



Linda S. Adams  
Secretary for  
Environmental Protection

# California Regional Water Quality Control Board

## San Diego Region



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Governor

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February 24, 2010

Ms. Natasha Molla  
Chevron Environmental Management Company  
145 S. State College Boulevard  
P.O. Box 2292  
Brea, California 92822

**CERTIFIED MAIL**  
**7009 1410 0002 2347 4114**

**In reply refer to:**  
**T0605902379:bpulver**

Dear Ms. Molla,

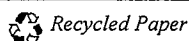
**SUBJECT: CLEANUP AND ABATEMENT ORDER NO. R9-2010-0019  
FOR CHEVRON SERVICE STATION No. 9-8719  
26988 ORTEGA HIGHWAY  
SAN JUAN CAPISTRANO, CALIFORNIA**

Enclosed is Cleanup and Abatement Order No. R9-2010-0019 (Order), requiring Chevron U.S.A., Inc. (Chevron), owner of Chevron Service Station No. 9-8719 located at 26988 Ortega Highway, San Juan Capistrano, California to submit technical reports and cleanup and abate the affects of the unauthorized release of petroleum hydrocarbons from the subject gasoline facility.

If Chevron fails to comply with the Order, under the authority of California Water Code section 13304, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) may have the Attorney General petition the San Diego County Superior Court for the issuance of an injunctive requiring Chevron to comply with the Order. If Chevron fails to furnish information required by the Order or falsifies information submitted to the San Diego Water Board, pursuant to Water Code section 13304, Chevron is guilty of a misdemeanor and may be subject to civil liability. Under Water Code section 13350(e), a civil liability may be imposed administratively by the San Diego Water Board in an amount of up to \$5,000 per day of violation (i.e., for each day of delay in submitting all information requested, or for each day that false information remains uncorrected).

Any person affected by this action of the San Diego Water Board may request an evidentiary hearing before the San Diego Water Board as described in the Order, Notification Section C. A request for an evidentiary hearing does not stay the effective date of the Order. Any person affected by this action of the San Diego Water Board may petition the State Water Resources Control Board (State Water Board) as described in the Order, Notification Section D. A request for an evidentiary hearing does not extend the 30-day period to file a petition with the State Water Board.

*California Environmental Protection Agency*




Section 13304(c) of the Water Code provides that the San Diego Water Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by the Order.

The heading portion of this letter includes a code number noted after "In reply refer to." In order to assist us in the processing of your correspondence please include this code number in the heading or subject portion of all correspondence and reports to the San Diego Water Board pertaining to this matter.

Questions or written correspondence pertaining to this Order should be directed to Mr. Barry S. Pulver at (858) 467-2733, via e-mail at [bpulver@waterboards.ca.gov](mailto:bpulver@waterboards.ca.gov), or to the address above.

Sincerely,



23 Feb 10

JAMES G. SMITH  
Assistant Executive Officer

JGS:jac:clc:bsp

Enclosure: Cleanup and Abatement Order No. R9-2010-0019

cc via e-mail with enclosure:

Mr. Juan M. Garcia, Chevron U.S.A., Inc., [JuanGarcia@chevron.com](mailto:JuanGarcia@chevron.com)

Mr. Jack W. Fraim, Cedar Creek Consulting, [cedarcreek@direction.net](mailto:cedarcreek@direction.net)

Mr. Steven H. Edelman, PhD, Holguin, Fahan & Associates, Inc.,  
[Steve\\_Edelman@hfa.com](mailto:Steve_Edelman@hfa.com)

Mr. Joe Tait, City Manager, City of San Juan Capistrano, [jtait@sanjuancapistrano.org](mailto:jtait@sanjuancapistrano.org)

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**CLEANUP AND ABATEMENT ORDER NO. R9-2010-0019**

**AN ORDER DIRECTING CHEVRON USA, INC. TO CLEANUP AND ABATE  
THE EFFECTS OF POLLUTION AND NUISANCE AND SUBMIT  
TECHNICAL REPORTS PERTAINING TO SITE ASSESSMENT  
AND CORRECTIVE ACTION**

