



California Regional Water Quality Control Board

Los Angeles Region



Linda S. Adams
Acting Secretary for
Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Edmund G. Brown Jr
Governor

February 15, 2011

Mr. Ernest A. Diaz
Senior Environmental Engineer
Skyworks Solutions, Inc.
2427 W. Hillcrest Dr.
Newbury Park, California 91320

Certified Mail
Return Receipt Requested
Claim No. 7009 0820 0001 6811 9589

SUBJECT: ENROLLMENT UNDER GENERAL WASTE DISCHARGE REQUIREMENTS (ORDER R4-2007-0019), FOR ABOVEGROUND TREATMENT OF GROUNDWATER AND REINJECTION INTO THE SAME SHALLOW AQUIFER

SITE: SKYWORKS SOLUTIONS, INC, 2427 WEST HILLCREST DRIVE, NEWBURY PARK, CALIFORNIA (SCP NO. 423, SITE ID NO. 2040053, Revised CI-8498)

Dear Mr. Diaz:

On June 16, 2003, the Los Angeles Regional Water Quality Control Board (Regional Board) issued General Waste Discharge Requirements (WDR) Order No. R4-2002-0030, "Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites", to Skyworks Solutions, Inc. (hereinafter, the Discharger) for the re-injection (discharge) of treated groundwater into the same shallow aquifer zone.

The site consists of two separate structures, Buildings 886 and 887. Building 887 was constructed with a basement. Groundwater, impacted with volatile organic compounds (VOCs), is collected in a dewatering system (French drain) that prevents basement flooding. Groundwater collected in the French drain is treated on-site and aboveground. The treatment consists of granular activated carbon (GAC). Treated groundwater is re-injected in a series of infiltration wells. The re-injection wells are located up-gradient from the French drain system and on-site. VOCs concentrations have been decreasing since treatment started in 1988. Trichloroethylene concentration in groundwater collected from the French drain system was 150 µg/L in May 2010.

On June 7, 2010, you requested the Regional Board to enroll under the Revised General WDR Order No. R4-2007-0019 "Revised General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent Chromium Impacted Sites", which was adopted on March 1, 2007 (Order No. R4-2007-0019). You also indicated that the on-site aboveground groundwater treatment system will be upgraded with an ozone/peroxidation unit in addition to the granular activated carbon unit.

Based on the review of the information submitted, the re-injection of aboveground treated groundwater into the shallow aquifer meets the conditions specified under Order No. R4-2007-0019. Therefore, you are authorized to operate your system under Order R4-2007-0019. Please note that Order R4-2007-0019

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supersedes Order R4-2002-0030 issued to you on June 16, 2003 and therefore, Order R4-2002-0030 is hereby terminated.

The Monitoring and Reporting Program CI-8498 has been revised to consider the addition of the ozone/peroxidation unit to the aboveground treatment system prior to groundwater re-injection, to include the following:

1. Bromide, bromate, fluoride, nitrate, nitrite, total chromium, and hexavalent chromium, have been added to the analyte list.
2. The monitoring frequency of groundwater monitoring wells S-7, S-10, S-12 and S-13 has changed from annually to semi-annually.

The effluent limit for bromate, prior to re-injection of groundwater, is its corresponding maximum contaminant level (MCL) of 10 micrograms per liter ($\mu\text{g/L}$).

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2007-0019 and the revised Monitoring and Reporting Program (MRP) No. CI-8498. This revised MRP supersedes the MRP previously issued to you on June 16, 2003. You are required to implement the attached MRP on the effective date of this letter (February 15, 2011) under Regional Board Order No. R4-2007-0019.

All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit. When you submit monitoring or technical reports to the Regional Board per these requirements, please include a reference to "Compliance File No. CI-8498 (Revised)", which will assure that the reports are directed to the appropriate staff and file. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

To avoid paying future annual fees, please submit written request for termination of your enrollment under the general WDR in a separate letter, when your project has been completed and the WDR is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

We are sending a copy of the Order No. R4-2007-0019 only to the applicant. The Order can be obtained at our website address:

http://www.waterboards.ca.gov/rwqcb4/board_decisions/adopted_orders/by_permits_tools.shtml or a copy of the Order will be furnished to anyone who requests it.

Soil and groundwater remediation at the site are overseen by the Remediation Section of the Regional Board under the Site Cleanup Program. The requirements under that program are not affected by this WDR and therefore, remain unchanged.


Mr. Ernest A. Diaz
Skyworks Solutions, Inc.

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February 15, 2011

If you have any questions regarding this matter, please contact Dr. Angelica Castaneda, at (213) 576-6737 (acastaneda@waterboards.ca.gov), or Dr. Rebecca Chou, Chief of Groundwater Permitting and Land Disposal, at (213) 576-6618 (rchou@waterboards.ca.gov).

Sincerely,


So. Samuel Unger, PE
Executive Officer

Enclosures:

1. Revised General Waste Discharge Requirements, Order No. R4-2007-0019 and Standard Provisions
2. Monitoring and Reporting Program CI No. 8498 (Revised)
3. Fact Sheet

cc: Mr. Kurt Souza, Cal. DHS, Region 5 - So Cal. Branch, Drinking Water Field Operation
Ms. Barbara Council, County of Ventura, Watershed Protection District
Mr. Doug Beach, Ventura County Environmental Health Division, Ventura County
Ms. Joanne Kelly, Resource Division Manager, City of Thousand Oaks
Mr. Troy D. Schulze, Skyworks Solutions, Inc.
Mr. Craig A. Moyer, Manatt, Phelps & Phillips, LLP
Mr. Kurt J. Blust, Haley & Aldrich, Inc.

California Environmental Protection Agency



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**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 West 4th Street, Suite 200, Los Angeles, California 90013**

**FACT SHEET
WASTE DISCHARGE REQUIREMENTS
FOR**

**GROUNDWATER REMEDIATION AT PETROLEUM HYDROCARBON FUEL AND/OR
VOLATILE ORGANIC COMPOUND IMPACTED SITES**

SKYWORKS SOLUTIONS, INC

**2427 WEST HILLCREST DRIVE, NEWBURY PARK, CALIFORNIA
(SCP NO. 423, SITE ID. NO. 2040053)
ORDER NO. R4-2007-0019, SERIES 119, CI-8498 (Revised)**

FACILITY ADDRESS

Skyworks Solutions, Inc.
2421 and 2427 W. Hillcrest Drive
Newbury Park, California 91320

FACILITY MAILING ADDRESS

Mr. Troy Schulze and/or Mr. Ernest Diaz
2427 W. Hillcrest Drive
Newbury Park, California 91320

SITE DESCRIPTION AND BACKGROUND

The Skyworks Solutions, Inc. site (site) is located on the northwest corner of the intersection of Hillcrest Drive and Mitchell Road in Newbury Park, California in Ventura County, at latitude N 34.18056°, longitude W 118.92556°. The Assessor's Parcel Number is 667-0-060-415 (Figure 1).

The site consists of two separate structures, Buildings 886 and 887 (Figure 2). Building 886 was built in 1961 and occupants included Westinghouse (1961-1969), Teller Industries (1969-1972), XTEL (1972-1975), Rockwell (1976-1999), Conexant Systems (1999-2002) and Skyworks Solutions (2002-present). Building 887 was constructed in 1985 by Rockwell with a basement. Due to the shallow groundwater table, a dewatering system (French drain) was installed to prevent basement flooding. Chlorinated volatile organic compounds (cVOCs) were detected in groundwater samples collected from the French drain system in October 1986.

Groundwater from the French drain system has been treated using granular activated carbon (GAC) since at least January 1987. The Regional Board became involved with the site since 1988, when a National Pollutant Discharge Elimination System (NPDES) permit was issued to regulate the discharge of the treated groundwater into the storm drain. The NPDES permit was in effect from 1988 to 2002. In 1992, a recharge well field was installed on the east side of the Skyworks facility to create a hydraulic barrier to prevent migration of impacted groundwater into the treatment system. From 1992 to 2002, municipal water was used for recharge purposes at the site (Figure 1 and Figure 2).

In June 2003, a coverage under *General Waste Discharge Requirements (WDR) for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites R4-2002-0030 (Series No. 016)* was issued by this Regional Board to discharge treated groundwater from

the French drain system by injecting into the recharge wells instead of municipal water. The influent and effluent of the GAC unit, and monitoring wells S-7, S-10, S-12 and S-13 have been sampled under the monitoring and reporting program CI-8498 (Figure 1).

GEOLOGY AND HYDROGEOLOGY

The facility is located near the center of the Conejo Valley. The Conejo Valley is a small basin filled with alluvial sediments over a thick sequence of volcanic rocks. The alluvial sediments are comprised primarily of finer grained clays and silts with interbedded layers/lenses of sand and gravel. The volcanic rocks have been designated the Conejo Volcanics of Tertiary age and are reportedly in excess of several thousand feet thick.

Based on the boring logs from monitoring wells, the site is underlain by approximately 175 to 200 feet of unconsolidated alluvial sediments. These alluvial sediments have been divided, in descending order by depth, into the following hydrogeologic units: 1) Unsaturated Zone, from land surface to the water table ranging from a depth of 11 to 30 feet (depending on the season); 2) Shallow Groundwater Zone, from the water table surface to a depth of 45 to 50 feet; 3) Aquitard Layers/Intermediate Zone, from 50 to 80 feet below ground surface (bgs); and 4) Lower Groundwater Zone, from 80 to approximately 175 feet bgs. The French drain system, installed in the basement of Building 887 collects groundwater from the shallow groundwater in the vicinity of the site.

