

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**BOARD ORDER NO. R6V-2006-0024  
WDID NO. 6B369706002**

**POST-CLOSURE WASTE DISCHARGE REQUIREMENTS  
FOR**

**MOLYCORP COMMUNITY AND COMPANY LANDFILLS**

\_\_\_\_\_ San Bernardino County \_\_\_\_\_

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

1. Discharger

For the purpose of this Regional Board Order (Order), Molycorp Inc. is the owner and operator of the Mountain Pass Mine and Mill and is referred to as the "Discharger." The Discharger submitted a complete revised Report of Waste Discharge and Closure and Post-Closure Maintenance Plan for its Community Landfill and Company Landfill <sup>1</sup>.

2. Landfills

The Community Landfill contains approximately 30,000 cubic yards of waste materials that were received from the mid-1960's to December 1987. The Company Landfill contains approximately 80,000 cubic yards of waste materials that were received from the mid-1960's to December 1991. For the purposes of this Order, both landfills are referred to as the "Landfills."

3. Reason for Action

The Regional Board is issuing Post-Closure Waste Discharge Requirements to approve the Final Closure Plan as implemented and require compliance with Title 27, California Code of Regulations (CCR) for the post-closure maintenance period. This Order shall remain in effect until it is determined there is no threat to water quality.

4. Order History

No previous Board Orders were adopted for these landfills.

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<sup>1</sup> October 2005 - Updated Report of Waste Discharge; Closure and Post Closure Maintenance Plans, Community and Company Landfills, Golder Associates

March 2001 - Site Investigation Report, Onsite Groundwater, Mountain Pass Mine and Mill, RWQCB Cleanup and Abatement Order 6-98-19A1, TRC Inc.

May 1997 – Report of Waste Discharge; Closure and Post Closure Maintenance Plans, Community and Company Landfills, TRC Inc.

March 23, 2006 - E-mail from Molycorp to Water Board staff entitled Molycorp Landfill Water Quality Protection Standard

5. Landfill Locations

The landfills are located on the north side of the Mine and Mill Site about 15 miles southwest of Stateline, Nevada in San Bernardino County. Both landfills are located within Section 12, T16N, R13E, SBBM, as shown on Attachments "A", "B", "C" & "D" which are made a part of this Order. The landfills are located on Molycorp Inc. property.

6. Description of Landfills

Both landfills are unlined. Based on excavations conducted before closure, it is estimated that the actual waste content of both landfills is approximately 30% of the waste volume. The remainder is daily cover and final fill to bring the landfills up to final grade elevations. The Community Landfill is approximately four (4) acres in size with a maximum depth of 20 feet. It received construction debris and municipal trash from an onsite permanent housing area. The Company Landfill is also approximately four (4) acres in size and has maximum depth of 50 feet. It received general office waste, mine product packaging waste, construction debris and other industrial waste from the mine and mill operations. The federal Subtitle D landfill regulations are effective for any landfill that received waste after the effective date of October 9, 1991. Because it received waste after the effective date of federal regulations and at a low volume, the Company Landfill qualifies for a Small Landfill designation. It is under both Water Board and California Integrated Waste Management Board (Waste Board) jurisdiction. The Community Landfill is under only Water Board jurisdiction.

7. Authorized Disposal Sites

The landfill footprints as shown on Attachments "C" (Community Landfill) and "D" (Company Landfill) are the only authorized disposal sites for waste. No additional waste disposal is authorized.

8. Waste Classification

The waste in both landfills is classified inert and non-hazardous solid waste (Title 27, CCR, Section 20220 and 20230) based on data submitted by the Discharger.

9. Waste Management Unit Classification

The landfills meet the standards for existing Class III landfills in the areas of Geologic Setting, Flooding, Ground Rupture and Rapid Geologic Change (Title 27, CCR, Section 20260).

10. Landfill Closure Criteria

Standards for closure and post-closure maintenance of landfills are specified in State Regulations (Title 27, CCR, Section 20950 & 21090). The regulation's goal is to minimize infiltration of water into wastes during the post closure period and thereby

minimize the production of leachate and gas. This Order requires actions to ensure this goal is achieved.

11. Monitoring and Corrective Action Programs

This Order requires a Detection Monitoring Program to monitor for evidence of a release. An Evaluation Monitoring Program is required only if there is evidence of a release. A Corrective Action Program to remediate releases is required if a release is confirmed. Separately, the Discharger is conducting a groundwater cleanup program to remediate releases from adjacent mine waste management units. To date there is no evidence of a release from the landfills (Title 27, CCR, Section 20385).

12. Water Quality Protection Standard

To determine if a release has occurred a water quality protection standard must be established (Title 27, CCR, Section 20390). This standard consists of the list of constituents of concern (including monitoring parameters), concentration limits, monitoring points, and the point of compliance. These items are described in the Monitoring and Reporting Program for this Order. Concentration Limits proposed by the Discharger may be evaluated and accepted by the Water Board Executive Officer or his/her designee. (Title 27 Section 20400(b))

13. Statistical Methods

Statistical analysis of monitoring data is necessary for the earliest possible detection of a statistically significant release of waste from the Landfill (Title 27, CCR, Section 20415(e)(7)). These methods are described in the Monitoring and Reporting Program for this Order.

14. Site Geology

Bedrock at the site consists of Precambrian metamorphic and intrusive rocks. Older gravels and bedrock outcrops characterize the geology. These deposits are comprised of pebbles and clasts that represent an ancient debris flow that filled deep channels in bedrock. Recent alluvial gravels are found at the surface only to a few feet deep.

15. Site Hydrogeology

The depth to groundwater is reported at about 46 feet beneath the Company Landfill (July 2005) and at about 125 feet beneath the Community Landfill (October 2005). Groundwater flows from north to south onto the Mountain Pass Mine and Mill site generally paralleling the surface drainages. Ephemeral groundwater flow is found in the shallow alluvial aquifers in and near these drainages following storm flow events. Fractured bedrock and debris flow deposits control the major movement of groundwater. Regionally, groundwater flow is naturally divided just north of the two landfills and generally flows to the southeast towards Wheaton Wash and Ivanpah

Valley and to the southwest towards Shadow Valley. Locally, groundwater beneath the Community Landfill is towards the mine pit and beneath the Company Landfill is towards now closed surface impoundment P-16.

16. Surface Hydrology and Storm Water Runoff

There are no perennial surface waters in the immediate vicinity of the landfills. Surface water during storm events flows from the landfills towards Wheaton Wash to the southeast and thence to Ivanpah Lake, which is a dry playa. Numerous springs are found in the Mountain Pass area although none are in the immediate vicinity of the landfills.

17. Site Topography

Site topography is shown on Attachment "B", which is made a part of this Order.

18. Climatology

The climate is arid to semiarid. The mean annual precipitation is about six (6) inches that ranges from 3 to 10 inches annually. The 24-hour, 100-year precipitation event used for storm water control design is 3.7 inches.

