California Regional Water Quality Control Board
Santa Ana Region

May 31, 2002

Staff Report

ITEM: 5

SUBJECT: General Waste Discharge Requirements for the re-injection/percolation of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons, solvents and/or petroleum hydrocarbons mixed with lead and/or solvents within the Santa Ana Region, Order No. R8-2002-0033

DISCUSSION:

On January 23, 2002, the Regional Board adopted Order No. R8-2002-0007, NPDES No. CAG918001, general waste discharge requirements for discharges to surface waters of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons and/or solvents at service stations and similar sites. The adoption and implementation of these general waste discharge requirements has facilitated the cleanup activities by streamlining the regulatory process. At some groundwater cleanup project sites, the treated groundwater is re-injected to the ground, percolated on site, used for landscape irrigation, or used for dust control at construction sites onsite within the same groundwater basin. There are now nine (9) such sites within the Region, but additional requests for these types of discharges are expected. To facilitate all these cleanup projects, staff again recommends the adoption of general waste discharge requirements, as presented herein.

Groundwater pollutant plumes are often complex mixtures of hundreds of petroleum-related compounds (e.g., gasoline contains over 200 chemicals), which makes complete chemical analyses very expensive and sometimes impractical or impossible due to sample matrix interferences, constituent masking, or the lack of standard analytical techniques.

Further, neither the State nor the U.S. EPA has proposed/established water quality objectives for many of the petroleum hydrocarbon compounds. Therefore, indicator constituents for the detection and evaluation of complex mixtures of petroleum related compounds such as gasoline and diesel will be used in monitoring treated groundwater discharges. The indicator constituents[1] used for evaluating compliance for discharges of gasoline and diesel related products are benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbons.

To reduce the amount of carbon monoxide in the atmosphere and abate air pollution, oxygenated fuels were required by the U.S. EPA in select metropolitan areas such as Southern California. Fuel oxygenates are also used to enhance the octane of conventional gasoline. To date, Methyl

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[1] *It is believed that fuels have been adequately studied to justify limiting the analysis to these compounds (see "Leaking Underground Storage Tank Manual: guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure," State of California, Leaking Underground Fuel Tank Task Force, May 1988).*

tertiary-butyl ether (MTBE) has been the most commonly used fuel oxygenate. Oxygenates in limited commercial use also include ethyl tert-butyl ether (ETBE) and tert-amyl methyl ether (TAME), tert-butyl alcohol (TBA), methanol (MeOH), and diisopropyl ether (DIPE). Accidental releases of gasoline to the subsurface from underground storage tanks, pipelines, refueling facilities, and landfills provide point sources for entry of oxygenates into the hydrologic cycle, together with the gasoline hydrocarbons. MTBE, as well as other alkyl ether oxygenates, ETBE and TAME are much less biodegradable than BTEX hydrocarbons in ground water. Furthermore, the fuel oxygenates sorb only weakly to soil and aquifer material, thereby increasing the risk of groundwater contamination.

Recent findings indicate the presence of MTBE in over 60% of surface water supply reservoirs and groundwater water supply wells in California. Data from a Lawrence Livermore National Laboratory study show that MTBE has been detected at over 4,600 leaking underground tank sites. Consequently, on March 26, 1999, the Governor concluded that the use of MTBE in California gasoline poses a significant risk to California's environment, and directed that MTBE be phased out of California gasoline as soon as possible. The risks to California's environment prompted the State Department of Health Services (DHS) to establish a maximum contaminant level (MCL) for MTBE in drinking water of 13 micrograms per liter.

Tert Butyl Alcohol (TBA) is also being detected in effluent streams and, like MTBE, poses a threat to water quality. In 1999, DHS established a drinking water action level for Tert Butyl Alcohol (TBA) at 12 μg/l.

This Order specifies effluent limits for both MTBE and TBA based on DHS's drinking water MCL and action level, respectively.