Prior to the installation of the French drain system in 1985, groundwater flow direction was from west to east. Currently, the groundwater that surrounds Building 887 flows toward the French drain system, which captures shallow contaminated groundwater. Treated aboveground, groundwater is injected in the recharge wells located on the east boundary of the site (wells: R1, R2, R3A, and R4). A groundwater ridge formed by the recharge wells prevents groundwater from an adjacent site, east of Mitchell Road, to migrate into the French drain system and provides a closed groundwater loop (Figure 2).

ENVIRONMENTAL ASSESSMENT

The analytical results from the soil and groundwater investigations conducted at the Site confirmed that the soil and groundwater has been impacted with cVOCs, such as trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), 1,1-dichloroethylene (DCE), tetrachloroethylene (PCE), 1,1-dichloroethane (1,1-DCA), Freon 113, trichlorofluoromethane, vinyl chloride, and carbon tetrachloride due to industrial operations conducted at the Site. Highest detected soil gas concentrations in micrograms per liter ($\mu\text{g/L}$) were 3,876, 1,174, 762 and 14 for TCE, DCE, TCA and PCE, respectively. Highest detected soil matrix concentrations in micrograms per kilogram ($\mu\text{g/Kg}$) were 700, 140, 69, and less than 5 for TCE, DCE, TCA and PCE, respectively. The source of contamination on the Site is believed to be the two solvent containing concrete underground storage tanks (USTs) located in the corridor between buildings 887 and 886. According to the records, the tanks were abandoned in place in 1984 under the direction of the Ventura County Environmental Health Department.

Since 1987, a total of seventeen groundwater monitoring wells have been installed to assess the extent of groundwater contamination. These wells are screened in the fine grained alluvium sediment. Fourteen of those wells are considered shallow and reach a maximum depth of 40 feet below ground surface (bgs). The deep wells reach a maximum depth of 121 feet bgs. Groundwater depth beneath the

site has ranged from 8 to 30 feet bgs. TCE and DCE have been detected in groundwater at a maximum concentration of 8,700 and 840 µg/L, respectively. These concentrations have decreased over time and in the most recent groundwater monitoring event in November 2010 the maximum concentrations of TCE and DCE detected were 540 and 47 µg/L, respectively. The highest concentrations of cVOCs in groundwater are located between buildings 887 and 886 in proximity to the former USTs.

The emergent chemical, 1,4-dioxane, was initially detected in 2003 in the French drain system at a concentration of 3.8 µg/L. Currently, levels of this chemical have increased to a maximum detected level of 53 µg/L in June of 2007. The granular activated carbon treatment system, used to treat groundwater before re-injection, does not remove 1,4-dioxane. On October 22, 2007 the Regional Board required the evaluation of an appropriate technology for the treatment of 1,4-dioxane (In 2007, the State of California Notification Level for 1,4-dioxane was 3 µg/L. As of December 14, 2010, this Notification Level changed to 1 µg/L).

Skyworks Solutions, Inc. has submitted a request to update its current WDR R4-2002-0030 to include requirements under General WDR R4-2007-0019. The request includes the addition of an ozone/peroxidation system to be used in series and before the existing granular activated carbon treatment.

VOLUME AND DESCRIPTION OF DISCHARGE (INJECTION)

Extracted volumes and chemical characterization of shallow groundwater pumped from the French drain dewatering system at Building 887 have been monitored since April 1987. The annual discharge has ranged from about 1.3 million gallons in 1990 to about 5.3 million gallons in 2005. The French drain has produced groundwater at an average of about 8,300 gallons per day since monitoring of the system began.

Treated groundwater (effluent) from the French drain system has been recharged via a recharge wellfield located along the eastern perimeter of the facility under the *General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites R4-2002-0030* since 2004. A total of 21.2 million gallons of treated groundwater have been injected since 2004. The yearly average recharge volume from the French drain system is 3.5 million gallons per year. So far, the total volume of treated groundwater produced by the French drain system has been used for recharge of the wellfield.

Shallow groundwater accumulated in the French drain will be treated above ground with an ozone/peroxidation unit followed by GAC. This treatment targets the destruction/removal of cVOCs and 1,4-dioxane. The system has been optimized to reduce the formation of bromate, a by-product of the ozone/peroxidation.

Chloride up to 642 mg/L and total dissolved solids (TDS) up to 1,640 mg/L have been documented, by the discharger, to occur naturally at levels exceeding the basin plan water quality objectives for the Conejo Valley Groundwater Basin (800 mg/L for TDS and 150 mg/L for chloride). These constituents are not affected by the aboveground treatment system. However, the WDR Order R4-2007-0019 allows these exceedances, as stated on the findings on page 3, as long as the groundwater is returned to the same formation from which is withdrawn.

JUSTIFICATION FOR GENERAL WASTE DISCHARGE REQUIREMENTS

The discharge was regulated under the *General Waste Discharge Requirements Order for Groundwater Remediation At Petroleum Hydrocarbon Fuel, Volatile Organic Compound And/Or Hexavalent Chromium Impacted Sites* (Order R4-2002-0030) and has been in compliance. The only proposed change to the above ground treatment system is the addition of an ozone/peroxidation unit prior to the GAC unit that will enhance the destruction of cVOCs and the emergent chemical 1,4-dioxane.

Treated shallow groundwater will be recharged into the shallow aquifer via a recharge well-field. The extraction of polluted groundwater with above ground treatment and the return of treated groundwater to the same aquifer zone is covered under the Regional Board Order No. R4-2007-0019, "Revised General Waste Discharge Requirements For Groundwater Remediation At Petroleum Hydrocarbon Fuel, Volatile Organic Compound And/Or Hexavalent Chromium Impacted Sites", adopted by this Regional Board on March 1, 2007, including:

- **Discharger must have an approved Remedial Action Plan** – A letter approving the Groundwater Remedial Action Plan was issued on February 11, 2003 by the Regional Board staff.
- **CEQA requirements** – The Regional Board has prepared an Initial Study and Mitigated Negative Declaration for the issuance of these general waste discharge requirements in accordance with the provisions of the California Environmental Quality Act (CEQA).
- **Discharge has a rating of 3-A** – Any potential adverse water quality impacts that may result will be localized, of short-term duration, and will not impact any existing or prospective uses of groundwater. Groundwater quality will be monitored to verify no long-term adverse impact to water quality.
- **Monitoring and reporting** – On June 16, 2003, the Regional Board issued Monitoring and Reporting Program CI No. 8498. A Revised Monitoring and Reporting Program CI No. 8498 will be issued on February 15, 2011 for the Discharger.
- **Application/Annual Fee** – A Form 200 Application was received by our office on June 7, 2010. Since the discharger has been paying an annual fee for the current WDR, there is no need to pay an additional application fee.

Staff recommends that the enrollment of the subject above ground groundwater treatment with re-injection remediation project under General WDR No. R4-2007-0019 is appropriate.

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI-8498 (Revised)
FOR

SKYWORKS SOLUTIONS, INC. (SITE)
2427 HILLCREST DR.
NEWBURY PARK, CALIFORNIA 91320

ABOVE GROUNDWATER TREATMENT AND RETURN OF
TREATED GROUNDWATER TO THE SAME AQUIFER
FILE NO. 02-168, SCP NO. 423

ORDER NO. R4-2007-0019 (SERIES NO. 119)

I. REPORTING REQUIREMENTS

- A. Skyworks Solutions, Inc. (hereinafter Discharger) shall implement this monitoring program on the effective date of this enrollment (February 15, 2011) under Regional Board Order No. R4-2007-0019. The first monitoring report under this program, for the monitoring period January-March 2011, shall be received at the Regional Board by **April 15, 2011**. Subsequent reports shall be received at the Regional Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

- B. If there is no discharge of treated groundwater during any reporting period, the report shall so state. Monitoring reports must be addressed to the Regional Board, Attention: Information Technology Unit.

Revised February 15, 2011
June 16, 2003

- C. By **March 1st of each year**, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall explain the compliance record and the corrective actions taken, or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements (WDRs).
- D. The method limits (MLs) employed for groundwater analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Regional Board Executive Officer (Executive Officer). The Discharger shall submit a list of the analytical methods employed for each test and the associated laboratory quality assurance/quality control (QA/QC) procedures upon request by the Regional Board.
- E. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with WDRs. This section shall be located at the front of the report and shall clearly list all non-compliance with WDRs, as well as all exclusions of effluent limitations.
- F. The Discharger shall comply with requirements contained in Section G of Order No. R4-2007-0019 "*Monitoring and Reporting Requirements*" in addition to the aforementioned requirements.

II. WATER QUALITY MONITORING

A. Influent Monitoring

Representative samples of groundwater shall be obtained from the trench and dewatering system (French drain system) prior to any treatment. This sampling station shall not be changed and any proposed change of sampling location shall be identified and approved by the Executive Officer prior to their use.