19. Groundwater Quality

Historic mine waste disposal operations have affected groundwater at the Mountain Pass Mine and Mill site. The disposal of slurry mine waste into former surface impoundment P-16, southeast of the Company Landfill, has caused a groundwater mound to form down gradient of the Company Landfill. Groundwater at the mine site contains elevated concentrations of numerous constituents including, strontium, nitrate, mercury, total dissolved solids and lignin sulfonate. A pump and treat system extracts polluted groundwater under requirements contained in Cleanup and Abatement Order No. 6-98-19A1. After treatment with reverse osmosis, the clean water is used as mine process water or discharged into a landscape pond near the mine office. Brine waste containing pollutants is disposed into the New Onsite Evaporation Ponds. Monitoring well 94-4MW, located down gradient of the Company Landfill and used for detection monitoring at this location, is impacted with mine waste constituents from the mound.

20. Land Uses

The land uses surrounding the landfills are: a) industrial operations associated with Molycorp Mine and Mill, b) residences at the Mountain Pass Community, d) freeway traffic on Interstate 15 and e) open desert land.

21. Closure and Post-Closure Maintenance

The prescriptive final cover for landfills as contained in California regulations is a two-foot foundation layer, a one-foot thick low hydraulic conductivity clay layer of  $1 \times 10^{-6}$  cm/sec or less and a one-foot thick erosion resistant vegetative layer (Title 27, CCR, Section 21090). The Discharger proposed, and implemented, an Engineered Alternative consisting of a foundation layer and a two and one-half foot thick final cover consisting of native soil excavated from west of the mine overburden pile to create a monolithic evapo-transpiration final cover. Perimeter drainage ditches were constructed to protect the cover from storm water run-on and control runoff. A native plant seed mix mixed with mulch was broadcast over the final cover.

22. Engineered Alternative

This Order constitutes Regional Board acceptance of the Alternative Final Cover as proposed in the Final Closure Plan. California regulations allows an Engineered Alternative to the prescriptive standards where the Discharger demonstrates that: 1) the construction of the prescriptive standard is not feasible because it is unreasonable 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 a specific engineered alternative that is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment. The performance goal specified in the regulations is to minimize water infiltration through the final cover (Title 27, CCR, Section 20080(b)).

The Discharger demonstrated its proposed Engineered Alternative met this standard through an alternative cover demonstration project prior to closing adjacent surface impoundment P-16. The use of clay as the low hydraulic conductivity layer is impractical because it requires importation from off-site and is likely to desiccate in the arid environment leading to cracking and possible percolation following rainfall events. The native soil cover cost \$170,000 as compared to a clay cover at \$480,000 or flexible membrane liner with geo-synthetic clay at \$580,000. The native soil cover provides for minimal infiltration by allowing for water storage in the silty-sand material with exfiltration through heat evaporation and transpiration by native plants. Computer modeling indicates that both the prescriptive and native soil covers would have an annual net infiltration of 0.03 cm/yr. The native soil cover is less costly and requires less long-term maintenance.

23. Financial Assurance

No financial assurances are required for closure of either Landfill because all closure activities are completed (Title 27, CCR, Section 22207(a)). The Water Board requires financial assurances for post-closure maintenance of the Community Landfill and the Waste Board requires financial assurances for the Company Landfill (Title 27, CCR, Section 22212(a)). At this time there is no requirement to submit financial assurances

for corrective actions associated with known or reasonably foreseeable releases because of the low threat posed by the landfills (Title 27, CCR, Section 22222). The Closure Plan estimates that in 2006 dollars the 30-year post closure maintenance costs are \$480,000 for each landfill. This Order requires financial assurances for each Landfill.

24. Receiving Waters

The receiving waters are the ground waters beneath the Ivanpah Hydrologic Unit (Department of Water Resources (DWR) Hydrologic Unit No. 612.00), which drain into the groundwater of the Ivanpah Valley (DWR Groundwater Basin No. 6-30).

25. Lahontan Basin Plan

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

26. Beneficial Ground Water Uses

The present and probable beneficial uses of the ground waters of the Ivanpah Valley as set forth and defined in the Basin Plan are as follows:

- a. Municipal and domestic supply (MUN);
- b. Agricultural supply (AGR);
- c. Industrial service supply (IND); and
- d. Freshwater replenishment (FRSH).

27. California Environmental Quality Act

This Order governs an existing closed Landfill that the Discharger formerly operated. The project (post-closure maintenance) is therefore exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code § 21000 et seq.) in accordance with Title 14, CCR Section 15301 (Existing Facilities).

28. Notification of Interested Parties

The Regional Board has notified the Discharger and all known interested agencies and persons of its intent to adopt post-closure waste discharge requirements for the project.

29. Consideration of Interested Parties

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

30. Stormwater Discharges

The Discharger has developed and is implementing separate Stormwater Pollution Prevention Plans to address both post closure monitoring of the landfills under the General Construction Storm Water Permit and run off monitoring associated with industrial activities under the General Industrial Storm Water Permit.

31. Other Orders

Currently, the Water Board regulates other Molycorp facilities at the Mountain Pass Mine and Mill under the following Orders.

<b>WDID No.</b>	<b>Facility Name</b>
6B360011004	Domestic Wastewater
6B369003001	New Ivanpah Evaporation Pond
6B369006001	Old Ivanpah Evaporation Pond
6B362098001	Mountain Pass Mine & Mill
6B360009001	P-16 North Tailings Pond Post Closure
6B360008001	P-1 Old Tailings Pond Post Closure
6B369807003	Onsite Evaporation Ponds
6B381000409	Mine & Mill Industrial Stormwater
6B36C337667	Mine and Mill Closure Construction (only required for construction)

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

I. DISCHARGE SPECIFICATIONS

A. Receiving Water Limitations - Discharges from the landfills shall not cause groundwaters of the Ivanpah Hydrologic Unit to contain the following substances: (Basin Plan page 3-12).

1. Bacteria: The median concentration of coliform organisms over any seven-day period that is in excess of (or equal to) 1.1MPN/100 milliliters;
2. Chemical Constituents: In groundwaters designated as MUN, concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of Title 22, CCR which are incorporated by reference into this Order: Table No. 64431-A of Section 64431 (Inorganic Chemicals), Table No. 64431-B of Section 64431 (Fluoride), Table No. 64444-A of Section 64444 (Organic Chemicals), Table No. 64449-A of Section 64449 –A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits), and Table No. 64449-B of Section 64449 (Secondary Maximum Contaminant Levels-Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the

changes take effect. Note: Table No 64431-B is replaced by Table 64433.2A (Optimum Fluoride Levels) in current regulations;

Concentrations of chemical constituents that adversely affect the water for beneficial uses, including the beneficial uses: Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Industrial Service Supply (IND); and Freshwater Replenishment (FRSH).