Diesel fuel consists primarily of straight-chained hydrocarbons (alkenes and alkanes) ranging in length from C10 to C23, with C16 and C17 predominating. The C10-C23 straight-chain hydrocarbons in groundwater can be quantified using standard analytical techniques. Since the predominant components of diesel fuel are the straight-chain hydrocarbons, the California Department of Health Services' recommended analytical procedure for total petroleum hydrocarbons-diesel[2] is used to indicate groundwater polluted by diesel fuel.

For chlorinated hydrocarbon solvents such as trichloroethylene (TCE) and tetrachloroethylene (PCE), the specific chemical constituents and/or their degradation products can be used to evaluate compliance with the permit limitations. The limits for these constituents are based on DHS/OEHHA maximum contaminant levels (MCL) and action levels.

Discharge limitations are included in this Order for those other chemicals of concern that typically pollute groundwater at service stations and similar sites in the Santa Ana Region. These include discharge limitations for lead. Lead limitations are based on the 1995 Basin Plan. In addition, the monitoring program includes analyses for additional constituents to determine the overall impact of individual discharges and to screen for unexpected chemicals.

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2 *Leaking Underground Fuel Tank (LUFT) Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure, October 1989.*

Compliance with the effluent limits in the proposed Order is required to be determined at the end of the discharge pipe.

The average monthly limits[3] were based on Department of Health Services MCLs for the protection of public health.

Monitoring is the primary means of ensuring that waste discharge requirements are met. It is also the basis for enforcement actions against dischargers who are in violation of the waste discharge requirements issued by the Regional Board. All dischargers enrolled under this general permit will be required to conduct monitoring in accordance with a monitoring program issued by the Executive Officer. Each monitoring and reporting program will be customized for each enrollee based on the characteristics of the groundwater being treated and discharged. The typical required constituents and frequency of analyses are tabulated in the self-monitoring program attached to this general permit as "Typical Monitoring and Reporting Program (MR&P) No. R8-2002-0033." This monitoring and reporting program will be revised as appropriate for each discharger. An increase of the parameters or frequency of monitoring will be required if monitoring data show the presence of petroleum hydrocarbons that are not limited in this Order. This Order may be reopened to include effluent limitations for such constituents. A reduction of the parameters or frequency of monitoring may be implemented with prior approval of the Executive Officer when monitoring data demonstrate that such reduction is warranted.

A number of treatment methods are available for the treatment of contaminated groundwater. The more commonly used methods include air stripping, air sparging, granular activated carbon adsorption, UV-peroxidation, nutrient enhanced biodegradation, and a combination of two or more of the above technologies. To remediate subsurface soil contamination, vapor extraction systems and in-situ bio-remediation are commonly used. Most of these systems, if designed and operated properly, can lower the concentrations of the pollutants to below detection limits.

The existing and potential beneficial uses of underlying groundwater basins in the Santa Ana Region include municipal and domestic supply, agricultural supply, industrial process supply, and industrial service supply.

The proposed limitations for benzene, toluene, ethylbenzene xylene, trichloroethylene (TCE), perchloroethylene (PCE), 1,1-dichloroethylene (1,1-DCE), and 1,2-dichloroethane (1,2-DCA) reflect levels that are at or below the State Department of Health Services' Drinking Water Maximum Contaminant Levels and are technologically achievable. The proposed discharge limitations should be adequate to protect the beneficial uses of the waters in the area.

RECOMMENDATION:

Adopted Order No. R8-2002-0033 as presented.

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3 *AML means the highest allowable average of daily pollutant discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of measurements.*

Comments were solicited from the following:

State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon
State Water Resources Control Board, Division of Water Quality – Jim Maughan
State Department of Water Resources - Glendale
State Department of Health Services, Santa Ana - Frank Hamamura
State Department of Health Services, San Bernardino – Kalyanpur Baliga
State Department of Health Services, San Diego
Orange County Public Facilities and Resources Department - Chris Crompton
Orange County Health Care Agency - Seth Daugherty
Orange County Water District – Nira Yamachika
Riverside County Environmental Health Department - Sandy Bonchek
San Bernardino County Department of Public Works, Environmental Management Division - Jim Borcuk
San Bernardino County Environmental Health Department – Ron Ripley
City of Anaheim – City Manager
City of Fullerton – City Manager
City of Placentia – City Manager
City of Santa Ana - City Manager
City of Fullerton Fire Department - John White
City of Santa Ana Fire Department - Bruce Guy
City of Orange Fire Department - Anne Bland
South Coast Air Quality Management District - James Lents
Orange County Coastkeeper – Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Craig, Loretta
HRM Machine, Inc.
G & M Oil Company
Mobil Oil Corporation
23991 El Toro, Inc.
General Electric Company