The following shall constitute the influent monitoring program for the groundwater collected in the French drain system prior to treatment:

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF ANALYSIS
pH	Grab	pH units	Semi-annual
Temperature	Grab	°F	Semi-annual
Acetone	Grab	µg/L	Semi-annual
2-Butanone	Grab	µg/L	Semi-annual
Benzene	Grab	µg/L	Semi-annual
Toluene	Grab	µg/L	Semi-annual
Ethylbenzene	Grab	µg/L	Semi-annual
Total xylenes	Grab	µg/L	Semi-annual
Methyl tertiary butyl ether	Grab	µg/L	Semi-annual
Carbon tetrachloride	Grab	µg/L	Semi-annual
1,1-dichloroethylene	Grab	µg/L	Semi-annual
1,1-dichloroethane	Grab	µg/L	Semi-annual
1,2-dichloroethane	Grab	µg/L	Semi-annual
1,1,1-trichloroethane	Grab	µg/L	Semi-annual
Trichloroethylene	Grab	µg/L	Semi-annual
Tetrachloroethylene	Grab	µg/L	Semi-annual
Vinyl chloride	Grab	µg/L	Semi-annual
Freon 113	Grab	µg/L	Semi-annual
1,4-dioxane	Grab	µg/L	Semi-annual
Total dissolved solids	Grab	mg/L	Semi-annual
Sulfate	Grab	mg/L	Semi-annual
Chloride	Grab	mg/L	Semi-annual
Boron	Grab	µg/L	Semi-annual
Fluoride	Grab	mg/L	Semi-annual
Bromide	Grab	µg/L	Semi-annual
Bromate	Grab	µg/L	Semi-annual
Nitrate	Grab	µg/L	Semi-annual
Nitrite	Grab	µg/L	Semi-annual
Total chromium	Grab	µg/L	Semi-annual
Hexavalent chromium	Grab	µg/L	Semi-annual

B. Effluent Monitoring

A sampling station shall be established at the point of discharge (the end point of the groundwater treatment system or at the passive infiltration point) and shall be located where representative samples of the effluent can be obtained. This sampling station shall not be changed and any proposed change of sampling location shall be identified and approved by the Executive Officer prior to their use.

The following shall constitute the effluent monitoring program for the treated groundwater prior to discharge to the injection (barrier) wells R-1, R-2, R-3A, and R-4:

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF ANALYSIS
pH	Grab	pH units	Quarterly
Temperature	Grab	°F	Quarterly
Acetone	Grab	µg/L	Quarterly
2-Butanone	Grab	µg/L	Quarterly
Benzene	Grab	µg/L	Quarterly
Toluene	Grab	µg/L	Quarterly
Ethylbenzene	Grab	µg/L	Quarterly
Total xylenes	Grab	µg/L	Quarterly
Methyl tertiary butyl ether	Grab	µg/L	Quarterly
Carbon tetrachloride	Grab	µg/L	Quarterly
1,1-dichloroethylene	Grab	µg/L	Quarterly
1,1-dichloroethane	Grab	µg/L	Quarterly
1,2-dichloroethane	Grab	µg/L	Quarterly
1,1,1-trichloroethane	Grab	µg/L	Quarterly
Trichloroethylene	Grab	µg/L	Quarterly
Tetrachloroethylene	Grab	µg/L	Quarterly
Vinyl chloride	Grab	µg/L	Quarterly
Freon 113	Grab	µg/L	Quarterly
1,4-dioxane	Grab	µg/L	Quarterly
Total dissolved solids	Grab	mg/L	Quarterly
Sulfate	Grab	mg/L	Quarterly
Chloride	Grab	mg/L	Quarterly
Boron	Grab	µg/L	Quarterly
Fluoride	Grab	mg/L	Quarterly
Bromide	Grab	µg/L	Quarterly
Bromate	Grab	µg/L	Quarterly
Nitrate	Grab	µg/L	Quarterly
Nitrite	Grab	µg/L	Quarterly
Total chromium	Grab	µg/L	Quarterly
Hexavalent chromium	Grab	µg/L	Quarterly

Note that as of December 2010, the Notification Level for 1,4-dioxane was changed from 3 to 1 µg/L. If 1,4-dioxane is detected in the effluent sample at a concentration above its corresponding notification level of 1 µg/L, an immediate and appropriate corrective measure shall be taken to meet this concentration. Such action shall be noted and reported in the Quarterly Monitoring Report.

C. Groundwater Monitoring

Representative samples of groundwater shall be obtained from groundwater monitoring wells: S-7 (up-gradient), S-10 (cross-gradient), S-12 (cross-gradient), and S-13 (down-gradient). A sampling station shall be established for each groundwater monitoring well and shall be located where representative samples can be obtained. These sampling stations shall not be changed and any proposed change of monitoring locations shall be identified and approved by the Executive Officer prior to their use.

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF ANALYSIS
pH	Grab	pH units	Semi-annual
Temperature	Grab	°F	Semi-annual
Acetone	Grab	µg/L	Semi-annual
2-Butanone	Grab	µg/L	Semi-annual
Benzene	Grab	µg/L	Semi-annual
Toluene	Grab	µg/L	Semi-annual
Ethylbenzene	Grab	µg/L	Semi-annual
Total xylenes	Grab	µg/L	Semi-annual
Methyl tertiary butyl ether	Grab	µg/L	Semi-annual
Carbon tetrachloride	Grab	µg/L	Semi-annual
1,1-dichloroethylene	Grab	µg/L	Semi-annual
1,1-dichloroethane	Grab	µg/L	Semi-annual
1,2-dichloroethane	Grab	µg/L	Semi-annual
1,1,1-trichloroethane	Grab	µg/L	Semi-annual
Trichloroethylene	Grab	µg/L	Semi-annual
Tetrachloroethylene	Grab	µg/L	Semi-annual
Vinyl chloride	Grab	µg/L	Semi-annual
Freon 113	Grab	µg/L	Semi-annual
1,4-dioxane	Grab	µg/L	Semi-annual
Total dissolved solids	Grab	mg/L	Semi-annual
Sulfate	Grab	mg/L	Semi-annual
Chloride	Grab	mg/L	Semi-annual
Boron	Grab	µg/L	Semi-annual
Fluoride	Grab	mg/L	Semi-annual
Bromide	Grab	µg/L	Semi-annual
Bromate	Grab	µg/L	Semi-annual
Nitrate	Grab	µg/L	Semi-annual
Nitrite	Grab	µg/L	Semi-annual
Total chromium	Grab	µg/L	Semi-annual
Hexavalent chromium	Grab	µg/L	Semi-annual

All groundwater monitoring reports must include, at a minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification, and laboratory identification;
- c. Quarterly observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

III. MONITORING FREQUENCIES

Monitoring frequencies may be adjusted to a less frequent basis or parameters may be modified by the Executive Officer if the Discharger makes a request and the Executive Officer determines that the request is adequately supported by statistical trends of monitoring data submitted.

IV. PUBLIC DOCUMENTS

These records and reports are public documents and shall be made available for inspection during normal business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region.'

V. GEOTRACKER

The Discharger shall submit all reports required under this MRP, including groundwater monitoring data, to the State Water Resources Control Board GeoTracker database, in addition to submitting hard copies to the Regional Board office. Once the Discharger demonstrates mastery of electronic submittal of reports to GeoTracker for the Site, it may request that the Regional Board waive the requirement of submitting hard copies of reports.

VI. CERTIFICATION STATEMENT

Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**ORDER NO. R4-2007-0019
REVISED GENERAL WASTE DISCHARGE REQUIREMENTS
FOR**

**GROUNDWATER REMEDIATION AT PETROLEUM HYDROCARBON FUEL, VOLATILE
ORGANIC COMPOUND AND/OR HEXAVALENT CHROMIUM IMPACTED SITES
(FILE NO. 01-116)**

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

1. Pursuant to Division 7 of the California Water Code, this Regional Board at a public hearing held on January 24, 2002, adopted the General Waste Discharge Requirements (WDRs) (Order No. R4-2002-0030) relative to the groundwater remediation at petroleum hydrocarbon fuel and/or volatile organic compound impacted sites. Subsequent to adoption of the initial general waste discharge requirements (WDRs), these WDRs have been revised to include the use of ozone as a treatment compound and the application and use of trace materials.
2. Since then, however, at sites throughout Los Angeles County, monitoring and municipal production wells have become polluted with dissolved hexavalent chromium. From the Pacoima – Sunland area in the northeastern San Fernando Valley to the basin's narrows in City of Los Angeles and from the northern edge of Central Basin to Long Beach, hexavalent chromium releases have threatened or have directly impacted monitoring or municipal supply wells.
3. Table I (Attachment A) of Order R4-2007-0019 includes a list of materials that can be used for in-situ remediation purposes. Newly added remedial compounds for in-situ reduction are calcium polysulfide, ferrous sulfate, sodium dithionite, and bioremediation agents such as molasses, lactose, cheese whey or starch and emulsified oil have demonstrated that they can effectively convert hexavalent chromium to chromium III, a less toxic and more stable compound. In addition, activated persulfate (KlozurTM) for chemical oxidation has proven to be effective for the remediation of petroleum impacted sites. The revised general WDRs are to include the above to the list of materials approved for in-situ remediation zone treatment purposes and include a brief list of tracer materials that can be utilized at sites to aid in determination of the effectiveness of clean up material application.

4. The California Water Code (CWC), section 13260, subdivision (a)(1) requires that any person discharging wastes, or proposing to discharge wastes other than into a community waste water collection system, which could affect the quality of the waters of the State, shall file a Report of Waste Discharge with the Regional Board. The Regional Board shall then prescribe requirements for the discharge or proposed discharge of wastes.
5. Section 13263, subdivision (i) of the CWC provides that a Regional Board may prescribe general waste discharge requirements for discharges produced by similar operations, involving similar types of wastes, and requiring similar treatment standards.
6. The adoption of general WDRs for in-situ groundwater remediation/cleanup or the extraction of polluted groundwater with above ground treatment and the return of treated groundwater to the same aquifer zone would: a) simplify the application process for dischargers, b) allow more efficient use of Regional Board staff time, c) reduce Regional Board time by enabling the Executive Officer to notify the discharger of the applicability of the general WDRs, d) enhance the protection of surface water quality by eliminating the discharge of wastewater to surface waters, and e) provide a level of protection comparable to individual, site-specific WDRs.
7. Petroleum hydrocarbon fuel, volatile organic compound and hexavalent chromium contaminated groundwater at various sites throughout the Los Angeles region and cause or threaten to cause adverse impacts to existing and potential beneficial uses of the region's groundwater resources. Remediation/cleanup of groundwater at these sites includes the use and application of chemical, biological, and physical treatment processes, such as, chemical oxidation, chemical reduction, oxygen enhanced process, nutrient or chemical addition for enhanced biodegradation, or groundwater pump and treat technology with the return of treated groundwater to the same aquifer zone in some cases.
8. The application of any material to groundwater may result in unintended adverse impacts to groundwater quality. Any potential adverse water quality impacts that may result will be localized, of short-term duration, and will not impact any existing or prospective beneficial uses of groundwater. Groundwater quality will be monitored before addition of any materials, during treatment, and after treatment is completed to verify no long-term adverse impact to water quality.
9. The implementation of in-situ cleanup may require a small-scale pilot testing program or demonstration study prior to the design and implementation of a full-scale remediation project. The discharges from the pilot test programs or demonstration study are also covered under these general WDRs.

