

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

ORDER NO. R4-2002-0026

WASTE DISCHARGE REQUIREMENTS  
FOR  
USG CORPORATION, LA MIRADA FACILITY  
(POTASSIUM PERMANGANATE INJECTION PILOT TEST)  
(FILE NO. 2001-164)

The California Regional Water Quality Control Board, Los Angeles Region, (hereafter Regional Board) finds that:

1. USG Corporation (hereafter Discharger) owns a manufacturing plant at 14370 Gannet Street, La Mirada, Los Angeles County. The plant is in the SW-1/4 of Section 22, T3S, R11W and is approximately one-half mile from the intersection of North Fork Coyote Creek and La Mirada Creek (Figure 1). The Discharger filed a report of waste discharge on July 18, 2001 for a potassium permanganate injection pilot test.
2. The Discharger has operated a caulking and adhesives manufacturing facility from the early 1960's to the present, at 14370 Gannet Street, City of La Mirada, California (Figure 2). Volatile Organic Compounds (VOCs) and raw materials were reported as having been stored in 22 underground storage tanks on-site. The reported raw materials included benzene, toluene, xylenes, hexane, ethylene glycol, hydrocarbon plasticizer, acetone, methylethyl-ketone, lacolene with lactol spirits, mineral spirits, Shelliflex 412, Shelliflex 212, Santicizer 160, PMAK W-4, ethanol alcohol, and trichloroethane. The tanks were located in two groups known as the east and south tank farms. Tanks 1 through 10, in the south tank farm (south of the building), are currently in use. Tanks 11 through 22, in the east tank farm (east of the building), were removed in 1990. Industrial activity at this 3.5 acre site has continued to the present day.
3. In 1986, the Los Angeles County Department of Public Works required a provisional Hazardous Materials Underground Storage Permit (HMUSP No. 3871) for the facility. Based upon a report titled "Interim Report/Proposed Remedial Action Provisional HMSUP No. 3871," dated June 30, 1987, prepared by Converse Environmental, benzene and VOCs were detected in soil as a result of contamination delineation. Eighteen soil borings were drilled around the two tank farms to a maximum depth of 50 feet, and converted to 15-foot vadose zone monitoring wells for leak detection purposes. One 110-foot boring was drilled in the northwest corner of the property and was converted into a groundwater monitoring well. Depth to groundwater was reported at approximately 85 feet below ground surface (bgs). Soil contamination was discovered near the south underground storage tank farm in borings BH-1 through BH-9, and in BH-17 and BH-18. Contamination included concentrations of benzene of 1,700 milligrams per kilogram (mg/kg) as deep as 50 feet bgs, total petroleum hydrocarbons of 12,000 mg/kg at a depth of 10 feet bgs, and toluene of 2 mg/kg at a depth of 30 feet bgs. Composite soil samples indicated 76 mg/kg of toluene and 840 ppm of 1,1,1-trichloroethane (1,1,1-TCA) from depths of 5, 10, 20, 30 and 40 feet bgs. The soil in the vicinity of the east tank farm (borings BH-10 through BH-16) showed no signs of contamination. The results of groundwater analysis from monitoring well BH-19 indicated the presence of 270 micrograms per liter ( $\mu\text{g/l}$ ) of trichloroethylene (TCE) and 32,000  $\mu\text{g/l}$  of benzene. The integrity of the tanks in both tank farms was tested and certified tight at that time.
4. In May 1988, the Discharger drilled three additional 105-foot borings (BH-20 through BH-22) and converted them to monitoring wells. Based on a report titled "Interim Report Expanded Environmental Site Assessment," dated July 7, 1988, prepared by Converse Environmental, TCE, benzene, hexane, 1,1-dichloroethylene (1,1-DCE), dichloroacetylene, chloroform, and 1,1,1-TCA were found in groundwater samples collected in May

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1988. Contaminant concentrations ranged from nondetect (ND) to 27,000 µg/l for benzene, ND to 500 µg/l for TCE, and ND to 5,000 µg/l for hexanes. Wells BH-20 and BH-21 also had concentrations up to 14 µg/l of chloroform, 19 µg/l of 1,1-DCE and 30 µg/l of dichloroacetylene. BH-21 also contained 35 µg/l of 1,1,1-TCA.