**AT**

**CHEVRON SERVICE STATION NO. 9-8719  
26988 ORTEGA HIGHWAY  
SAN JUAN CAPISTRANO, CALIFORNIA**

The California Regional Water Quality Control Board, San Diego Region  
(San Diego Water Board) finds that:

- 1. Legal and Regulatory Authority** - This Order conforms to and implements policies and requirements of the Porter-Cologne Water Quality Control Act (Division 7, commencing with Water Code section 13000) including (1) sections 13267 and 13304; (2) applicable State and federal regulations; (3) all applicable provisions of Statewide Water Quality Control Plans adopted by the State Water Resources Control Board (State Water Board) and the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) adopted by the San Diego Water Board including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board policies and regulations, including State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*), Resolution No. 88-63 (*Sources of Drinking Water*), Resolution No. 92-49 (*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under California Water Code Section 13304*), California Code of Regulations (CCR) Title 23, Division 3, Chapter 16, Article 11, CCR Title 23, section 3890 et. seq.; and (5) relevant standards, criteria, and advisories adopted by other State and federal agencies.

CCR Title 23 Division 3, Chapter 16, Article 11 applies to a Responsible Party of an unauthorized release of a hazardous substance from an underground storage tank. Applicable requirements of Chapter 16 include the following:

- a. Section 2652(d) requires submission of reports to the local agency or Regional Water Quality Control Board every three months until investigation and cleanup are complete.

- b. Section 2654 requires an initial site characterization which provides data including the nature and estimated quantity of the release, water quality use in the area of the release, and approximate locations of wells potentially affected by the release.
- c. Section 2722(c) requires submittals of work plans for proposed activities under the Preliminary Site Assessment Phase, if directed by the regulatory agency.
- d. Section 2723 specifies that the Preliminary Site Assessment Phase includes the initial site characterization specified in section 2654 and reporting must be conducted according to section 2562.

2. **Unauthorized Discharge of Petroleum Hydrocarbon Wastes** - Chevron Service Station No. 9-8719 is an active retail gasoline service station located at 26988 Ortega Highway, San Juan Capistrano, California (hereinafter the Facility). Discharges of gasoline from the underground storage tanks (USTs) have resulted in a methyl tertiary butyl ether (MTBE) plume in groundwater that extends at least 600 feet south of the facility.

The following table presents the highest concentration of selected compounds detected within the plume during the most recent groundwater sampling.

<i>Compound</i>	<i>Maximum Groundwater Concentration (<math>\mu\text{g/L}</math>)</i>
Benzene	0.54
MTBE	77
Tertiary butyl alcohol	88

3. **Person Responsible for the Discharge of Waste** - Chevron USA, Inc. (Chevron) is responsible for the discharge of waste because it owns and operates the retail gasoline station known as Chevron Service Station No. 9-8719 where discharges of gasoline occurred from the underground storage tank system (UST).<sup>1</sup> Chevron permitted activities to occur that caused waste to be discharged or deposited where it discharged into waters of the State and created or threatened to create a condition of pollution or nuisance. Chevron, by failing to control the discharge, has caused or permitted waste to be discharged in such a manner that it has created a

<sup>1</sup> The UST system included the tanks, piping, and dispensers.

condition of pollution or nuisance. The term "discharge" includes active, initial release and passive migration of waste.<sup>2</sup>

4. **Beneficial Uses of Groundwater** - The Facility is located within the Lower San Juan Hydrologic Subarea (HSA) (901.27) of the San Juan Hydrologic Unit (901.00). Groundwater in the San Juan HSA is designated in the Basin Plan as having existing beneficial uses for:<sup>3</sup>
- a. Municipal and domestic water supply (MUN);
  - b. Agricultural supply water (AGR); and
  - c. Industrial service supply (IND).

Groundwater is currently used for municipal and domestic supply. The San Juan Capistrano Groundwater Recovery Plant (GWRP), which began operation in 2005, consists of six groundwater production wells, and a greensand filter and reverse osmosis treatment system. The closest municipal supply well is located approximately 1,200 feet to the east of the Facility. The GWRP can extract and treat up to 5.1 million gallons per day of highly mineralized groundwater. The GWRP was designed to supply virtually all of San Juan Capistrano's winter needs and half of its summer needs.