10. The Regional Board adopted a revised Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994. The Basin Plan contains water quality objectives and lists the beneficial uses of groundwater in the Los Angeles region. Beneficial uses of groundwater in the Los Angeles region include, among others: municipal and domestic supply, industrial service and process supply, agricultural supply and groundwater recharge. Beneficial uses for individual hydrologic sub-areas are specified in the Basin Plan. See Attachment B Table 3-10 water quality objectives for selected constituents in regional groundwaters.
11. The release of petroleum hydrocarbon fuel, volatile organic compounds and hexavalent chromium, at many sites within the Los Angeles region affects only shallow groundwater sources. Many of the shallow groundwater zones contain general mineral content (total dissolved solids, chloride, and sulfate, etc.) in concentrations, which are considered to be naturally occurring and not the result of pollution that may exceed Basin Plan Objectives for these constituents. Treated groundwater that exhibits general mineral content that are naturally occurring and exceeds Basin Plan Objectives may be returned to the same groundwater formations from which it is withdrawn, with concentrations not exceeding the original background concentrations for the site.
12. Treated groundwater that exhibits general mineral content that is naturally occurring and exceeds Surface Water Basin Plan Objectives must be treated if discharged into surface waters under a separate National Pollutant Discharge Elimination System (NPDES) Permit.
13. The general WDRs are applicable to groundwater remediation projects at, petroleum hydrocarbon fuel, volatile organic compound and hexavalent chromium impacted sites. Depending on the Report of Waste Discharge, the Executive Officer determines the annual fee based on the threat to water quality and complexity of the discharge. The general WDRs are to regulate groundwater discharges that have a threat to water quality of Category 3 and Complexity rating of A for a combined rating of 3-A.
14. Discharges with a rating of 3-A contain pollutants that could degrade water quality or cause a minor impairment of designated beneficial uses within the application area of the receiving groundwater. The discharges covered by these requirements will have a groundwater monitoring program to comply with requirements prescribed in this Order.
15. The requirements contained in this Order were established by considering, and are consistent with, all the water quality control policies, plans, and regulations mentioned above and, if they are met, will protect and maintain the existing beneficial uses of the receiving groundwater.
16. The permitted discharge is consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16 (Anti-degradation Policy). The impact on

existing water quality will not be significant in comparison to individual WDRs, and the general WDRs will improve the quality of the affected groundwater.

17. These general WDRs are not intended to alter or supersede any existing restrictions or working arrangements relating to cleanup cases with local governmental agencies.
18. In accordance with the Governor's Executive Order requiring any proposed activity be reviewed to determine whether such activity will cause additional energy usage, this Regional Board has determined that implementation of these general WDRs will not result in a change in energy usage exceeding what would be used if site-specific WDRs were issued for cleanup at these sites.
19. The Regional Board has prepared an Initial Study and Mitigated Negative Declaration for the issuance of these general WDRs in accordance with the provisions of the California Environmental Quality Act (CEQA).
20. The Regional Board has notified interested agencies and persons of its intent to prescribe general WDR's for the discharges covered under these general WDRs, and has provided them with an opportunity to submit their written views and recommendations for the requirements.
21. The Regional Board, in a public meeting, heard and considered all comments pertaining to the tentative general WDRs.

IT IS HEREBY ORDERED THAT dischargers authorized under this Order shall meet the provisions contained in Division 7 of the California Water Code, and regulations adopted here under, by complying with the following:

A. ELIGIBILITY

1. A discharger may seek coverage under this Order for:
 - a. existing and future discharges to groundwater of remediation compounds from the cleanup of petroleum hydrocarbon fuel, volatile organic compound and/or hexavalent chromium impacted sites and similar discharges.
 - b. re-injection, percolation or infiltration of treated groundwater from a pump and treat remediation system(s).
2. To be covered under this Order, a discharge must meet the following criteria:
 - a. The Executive Officer must find, based on the Report of Waste Discharge submitted pursuant to Provision C, that the groundwater discharges for which coverage under this Order are sought have a threat to water quality of Category 3

and Complexity rating of A for a combined rating of 3-A, using the rating criteria noted (see on the Regional Board website at:

[http://www.waterboards.ca.gov/losangeles/html/permits/fee_schedule/fee%20schedules%20\(2004-005\).pdf](http://www.waterboards.ca.gov/losangeles/html/permits/fee_schedule/fee%20schedules%20(2004-005).pdf)

- b. The discharger must have an approved Remediation Action Plan (RAP). The discharger shall submit a copy of the approved RAP including any conditions of implementation with the Report of Waste Discharge for application of the general WDRs. At a minimum, the RAP shall include the following site-specific information:
- The background water quality of the aquifer of the groundwater remediation site(s) including: contaminant types, total dissolved solids, sulfates, chlorides, nitrogen (NH_4 , NO_3 , NO_2), chemical oxygen demand, biological oxygen demand, phosphorus, pH, dissolved metals, nutrients, dissolved oxygen, dissolved carbon dioxide, methane, temperature, iron, and oxidation-reduction potential;
 - Information on any potential adverse impacts to groundwater quality, and whether the impacts will be localized and short-term;
 - The results of any pilot testing performed for the treatment technology to be used;
 - Site-specific geology (lithology and physical parameters) and hydrogeologic parameters, hydrologic report;
 - Infiltration rate;
 - Characterization and extent of petroleum hydrocarbon fuel, volatile organic compound and hexavalent chromium plume(s);
 - Description of the treatment system(s);
 - Adequate groundwater monitoring network with historical groundwater monitoring report;
 - Description of the aerial extent of the application area and identification of monitoring wells to be used to determine water quality upgradient, within the application area, downgradient from the application area and identify the compliance point;
 - Material Safety Data Sheet (MSDS) information and other product technical information for any materials to be used for cleanup;
 - Application rate(s), material type(s) and applied concentrations; and
 - Evaluation of loading rates for nitrogen compounds, total dissolved solids, sulfate, and chloride compounds.

- c. The General Waste Discharge Requirements would allow the following materials to be used for in-situ remediation purposes:

1. Oxidation/Aerobic Degradation Enhancement Compounds:

- Fenton's reagent (hydrogen peroxide, ferrous iron catalyst, and pH buffer)
- Hydrogen peroxide
- Potassium or sodium permanganate
- Oxygen release compound (ORC) magnesium peroxide
- Ozone
- Activated Persulfate (Klozur™)

2. Reducing/Reductive Degradation Enhancement Compounds (Table I):

- Calcium Polysulfide (Inorganic)
- Ferrous Sulfate (Inorganic)
- Ferrous Chloride (Inorganic)
- Sodium Dithionite (Inorganic)
- Zero-valent iron (Inorganic)
- Bio-remediation (Organic) using:
 - Molasses,
 - Lactose,
 - Cheese Whey and/or
 - Starch
 - Sodium Lactate
 - Ethanol
 - Emulsified Oil
 - Corn Syrup
 - Hydrogen Release Compound (HRC)—{proprietary}

3. Inorganics/Nutrients:

- Nitrate, ammonia, phosphate, vitamins

4. Carbon Sources/Electron Donors:

- Acetate, lactate, propionate, benzoate, oleate, ethanol, propanol, methanol, glucose, complex sugars such as molasses or corn syrup, other food process byproducts such as milk whey or yeast extract, other complex organic material such as wood chips

5. Study tracer compounds:

- The tracer compounds shall be highly contrast and not reactive with current contaminants to be treated. The tracers may be chloride-based and bromide-based salts, such as sodium-flouroscein, calcium chloride, sodium chloride, calcium bromide, sodium bromide, potassium bromide, potassium, iodide, Rhodamine WT, rhodamine (D), eosine, and fluoride salts, or similar materials as approved by the Executive Officer.
3. In applying these general WDRs, the monitoring program shall address changes in geochemistry that may alter the potential occurrence of transference of chromium (III) into chromium (VI), or vice versa, during the oxidation or reduction process in the in-situ remediation under these WDRs.
 4. For the purpose of renewal of existing individual requirements with these general WDRs, provided that all the conditions of these general WDRs are met, renewal is effective upon issuance of a notification by the Executive Officer and issuance of a new monitoring and reporting program.
 5. When the individual WDRs with more specific requirements are issued to a discharger, the applicability of this Order to that discharger is automatically terminated on the effective date of the individual WDRs.

B. AUTHORIZATION

To be authorized to discharge under this Order, the discharger must submit a Report of Waste Discharge in accordance with the requirements of Part C of this Order. Upon receipt of the application, the Executive Officer shall determine the applicability of this Order to such a discharge and the completeness of the application package. If the discharge is eligible, the Executive Officer shall notify the discharger that the discharge is authorized under the terms and conditions of this Order and prescribe an appropriate monitoring and reporting program. For new discharges, the discharge shall not commence until receipt of the Executive Officer's written determination and the discharger receives general WDRs to include a site specific monitoring and reporting program.