California Regional Water Quality Control Board
Santa Ana Region

Order No. R8-2002-0033

GENERAL WASTE DISCHARGE REQUIREMENTS FOR THE REINJECTION/PERCOLATION OF EXTRACTED AND TREATED GROUNDWATER RESULTING FROM THE CLEANUP OF GROUNDWATER POLLUTED BY PETROLEUM HYDROCARBONS, SOLVENTS AND/OR PETROLEUM HYDROCARBONS MIXED WITH LEAD AND/OR SOLVENTS
for the
Santa Ana Region

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter the Board), finds that:

1. On January 23, 2002, the Regional Board adopted Order No. R8-2002-0007, NPDES No. CAG918001, general waste discharge requirements for discharges to surface waters of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons and/or solvents at service stations and similar sites. The adoption and implementation of these general waste discharge requirements has facilitated the cleanup activities by streamlining the regulatory process.

2. Individual waste discharge requirements have been adopted by the Regional Board for these discharges. At some groundwater cleanup project sites, the treated groundwater is re-injected to the ground, percolated on site, used for landscape irrigation, or used for dust control at construction sites onsite within the same groundwater basin. At present, nine (9) such groundwater cleanup site discharges are regulated by the Regional Board. Additional requests for these types of discharges are expected. The adoption of general waste discharge requirements for these types of discharges would facilitate the groundwater cleanup projects.

3. Entity(ies)/individual(s) proposing to discharge treated groundwater[1] are hereinafter referred to as "discharger" and are subject to the terms and conditions of this Order.

4. For coverage under this general permit, a discharger is required to submit an application for the proposed discharge and to get approval from the Executive Officer. If the proposed discharge meets the requirements of this Order, the Executive Officer will provide the discharger with a written authorization to initiate the discharge. If not, individual waste discharge requirements will be developed for consideration by the Regional Board.

TENTATIVE

[1] *Polluted by petroleum hydrocarbons, petroleum hydrocarbons mixed with lead, and/or solvents.*

5. It is appropriate to allow the Executive Officer to increase and/or reduce the number of constituents being monitored and the frequency of monitoring when the discharger meets the conditions specified in this Order.

6. This Order permits the discharge/re-injection to on-site injection wells/percolation trenches, use the treated effluent wastewater for landscape irrigation and/or dust control at construction site(s) of treated groundwater[1] that meets the requirements of this Order.

7. A revised Water Quality Control Plan (Basin Plan) became effective on January 24, 1995. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region.

8. The existing and potential beneficial uses of underlying groundwater basins in the Santa Ana Region include:

   a. Municipal and domestic supply,
   b. Agricultural supply,
   c. Industrial service supply, and
   d. Industrial process supply.

9. The requirements contained in this Order are necessary to implement the Basin Plan.

10. The issuance of waste discharge requirements for the cleanup of defined groundwater contamination plume(s) at existing facilities and, as such, is exempt from the California Environmental Quality Act (Public Resources Code, Section 21100 et. seq.) in accordance with Section 15301, Chapter 3, Title 14, California Code of Regulations.

11. The Regional Board has notified interested agencies and persons of its intent to prescribe general waste discharge requirements for groundwater cleanup discharges resulting from the cleanup of groundwater, and has provided them with an opportunity to submit their written views and recommendations.

12. The Regional Board, in a public hearing, heard and considered all comments pertaining to the general waste discharge requirements for discharges of treated groundwater resulting from groundwater cleanup projects.