5. **Water Quality Thresholds** - There are several established numerical water quality thresholds that may be used to determine if chemicals detected in groundwater exceed water quality objectives to support the designated beneficial uses of groundwater.
- a. **Maximum Contaminate Levels** - Maximum Contaminate Levels (MCL) are drinking water standards adopted by the California Department of Public Health (CDPH) pursuant to the California Safe Drinking Water Act and codified in Title 22 of the California Code of Regulations.<sup>4</sup> *Primary MCLs* are derived from

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<sup>2</sup> *In the Matter of Zoecon Corporation*, Order No. 86-2 (State Water Board 1986) (the discharge of waste includes the passive migration of waste.) This Order found that the owner of a contaminated site causes or permits a discharge even if the owner did not own the property at the time of the initial release.

<sup>3</sup> See Water Quality Control Plan for the San Diego Basin (Basin Plan), Page 2-3. The Basin Plan defines MUN as "uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply."

<sup>4</sup> Basin Plan, footnote 1, *supra*. Page 3-24 and Table 3-5 at 3-25. The Basin Plan provides that "Water designated for use as domestic or municipal supply (MUN) must not contain concentrations of chemical constituents in excess of the maximum contaminant levels specified in California Code of Regulations, Title 22, Table 64444-A of section 64444 (Organic Chemicals) which is incorporated by reference into this plan. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect. (See Table 3-5.)"

health-based criteria and include technologic and economic considerations based on the feasibility of achieving and monitoring for these concentrations in drinking water supply systems and at the tap. It should be noted that the balancing of health effects with technologic and economic considerations in the derivation of MCLs may not be appropriate for protection of the quality of raw surface water or groundwater resources. *Secondary MCLs* are derived from human welfare considerations (e.g., taste, odor, laundry staining) in the same manner as Primary MCLs.

- b. California Public Health Goals - California Public Health Goals (PHGs) are established by the California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHA) pursuant to the California Safe Drinking Water Act of 1996. PHGs represent levels of contaminants in drinking water that would pose no significant health risk to individuals consuming the water on a daily basis over a lifetime. PHGs are based solely on scientific and public health considerations without regard to economic considerations. Being purely health-based, PHGs are appropriate to use in interpreting narrative toxicity objectives with respect to human exposures from constituents in waters that have been designated as existing or potential sources of municipal and domestic supply. In addition, where water quality objectives require compliance with drinking water MCLs, the PHGs may provide an indication as to whether MCLs are likely to be revised upward or downward in the future. This information is important because the State Water Board and the San Diego Water Boards must ensure the usability of water for the foreseeable future.
- c. Notification Levels - Notification levels (formerly called "action levels") are published by the CDPH for chemicals for which there is no drinking water MCL (e.g. tertiary butyl alcohol [TBA]). Notification levels are based mainly on health effects (in most cases an incremental cancer risk estimate of 1 in 1,000,000). Notification levels are advisory to water suppliers. If a notification level is exceeded, local government notification is required and customer notification is recommended. At a higher level, called the response level, the drinking water source is recommended to be taken out of service.

The following compounds detected in groundwater exceed water quality thresholds and create a condition of pollution and nuisance in the water of the State.

<i>Compound</i>	<i>Maximum Groundwater Concentration (µg/L)</i>	<i>Primary Maximum Contaminate Level (µg/L)</i>	<i>Public Health Goals (µg/L)</i>	<i>Notification Level (µg/L)</i>
Benzene	0.54	1	0.15	Not Established
MTBE	77	13 (Primary) 5 (Secondary)	13	Not Established
TBA	88	Not Established	Not Established	12

6. **Basis of Cleanup and Abatement Order** - Water Code section 13304 contains the cleanup and abatement authority of the San Diego Water Board. Water Code section 13304 requires a person to clean up waste and/or abate the effects of the waste discharge if so ordered by the San Diego Water Board in the event there has been a discharge in violation of waste discharge requirements, or if a person has caused or permitted waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State and creates or threatens to create a condition of pollution or nuisance. Therefore, based on the previous findings the San Diego Water Board is authorized to order Chevron to cleanup and abate the effects of the waste discharge(s).
  
