure shall only be performed for the constituent(s) that has shown a statistically significant evidence of a release, and shall be performed for those Monitoring Points at which a release is indicated.

3. If a determination is made that there is evidence of a release using the Prediction or Tolerance Interval Method, the Discharger may, within 30 days of such determination,

update the Upper Tolerance Limit and reevaluate Point of Compliance data in order to verify evidence of a release from the Impoundments. The Discharger must also collect three additional samples from the affected Monitoring Points and compare the results to the updated Upper Tolerance Limit.

4. The Discharger shall either conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event or shall conduct a discrete retest in which only data obtained from the resampling event shall be analyzed to verify evidence of a release.

5. The Discharger shall report to the Regional Board by certified mail the results of the verification procedure, as well as all concentration data collected for use in the retest within seven days of the last laboratory analysis.

6. If the Discharger or Executive Officer verify evidence of a release, the Discharger is required to submit, within 90 days of such a determination that there is, or was, a release, a technical report pursuant to Section 13267(b) of the California Water Code. The report shall propose an Evaluation Monitoring Program (see subsection, II.E.), **OR**, make a demonstration to the Regional Board that there is a source other than the Impoundments that caused evidence of a release (see notification procedures contained in Attachment F).

E. Technical Report without Verification Procedures

If the Discharger chooses to not initiate verification procedures after there has been a determination made for evidence of a release, a technical report shall be submitted pursuant to Section 13267(b) of the California Water Code. The report shall propose an evaluation-monitoring program, **OR**, attempt to demonstrate that the release did not originate from the Facility.

IV. PROVISIONS

A. Rescission of Waste Discharge Requirements

Board Order No. 6-00-34 is hereby rescinded.

B. Standard Provisions

The Discharger shall comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, which is attached and is made part of this Order (Attachment F).

C. Monitoring and Reporting

1. Pursuant to California Water Code Section 13267(b), the Discharger shall comply with Monitoring and Reporting Program No. R6V-2005-0011.

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.

D. Closure and Post Closure Maintenance Plan

The preliminary Closure and Post-Closure Maintenance Plan shall be updated if there is a substantial change in operations or costs for closure, and a report shall be submitted annually indicating conformance with existing operations. A final plan shall be submitted at least 180 days prior to beginning any partial or final closure activities or at least 120 days prior to discontinuing the use of the site for waste treatment, storage or disposal, whichever is greater. The final plan shall be prepared by or under the supervision of either a California Registered Civil Engineer or a California Certified Engineering Geologist.

E. Claim of Copyright or other Protection

Any and all reports and other documents submitted to the Regional Board pursuant to this Order will need to be copied for some or all of the following reasons: 1) normal internal use of the document, including staff copies, record copies, copies for Board members and agenda packets; 2) any further proceedings of the Regional Board and the State Water Resources Control Board; 3) any court proceedings that may involve the document; and 4) any copies requested by members of the public pursuant to the Public Records Act or other legal proceedings.

If the Discharger or its contractor claims any copyright or other protection, the submittal must include a notice, and the notice will accompany all documents copied for the reasons stated above. If copyright protection for a submitted document is claimed, failure to expressly grant permission for the copying stated above will render the document unusable for the Regional Board's purposes, and will result in the document being returned to the Discharger as if the task had not been completed.

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

_____

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. References
B. Simplified Advanced Wastewater Treatment and Disposal/Reuse System Flow Diagram
C. Project Site Location Map
D. Groundwater Potentiometric Map
E. Tables No. E1-E6 Constituent Concentrations
F. Standard Provisions for Waste Discharge Requirements