3. Radioactivity: Concentrations of radionuclides in excess of the limits specified in Table No. 4 of Section 64443 (Radioactivity) of Title 22 of the CCR, which is incorporated by reference into this Order. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect; and
4. Taste and Odors: Taste or odor-producing substances in concentrations that cause nuisance or that adversely affects beneficial uses.

## II. REQUIREMENTS AND PROHIBITIONS

### A. Basin Plan Prohibitions

1. The discharge of waste that causes violation of any narrative water quality objectives contained in the Basin Plan, including the Nondegradation Objective, is prohibited. (Basin Plan Page 3-2, 4.1-1)
2. Where any numeric or narrative water quality objectives contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution is prohibited. (Basin Plan Page 4.4-1)
3. The discharge of untreated sewage, garbage, or other solid wastes, or industrial wastes into surface waters of the Region is prohibited. (Basin Plan Page 4.1-1)
4. The discharge of wastewater except to the designated disposal site is prohibited. (Basin Plan Page 4.1-1)

### B. General Requirements

1. The discharge shall not cause pollution as defined in Section 13050 of the California Water Code, or a threatened pollution.
2. The discharge shall not cause a nuisance as defined in Section 13050 of the California Water Code.
3. The discharge of solid wastes, leachate, or any other deleterious material to the ground waters of the Ivanpah Hydrologic Unit is prohibited.



4. The Discharger shall comply with the closure and post closure maintenance requirements for Class III landfills as described in Title 27, CCR and this Order. (Title 27, Section 20080)

C. Landfill Closure and Post Closure Maintenance Requirements

1. The closed landfill sites shall be operated and maintained to be protected from inundation, washout, slope failure, over topping, inundation, or erosion of wastes and erosion of covering materials resulting from a 24-hour storm or a flood having recurrence interval of once in 100 years. Ponding shall be prevented. (Title 27, Section 20260(c), 20365(a), Section 21090(b)(1)(A), Section 21090(b)(3))
2. Surface and subsurface drainage from outside the landfills shall be diverted away from the landfills and not contact or percolate through solid waste at the landfills. (Title 27, Section 20365(e))
3. The closed landfills shall be operated and maintained to prevent migration of wastes to adjacent geologic materials, groundwater or surface water. (Title 27, Section 20310(a))
4. All containment structures associated with the closed landfills shall be designed by, and construction shall be supervised and certified by a California registered civil engineer or geologist. (Title 27, Section 20310(e))
5. The final cover shall be installed in accordance with a Construction Quality Assurance Plan that meets the requirements of Title 27, Section 20323 and 20324. (Title 27, Section 21090(b)(1)(E))
6. The Discharger shall maintain sufficient financial assurances to satisfy Title 27 requirements for post-closure maintenance and, if required, corrective actions associated with reasonably foreseeable releases. Financial assurances for the Company Landfill must be submitted to the Waste Board and for the Community Landfill to the Water Board. The Discharger must continue to demonstrate that the amount of financial assurance is adequate throughout the life of this Order. (Title 27, Section 20380(b), 20950(f))
7. Each Landfill shall have placed two permanent monuments installed by a licensed land surveyor or registered civil engineer.
8. The Discharger shall install and maintain a final cover that includes foundation layer and evapo-transpirative cover as described in the Closure Plan. The vegetative cover shall be planted with a seed mix that is appropriate to the site conditions and resists erosion. (Title 27, Section 21090)

9. The Discharger shall moderate application of water to the cover for dust control and irrigation in a manner that minimizes flow through to the underlying waste. (Title 27, Section 21090(a)(5)(B))
10. The Discharger shall maintain the structural integrity and effectiveness of containment structures, the final cover and monuments throughout the post closure period. (Title 27, Section 21090 (c))
11. The Discharger shall conduct a final survey of the closed landfills that meets the criteria of Title 27, Section 21090(e).
12. The Discharger shall notify the Water Board, as appropriate, regarding changes in site operations, and land ownership. (Title 27, Section 21710)
13. The Discharger shall notify the Water Board within 30 days after the completion of closure activities and certify under penalty of perjury that the closure was completed in accordance with the Closure Plan. (Title 27, Section 21710(c)(6))

D. Landfill Monitoring Requirements

1. The Discharger shall comply with Title 27 requirements for detecting, characterizing and responding to releases to surface water, groundwater or the unsaturated zone. (Title 27, Section 20380(a))
2. The Discharger shall implement a Detection Monitoring Program pursuant to Title 27, Section 20420 because at the time this Order is adopted there is no evidence of a release from the landfills. An Evaluation Monitoring Program pursuant to Title 27, Section 20425 or Corrective Action Program pursuant to Title 27, Section 20430 shall be implemented as necessary. (Title 27, Section 20385)
3. All monitoring systems shall be designed and certified by a California registered civil engineer or geologist. (Title 27, Section 20415(e)(1))
4. All monitoring wells and other borings (included but not limited to gas monitoring wells) shall be drilled by a licensed drilling contractor and the cuttings shall be logged during drilling under the direct supervision of a California registered civil engineer or geologist. Upon completion, all logs shall be submitted to the Water Board. (Title 27, Section 20415(e)(2))
5. The Sampling and Analysis Plan, required pursuant to the Standard Provisions of this Order, shall provide for consistent sampling and analytical procedures to ensure that the results provide a reliable indication of water quality. It shall, at a minimum, include a detailed description of the procedures and techniques for: a) sample collection,

purging techniques, sampling equipment and decontamination methods, b) sample preservation and shipment, c) analytical procedures and d) chain of custody control. (Title 27, Section 20415(e)(4))

6. The Discharger shall propose in the Sampling and Analysis Plan an appropriate statistical data analysis method allowed in Title 27 regulations for each constituent of concern and each monitoring parameter to determine if a measurable significant release has occurred. (Title 27, Section 20415(e)(7))
7. If a measurably significant release has occurred from the landfills, the Discharger may conduct a verification retest, but must notify the Water Board within seven days of such determination and propose an Evaluation Monitoring Program as necessary. (Title 27, Section 20420(j)&(k))
8. The Discharger shall submit monitoring reports as required in the Monitoring and Reporting Program attached to this Order. (Title 27, Section 21710(c)(4) & Water Code Section 13267)

E. Data Analysis (Title 27, Section 20415(e)(7-11))

1. Statistical Analysis - Statistical analysis of ground water and unsaturated zone Detection Monitoring Program data shall be conducted using an appropriate statistical method.
2. Nonstatistical Analysis - The Discharger shall determine whether there is significant physical evidence of a release from the landfills. Significant physical evidence may include unexplained volumetric changes in the Landfill, 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 Landfill, or any other change in the environment that could reasonably be expected to be the result of a release from the landfills.
3. Verification Procedures - The Discharger shall immediately initiate verification procedures whenever there is a determination by the Discharger or Executive Officer that there is statistical or non-statistical 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. The verification procedure shall only be performed for the constituent(s) that has shown evidence of a release, and shall be performed for those monitoring points at which a release is indicated.
4. Retest Procedures - 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 in order to verify evidence of a release.