7. **Basis for Requiring Reports** - Water Code section 13267 provides that the San Diego Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the Regional Water Board may specify, provided that the burden, including costs, of these reports, must bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring the reports, the San Diego Water Board must provide the person with a written explanation with regard to the need for the reports, and identify the evidence that supports requiring that person to provide the reports.
  
8. **Need for Technical and Monitoring Reports** - Technical reports and Monitoring reports required by this Order are needed to provide information to the San Diego Water Board regarding:
  - a. The nature and extent of the discharge;
  - b. The nature and extent of pollution conditions in State waters created by the discharge;

- c. The threat to public health posed by the discharge; and
- d. Appropriate cleanup and abatement measures.

The reports will enable the San Diego Water Board to determine the vertical and lateral extent of the discharge, ascertain if the condition of pollution poses a threat to human health in the vicinity of the Facility, and provide technical information to determine what cleanup and abatement measures are necessary to bring the Facility into compliance with applicable water quality standards. Based on the nature and possible consequences of the discharges (as described in Findings No. 1 through 5) the burden of providing the required reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

- 9. **Cost Recovery** - Pursuant to California Water Code section 13304, the San Diego Water Board is entitled to, and will seek reimbursement for, all reasonable costs actually incurred by the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
- 10. **Cleanup Levels** - The State Water Board Resolution No. 92-49 (*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304*) sets forth the policies and procedures to be used during an investigation or cleanup of a nuisance site and requires that cleanup levels be consistent with State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*). Resolution No. 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution No. 92-49 requires the waste to be cleaned up to background concentrations, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, CCR section 2550.4. Any alternative cleanup level greater than background concentration must (1) be consistent with the maximum benefit to the people of the State; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Board.
- 11. **California Environmental Quality Act (CEQA) Compliance** - The issuance of this Order is an enforcement action taken by a regulatory agency and is categorically exempt from the provisions of CEQA pursuant to section 15321(a) (2), Chapter 3, Title 14 of the California Code of Regulations. This Order requires submittal of detailed work plans that address cleanup activities. The proposed activities under the work plans are not yet known, but



implementation of the work plans may result in significant physical impacts to the environment that must be evaluated under CEQA. The appropriate lead agency will address the CEQA requirements prior to implementing any work plan that may have a significant impact on the environment.

- 12. Qualified Professionals** - Chevron's reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of registered professionals.

**IT IS HEREBY ORDERED** that, pursuant to Water Code sections 13267 and 13304 that Chevron must comply with the following Directives:

- A. CLEANUP AND ABATE DISCHARGES** - Chevron must take all corrective actions necessary to cleanup and abate the effects of the discharge.
- B. INTERIM REMEDIAL ACTIONS** - Chevron shall immediately implement interim remedial actions to abate or correct the actual or potential effects of the unauthorized release pursuant to CCR Title 23, Chapter 16, section 2722 (b) as necessary. Interim remedial actions may include but are not limited to activities that remove free phase product (also know as light non-aqueous phase liquid or LNAPL), remove petroleum hydrocarbon sources (e.g. soil saturated with petroleum hydrocarbons) and/or mitigate nuisance of all surface water and groundwater affected by the waste discharge. Interim remedial actions can occur concurrently with any phase of the site investigation or remedial action. Chevron must notify the San Diego Water Board in writing prior to conducting interim remedial actions by doing the following:
- 1. Interim Remedial Actions to Mitigate Emergency Conditions** - Chevron shall provide a technical report documenting any work performed to mitigate emergency conditions of pollution or nuisance created by the discharge of petroleum hydrocarbons at the Site. Chevron must submit the technical report to the San Diego Water Board within 15-days after completing the work to mitigate emergency conditions under this directive; or
  - 2. Interim Remedial Actions to Mitigate Non-Emergency Conditions** - Chevron shall provide a proposed workplan to mitigate non-emergency conditions and schedule of actions at least thirty days prior to initiating any interim remedial actions. Chevron must implement its interim remedial actions within 30 days of submitting the workplan to the San Diego Water Board.