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

A. DISCHARGE SPECIFICATIONS

1. The discharge of wastes containing constituent concentrations in excess of the following limits is prohibited:

Constituent	Average Monthly Concentration Limit[2]
Total Lead	50 microgram per liter (µg/l)
Total Petroleum Hydrocarbons	100 µg/l
Benzene	0.7 µg/l
Toluene	10 µg/l
Ethylbenzene	5 µg/l
Xylene	10 µg/l
Tetrachloroethylene (PCE)[3]	5 µg/l
Trichloroethylene (TCE)	5 µg/l
1,1,1-Trichloroethane (1,1,1-TCA)	200 µg/l
1,1-Dichloroethylene (1,1-DCE)	6 µg/l
1,1-Dichloroethane (1,1-DCA)	5 µg/l
Methyl tertiary butyl ether (MTBE)	13 µg/l
Tert butyl alcohol (TBA)	12 µg/l

2. The pH of the discharge shall be within 6 and 9 units.

3. The discharge of treated water through injection wells/percolation trenches shall not cause a further degradation of the groundwater.

4. The discharge shall be limited to extracted and treated groundwater and added treatment chemicals approved by the Executive Officer.

B. PROHIBITIONS

1. The discharge of waste that may effect the beneficial uses of the groundwater is prohibited.

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2 *Average monthly concentration limit means the highest allowable average of daily pollutant discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of measurements.*

3 *Tetrachloroethylene is synonymous to percholorethylene*

2. The discharge of wastes to property not owned or controlled by the discharger is prohibited.

5. The discharge of any substances in concentrations toxic to human, animal, plant or aquatic life is prohibited.

C. PROVISIONS

1. Neither the treatment nor the discharge of waste shall create, or threaten to create, a nuisance or pollution as defined by Section 13050 of the California Water Code.

2. The Executive Officer shall determine whether the proposed discharge is eligible for coverage under this general waste discharge requirements, after which, the Executive Officer may;

   a. Authorize the proposed discharge by transmitting a "Discharge Authorization Letter" to the discharge proponent (now an "authorized discharger") authorizing the initiation of the discharge under the conditions of this Order and any other conditions consistent with this Order which are necessary to protect the beneficial uses of the receiving waters; or,

   b. Require the discharge proponent to obtain an individual waste discharge requirements prior to any discharge to waters of the State within the Santa Ana Region.

3. The discharge authorization letter from the Executive Officer shall specify any conditions necessary to protect the beneficial uses of the receiving waters and shall specify the Self-Monitoring Program for the proposed discharge in accordance with this Order. The discharge authorization letter may be terminated or revised by the Executive Officer at any time.

4. The discharger shall comply with all requirements of this Order and the terms, conditions and limitations of the discharge authorization letter.

5. The discharger shall comply with the monitoring and reporting program R8-2002-0033 issued by the Executive Officer. Revision of this monitoring and reporting program by the Executive Officer may be necessary to confirm that the discharger is in compliance with the requirements and provisions contained in this Order. Revisions may be made by the Executive Officer at any time during the term of this Order, and may include a reduction or an increase in the number of constituents to be monitored, the frequency of monitoring or the number and size of samples collected.

6. Compliance with average monthly discharge limitations specified under Discharge Specifications A.1. shall be determined from the average of the analytical results of all samples collected during a calendar month.

7. Compliance with the effluent limitations shall be based on the practical quantitation levels[4] (PQL) specified in Attachment "A" of M&RP No. R8-2002-0033 or on the lower detection limits achieved by the discharger.

8. Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e.g., weekly, monthly, quarterly), that sample shall serve to characterize the discharge for the entire interval.

9. Compliance based on a single sample analysis shall be determined where appropriate, as described below:

    a. When the effluent limitation is greater than or equal to the PQL, compliance shall be determined based on the effluent limitation in either single or multiple sample analyses.

    b. When the effluent limitation is less than the PQL, compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the PQL.

10. The discharge shall be considered to be in compliance with an effluent limitation that is less than or equal to the PQL specified in Attachment "A" of M&RP No. R8-2002-0033 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified PQL shall be assigned a value of zero.

11. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations in this Order because of factors beyond the reasonable control of the discharger.

    a. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, failure to implement an appropriate pretreatment program, or careless or improper action.

    b. A discharger that wishes to establish the affirmative defense of an upset in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

        (1) An upset occurred due to identifiable cause(s) and that the discharger can identify the cause(s) of the upset;

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[4] *PQL is the lowest concentration of a substance which can be determined within ± 20 percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the method detection limit (MDL) x 5 for carcinogens and MDL x 10 for noncarcinogens.*

(2) The permitted facility was being properly operated at the time of the upset;

(3) The discharger submitted notice of the upset;

(4) The discharger complied with Sections C.13. and C.14., below.

c. No determination made before an action for noncompliance, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review. In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof.

12. The discharger must comply with all of the requirements of this Order. Any violation of this Order constitutes a violation of the California Water Code and may constitute a violation of the CWA and its regulations, and is grounds for enforcement action, termination of this Order, revocation and reissuance of this Order, denial of an application for reissuance of this Order; or a combination thereof.

13. The discharger shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

14. The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any requirements specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

15. The discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

16. The discharger shall notify the Regional Board in advance of any planned physical alterations or additions to the permitted facility or changes in operation including any material change or proposed change in the character, location or volume of the discharge or activity that may result in noncompliance with these waste discharge requirements.

17. The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control including sludge use, disposal facilities, and related appurtenances that are installed or used by the discharger to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls, appropriate quality assurance procedures, effective performance, adequate funding, adequate staffing and training, and adequate process controls. This provision requires the operation of back up or auxiliary facilities or similar systems that are installed by a discharger only when the operation is necessary to achieve compliance with the requirements of this Order.

18. The discharger shall develop an "Operation and Maintenance Manual (O&M Manual)". If an O&M Manual has been developed, the discharger shall update it as necessary to conform with latest plant changes and requirements. The O&M Manual shall be readily available to operating personnel onsite. The O&M Manual shall include the following:

    a. Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.

    b. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

    c. Description of laboratory and quality assurance procedures.

    d. Process and equipment inspection and maintenance schedules.

    e. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharger will be able to comply with requirements of this Order.

    f. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

19. The discharger shall permit Board staff:

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

    b. Access to copy any records required to be kept under the terms and conditions of this Order;

    c. Inspection of monitoring equipment records; and

    d. To sample any discharge.

20. The discharger shall report any discharge of waste that may endanger health or the environment. Any information shall be provided to the Executive Officer (909-782-4130) and the Office of Emergency Services (800-852-7550), if appropriate, as soon as the discharger becomes aware of the circumstances. A written report shall be submitted within five (5) days and shall contain a description of the discharge and its cause, the period of discharge, including exact dates and times and, if the discharge has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the discharge.

21. The California Water Code provides that any person who violates a waste discharge requirement or a provision of the California Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day, or $20 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

I, Gerard J. Thibeault, 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, Santa Ana Region, on May 31, 2002.

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Gerard J. Thibeault
Executive Officer

California Regional Water Quality Control Board
Santa Ana Region

Monitoring and Reporting Program No. R8-2002-0033

General Waste Discharge Requirements for Groundwater Cleanup Project
Santa Ana Region

A. MONITORING REQUIREMENTS

1. All analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services or at laboratories approved by the Executive Officer of the Regional Board.

2. All sampling and sample preservation shall be in accordance with the current edition of "*Standard Methods for the Examination of Water and Wastewater*" (American Public Health Association).

3. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of May 14, 1999) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this monitoring and reporting program (M&RP). In addition, the Regional Board, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136. Unless otherwise specified herein, organic pollutants shall be analyzed using EPA method 8260, as appropriate..

4. All analytical data shall be reported with method detection limits (MDLs)[1], and with identification of either minimum level (ML)[2] practical quantitation levels (PQLs)[3] or limits of quantitation (LOQs).

5. Laboratory data must quantify each constituent down to the Practical Quantitation Levels specified in Attachment "A." Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

TENTATIVE

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1 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of May 14, 1999.*

2 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

3 *PQL is the lowest concentration of a substance which can be determined within ± 20 percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the method detection limit (MDL) x 5 for carcinogens and MDL x 10 for noncarcinogens.*

6. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

7. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

8. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Influent samples shall be taken at each point of inflow to the treatment system and shall be representative of the influent to the treatment system. Effluent samples shall be taken downstream of the last addition of waste to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters.