5. Reporting Retest Results - The Discharger shall report to the Water 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. Statistical Evidence of a Release - The Discharger shall determine, within 45 days after completion of sampling, whether there is statistically significant evidence of a release from the landfills at each monitoring point. If there is statistically significant evidence of a release, the Discharger shall immediately notify the Water Board by certified mail. The Executive Officer may make an independent finding that there is statistical evidence of a release.
7. Evaluation Monitoring Proposal - If the Discharger or Executive Officer verifies evidence of a release, the Discharger is required to submit, within 90 days of 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 or make a demonstration to the Regional Board that there is a source other than the Landfill that caused evidence of a release.
8. Technical Report Without Verification Procedures - If the Discharger chooses not to initiate verification procedures, 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 Landfill.

### III. PROVISIONS

#### A. Closure Plan

The implemented Final Closure and Post Closure Maintenance Plan, dated October 2005, which includes an alternative final cover is accepted.

#### B. Standard Provisions

The Discharger shall comply with the "Standard Provisions for WDRs," dated September 1, 1994, in Attachment "C", which is made part of this Order.

#### C. Monitoring and Reporting

1. Pursuant to the California Water Code Section 13267(b), the Discharger shall comply with the attached Monitoring and Reporting Program as specified by the Executive Officer. The information to be submitted is needed to monitor the discharge for compliance with waste discharge requirements and determine the effect on water quality.
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. Time Schedules

1. By **August 15, 2006**, submit evidence that adequate financial assurances for each landfill are in place.
2. By **August 15, 2006**, submit evidence, certified by a California registered civil engineer or geologist, that the landfills were closed in accordance with the Closure Plan and the Construction Quality Assurance Plan. The certification, which shall include any other documentation as necessary to support the certification, shall be incorporated into the CPCMP.

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 June 14, 2006.

“Original Signed By”

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HAROLD J. SINGER  
EXECUTIVE OFFICER

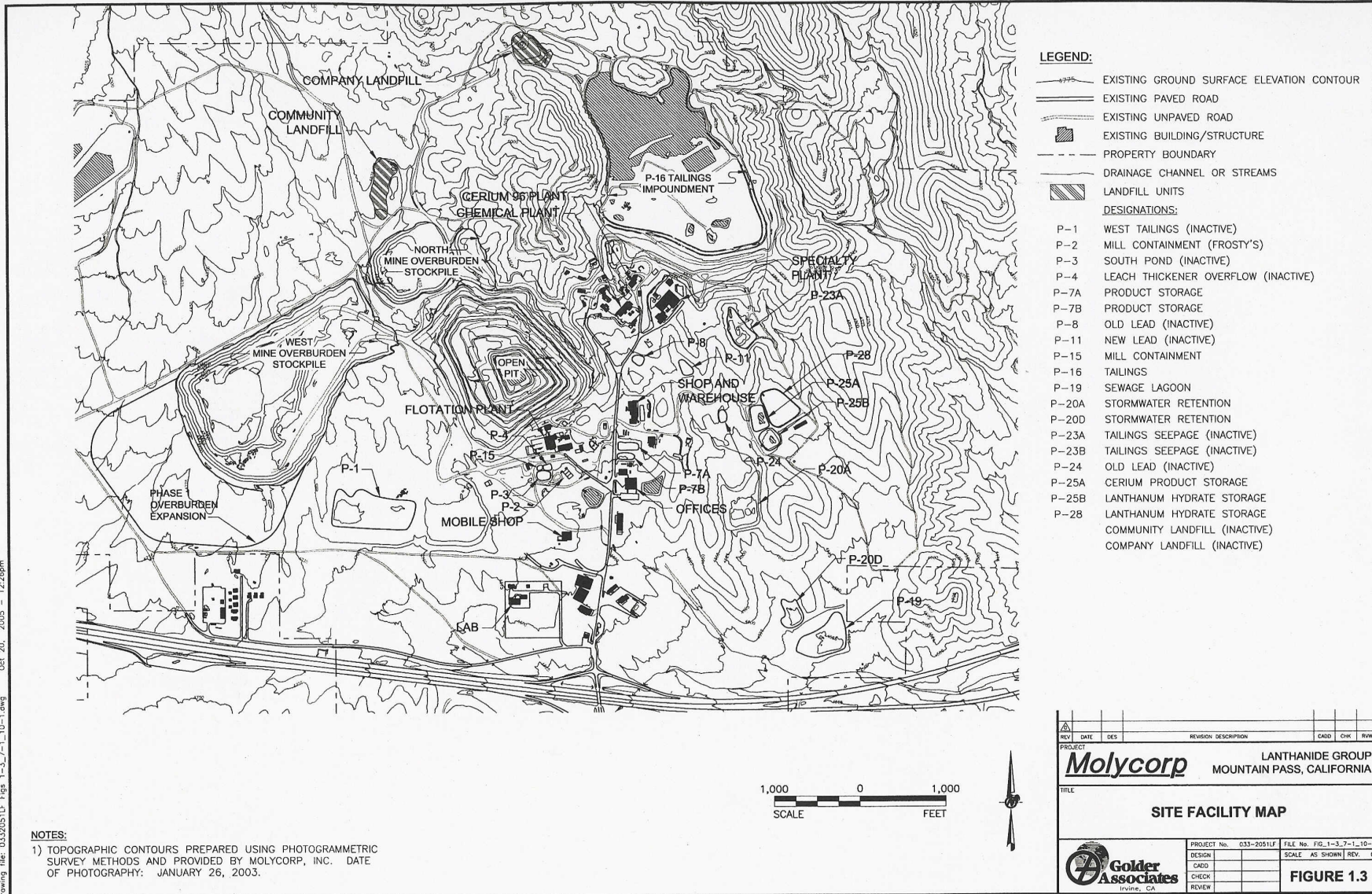
- Attachments:
- A. Molycorp Mountain Pass Mine and Mill Facility Map
  - B. Molycorp Landfills and Monitoring Wells
  - C. Molycorp Community Landfill
  - D. Molycorp Company Landfill
  - E. Standard Provisions for Waste Discharge Requirements