**C. SITE ASSESSMENT** - Chevron must prepare and submit a Site Assessment Report (Report) describing the results of the site investigation. The Report must be submitted to the San Diego Water Board **no later than 5:00 p.m. on December 30, 2010** and must contain the following information:

1. **Source Characterization** - The Report must contain the results of an investigation of all potential sources of waste constituent discharges to soil and groundwater including, but not limited to, historical records of operations, site reconnaissance, and previous sampling studies. The information in the technical report must provide an adequate basis for determining subsequent effective cleanup and abatement actions. All sources of waste constituent releases must be located on a site map at a scale of 1 inch = 200 feet or larger, with an appropriate contour interval to depict site topography.
2. **Geologic Characterization** - The Report must contain an accurate characterization of the subsurface geology, the hydrogeologic characteristics, and all preferential pathways that may affect groundwater flow and contaminant migration.
3. **Groundwater Flow Characterization** - The Report must describe the rate(s) and direction(s) of local groundwater flow, in both the horizontal and vertical dimension for all water-bearing units potentially affected by the waste constituent(s) from the facility.
4. **Extent of Waste Constituent Characterization** - The Report must adequately characterize the extent (both laterally and vertically) of each waste constituent in soil and groundwater to the background concentration<sup>5</sup> for that waste constituent, and characterize any pollution that has migrated off-property.
5. **Human Health and Ecological Risk Assessment** - The Report must include a human health and ecological risk assessment for every complete exposure pathway identified in the Site Conceptual Model (SCM). The human health and ecological risk assessments must follow United States Environmental Protection Agency (USEPA) and the California Environmental Protection Agency guidance.
6. **Groundwater Monitoring Wells** - The Report must describe the location of existing monitoring wells, and the proposed location of additional monitoring wells, needed to characterize the types of waste constituents present, the concentrations of waste constituents, and their lateral and vertical extent in groundwater.

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<sup>5</sup> "Background concentration" means the concentrations or measures of constituents or indicator parameters in water or soil that have not been affected by waste constituents from the site. For volatile organic compounds, oxygenates, and gasoline constituents the background concentration is zero.

7. **Field Methodologies** - The Report must describe the field methodologies used for drilling, soil sampling, groundwater sampling, groundwater monitoring well construction, geophysical surveys, and other activities. Selected methods for purging and sampling monitoring wells must be capable of providing representative samples of groundwater for detecting all of the waste constituents.
  8. **Chemical Analyses** - The Report must describe the laboratory analytical methods and protocols used for each environmental medium including soil, soil vapor, and water. The suite of chemical analyses, methods and protocols must be adequate to quantitatively identify and characterize the full range of site-specific waste constituents.
  9. **Sample Locations and Number** - The Report must contain the locations, type, and number of samples identified and shown on a site map and cross sections. The number of samples and suite of chemical analyses must be sufficient to identify the nature of waste constituent(s) and their sources, to define the distribution of waste constituents in the subsurface, to provide data for evaluation of fate and transport of pollutants, risk assessment, remedy selection, and remedial design. In addition, samples must be collected to evaluate physical properties of soils and aquifer materials. All monitoring data must be presented in tabular format including the sample result, sample medium, location, depth, sampling method, analyses and rationale for the method.
  10. **Site Conceptual Model** - The Report must contain a Site Conceptual Model (SCM) using all data collected as part of the site assessment activity.
  11. **Groundwater Monitoring Program Revisions** - The Report must contain proposed revisions to the Groundwater Monitoring Program (GMP) as required by Directive F. Proposed revisions to the GMP must take into consideration State Water Board Resolution No. 2009-0042 which requires reduction of quarterly ground water monitoring to semiannual, or less frequently, unless site-specific conditions warrant otherwise. Additionally, not all groundwater monitoring wells installed to delineate the extent of the dissolved plume may be needed to comply with the objective of the GMP as stated in Directive F.1. At a minimum the revised GMP proposal must include the rationale for the proposed sampling program, a narrative of the proposed sampling locations, sampling frequency, and laboratory test methods, and a map showing the location of the proposed sampling locations.
- D. CORRECTIVE ACTION PLAN** - Chevron must prepare and submit to the San Diego Water Board **no later than 5:00 pm on January 28, 2011** a Corrective Action Plan (CAP) that satisfies the provisions of CCR, Title 23, Chapter 16 section 2725. The CAP must address cleanup of soil and groundwater at the Facility as well as all

groundwater impacted by the discharge(s) from the Facility, and contain all the elements specified in section 2725 including:

1. **Assessment of Impacts** - The CAP must include an assessment of impacts in accordance with section 2725(e), which includes but is not limited to:
  - a. The physical and chemical characteristics of the hazardous substance or its constituents, including their toxicity, persistence, and potential for migration in water, soil, and air.
  - b. The hydrogeologic characteristics of the facility and the surrounding area where the unauthorized release has migrated or may migrate.
  - c. The proximity and quality of nearby surface water or groundwater, and the current and potential beneficial uses of these waters.
  - d. The potential effects of residual contamination on nearby surface water and groundwater.
  
2. **Feasibility Study** - The CAP must include a feasibility study to evaluate alternatives for cleanup of soil and groundwater. The evaluation must be consistent with the requirements of section 2725(f) and include the following elements:
  - a. An evaluation of the effectiveness, feasibility, and cost of at least two alternatives to restore or protect the beneficial uses of groundwater.
  - b. An evaluation of methods to control the spread of the dissolved contaminant plume off the property.
  - c. A comprehensive description of the cleanup and abatement activities associated with each recommended alternative.
  - d. A proposed action schedule, including interim milestone dates, for completion of each recommended alternative.
  
3. **Cleanup Levels** - The CAP must evaluate applicable cleanup levels in accordance with the requirements of section 2725(g) and must comply with the requirements found in CCR Title 23, Division 3, Chapter 16, section 2721(b), State Water Board Resolution No.92-49, and Finding 9 of this Order.
  - a. Groundwater Cleanup Levels: Chevron must cleanup and abate the effects of the discharge in a manner that promotes the attainment of either background groundwater quality or the best water quality which is reasonably attainable if background levels of water quality cannot be

restored, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible. Any alternative cleanup levels less stringent than background groundwater quality must:

- i. Be consistent with maximum benefit to the people of the State;
  - ii. Not unreasonably affect present and anticipated beneficial use of such water; and
  - iii. Not result in water quality less than that prescribed in the Water Quality Control Plans and Policies adopted by the State Water Board and San Diego Water Board.
- b. Soil Cleanup Levels: Residual concentrations of fuel constituents in soils must meet all the following criteria:
- i. Be low enough so that leachable contaminants will not cause the groundwater cleanup levels to be exceeded at/near the Facility; and
  - ii. Be protective of human health and the environment.

Chevron must propose a range of site-specific soil cleanup levels based upon a technical evaluation of risks from residual soil contaminants and analytical results from contaminant leachability tests performed on an adequate number of significantly contaminated soils samples collected from the facility.

4. **Corrective Action Evaluation Monitoring Program** - The CAP must include a corrective action evaluation monitoring program (EMP). The objective of the EMP is to determine the effectiveness of the corrective action and must be used to make adjustments to the implementation of the CAP. At a minimum the EMP must include the rationale for the proposed sampling program, a narrative of the proposed sampling locations, sampling frequency, and laboratory test methods, and a map showing the location of the proposed sampling locations.

- E. INITIATION OF CAP AND CAP CERTIFICATION REPORT** - Chevron must begin implementation of the CAP no later than **April 29, 2011**. No later than **January 31, 2012** Chevron must submit a technical report to the San Diego Water Board certifying that the preferred remedial action alternative(s) is fully operational. The certification report must also include and evaluation of the effectiveness of the CAP.

**F. GROUNDWATER MONITORING PROGRAM** - Chevron must submit the technical reports required in this Groundwater Monitoring Program (GMP).