5. During November and December of 1988, additional soil and groundwater assessment by the Discharger was conducted by drilling and sampling nine borings, installing four monitoring wells (MW-1 through MW-4), constructing a vapor extraction well, and installing vapor monitoring probes. Soil contamination was present beneath the south and east tank farm, and extended down to groundwater at the south tank farm. Based upon a report titled "Soil and Groundwater Contamination Assessment," dated February 8, 1989, prepared by Applied Geotechnology, the water in well MW-3 was found to be approximately 3.7 feet higher than the water in surrounding wells. This was interpreted to represent a discontinuous perched water zone. Groundwater analysis performed during December 1988 indicated the presence of TCE in all eight wells, ranging from 125 µg/l to 3,400 µg/l in the vicinity of the south tank farm. Other chemical constituents detected included 1,1-DCE and 1,1,1-TCA, as well as butane, pentane, and hexane derivatives.
6. On February 15, 1990, four additional wells were installed east of the property along the centerline of Canary Street. Wells GTI-1 through GTI-4 were drilled to a depth of 95 feet bgs. Based upon a report titled "Groundwater Assessment Report," dated May 18, 1990, prepared by Groundwater Technology, the analysis of soil samples did not indicate the presence of volatile or chlorinated organic compounds. The results of the groundwater analysis of the wells indicated concentrations of total petroleum hydrocarbons (TPH as gasoline) ranging from 49 µg/l to 65,000 µg/l, and benzene concentrations ranging from ND to 59,000 µg/l. TCE concentrations ranged from 6 µg/l to 1,500 µg/l and 1,1 DCE concentrations ranged from ND to 100 µg/l. Lead concentrations in wells GTI-4 and MW-1 were 78 µg/l and 84 µg/l, respectively.
7. On February 22 and 23, 1990, twelve tanks in the east tank farm were removed and visually inspected. All tanks exhibited overall rust and minor pitting. Based upon a report titled "Tank Closure Report East Tank Farm," dated May 21, 1990, prepared by Groundwater Technology Inc., Tank No. 15, contained a residue of 1,1,1 TCA and had several 1 to 2-inch diameter holes on top and in the sides of the tank. Tank No. 20, which contained a residue of toluene, had a 1-inch diameter hole in the bottom. Eighteen soil samples were taken from the east tank farm. Maximum concentrations of contaminants present were 13,000 micrograms per kilogram (µg/kg) of 1,1,1-TCA, 1,900 µg/kg of 2-butanone, 860 µg/kg of 1,1-DCE, 910 µg/kg of 1,1-dichloroethane (1,1-DCA), 6,500 µg/kg of toluene, 2,000 µg/kg of xylenes and 250 µg/kg of TPH as mineral spirits.
8. During late May and early June 1990, a vapor extraction test was performed to evaluate the applicability of the technology to remediate impacted soils in the south tank farm area as documented in the report titled "Vapor Extraction Test Report," dated July 5, 1990, prepared by Groundwater Technology Inc.. The test concluded that vapor extraction would be a viable remedial technology at the site.
9. On October 23, 1991, the Discharger performed additional site assessment to better define the lateral extent of impacted soils and groundwater on and off-site. The assessment comprised a total of eight borings. Five of the borings were converted to monitoring wells GTI-5 through GTI-9, and one was converted to vapor extraction well GTV-1. Based upon a report titled "Additional Site Assessment," dated February 21, 1992, prepared by Groundwater Technology Inc., up to 32,000 mg/kg of total VOCs (i.e. benzene, toluene, ethylbenzene and xylenes) was detected in GTV-1. The highest TPH (as gasoline - TPHg) concentration of 18 mg/kg was detected in GTI-9. Up to 38,000 µg/l of TPHg and 23,000 µg/l of benzene were detected in GTI-9.