C. REPORT OF WASTE DISCHARGE

1. Deadline for Submission

- a. Renewal of permits of existing dischargers covered under individual WDRs that meet the eligibility criteria in Part A and have submitted Report of Waste Discharge will consist of a letter of determination from the Executive Officer of coverage under this Order.
 - b. New dischargers shall file a complete application to include all information identified in Items A1, A2 and as above at least 60 days before planned commencement of any discharge.
2. Forms for Report of Waste Discharge
- a. Dischargers shall use the appropriate forms (Standard Form 200) or equivalent forms approved by the State Water Resources Control Board or the Executive Officer of the Los Angeles Regional Board.
 - b. The discharger, upon request, shall submit any additional information that the Executive Officer deems necessary to determine whether the discharge meets the criteria for coverage under this Order, and/or in prescribing an appropriate monitoring and reporting program.
 - c. The Report of Waste Discharge shall be accompanied by the first annual fee (if appropriate) in accordance with the current version of California Code of Regulation, Title 23, Division 7, Chapter 9, Waste Discharge Report and Requirements Article 1 fees for a discharge. The check or money order shall be made payable to the "State Water Resources Control Board."

D. DISCHARGE PROHIBITIONS

1. The discharge of wastes other than those which meet eligibility requirements in Part A of this Order is prohibited unless the discharger obtains coverage under another general permit or an individual site specific permit that regulates the discharge of such wastes.
2. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
3. Creation of a pollution, contamination, or nuisance, as defined by section 13050 of the California Water Code (CWC), is prohibited.
4. The surfacing as overflow of wastes from the treatment system at any time and at any location is prohibited.

5. The disposal of wastes in geologically unstable areas or so as to cause earth movement is prohibited.

E. DISCHARGE LIMITATIONS

1. The discharge of wastes shall not cause the pH of the receiving groundwater at the compliance point, downgradient outside the application area, beyond the range of 6.5 and 8.5.
2. The discharge of wastes shall not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, in excess of applicable limits given in Attachment B. In the letter of determination, the Executive Officer shall indicate the groundwater limitations in Attachment B applicable to the particular discharge, and identify the compliance point(s) for the site.
3. The discharge of wastes shall not cause the concentrations of chemical constituents and radionuclides of the receiving groundwater designated for use as domestic or municipal supply at the compliance point, downgradient outside the application area, in excess of the Maximum Contaminate Levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations which are incorporated by reference into the Basin Plan: Table 64431-A of section 64431 (inorganic chemicals), Table 64431-B of section 64431 (fluoride), Table 64444-A of section 64444 (organic chemicals), and Table 4 of section 64443 (radioactivity). This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.
4. Waste discharged shall not cause the concentration of coliform organisms over any seven days period greater than 1.1/100ml.
5. Waste discharged shall not contain salts, heavy metals, or organic pollutants at levels that would cause receiving groundwater at the compliance point, downgradient outside the application area, to exceed the water quality objectives for groundwater or groundwater that may be in hydraulic connection with surface waters designated for marine aquatic life or body contact recreation.
6. Waste discharged shall not cause the groundwater to contain concentrations of chemical substances or its by-products in amounts that adversely affect any designated beneficial use, outside the application area or treatment zone at the compliance point(s).

7. Waste discharged shall not cause the groundwater to contain residual taste or odor in concentrations that cause nuisance or adversely affect beneficial uses, outside the application area or treatment zone at the compliance point(s).
8. Waste discharged shall not cause the groundwater to contain in amounts that cause nitrogen as nitrate-nitrogen plus nitrite-nitrogen ($\text{NO}_3\text{-N}+\text{NO}_2\text{-N}$), 45 mg/L as Nitrate (NO_3), 10 mg/L as nitrate-nitrogen ($\text{NO}_3\text{-N}$), or 1 mg/L as nitrite-nitrogen ($\text{NO}_2\text{-N}$), outside the application area or treatment zone at the compliance point(s).

F. PROVISIONS

1. The Executive Officer may require any discharger authorized under this Order to apply for and obtain individual WDRs with specific requirements. The Executive Officer may require any discharger authorized to discharge under this permit to apply for individual WDRs only if the discharger has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the discharger to file the application, and a statement that on the effective date of the individual requirements, the authority to discharge under this General WDRs are no longer applicable.
2. This Order includes the attached "Tentative Standard Provisions Applicable to Waste Discharge Requirements." (Attachment C) If there is any conflict between provisions stated herein before and the attached "Standard Provisions," those provisions stated herein shall prevail.
3. Adequate facilities shall be provided to divert surface and storm water away from the application area and/or treatment system and areas where any pollutants are stored.
4. The application of materials or the re-injection of treated groundwater shall only be at a site owned or controlled by the discharger.
5. All work must be performed by or under the direction of a registered civil engineer, registered geologist, or certified engineering geologist. A statement is required in all technical reports that the registered professional in direct responsible charge actually supervised or personally conducted all the work associated with the project.
6. The discharge of wastes to or infiltration to a surface water system must be covered by separate WDRs under the National Pollution Discharge Elimination System (NPDES) permit.

7. This Order does not alleviate the responsibility of 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. Additionally, the discharger shall notify the Native American Heritage Commission of any plans to disturb the soil in order to comply with California Environmental Quality Act (CEQA) guidelines as set forth in Section 15064.5(b)(c). Furthermore the discharger is required to provide local information prior to excavation to the California Historic Resources Information Center (CHRIS). This will serve as their due diligence record search to provide proximity to Native American historical and archeological resources. The discharger shall also be required to adhere to California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, CEQA Section 15064.5(d) and Section 15064.5 (f) to ensure that mitigation plan provisions are in-place to identify, evaluate and consult with your commission about the discovery and disposition of any recovered human remains or artifacts, should the occasion arise, during the remediation process overseen by this agency.
8. 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.
9. Any discharger authorized under this Order may request to be excluded from coverage of this Order by applying for an individual permit.
10. In accordance with section 13263(e) of the California Water Code, these requirements are subject to periodic review and revision by the Regional Board within a five (5) year cycle.
11. In accordance with Water Code section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into waters of the state are privileges, not rights.
12. The discharger shall develop a contingency plan and maintain it on site. The contingency plan shall detail appropriate actions to be taken in order to protect human health and the

environment in case of any spill or failure related to the operation or mis-operation of the treatment system.

G. MONITORING AND REPORTING REQUIREMENTS

1. The Executive Officer is hereby authorized to prescribe a Monitoring and Reporting Program for each authorized discharger. This program may include participation of the discharger in a regional monitoring program.
2. The discharger shall file with the Regional Board technical reports on self-monitoring work conducted according to the Monitoring and Reporting Program specified by the Executive Officer and submits other reports as requested by the Regional Board.
3. The discharger shall retain records of all monitoring information and data used to complete the Report of Waste Discharge and application for coverage under this Order for at least five years from the date of permit issuance. The retention period shall be extended during any unresolved litigation regarding the discharge or when requested by the Executive Officer.
4. The discharger shall maintain all sampling, measurement and analytical results, including the date, exact place, and time of sampling or measurement; individual(s) who did the sampling or measurement; the date(s) analyses were done; analysts' names; and analytical techniques or methods used.
5. All sampling, sample preservation, and analyses must be conducted according to test procedures under title 40 Code of Federal Regulations, section 136, unless other test procedures have been specified in this Order or by the Executive Officer.
6. All chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (CDHS-ELAP) or other state agency authorized to undertake such certification.
7. The discharger shall calibrate and maintain all monitoring instruments and equipment to insure accuracy of measurements, or shall insure that both activities will be conducted.
8. In reporting the monitoring data, the discharger shall arrange the data in tabular form so that the date, constituents, and concentrations are readily discernible. The data shall be summarized to demonstrate compliance with waste discharge requirements. Laboratory

analytical data from any soil testing and/or groundwater monitoring shall be reported in Electronic Deliverable Format in accordance with California Water Code section 13195 et. seq. requirements, if applicable.

9. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for correction.
10. The discharger shall file a report of any material change or proposed change in the character, location or volume of the discharge.
11. The discharger shall notify this Regional Board within 24 hours by telephone of any adverse condition resulting from the discharge; such notification shall be affirmed in writing within five working days.
12. Whenever wastes, associated with the discharge under this Order, are transported to a different disposal site, the following shall be reported in the monitoring report: type and quantity of wastes; name and address of the hauler (or method of transport if other than by hauling); and location of the final point(s) of disposal.
13. Each monitoring report must contain an affirmation in writing that:

"All analyses were conducted at a laboratory certified for such analyses by _____ and in accordance with current USEPA procedures or as specified in this Monitoring and Reporting Program."
14. Each report shall contain the following completed declaration:

"I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Groundwater Remediation at
Petroleum Hydrocarbon Fuel, Volatile Organic Compound
And / or Hexavalent Chromium Impacted Sites
Order No. R4-2007-0019

File No. 01-116

Executed on the ____ day of _____ at _____

(Signature)

(Title)"

H. EXPIRATION DATE AND CONTINUATION OF THIS ORDER

This Order expires on March 1, 2012; however, for those dischargers authorized to discharge under this Order, it shall continue in full force and effect until a new order is adopted.

I. REAUTHORIZATION

Upon re-issuance of a new general permit Order, dischargers authorized under this Order shall file a new Report of Waste Discharge within 45 days of notification by the Executive Officer.

I, Jonathan S. Bishop, 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 March 1, 2007.