# Attachment A – Molycorp Mountain Pass Mine & Mill Facility Map

## Waste Discharge Requirements

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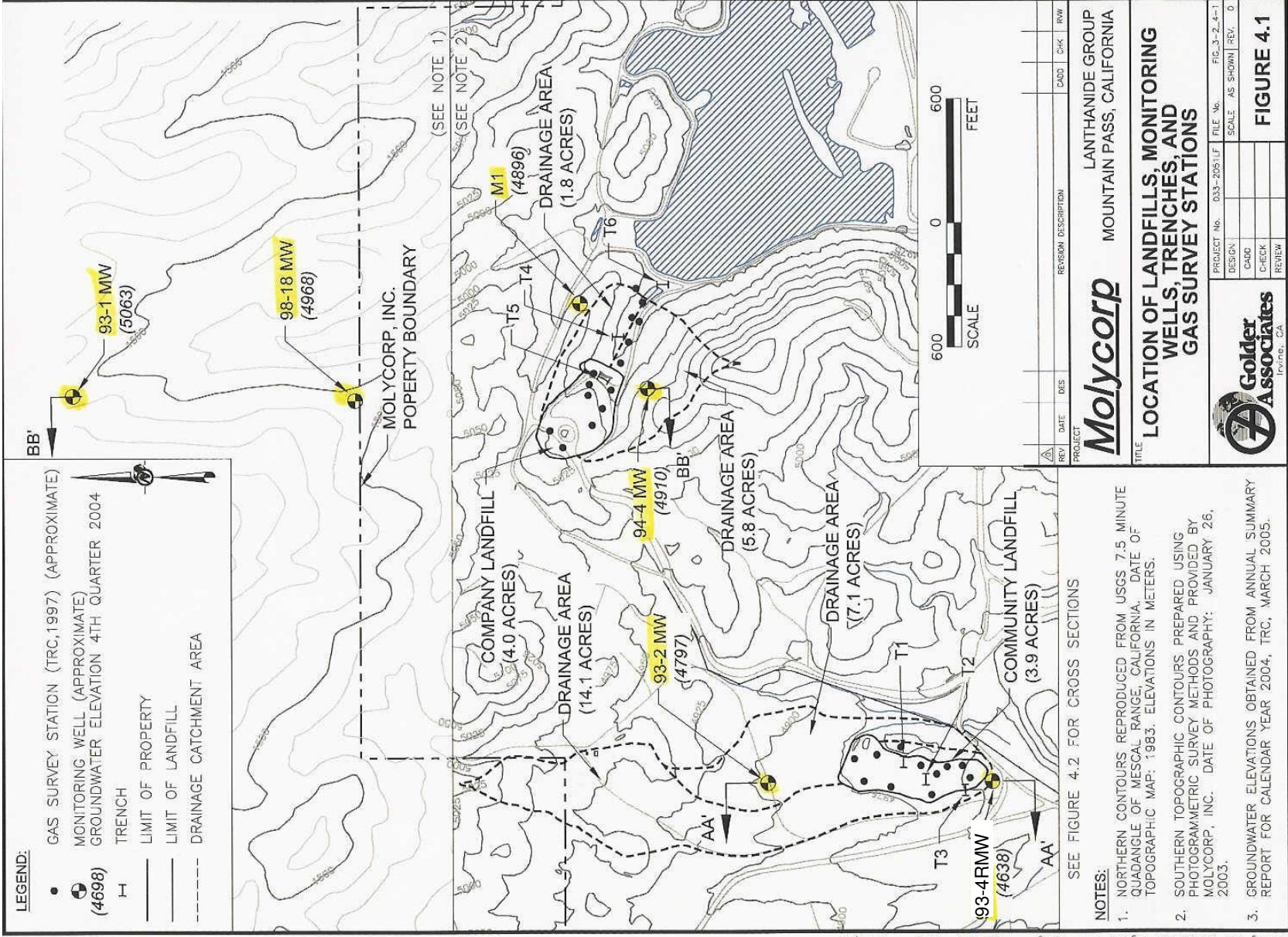


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# Attachment B – Molycorp Landfills & Monitoring Wells

## Waste Discharge Requirements

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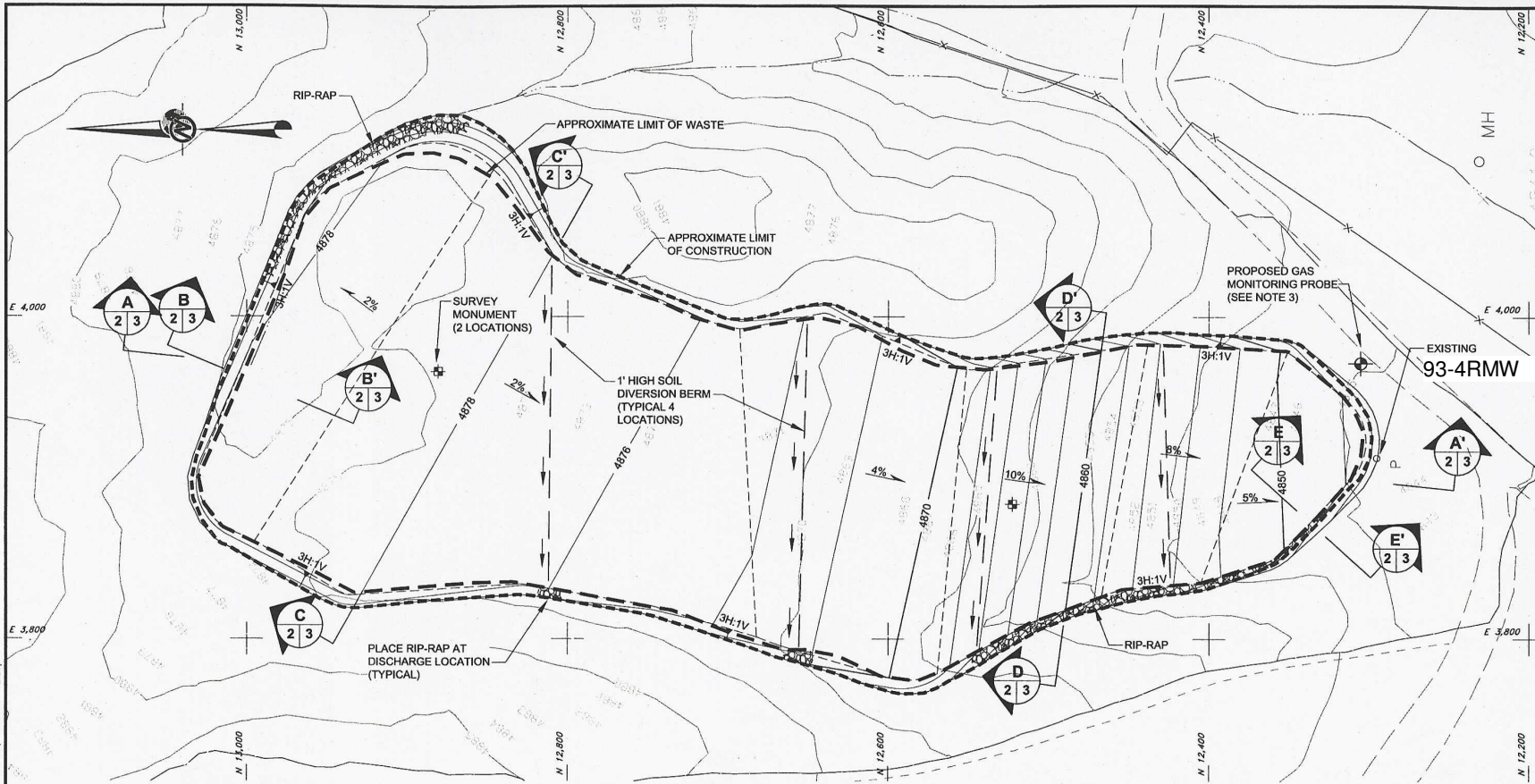




# Attachment C – Molycorp Community Landfill

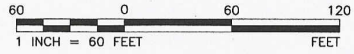
## Waste Discharge Requirements

6B369706002



**NOTES:**

1. TOPOGRAPHIC CONTOURS PREPARED USING GROUND SURVEY METHODS BY FOUR CORNERS SURVEYING, INC. DATE OF SURVEY: AUGUST 16, 2005.
2. LIMITS OF WASTE ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.
3. PROBE TO BE DRILLED TO LOWEST DEPTH OF WASTE/BEDROCK (APPROXIMATELY 12' BELOW GROUND SURFACE). PROBE WILL HAVE SINGLE COMPLETION FROM 5' BGS TO BOTTOM OF PROBE (SEE FIGURE L.2, APPENDIX L).