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10. During August through October of 1992, additional site assessment work was conducted to better define the lateral and vertical extent of contamination in the soil and groundwater and to evaluate the applicability of water recovery and treatment, vapor extraction and air sparging as remediation technologies at the site. The assessment involved the installation of groundwater monitoring wells GTI-10 through 14, air sparge well SW-1, water recovery well RW-1, and vapor recovery wells GTV-2 and GTV-3. Based upon a report titled "Additional Site Assessment," dated November 10, 1992, prepared by Groundwater Technology Inc., groundwater samples collected from 16 wells had up to 27,000 µg/l of TPHg, up to 20,000 µg/l of benzene and up to 1,600 µg/l of TCE.
11. On September 2, 1992 a vapor extraction test at the east tank farm was performed. Test results indicated that vapor extraction was a viable soil remediation technology as documented in the report titled "Vapor Extraction Test Report," dated October 14, 1992, prepared by Groundwater Technology Inc.
12. On September 9, 1992, an aquifer test was performed using one recovery well (RW-1). RW-1 was screened from 84 to 114 feet bgs. Test results indicated that pump and treat was a viable groundwater remediation technology as documented in the report titled "Uppermost Aquifer Test Report," dated October 15, 1992, prepared by Groundwater Technology Inc..
13. On September 20, 1992, an air sparge test was performed using well SW-1. Test results indicated that air sparging was a viable remediation technology as documented in the report titled "Air Sparge Test Report," dated May January 26, 1993, prepared by Groundwater Technology Inc..
14. A Corrective Action Plan (CAP) was prepared on January 15, 1993, which documented the areal extent of contamination, results of feasibility studies, and a cleanup strategy for soil and groundwater remediation. Further understanding of three water-bearing zones at the site was determined in 1993-1994, which lead to the submittal of a CAP Addendum dated February 2, 1995. The CAP addendum included performance of additional pilot tests and the proposed addition of both air sparging and dual phase high vacuum extraction to the previously proposed soil vapor extraction system. Wells TR-11 (extraction well) and GTI-15 (monitoring well) were drilled and completed during the preparation of this report.
15. The Discharger implemented a Regional Board approved CAP in late 1995 and began construction of a combined soil and groundwater remediation system. The remediation system began operation in July 1996. A total of 30 additional nested vapor extraction/air sparge wells (EW-11 through EW-40) and five additional groundwater recovery wells (RW-2 through RW- 6) were constructed at the site in 1995. Four offsite groundwater monitoring wells (GTI-16 through GTI-19) were also completed at this time. This plan involved the extraction of volatile soil and groundwater contaminants via vapor extraction/air sparge, treatment by activated carbon, and the subsequent discharge of treated groundwater to a local storm drain.
16. The Discharger has obtained a National Pollutants Discharge Elimination System (NPDES) Permit (NPDES No. CA0063461) and Waste Discharge Requirements (Order No. 95-002) adopted by this Regional Board on February 15, 1995. The discharge of this treated groundwater is permitted up to 108,000 gallons per day to a local storm drain, outfall no. BI364-4701, with coordinates of latitude 33° 53' 30" longitude 118° 01' 21". From the storm drain, the discharge flows to La Mirada Creek and Coyote Creek, into San Gabriel River, and then to Alamitos Bay/Estuary. The Discharger applied for an NPDES Permit renewal on May 25, 2000.
17. After approximately six years (1996-2001) of soil and groundwater cleanup using "pump and treat" technology, TCE and Benzene "hot spots" remain. To date, over 242,000 pounds of VOCs have been removed from the soil by the vapor extraction system. Over 27 million gallons of groundwater have been treated and 363 pounds of dissolved VOCs have been removed by the groundwater treatment system. At

present, TCE concentrations range between nondetect to 490 µg/l and Benzene range between nondetect and 4,700 µg/l.