9. Whenever the discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

10. The discharger may request a reduction in the constituents to be monitored and/or a reduction in monitoring frequency for a specific constituent(s) subject to the approval of the Executive Officer.

11. The discharger shall monitor weekly those constituents that are detected at levels of concern[4] in the required volatile organic pollutant scan using EPA Method 8260.

12. The discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Board at any time. Records of monitoring information shall include:

    a. The date, exact place, and time of sampling or measurements;
    b. The individual(s) who performed the sampling, and/or measurements;
    c. The date(s) analyses were performed;
    d. The individual(s) who performed the analyses;
    e. The analytical techniques or methods used;
    f. All sampling and analytical results;
    g. All monitoring equipment calibration and maintenance records;
    h. All original strip charts from continuous monitoring devices;
    i. All data used to complete the application for this Order; and,

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[4] *Levels of concern are detected values at/or greater than the California Department of Health Services MCL and action level values.*

j. Copies of all reports required by this Order.

13. Discharge monitoring data shall be submitted in a format acceptable to the Regional Board. Specific reporting format may include preprinted forms and/or electronic media. Unless otherwise specified, discharge flows shall be reported in terms of daily average discharge flows. The results of all monitoring required by this Order shall be reported to the Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.

14. The discharger shall deliver a copy of each monitoring report in the appropriate format to:

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

15. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

16. Daily samples shall be collected on each day of the week.

17. Weekly samples shall be collected on a representative day of each week.

18. Monthly samples shall be collected on a representative day of the month.

19. Annual samples shall be collected on the month the discharge authorization letter was issued.

B. INFLUENT MONITORING

A grab sample of the influent to the treatment system shall be monitored on a monthly basis for total petroleum hydrocarbons, benzene, toluene, ethylbenzene, xylene, trichloroethylene (TCE), tetrachloroethylene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethylene (1,1-DCE), and 1,2-dichloroethane (1,2-DCA), methyl tertiary butyl ether (MTBE), tert butyl alcohol (TBA), 1,4-dioxane, and perchlorate.

C. EFFLUENT MONITORING

1. A sampling station shall be established for each point of discharge and shall be located where representative samples of the discharge can be obtained. The following shall constitute the effluent monitoring program:

Constituent	Type of Sample	Units	Minimum Frequency of Sampling
Flow	Flow meter	GPD	Daily
pH	Grab	pH units	Daily
Total Dissolved Solids	Grab	mg/l	Weekly
Suspended Solids	Grab	mg/l	Weekly
Trichloroethylene (TCE),	Grab	µg/l	Weekly
Total Petroleum Hydrocarbons	Grab	µg/l	Weekly
Benzene	Grab	µg/l	Weekly
Toluene	Grab	µg/l	Weekly
Ethylbenzene	Grab	µg/l	Weekly
Xylene	Grab	µg/l	Weekly
Tetrachloroethylene (PCE),	Grab	µg/l	Weekly
1,1,1-Trichloroethane (1,1,1-TCA)	Grab	µg/l	Weekly
1,1-Dichloroethylene (1,1-DCE),	Grab	µg/l	Weekly
1,2-Dichloroethane (1,2-DCA)	Grab	µg/l	Weekly
Perchlorate	Grab	µg/l	Weekly
1,4-Dioxane	Grab	µg/l	Weekly
Methyl tertiary butyl ether (MTBE)	Grab	µg/l	Weekly
Tert butyl alcohol (TBA)	Grab	µg/l	Weekly
Volatile Organics Portion of the EPA Priority Pollutants (See Attachment "B")	Grab	µg/l	Annually

D. REPORTING:

1. The results of the above analyses shall be reported to the Regional Board within 24 hours of finding any discharge that is in violation of the discharge specifications.