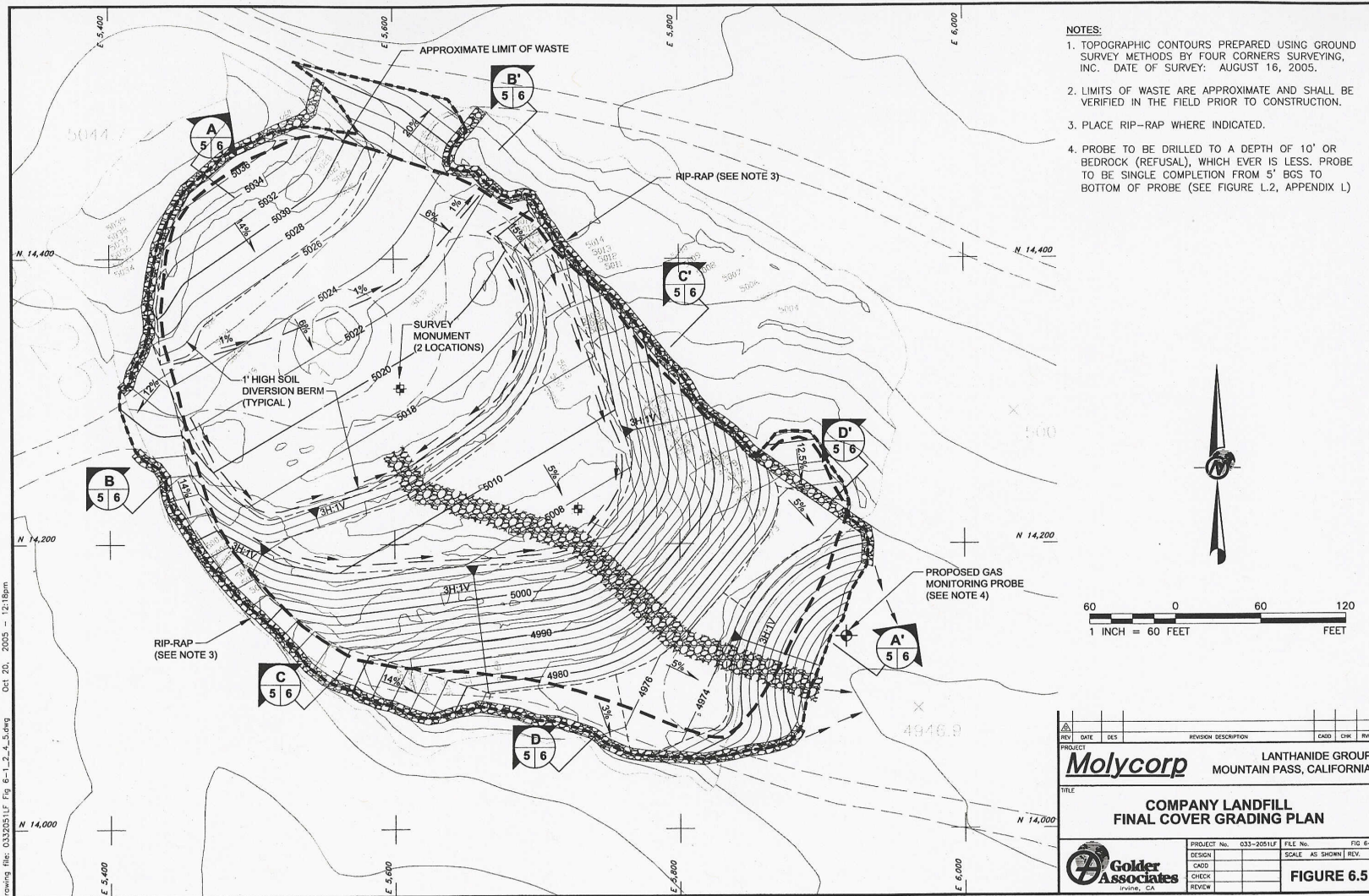
REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RW
PROJECT			LANTHANIDE GROUP MOUNTAIN PASS, CALIFORNIA			
<p><b>Molycorp</b></p> <p><b>COMMUNITY LANDFILL FINAL COVER GRADING PLAN</b></p>						
PROJECT No. 033-208117		FILE No.		FIG 6-1		
DESIGN		SCALE AS SHOWN		REV. 0		
CADD						
CHECK						
REVIEW						
<p><b>Golder Associates</b> Irvine, CA</p>			<b>FIGURE 6.2</b>			

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# Attachment D – Molycorp Company Landfill

## Waste Discharge Requirements

6B369706002



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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**

**MONITORING AND REPORTING PROGRAM NO. R6V-2006-0024  
WDID NO. 6B369706002**

**FOR**

**MOLYCORP COMMUNITY AND COMPANY LANDFILLS**

San Bernardino County

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I. WATER QUALITY PROTECTION STANDARD

A. Ground Water

1. Point of Compliance and Monitoring Points

The Point of Compliance as defined in Section 20405, Title 27, California Code of Regulations (CCR) as "a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit". For each Landfill, the Discharger shall conduct groundwater Monitoring along the Point of Compliance, and shall specify additional Monitoring Points at locations determined pursuant to Section 20415(b-d), Title 27 (CCR), at which the Water Standard under Section 20390, Title 27 (CCR), applies and at which monitoring shall be conducted. Ground water monitoring wells have been installed at monitoring points up gradient of the Landfills and at the Point of Compliance as part of the Detection Monitoring Program (DMP). Other groundwater monitoring wells have been installed to support Detection Monitoring and Corrective Actions at adjacent mine waste management units. The locations of the ground water monitoring wells are illustrated on Attachment "B" to the Order.

2. Monitoring Parameters and Constituents of Concern

The monitoring parameters are as follows:

- a. Field measurements listed in Table 2.b, below;
- b. Metal surrogates as listed in Table 2.a, below;
- c. Radioactivity parameters listed in Table 2.a, below; and
- d. Volatile organic constituents as defined by Appendix I of 40 CFR, Part 258.