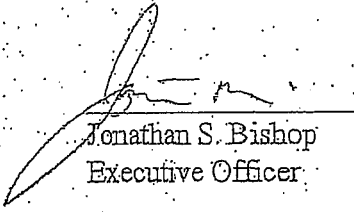

Jonathan S. Bishop
Executive Officer

TABLE I			
Remediation Technologies Used at U.S. Chromium Sites			
Additive	Additive Type	Treatment Mechanism	Comments
Calcium Polysulfide	Inorganic	Sulfide oxidation causing hexavalent chromium reduction to trivalent chromium and precipitation as a sulfide	End products in aerobic conditions is sulfate and sulfide precipitate (retained by soil) and in anaerobic conditions may produce measurable concentrations of aqueous sulfide or other sulfide compounds.
Hydrogen Sulfide Gas	Inorganic		
Sodium Sulfide	Inorganic		
Ferrous Sulfate	Inorganic	Ferrous oxidation causing hexavalent chromium reduction to trivalent chromium and coprecipitation with ferric iron hydroxide	End products in aerobic conditions is ferric coprecipitate (retained by soil) and in anaerobic conditions may produce measurable concentrations of aqueous ferrous iron and trivalent chromium.
Sodium Dithionite	Inorganic	Sulfite oxidation causing hexavalent chromium reduction to trivalent chromium, excess trivalent chromium precipitates as hydroxide	End products in aerobic conditions is a hydroxide precipitate (retained by soil) and, potentially, measurable concentrations of aqueous trivalent chromium and in anaerobic conditions may produce higher measurable concentrations of aqueous trivalent chromium.
Sulfur Dioxide Gas	Inorganic		
Sodium Metabisulfite	Inorganic		
Molasses	Organic (Off-the-Shelf)	Anaerobic biological depression of ORP causing reduction of hexavalent chromium to trivalent chromium, excess trivalent chromium precipitates as hydroxide	End products in aerobic conditions is a hydroxide precipitate (retained by soil) and, potentially, measurable concentrations of aqueous trivalent chromium and in anaerobic conditions may produce higher measurable concentrations of aqueous trivalent chromium and carboxylic acids (incomplete transformation of organic source).
Cheese Whey	Organic (Off-the-Shelf)		
Sodium Lactate	Organic (Off-the-Shelf)		
Emulsified Oil	Organic (Off-the-Shelf)		
Corn Syrup	Organic (Off-the-Shelf)		
Ethanol	Organic (Off-the-Shelf)		
Lactose	Organic (Off-the-Shelf)		
HRC	Organic (Proprietary)	Anaerobic biological depression of ORP causing reduction of hexavalent chromium to trivalent chromium, excess trivalent chromium precipitates as hydroxide	HRC (Hydrogen Release Compound by Regeneration) is propanoic acid, also known as Glycerol Tripropylactate, a carbohydrate. It is a highly viscous material (like Honey) that dissolves slowly, typically about 18 months. End products in aerobic conditions is a hydroxide precipitate (retained by soil) and, potentially, measurable concentrations of aqueous trivalent chromium and in anaerobic conditions may produce higher measurable concentrations of aqueous trivalent chromium and carboxylic acids (incomplete transformation of organic source).
ORC	Organic (Proprietary) blended with Inorganic	Anaerobic biological depression of ORP causing reduction of hexavalent chromium to trivalent chromium, potentially also direct reduction by inorganic sulfide, trivalent chromium precipitates as sulfide	ORC (Oxygen Remediation Compound by Regeneration) is the same material as HRC with an additional organosulfur to precipitate trivalent chromium as a sulfide precipitate. Like HRC, it is a highly viscous material that dissolves slowly, typically about 18 months. End products in aerobic conditions is sulfate and sulfide precipitate (retained by soil) and in anaerobic conditions may produce measurable concentrations of aqueous sulfide or other sulfide compounds and carboxylic acids (incomplete transformation of organic source).
ATTACHMENT A			

Table 3-10. Water Quality Objectives for Selected Constituents in Regional Ground Waters^a.

DWR Basin No. ^b	BASIN	OBJECTIVES (mg/L)			
		TDS	Sulfate	Chloride	Boron
	Pitas Point Area ^c	None specified			
4-1	Ojai Valley				
	Upper Ojai Valley				
	West of Sulfur Mountain Road	1,000	300	200	1.0
	Central area	700	50	100	1.0
	Sisar area	700	250	100	0.5
4-2	Lower Ojai Valley				0.5
	West of San Antonio—Senior Canyon Creeks	1,000	300	200	0.5
	East of San Antonio—Senior Canyon Creeks	700	200	50	
4-3	Ventura River Valley				
	Upper Ventura	800	300	100	0.5
	San Antonio Creek area	1,000	300	100	1.0
	Lower Ventura	1,500	500	300	1.5
4-4	Ventura Central ^d				
	Santa Clara—Piru Creek area				
	Upper area (above Lake Piru)	1,100	400	200	2.0
	Lower area east of Piru Creek	2,500	1,200	200	1.5
	Lower area west of Piru Creek	1,200	600	100	1.5
	Santa Clara—Sespe Creek area				
	Topa Topa (upper Sespe) area	900	350	30	2.0
	Fillmore area				
	Pole Creek Fan area	2,000	800	100	1.0
	South side of Santa Clara River	1,500	800	100	1.1
	Remaining Fillmore area	1,000	400	50	0.7
	Santa Clara—Santa Paula area				
	East of Peck Road	1,200	600	100	1.0
	West of Peck Road	2,000	800	110	1.0
	Oxnard Plain				
	Oxnard Forebay	1,200	600	150	1.0
	Confined aquifers	1,200	600	150	1.0
Unconfined and perched aquifers	3,000	1,000	500	—	
4-6	Pleasant Valley				
	Confined aquifers	700	300	150	1.0
	Unconfined and perched aquifers	—	—	—	—
4-7	Arroyo Santa Rosa	900	300	150	1.0
4-8	Las Posas Valley				
	South Las Posas area				
	NW of Grimes Cyn Rd & LA Ave & Somis Rd	700	300	100	0.5
	E of Grimes Cyn Rd and Hitch Blvd	2,500	1,200	400	3.0
	S of LA Ave between Somis Rd & Hitch Blvd	1,500	700	250	1.0
	Grimes Canyon Rd & Broadway area	250	30	30	0.2
North Las Posas area	500	250	150	1.0	
4-5	Upper Santa Clara				
	Acton Valley	550	150	100	1.0
	Sierra Pelona Valley (Agua Dulce)	600	100	100	0.5
	Upper Mint Canyon	700	150	100	0.5
	Upper Bouquet Canyon	400	50	30	0.5
	Green Valley	400	50	25	—
Lake Elizabeth—Lake Hughes area	500	100	50	0.5	

Table 3-10. Water Quality Objectives for Selected Constituents in Regional Ground Waters* (cont.)

DWR Basin No. ^b	BASIN	OBJECTIVES (mg/L)			
		TDS	Sulfate	Chloride	Boron
4-4.07	Eastern Santa Clara				
	Santa Clara-Mint Canyon	800	150	150	1.0
	South Fork	700	200	100	0.5
	Placerita Canyon	700	150	100	0.5
	Santa Clara-Bouquet & San Francisquito Canyons	700	250	100	1.0
	Castaic Valley	1,000	350	150	1.0
	Saugus Aquifer	--	--	--	--
4-9	Simi Valley				
	Simi Valley Basin				
	Confined aquifers	1,200	600	150	1.0
	Unconfined aquifers	--	--	--	--
	Gillibrand Basin	900	350	50	1.0
4-10	Conejo Valley	800	250	150	1.0
4-11	Los Angeles Coastal Plain				
	Central Basin	700	250	150	1.0
	West Coast Basin	800	250	250	1.5
	Hollywood Basin	750	100	100	1.0
	Santa Monica Basin	1,000	250	200	0.5
4-12	San Fernando Valley				
	Sylmar Basin	600	150	100	0.5
	Verdugo Basin	600	150	100	0.5
	San Fernando Basin				
	West of Highway 405	800	300	100	1.5
	East of Highway 405 (overall)	700	300	100	1.5
	Sunland-Tugunga area *	400	50	50	0.5
	Foothill area *	400	100	50	1.0
	Area encompassing RT-Tujunga-Erwin-	600	250	100	1.5
	N. Hollywood-Whithall-LA/Verdugo-Crystal Springs-				
	Headworks-Glendale/Burbank Well Fields				
Narrows area (below confluence of Verdugo	900	300	150	1.5	
Wash with the LA River)					
Eagle Rock Basin	800	150	100	0.5	
4-13	San Gabriel Valley				
	Raymond Basin				
	Monk Hill sub-basin	450	100	100	0.5
	Santa Anita area	450	100	100	0.5
	Pasadena area	450	100	100	0.5
	Main San Gabriel Basin				
	Western area †	450	100	100	0.5
	Eastern area †	600	100	100	0.5
Puente Basin	1,000	300	150	1.0	
4-14 8-2 ^a	Upper Santa Ana Valley				
	Live Oak area	450	150	100	0.5
	Claremont Heights area	450	100	50	--
	Pomona area	300	100	50	0.5
	Chino area	450	20	15	--
	Spadra area	550	200	120	1.0
4-15	Tierra Rejada	700	250	100	0.5
4-16	Hidden Valley	1,000	250	250	1.0
4-17	Lockwood Valley	1,000	300	20	2.0
4-18	Hungry Valley and Peace Valley	500	150	50	1.0

Table 3-10. Water Quality Objectives for Selected Constituents in Regional Ground Waters^a (cont.)