1. **Objective** - The objective of the GMP is to document groundwater conditions and provide adequate data for evaluating the following:
  - a. Effectiveness of Interim remedial actions.
  - b. Changes to the size and/or mass of the plume of each waste constituent in groundwater.
  - c. Effectiveness of the selected remedial action alternative in restoring beneficial uses of groundwater and protecting human health.
2. **Monitoring** - Until submittal of the GMP revisions as required by Directive C.11 all groundwater monitor wells must be monitored and sampled on a quarterly basis. Groundwater samples must be analyzed for total petroleum hydrocarbons quantified as gasoline and diesel using USEPA method 8015 and for **full scan of volatile organic compounds** including benzene, toluene, ethylbenzene, xylenes, MTBE, TBA and other oxygenates using USEPA method 8260b.
3. **Quarterly Groundwater Monitoring Reports** - Chevron must submit quarterly groundwater monitoring reports to the San Diego Water Board according to the following schedule:

Quarter	Monitoring Period	Report Due Date
First Quarter	January, February, March	April 30
Second Quarter	April, May, June	July 30
Third Quarter	July, August, September	October 30
Fourth Quarter	October, November, December	January 30

The quarterly groundwater monitoring reports must include:

- a. Transmittal Letter with Penalty of Perjury Statement: The transmittal letter must discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter must be signed by the Chevron's principal executive officer or their duly authorized representative, and must include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

- b. Groundwater Elevations: Groundwater elevation data must be presented in tabular format with depth to groundwater (in feet below ground surface), top of casing elevations, depths to the top of well screens, length of well screens and total depth for each well included in the monitoring program. For all wells containing floating "free petroleum product" (A.K.A. light non-aqueous phase liquid or LNAPL) include the measured thickness of LNAPL in a tabular format. A groundwater elevation map must be prepared for each monitored water-bearing zone with the groundwater flow direction and calculated hydrologic gradients(s) clearly indicated in the figures(s). A complete tabulation of historical groundwater elevations must be included in each quarterly report.
- c. Reporting Groundwater Results: All monitoring reports must, at a minimum, include:
  - i. A map showing the location of all wells and other sampling points.
  - ii. Tables of current and historic groundwater sampling data (chemical data and depth to groundwater and groundwater elevation data).
  - iii. Isoconcentration map(s) for constituents of concern (COCs) for each monitored water-bearing zone, as appropriate.
  - iv. Time versus concentration plots that also show groundwater elevations for constituents of concern for appropriate wells.
  - v. A site plot plan which clearly illustrates the locations of monitoring wells, former/current UST systems (and product piping) and buildings located on the property and immediately adjacent to the property lines of the Facility.
  - vi. A map presenting the most recent concentrations of total petroleum hydrocarbons and volatile aromatic hydrocarbons (e.g. benzene, toluene, ethylbenzene, total xylenes, MTBE, TBA, and other fuel oxygenates).
  - vii. Technical interpretations of the groundwater data and description of any significant increases in pollutant concentrations since the last report, any measures proposed to address the increases, any changes to the site conceptual model, and any conclusions and recommendations for future action with each report.
  - viii. A description of the analytical methods used, detection limits obtained for each reported constituent, and a summary of quality assurance/quality control (QA/QC) data.

- ix. A data validation summary which evaluates the sampling methods, laboratory data, and laboratory QA/QC data to determine whether or not there were deviations in the sampling method or if there are any QA/QC items which did not meet the appropriate standards, and to what degree these noted excursions affect the monitoring data.
  - x. The report must indicate sample collection protocol(s), describe how investigation derived wastes are managed and include documentation of proper disposal of contaminated well purge water.
- d. Remediation: If applicable, the report must include soil vapor or groundwater extraction results in tabular form, for each extraction well and for the site as a whole. The report must also include contaminant removal results, from all extraction wells and from other cleanup and abatement systems, expressed in units of pounds per month and quarter, and cumulative pounds since initiation of the remedial action.
  - e. Status Report: The quarterly report must describe relevant work completed during the reporting period (e.g. Site investigation, interim remedial measures) and work planned for the following quarter.
- 5. Record Keeping** - Chevron, or its agent, must retain data generated for the above reports, including laboratory results and QA/QC data, for a minimum of six years after origination and must make them available to the San Diego Water Board upon request.
- 6. Groundwater Monitoring Program Revisions** - Once a year Chevron must review the GMP to evaluate whether or not the existing groundwater monitoring well network provides sufficient information to meet the objective presented in Directive F.1 and comply with the requirements of State Water Board Resolution No. 2009-0042. The results of this evaluation must be included in the Fourth Quarter Groundwater Monitoring Report. Revisions to the GMP may include the installation of additional groundwater monitor wells, reduction in the sampling frequency of selected groundwater monitor wells, and the elimination of groundwater monitoring wells from the GMP. Revisions to the GMP may be ordered by the San Diego Water Board. Prior to making GMP revisions, the San Diego Water Board will consider the burden, including costs, of the groundwater monitoring reports relative to the benefits to be obtained from these reports.
- G. COMPLETION OF SOIL AND GROUNDWATER CLEANUP** - Soil and groundwater cleanup goals must be achieved no later than **January 6, 2020**.