The constituents of concern are the monitoring parameters and those constituents listed in Appendix II of 40 CFR, Part 258.

3. Concentration Limits

- a. The Discharger has collected background water quality data for the monitoring parameters contained in this Monitoring and Reporting Program.
- b. The concentration limits for each man-made organic constituent that is not proven to have originated from a source other than the Landfill is the laboratory detection limit for that constituent.
- c. The Discharger shall propose a concentration limit for each monitoring parameter consistent with this Order that is either 1) a background value or 2) a value that is re-determined each sampling event. (Title 27 Section 20400(a))
- d. Following acceptance of the Concentration Limits, the Concentration Limits shall apply.

B. Unsaturated Zone

1. Monitoring Points

The Discharger has proposed a soil gas monitoring station at each Landfill for unsaturated zone monitoring. The locations of the proposed soil-gas monitoring stations are shown on Attachments "C" and "D" of the Order.

2. Monitoring Parameters and Constituents of Concern

The monitoring parameters for soil gas are the gases methane, carbon dioxide, oxygen, and nitrogen. The constituents of concern are the monitoring parameters and the volatile organic constituents listed under the laboratory analytical method EPA T0-14.

3. Concentration Limits

The concentration limits for all constituents of concern in soil gas shall be the method detection limit. The monitoring parameters shall not be required to have concentration limits because these parameters exist naturally in soil gas and development of background concentrations would be technically infeasible.

C. Surface Water

No surface water monitoring is required.

II. MONITORING

A. Detection Monitoring

Title 27, CCR Section 20385, Section 20415 and Section 20420, requires a Detection Monitoring Program. A monitoring report shall be submitted semi-annually which reports the results of ground water and unsaturated zone monitoring conducted in accordance with the Sampling and Analysis Plan. The Discharger's monitoring points are as follows:

1. Ground Water

a. Monitoring Points

**Table 1 – Monitoring Points**

<b>Monitoring Well<sup>1</sup></b>	<b>Landfill</b>	<b>Purpose</b>
94-4MW	Company	Point of Compliance
93-1MW	Company	Background
93-4MW	Community	Point of Compliance
93-2MW	Community	Background

Other adjacent monitoring wells must be used to determine groundwater elevation and the direction of groundwater flow.

b. Monitoring Parameters

Ground water samples shall be collected and submitted for laboratory analysis at all monitoring points semi-annually as described in Table 2.a, below.

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<sup>1</sup> Or acceptable replacement/alternate monitoring point.



**Table No. 2.a – Groundwater Monitoring Parameters**

<b>Parameter</b>	<b>Units</b>	<b>Frequency</b>
Total dissolved solids	Mg/L	Semi-annually
Chloride	Mg/L	Semi-annually
Sulfate	Mg/L	Semi-annually
Nitrate (as N)	Mg/L	Semi-annually
Color	Units	Semi-Annually
Organic Constituents listed in Appendix I to 40 CFR Part 258 (See Attachment B of this MRP)	ug/L	Annually(*)
Ammonia (as N)		
Strontium	Mg/L	Annually
Lead	Mg/L	Annually
Barium	Mg/L	Annually
Calcium	Mg/L	Annually
Magnesium	Mg/L	Annually
Sodium	Mg/L	Annually
Potassium	Mg/L	Annually
Total Alkalinity	Mg/L	Annually
Total Organic Carbon	Mg/L	Annually
Gross Beta	pico currie/L	Annually
Gross Alpha	pico currie/L	Annually
Total Radium	pico currie/L	Annually
Total Uranium	pico currie/L	Annually

(\*)\_Organic constituents listed in Appendix I, 40 CFR Part 258 shall be monitored annually for four (4) years. If no analytes are detected then continued monitoring shall be every five years thereafter.

c. Constituents of Concern

Ground water samples shall be collected and submitted for laboratory analysis at all monitoring points within 90 days of triggering an Evaluation Monitoring Program for all constituents of concern. (Reference 40 CFR Part 258.55(b)). Sampling frequency will be determined at that time.

d. Aquifer Characteristics

The parameters listed in Table 2.b. shall be determined and reported in tabular form semi-annually. Include a figure illustration of the information listed in Table 3.

**Table No. 2.b - Field Measurements**

<b>Parameter</b>	<b>Units</b>
Depth to Ground Water	feet bgs
Static Water Level	feet above mean sea level
Electrical Conductivity	Micromhos/cm
Redox Potential	MV
PH	pH Units
Temperature	Deg. F or C
Turbidity	NTUs

**Table No. 3 - Ground Water Calculations**

<b>Parameter</b>	<b>Units</b>
Slope of Ground Water Gradient	ft/mile
Direction of Ground Water Gradient	Degrees
Velocity of Ground Water Flow	Feet/year

e. Cover Monitoring

The Discharger has installed a final cover over the closed Landfills. The cover has been vegetated and graded to a slope, which is intended to promote runoff and prevent ponding. The Discharger shall establish a minimum of two permanent photographic locations. Annually, photographs shall be taken at these locations. Annually, the condition of the cover and ability to promote runoff, prevent ponding and resist erosion shall be reported in a narrative analysis.

2. Unsaturated Zone

Each Landfill has a soil gas unsaturated zone monitoring station. Soil gas samples shall be collected and reported annually for methane, carbon dioxide, oxygen, nitrogen, humidity and volatile organic compounds using method EPA TO-14 or equivalent.

III. DATA ANALYSIS

A. General Statistical Analysis Method

The report titled "Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities" (U.S. EPA, 1989) shall be used to select the statistical test to use for comparing detection monitoring well data to background monitoring data. If more than 50 percent of the observations in the detection monitoring wells are below the detection limit, then the Test of Proportions will be used. If more than 50

percent are above the detection limit, then a One-Way Analysis of Variance (ANOVA) will be used (i.e., Bartlett's Test for Equality of Variances). For multiple well computations the computed F Statistic will be compared to the tabulated F Statistic at the five (5) percent significance level. If the calculated F value exceeds the tabulated value, then the hypothesis of equal means will be rejected. The Bonferroni t-Statistics will be computed to determine if the significant F is due to differences between background and compliance wells at the five (5) percent significance level.

B. Site Specific Statistical Analysis Method

This Order includes a time schedule for the Discharger to propose methods for site-specific data statistical analysis. The Executive Officer may approve statistical methods, which are different than the general methods listed in this Monitoring and Reporting Program provided that such methods are capable of determining a statistically significant release from the Landfill.

C. Nonstatistical Method

In accordance with this Order, evaluation monitoring will be initiated without statistical verification if there is significant physical evidence of a release. Physical evidence can include time series plots, vegetation loss, or soil discoloration. Each semi-annual report shall comment on these physical elements.