2. Monitoring reports shall be submitted by the 30th day of each month for each re-injection well and shall include:

   a. The total daily volume of extracted/treated and re-injected wastewater (if extracted volume is different from re-injected volume, the reason for such difference shall be stated), and

   b. The results of all chemical analyses for the previous month, and annual samples whenever applicable,

c. A summary of the month's activities.

3. If no discharge occurs during the previous monitoring period, a letter to that effect shall be submitted in lieu of a monitoring report.

4. All reports shall be arranged in a tabular format to clearly show compliance or noncompliance with each discharge specification.

5. 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 submit a timetable for correction.

6. Upon completion of the project, the discharger shall notify the Executive Officer of the Regional Board in writing about cessation of the discharge and request for a rescission of this Order.

All reports shall be signed by a responsible officer or duly authorized representative of the discharger and shall be submitted under penalty of perjury.

Ordered by_____
Gerard J. Thibeault
Executive Officer

May 31, 2002

Attachment "A"

PRACTICAL QUANTITATION LEVELS FOR COMPLIANCE DETERMINATION

	Constituent	PQL µg/l	Analysis Method
1	Arsenic	7.5	GF/AA
2	Barium	20.0	ICP/GFAA
3	Cadmium	15.0	ICP
4	Chromium (VI)	15.0	ICP
5	Cobalt	10.0	GF/AA
6	Copper	19.0	GF/ICP
7	Cyanide	50.0	335.2/335.3
8	Iron	100.0	ICP
9	Lead	26.0	GF/AA
10	Manganese	20.0	ICP
11	Mercury	0.50	CV/AA
12	Nickel	50.0	ICP
13	Selenium	2.0	EPA Method 1638, 1640 or 7742
14	Silver	16.0	ICP
15	Zinc	20.0	ICP
16	1,2 - Dichlorobenzene	5.0	601/602/624
17	1,3 - Dichlorobenzene	5.0	601
18	1,4 - Dichlorobenzene	5.0	601
18	2,4 - Dichlorophenol	10.0	604/625
20	4 - Chloro -3- methylphenol	10.0	604/625
21	Aldrin	0.04	608
22	Benzene	1.0	602/624
23	Chlordane	0.30	608
24	Chloroform	5.0	601/624
25	DDT	0.10	608
26	Dichloromethane	5.0	601/624
27	Dieldrin	0.10	608
28	Fluorantene	10.0	610/625
29	Endosulfan	0.50	608
30	Endrin	0.10	608
31	Halomethanes	5.0	601/624
32	Heptachlor	0.03	608
33	Hepthachlor Epoxide	0.05	608
34	Hexachlorobenzene	10.0	625
35	Hexachlorocyclohexane		
	Alpha	0.03	608
	Beta	0.03	608
	Gamma	0.03	608
36	PAH's	10.0	610/625
37	PCB	1.0	608
38	Pentachlorophenol	10.0	604/625
39	Phenol	10.0	604/625
40	TCDD Equivalent	0.05	8280
41	Toluene	1.0	602/625
42	Toxaphene	2.0	608
43	Tributyltin	0.02	GC
44	2,4,6-Trichlorophenol	10.0	604/625

Attachment "B"

Volatile Organics Portion of EPA Priority Pollutants	
Constituent	Method
Acrolein	603
Acrylonitrile	603
Benzene	8260
Bromoform	8260
Carbon Tetrachloride	8260
Chlorobenzene	8260
Chlorodibromomethane	8260
Chloroethane	8260
2-Chloroethylvinyl Ether	8260
Chloroform	8260
Dichlorobromomethane	8260
1,1-Dichloroethane	8260
1,2-Dichloroethane	8260
1,1-Dichloroethylene	8260
1,2-Dichloropropane	8260
1,3-Dichloropropylene	8260
Ethylbenzene	8260
Methyl Bromide	8260
Methyl Chloride	8260
Methylene Chloride	8260
1,1,2,2-Tetrachloroethane	8260
Tetrachloroethylene	8260
Toluene	8260
1,2-Trans Dichloroethylene	8260
1,1,1-Trichloroethane	8260
1,1,2-Trichloroethane	8260
Trichloroethylene	8260
Vinyl Chloride	8260