18. Semi-annual groundwater samplings performed by the Discharger indicate that the TCE and Benzene plumes are not being remediated effectively by the vapor extraction, air sparging and pump and treat system. Therefore, the Discharger is proposing an *in situ* remediation method using potassium permanganate oxidation to cleanup the VOCs.
19. To successfully remediate the remaining VOC hot spots, the Discharger has proposed a feasibility study that will evaluate the injection of chemical oxidants into the groundwater to accelerate the remediation of VOC contaminants. This is considered an innovative cleanup technology. The United States Environmental Protection Agency (USEPA), as well as US Department of Defense (USDOD) contractors in other states, other Regional Water Quality Control Boards and the Department of Toxic Substances Control have successfully used chemical oxidants as a cleanup technology. The Discharger proposes to test an innovative approach for providing cleanup of the most contaminated groundwater in the shallow aquifer using potassium permanganate (KMNO<sub>4</sub>). The intent is to treat the high concentrations of TCE in groundwater with this method and address the more dilute plume with groundwater pump and treat at the property boundary. In order to determine if potassium permanganate can be used in conjunction with groundwater pump and treat, and provide full-scale remediation of the TCE plume, the Discharger proposes to conduct a 3-month pilot test. If the pilot test indicates that potassium permanganate can be used successfully to treat TCE in this area, the Discharger may propose to treat other areas of the impacted aquifer in the same manner. The Discharger anticipates treatment in the pilot test area to be effective enough to achieve concentrations below common analytical detection limits (i.e. below 5 µg/l) within 3 months. By comparison, the groundwater extraction well currently operating to provide remediation in the pilot test area is estimated to require an additional 5 to 10 years to remediate groundwater to concentrations below detection limits.
20. Potassium permanganate would be injected over a period of two days into a small portion of the contaminated aquifer to degrade contaminants to by-products, which include hydrogen and chloride ions, carbon dioxide (CO<sub>2</sub>), and manganese dioxide (MnO<sub>2</sub>). Subsequent injections will be based on results from observation wells and contaminant concentrations. The drawback of chemical oxidation of contaminants is that this process may increase total dissolved solids (TDS) levels and chloride levels. Potassium permanganate may also cause the build up of manganese oxides on the soil grains that may result in reduction of the permeability of the aquifer. This could potentially make it more difficult and more costly to remediate the VOC contamination by pump and treat technology. An additional drawback is the lack of adequate distribution of potassium permanganate in the aquifer that may limit the effectiveness of this technology. Trivalent chromium is converted to hexavalent chromium in an oxidative environment. Field monitoring of pilot test sites has shown that the hexavalent chromium concentrations attenuate by natural processes and revert to their initial concentrations. Long-term monitoring has demonstrated no net gains in hexavalent chromium concentrations. No hexavalent chromium concentrations have been detected in the groundwater and trivalent chromium concentrations are below maximum contaminant levels.
21. The Discharger proposes to inject up to 5,678 liters (1,500 gallons) of up to 6% (by weight) potassium permanganate solution per episode, for a maximum volume not to exceed 34,068 liters (9,000 gallons), into the shallow aquifer zone at one location, the proposed new injection/recovery well RW-7. Well RW-7 will be screened from 80 to 110 feet bgs. The injection location is approximately 50 feet upgradient from extraction well RW-3. Extraction well RW-3 will pump groundwater at a rate ranging from 1 to 3 gallons per minute (gpm), for a minimum of one week before the injection of potassium permanganate occurs and three months thereafter. Groundwater flow maps indicate that the injection area is upgradient and that the

potassium permanganate will move in the direction of extraction well RW-3. The capture zone of RW-3 should hydraulically contain the plume and by-products.

22. The Discharger will conduct bench-scale testing to determine the amount of  $\text{KMnO}_4$  needed in the pilot test area. Results will indicate the amount of  $\text{KMnO}_4$  that reacts with the aquifer materials as well as with the halogenated compounds. This will provide good estimates on the amount of TDS, chlorides, and  $\text{MnO}_2$  that will be produced. Previous studies have indicated that the permeability of the aquifer would only be reduced minimally.
23. The Discharger proposes to submit a comprehensive potassium permanganate injection pilot test workplan for approval by the Regional Board. The workplan will consist of pilot test procedures, bench scale test and methods for evaluating the chlorinated solvent concentrations in the treatment area including TCE and other VOCs listed above.
24. The Discharger proposes to sample groundwater from the monitoring wells for baseline groundwater parameters prior to the start of the pilot test. Then, the groundwater will be monitored closely in the pilot test area (120 ft x 160 ft, as shown on Figure 3) as well as beyond the test area, starting two weeks after potassium permanganate has been applied to the treatment zone. Groundwater pump and treat conducted by the Discharger has demonstrated adequate hydraulic control at the site. Six years of hydraulic control suggests that the potassium permanganate by-products would not migrate off-site or to the Los Coyotes Creek and/or La Mirada Creek. With setup of the proposed monitoring wells, proper hydraulic containment of the injected solution within the test area should be achieved.
25. The Discharger proposes to inject up to 34,068 liters (approximately 9,000 gallons) of 65 grams per liter (g/l)  $\text{KMnO}_4$  (final concentrations may vary depending on the bench test) into the shallow aquifer zone, extending from 85 to 115 feet bgs. Six monitoring wells, GTI-1, GTI-2, GTI-3, RW-3 and RW-6 are 150 feet, 90 feet, 120 feet, 45 feet, and 150 feet respectively downgradient of the injection well. One monitoring well, RW-2 is 110 feet upgradient of the injection well. These wells are situated to monitor the migration of the  $\text{KMnO}_4$  and provide groundwater control.
26. Any release of potassium permanganate into the groundwater is a discharge of waste as defined by the California Water Code. However, the discharge of potassium permanganate will be contained and is intended to provide more efficient remediation of contaminated groundwater. This might significantly reduce the cleanup time of the aquifer compared to pump and treat which is currently used to remediate the groundwater. Cleanup times using pump and treat exclusively to remediate the entire aquifer to concentrations below the detection limit of 5  $\mu\text{g/l}$  is estimated at 10 years.
27. The feasibility study and subsequent pilot project should not pose a threat to or impact the performance of the existing groundwater remediation system.
28. A Suburban Water Well is situated within 345 feet from the Discharger's facility. This well is hydraulically cross-gradient of the site. Its total depth is 1,420 feet bgs and it is screened from 460 to 880 feet and 980 to 1400 feet. No indication of TCE or Benzene contamination has been reported in groundwater samples from this well.
29. The Regional Board adopted a revised Water Quality Control Plan for the Los Angeles Region on June 13, 1994. The Water Quality Control Plan designates the groundwater in the Los Angeles Coastal Plain Central Basin wherein the Discharger's facility is located for beneficial uses including municipal and domestic supply, industrial process supply, industrial service supply, and agricultural supply. The requirements