IV. REPORTING REQUIREMENTS

A. Scheduled Reports To Be Filed With The Regional Board

The following periodic reports shall be submitted to the Regional Board as specified below:

Semi-Annual Detection Monitoring Reports

1. Include the results of sampling and laboratory analysis for ground water, soil gas and other required monitoring results.
2. An Executive Summary shall accompany each report. The summary shall include a discussion of any requirement violations found since the last report was submitted, and shall describe actions taken or planned for correcting those violations.
3. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting this schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of

transmittal.

4. For each monitored ground water body, include a description and graphical presentation of the velocity and direction of ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality data submitted in the report.
5. Include a map or aerial photograph showing the locations of vadoze zone and groundwater monitoring points.
6. Include a description of the conditions of the cover materials. Specifically, comments regarding any subsidence or soil cover washouts, which have occurred, and the capability of the cover to promote runoff and prevent ponding should be included. In the case where subsidence, washouts or other damage to the cover is noted, the report shall indicate the actions taken to repair cover material so that the event will not reoccur.

B. Unscheduled Reports To Be Filed With The Board

1. Notice of Tentative Release

Should the appropriate statistical or non-statistical data analysis indicate, for a given constituent of concern, that a release is tentatively identified, Discharger shall:

- a. Immediately notify the Regional Board verbally as to the monitoring point(s) and constituent(s) or parameter(s) involved;
- b. Provide written notification by certified mail within seven days of such determination (Section 20420(j), Title 27, CCR). The notification should indicate the Discharger's intent to conduct verification sampling, initiate evaluation monitoring procedures, or demonstrate that a source other than the Landfill is responsible of the release.
- c. If the Discharger chooses to attempt to demonstrate that a source other than the Landfill is responsible for the release, the Discharger shall submit a supporting technical report within 90 days of detection of the release.

2. Technical Report Without Verification Procedures

If the Discharger chooses not to initiate verification procedures, a technical report shall be submitted pursuant to Section 13267(b) of the California Water Code. The report shall propose an EMP, OR,

attempt to demonstrate that the release did not originate from the Landfill.

C. General Provisions

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

D. Submittal Periods

Semi-annual monitoring reports shall be submitted to the Water Board by **February 1 and August 1 of each year** with information for each prior calendar year semester period. These reports are intended to include information related only to the monitoring period.

E. Annual Report

By **February 1 of each year** submit an Annual Report to the Water Board for the period January to December of the prior year. This report shall include a tabular and graphical trend analysis of the data collected during the previous two years and a separate table and graphs all historical data collected at each monitoring point. This report may be submitted along with the semi-annual monitoring report due at the same time.

F. Compliance Schedule for New Monitoring Wells

1. By **August 1, 2006**, the Discharger must submit a proposed Sampling and Analysis Plan that describes methods and procedures for collecting and analyzing monitoring data and a map showing all monitoring locations. (See also General Provisions)
2. By **August 1, 2006**, the Discharger must submit a workplan proposing to install a minimum of one groundwater monitoring well down-gradient to the Company Landfill to characterize the groundwater flow direction and to monitor for the groundwater monitoring parameters specified in this Monitoring and Reporting Program.
3. By **October 15, 2006**, the Discharger must submit a proposed concentration limit and statistical method for each constituent of concern that is either 1) a background value or 2) a value that is re-determined each sampling event. (Title 27 Section 20400(a))
4. By **December 31, 2006**, a new downgradient, groundwater compliance well for the Company Landfill shall be constructed and incorporated into the monitoring program. No later than 60 days

following installation, a Well Completion Report shall be submitted.

G. Financial Assurance

In each Annual Report submit a Financial Assurance Report to the Water Board with the following information.

1. The amount of financial assurance provided.
2. The type of financial assurance.
3. Evidence that the financial instrument remains in effect.
4. Evidence that the amount of financial assurance remains adequate, including adjustments for inflation, current site conditions and other factors.
5. If necessary, an increase in the amount of financial assurance.

H. Reporting Frequency

<u>Report Designation</u>	<u>Monitoring Period</u>	<u>Report Due</u>
First Semi-Annual Monitoring Report	Jan 1 – June 30	August 1
Second Semi-Annual Monitoring Report*	July 1 – Dec 31	February 1
Annual Monitoring Report*	Jan 1 – Dec 31	February 1
Annual Financial Assurance*	Jan 1 – Dec 31	February 1

*\*may be combined in one report*

Ordered by: “Original Signed By”  
HAROLD J. SINGER  
EXECUTIVE OFFICER

Dated: June 14, 2006

Attachments: A. General Provisions for Monitoring and Reporting  
B. Organic Constituents Listed in Appendix I to 40 CFR Part 258

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.

x:PROVISIONS WDRS

file: general pro mrp

## Attachment B

### ORGANIC CONSTITUENTS LISTED IN APPENDIX I, 40 CFR PART 258 (numbers refer to the sequence listed in federal regulations)

- (16) Acetone
- (17) Acrylonitrile
- (18) Benzene
- (19) Bromochloromethane
- (20) Bromodichloromethane
- (21) Bromoform, Tribromomethane
- (22) Carbon disulfide
- (23) Carbon tetrachloride
- (24) Chlorobenzene
- (25) Chloroethene, Ethyl chloride
- (26) Chloroform, Trichloromethane
- (27) Dibromochloromethane, chlorodibromomethane
- (28) 1,2-Dibromo-3-chloropropane; DBCP
- (29) 1,2-Dibromoethane, ethylene dibromide; EDB
- (30) o-Dichlorobenzene; 1,2-Dichlorobenzene
- (31) p-Dichlorobenzene; 1,4-Dichlorobenzene
- (32) trans-1,4-Dichloro-2-butene
- (33) 1,1-Dichloroethane; Ethylidene chloride
- (34) 1,2-Dichloroethane; Ethylene dichloride
- (35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride
- (36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
- (37) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene
- (38) 1,2-dichloropropane; Propylene dichloride
- (39) cis-1,3-Dichloropropene
- (40) trans-1,3-Dichloropropene
- (41) Ethylbenzene
- (42) 2-Hexanone; Methyl butyl ketone
- (43) Methyl bromide; Bromomethane
- (44) Methyl chloride; Chloromethane
- (45) Methylene bromide; Dibromomethane
- (46) Methylene chloride; Dichloromethane
- (47) Methyl ethyl ketone; MEK; 2-Butanone
- (48) Methyl iodide; Iodomethane
- (49) 4-Methyl-2-pentanone; Methyl isobutyl ketone
- (50) Styrene
- (51) 1,1,1,2-Tetrachloroethane
- (52) 1,1,2,2-Tetrachloroethane
- (53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene
- (54) Toluene
- (55) 1,1,1-Trichloroethane; Methylchloroform
- (56) 1,1,2-Trichloroethane
- (57) Trichloroethylene; Trichloroethene
- (58) Trichlorofluoromethane; CFC-11
- (59) 1,2,3-Trichloropropane
- (60) Vinyl acetate
- (61) Vinyl chloride
- (62) Xylenes