DWR Basin No. ^b	BASIN	OBJECTIVES (mg/L)			
		TDS	Sulfate	Chloride	Boron
4-19	Thousand Oaks area	1,400	700	150	1.0
4-20	Russell Valley	1,500	500	250	1.0
	Russell Valley	2,000	500	500	2.0
	Triunfo Canyon area	2,000	500	500	2.0
	Lindero Canyon area	2,000	500	500	2.0
	Las Virgenes Canyon area	2,000	500	500	2.0
4-21	Conejo-Tierra Rejada Volcanic area ^h	-	-	-	-
4-22	Santa Monica Mountains--southern slopes ⁱ				
	Camarillo area	1,000	250	250	1.0
	Point Dume area	1,000	250	250	1.0
	Malibu Valley	2,000	500	500	2.0
	Topanga Canyon area	2,000	500	500	2.0
	San Pedro Channel Islands ^j				
	Anacapa Island	-	-	-	-
	San Nicolas Island	1,100	150	350	-
	Santa Catalina Island	1,000	100	250	1.0
	San Clemente Island	-	-	-	-
	Santa Barbara Island	-	-	-	-

- a. Objectives for ground waters outside of the major basins listed on this table and outlined in Figure 1-9 have not been specifically listed. However, ground waters outside of the major basins are, in many cases, significant sources of water. Furthermore, ground waters outside of the major basins are either potential or existing sources of water for downgradient basins and, as such, objectives in the downgradient basins shall apply to these areas.
- b. Basins are numbered according to Bulletin 118-80 (Department of Water Resources, 1980).
- c. Ground waters in the Pitas Point area (between the lower Ventura River and Rincon Point) are not considered to comprise a major basin, and accordingly have not been designated a basin number by the California Department of Water Resources (DWR) or outlined on Figure 1-9.
- d. The Santa Clara River Valley (4-4), Pleasant Valley (4-6), Arroyo Santa Rosa Valley (4-7) and Las Posas Valley (4-8) Ground Water Basins have been combined and designated as the Ventura Central Basin (DWR, 1980).
- e. The category for the Foothill Wells area in previous Basin Plan incorrectly groups ground water in the Foothill area with ground water in the Sunland-Tujunga area. Accordingly, the new categories, Foothill area and Sunland-Tujunga area, replace the old Foothill Wells area.
- f. All of the ground water in the Main San Gabriel Basin is covered by the objectives listed under Main San Gabriel Basin - Eastern area and Western area. Walnut Creek, Big Dalton Wash, and Little Dalton Wash separate the Eastern area from the Western area (see dashed line on Figure 2-17). Any ground water upgradient of these areas is subject to downgradient beneficial uses and objectives, as explained in Footnote a.
- g. The border between Regions 4 and 8 crosses the Upper Santa Ana Valley Ground Water Basin.
- h. Ground water in the Conejo-Tierra Rejada Volcanic Area occurs primarily in fractured volcanic rocks in the western Santa Monica Mountains and Conejo Mountain areas. These areas have not been delineated on Figure 1-9.
- i. With the exception of ground water in Malibu Valley (DWR Basin No. 4-22), ground waters along the southern slopes of the Santa Monica Mountains are not considered to comprise a major basin and accordingly have not been designated a basin number by the California Department of Water Resources (DWR) or outlined on Figure 1-9.
- j. DWR has not designated basins for ground waters on the San Pedro Channel Islands.

STANDARD PROVISIONS
APPLICABLE TO WASTE DISCHARGE REQUIREMENTS

1. DUTY TO COMPLY

The discharger must comply with all conditions of these waste discharge requirements. A responsible party has been designated in the Order for this project, and is legally bound to maintain the monitoring program and permit. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350]

2. GENERAL PROHIBITION

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code (CWC). [H&SC Section 5411, CWC Section 13263]

3. AVAILABILITY

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. [CWC Section 13263]

4. CHANGE IN OWNERSHIP

The discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgement that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]

5. CHANGE IN DISCHARGE

In the event of a material change in the character, location, or volume of a discharge, the discharger shall file with this Regional Board a new Report of Waste Discharge. [CWC Section 13260(c)]. A material change includes, but is not limited to, the following:

- (a) Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the Waste.

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WDR

Standard Provisions Applicable to
Waste Discharge Requirements

- (b) Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.
- (c) Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems.
- (d) Increase in flow beyond that specified in the waste discharge requirements.
- (e) Increase in the area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements. [CCR Title 23 Section 2210]

6. REVISION

These waste discharge requirements are subject to review and revision by the Regional Board. [CCR Section 13263]

7. TERMINATION

Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information. [CWC Sections 13260 and 13267]

8. VESTED RIGHTS

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the discharger from his liability under Federal, State or local laws, nor do they create a vested right for the discharger to continue the waste discharge. [CWC Section 13263(g)]

9. SEVERABILITY

Provisions of these waste discharge requirements are severable. If any provision of these requirements are found invalid, the remainder of the requirements shall not be affected. [CWC Section 921]

Standard Provisions Applicable to
Waste Discharge Requirements

10. OPERATION AND MAINTENANCE

The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. [CWC Section 13263(f)]

11. HAZARDOUS RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the discharger is in violation of a prohibition in the applicable Water Quality Control plan. [CWC Section 1327(a)]

12. PETROLEUM RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. [CWC Section 13272]

Standard Provisions Applicable to
Waste Discharge Requirements

13. ENTRY AND INSPECTION

The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any location. [CWC Section 13267]

14. MONITORING PROGRAM AND DEVICES

The discharger shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which specifications are subject to periodic revisions as may be warranted. [CWC Section 13267]

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. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Office a written statement, signed by a registered professional engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

Unless otherwise permitted by the Regional Board Executive officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The Regional Board Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" [40CFR Part 136] promulgated by the U.S. Environmental Protection Agency. [CCR Title 23, Section 2230]

Standard Provisions Applicable to
Waste Discharge Requirements

15. TREATMENT FAILURE

In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost. [CWC Section 13263(f)]

16. DISCHARGE TO NAVIGABLE WATERS

Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act and discharge subject to a general NPDES permit) must file an NPDES permit application with the Regional Board. [CCR Title 2 Section 22357]

17. ENDANGERMENT TO HEALTH AND ENVIRONMENT

The discharger shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Office within 24 hours:

- (a) Any bypass from any portion of the treatment facility.
- (b) Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
- (c) Any treatment plan upset which causes the effluent limitation of this Order to be exceeded. [CWC Sections 13263 and 13267]

18. MAINTENANCE OF RECORDS

The discharger shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and record of all data used

Standard Provisions Applicable to
Waste Discharge Requirements

to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Records of monitoring information shall include:

- (a) The date, exact place, and time of sampling or measurement;
- (b) The individual(s) who performed the sampling or measurement;
- (c) The date(s) analyses were performed;
- (d) The individual(s) who performed the analyses;
- (e) The analytical techniques or method used; and
- (f) The results of such analyses.

19. (a) All application reports or information to be submitted to the Executive Office shall be signed and certified as follows:

- (1) For a corporation – by a principal executive officer or at least the level of vice president.
- (2) For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.
- (3) For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official.

(b) A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:

- (1) The authorization is made in writing by a person described in paragraph (a) of this provision.
- (2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
- (3) The written authorization is submitted to the Executive Officer.

Any person signing a document under this Section shall make the following certification:

Standard Provisions Applicable to
Waste Discharge Requirements

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. [CWC Sections 13263, 13267, and 13268]"

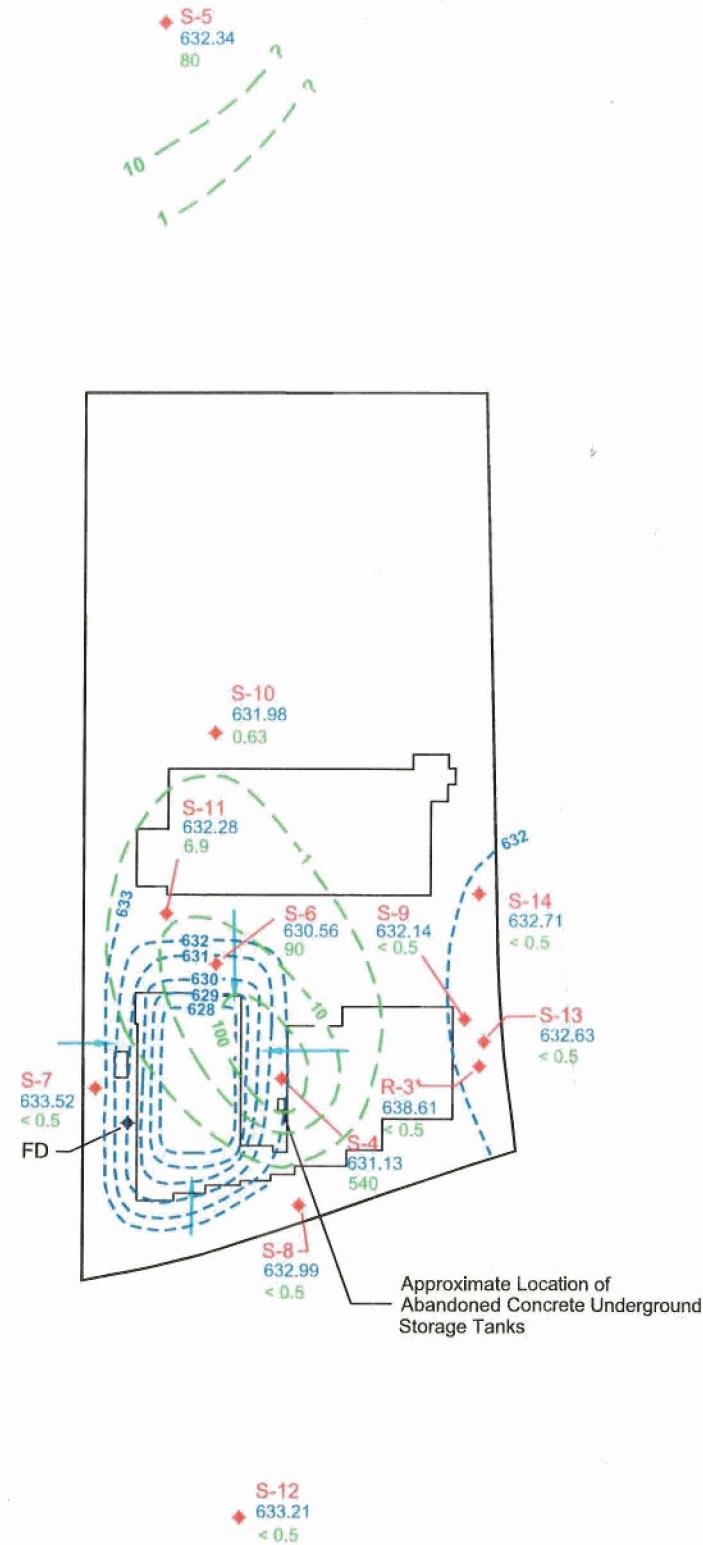
20. OPERATOR CERTIFICATION

Supervisors and operators of municipal wastewater treatment plants and privately owned facilities regulated by the PUC, used in the treatment or reclamation of sewage and industrial waste shall possess a certificate of appropriate grade in accordance with Title 23, California Code of Regulations Section 3680. State Boards may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment plant operator, the State Board may approve use of a water treatment plant operator of appropriate grade certified by the State Department of Health Services where reclamation is involved.