contained in this Order, as they are met, will be in conformance with the goals and objectives of the Water Quality Control Plan.

30. The permitted discharge is consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16 (Anti-degradation Policy). The discharge may result in some localized exceedance of background concentrations of constituents such as chloride (Cl<sup>-</sup>), manganese (Mn), pH, and total dissolved solids (TDS), but these parameters, after injection of KMnO<sub>4</sub>, are not anticipated to exceed the primary or secondary standards. Moreover, any parameter change resulting from the discharge:

- (a) will be consistent with maximum benefit to the people of the State,
- (b) will not unreasonably affect present and anticipated beneficial use of such waters, and
- (c) will not result in water quality less than that prescribed in the Water Quality Control Plan for the Los Angeles Region.

31. The Regional Board has assumed lead agency role for this project under the California Environmental Quality Act and has conducted an Initial Study in accordance with Title 14, California Code of Regulations, section 15000 et seq., entitled Guidelines for Implementation of the California Environmental Quality Act. Based on the Initial Study, the Regional Board prepared a Mitigated Negative Declaration that the project as mitigated will not have a significant adverse effect on the environment.

32. The Regional Board has notified the applicant and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.

**IT IS HEREBY ORDERED** that the Discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations and guidelines adopted thereunder, shall comply with the following:

**A. Discharge Limits**

1. The discharge of potassium permanganate solution into the shallow aquifer shall not exceed 34,068 liters (approximately 9,000 gallons) in volume. In the event that extra injection of potassium permanganate solution is required, written approval by the Executive Officer shall be obtained before such injection is carried out.
2. During this pilot test, the injection concentration of potassium permanganate solution shall not exceed 65 g/L or the bench-test-determined concentration, whichever is lowest.
3. The Discharger shall not cause the groundwater outside of the pilot test area to exceed background concentrations of chloride and TDS established prior to the start of the pilot test.
4. The discharge of potassium permanganate solution into the shallow aquifer shall only be performed during the 3-month pilot test period.

**B. Discharge Prohibitions**

1. The Discharger shall provide hydraulic control that fully and completely contains any by-products of the chemical oxidation process, beginning no later than 3 months after the injection of potassium

permanganate in the pilot test area, or as soon as potassium permanganate is detected in any of the down-gradient wells GTI-1, GTI-2, GTI-3 and RW-6 or upgradient well RW-2.