Each plan shall be operated and maintained in accordance with the operation and maintenance manual prepared by the municipality through the Clean Water Grant Program [CWC Title 23, Section 2233(d)]

ADDITIONAL PROVISIONS APPLICABLE TO
PUBLICLY OWNED TREATMENT WORKS' ADEQUATE CAPACITY

21. Whenever a publicly owned wastewater treatment plant will reach capacity within four years the discharger shall notify the Regional Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies and the press. The discharger must demonstrate that adequate steps are being taken to address the capacity problem. The discharger shall submit a technical report to the Regional Board showing flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Board, or within 120 days after receipt of notification from the Regional Board, of a finding that the treatment plant will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Board itself. [CCR Title 23, Section 2232]



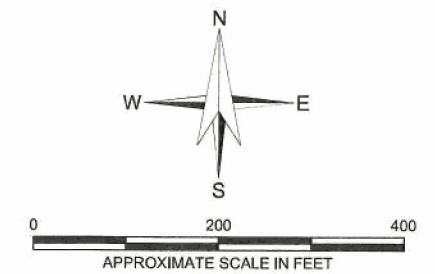
LEGEND

- ◆ S-8 SHALLOW ZONE MONITOR WELL
- 632.99 WATER LEVEL ELEVATION, IN FEET ABOVE MEAN SEA LEVEL
- < 0.5 TRICHLOROETHYLENE CONCENTRATION IN MICROGRAMS PER LITER
- FD ◆ FRENCH DRAIN SUMP
- 633 - - - APPROXIMATE LINE OF EQUAL WATER LEVEL ELEVATION - FEET ABOVE MEAN SEA LEVEL
- APPARENT DIRECTION OF HORIZONTAL GROUNDWATER FLOW
- 10 - - - APPROXIMATE LINE OF EQUAL CONCENTRATION OF TRICHLOROETHYLENE IN MICROGRAMS PER LITER
- < = INDICATES NON-DETECTED. THE NUMERICAL VALUE IS THE PRACTICAL QUANTITATION LIMIT OR METHOD REPORTING LIMIT.

WATER LEVELS MEASURED OCTOBER 18 - 21, 2010

TCE SAMPLES COLLECTED OCTOBER 18 - 21, 2010

R3* WATER LEVEL POSSIBLY INFLUENCED BY SURFACE WATER ENTERING THE CASING, THROUGH A SUSPECTED FAILED WELL SEAL.



HALEY & ALDRICH

SKYWORKS SOLUTIONS, INC.
NEWBURY PARK, CALIFORNIA

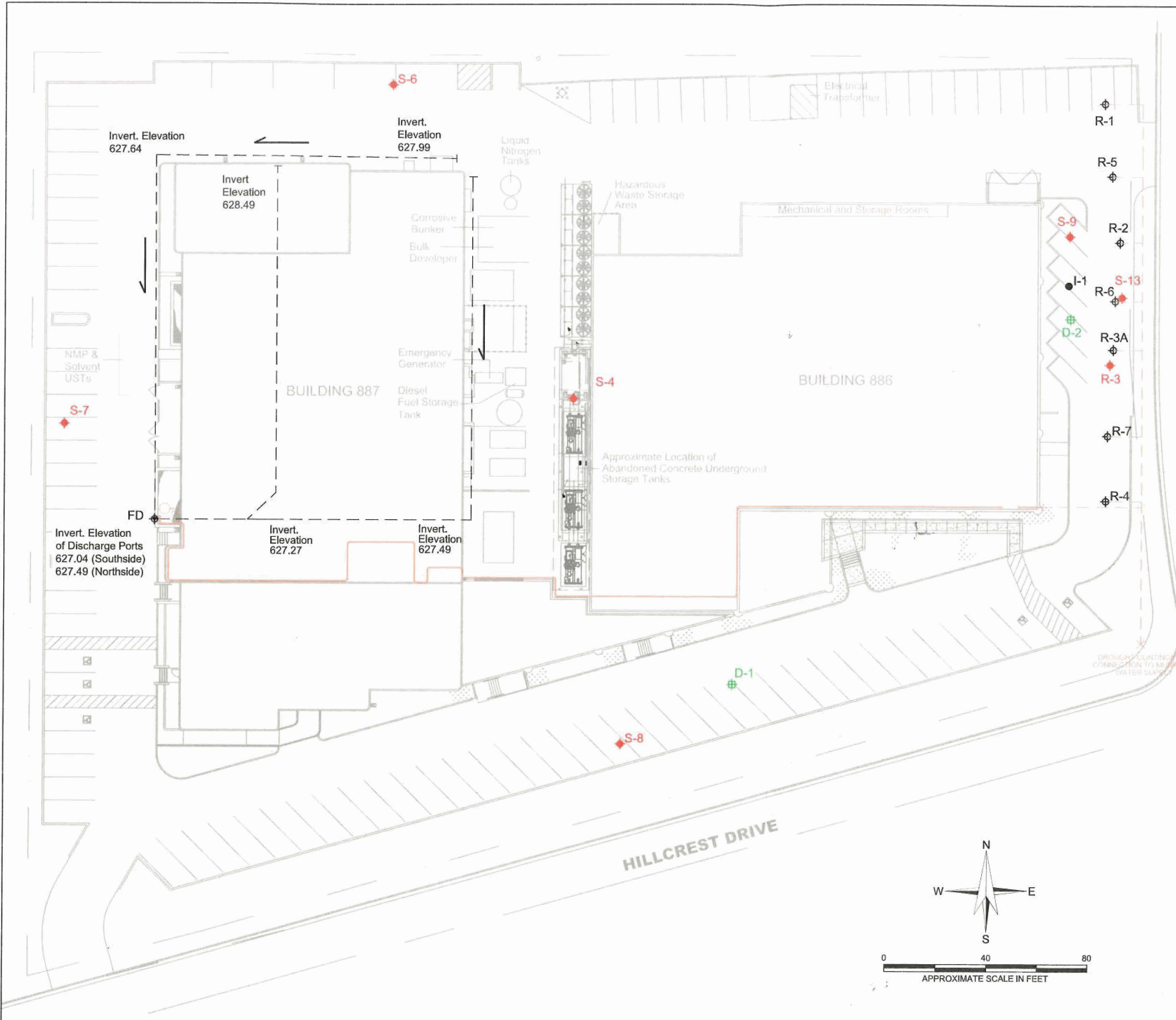
DRAFT

SHALLOW WATER LEVEL ELEVATION AND
TCE ISO-CONCENTRATION CONTOURS
OCTOBER 2010
WDR GENERAL ORDER RA-2007-0019

SCALE: AS SHOWN
JANUARY 2011

FIGURE 1

G:\GRAPHICS\PROJECTS\26465_SKYWORKS_NEWBURY_PARK\PT-M12326465-010-0002-FACILITY-MAP-WITH-PIPING.DWG

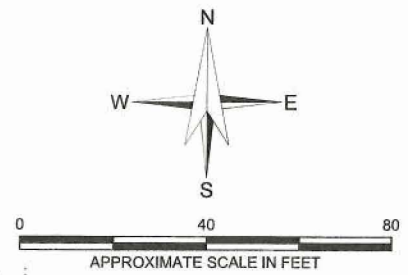


MITCHELL ROAD

- LEGEND**
- ◆ S-8 SHALLOW ZONE MONITOR WELL
 - I-1 INTERMEDIATE ZONE MONITOR WELL
 - # D-2 LOWER ZONE MONITOR WELL
 - ◆ R-3A RECHARGE WELL
 - ◆ FD FRENCH DRAIN SUMP
 - FRENCH DRAIN PVC LATERAL LINES
 - ← FRENCH DRAIN PVC LATERAL LINES
 - ┌ ABOVE GROUND PIPING
 - - - BELOW GROUND PIPING

NOTE:

1. ALL WELL AND PIPE LOCATIONS ARE APPROXIMATE.
2. THIS FIGURE CONTAINS COLORIZED FEATURES AND THEREFORE MAY NOT BE ACCURATELY REPRESENTED IN A REPRODUCED BLACK AND WHITE COPY.



HALEY & ALDRICH SKYWORKS SOLUTIONS, INC.
NEWBURY PARK, CALIFORNIA

FACILITY MAP WITH FRENCH DRAIN SYSTEM AND PIPING TO RECHARGE WELLS
WDR GENERAL ORDER RA-2007-0019

SCALE: AS SHOWN
JANUARY 2011

FIGURE 2