2. The discharge of potassium permanganate or any by-products onto any surface, surface water drainage course, or to surface waters is prohibited.
3. The Discharger shall not cause the permeability of the aquifer, either inside or outside of the potassium permanganate treatment area, to be affected to such a degree that the Discharger is unable to effectively operate the interim or full-scale groundwater pump-and-treat systems.
4. The Discharger shall submit a Workplan acceptable to the Executive Officer which shall provide specific methods to be used to evaluate any changes to the aquifer transmissivity, hydraulic conductivity and/or storativity inside the pilot test potassium permanganate treatment area. Aquifer testing performed in the pilot test area must be designed to independently test all the impacted aquifers to determine aquifer properties. Mathematical and computer models should be used to predict groundwater flow and contaminant movement. The model results shall be verified by groundwater monitoring data to be collected onsite.
5. The Discharger's activities shall not cause the by-products of the chemical oxidation process to migrate outside of the potassium permanganate treatment area, as shown in Figure 3.
6. The Discharger's activities shall not cause the groundwater outside of the pilot test area to contain taste, color or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
7. The Discharger's activities shall not cause the groundwater to contain concentrations of chemical constituents, including permanganate and its by-products, in concentrations that may adversely affect municipal, domestic, industrial or agricultural uses as a result of the Potassium Permanganate Pilot Study.

**C. Provisions:**

1. This Order includes the attached "Standard Provisions Applicable to Waste Discharge Requirements." If there is any conflict between provisions stated herein and the attached "Standard Provisions", those provisions stated herein before prevail.
2. Discharge of wastes to any point other than specifically described in this order is prohibited and constitutes a violation thereof.
3. In the event of any change in name, ownership, or control of this facility, the Discharger shall notify the Regional Board in writing and shall notify any succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this Regional Board.
4. A copy of these requirements shall be maintained at an on-site office and be available at all times to operating personnel.
5. This Order includes the attached Monitoring and Reporting Program No. CI-8379. If there is conflict between provisions stated in the Monitoring and Reporting Program No. CI-8379 and the Standard Provisions, those provisions stated in the former prevail.

6. The Discharger shall notify Regional Board staff by telephone within 24 hours, followed by written notification within one week, in the event it is unable to comply with any of the conditions of this Order due to:
  - a) Breakdown of waste treatment equipment,
  - b) Accident caused by human error or negligence,
  - c) Other causes such as acts of nature, or
  - d) Site construction or development operations.
7. In the event that wastes are transported to and disposed of at a disposal site, the Discharger shall report types of wastes and quantity of each type; name and address of each hauler of wastes (or method of transport if other than by hauling); and location of the final point(s) of disposal for each type of waste.
8. The Discharger shall submit a 3-month pilot test Summary Report detailing the results of the 3-month pilot test. The report shall include an evaluation of the effectiveness of using potassium permanganate to supplement the full-scale remediation of VOC-contaminated groundwater at the facility, the impact of any by-products on the receiving groundwater quality, the hydraulic properties of the aquifer, and any other effects the in-situ treatment may have.
9. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as specified in Monitoring and Reporting Program No. CI-8379. Violations may result in enforcement action, including Regional Board or court order requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
10. The use of the chemical potassium permanganate shall not cause a condition of pollution or nuisance as defined by California Water Code, section 13050.
11. The Discharger shall cleanup and abate the effects of injecting potassium permanganate including extraction of any by-products which adversely affect beneficial uses and shall provide an alternate water supply source for any municipal, domestic or other water use wells that become contaminated in exceedance of water quality objectives as a result of using potassium permanganate.
12. All work must be performed by or under the direction of a California-licensed civil engineer with at least five years of hydrogeologic experience, registered geologist, or certified engineering geologist. A statement is required in all technical submittals that the registered professional in direct responsible charge actually supervised or personally conducted all the work associated with the project.
13. All technical submittals must be wet stamped by a California-licensed civil engineer with at least five years of hydrogeological experience, registered geologist, or certified engineering geologist.
14. These requirements do not exempt the Discharger from compliance with any other laws, regulations, or ordinances, which may be applicable. They do not legalize the waste treatment facility, and they leave unaffected any further restraints on the facility that may be contained in other statutes of and/or required by other agencies.
15. This Order does not alleviate the responsibility of the Discharger to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency.



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16. After notice and opportunity for a hearing, this Order may be terminated or modified for cause including, but not limited to:
- a. Violation of any term or condition contained in this Order;
  - b. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
  - c. A change in any condition that requires either a temporary or permanent reduction or elimination of authorized discharge.
17. These waste discharge requirements expire on January 24, 2004. The Discharger must file a Report of Waste Discharge not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on January 24, 2002.

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Dennis A. Dickerson, Executive Officer