**H. VERIFICATION MONITORING** - No later than **April 30, 2020** Chevron must submit a workplan to the San Diego Water Board to implement a verification monitoring program that includes a schedule for submitting monitoring reports. Chevron must conduct verification monitoring in conformance with CCR Title 23, Chapter 16 section 2727. Chevron must begin implementation of the verification monitoring program no later than **June 30, 2020**. No later than **July 30, 2021** Chevron must submit a technical report presenting the results of the groundwater cleanup verification monitoring program which certifies that groundwater cleanup levels have been achieved.

**I. COMPLIANCE DATES** - The following is a summary of the due dates for activities presented in the preceding directives.

<i>Directive</i>	<i>Activity</i>	<i>Due Date</i>
C	Site Assessment Report	December 30, 2010
D	Corrective Action Plan	January 28, 2011
E	Corrective Action Plan Implementation	April 29, 2011
	Corrective Action Certification Report	January 31, 2012
G	Completion of Soil and Groundwater Cleanup	January 6, 2020
H	Groundwater Verification Monitoring Workplan	April 30, 2020
	Groundwater Cleanup Verification Report	July 30, 2021

**J. DOCUMENT SUBMITTALS**

1. **Transmittal Letter** - A transmittal letter must be included with all Reports submitted in compliance with this Order and must include the following:
  - a. Content: The Transmittal Letter must include a brief discussion of the findings, conclusion(s), and recommendation(s) presented in the Report.
  - b. Certification Statement: The person signing the Transmittal Letter must make the following certification:

*"I certify 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 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 fine and imprisonment for knowing violations."*

- 2. Signatory Requirements** - All reports required by this Order and other information required by the San Diego Water Board must be signed by a representative of Chevron who is certified as a principal executive officer, at least a vice president of the corporation, or duly authorized representative.

An individual is a duly authorized representative only if:

- a. The authorization is made in writing by a person described in paragraph 2 of this section.
  - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity.
  - c. The written authorization is submitted to the San Diego Water Board prior to submission of the Report.
- 3. Document Submittals** - Chevron must submit one paper and one electronic, searchable PDF copy of all documents required under this Order to:

Executive Officer  
California Regional Water Quality Control Board, San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, California 92123-4353  
Attn: Barry Pulver, Groundwater Basins Branch

All correspondence and documents submitted to the San Diego Water Board must include the following Geotracker Site ID in the header or subject line:

**T0605902510:bpulver**

- K. ELECTRONIC DATA SUBMITTALS** - The State's Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & and Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site after July 1, 2005. All information submitted to the San Diego Water Board in compliance with this Order is required to be submitted electronically via the Internet into the Geotracker database <http://geotracker.waterboards.ca.gov/> (Geotracker Site ID. **T0605902510**). The electronic data must be uploaded on or prior to the regulatory due dates set forth in the Order or addenda thereto. To comply with these requirements, Chevron must upload to the Geotracker database the following minimum information.

1. **Laboratory Analytical Data** - Analytical data (including geochemical data) for all soil, vapor, and water samples in Electronic Data File (EDF) format. Water, soil, and vapor data include analytical results of samples collected from: monitoring wells, boreholes, gas and vapor wells or other collection devices, surface water, groundwater, piezometers, stockpiles, and drinking water wells.
  2. **Locational Data** - The latitude and longitude of any permanent monitor well for which data is reported in EDF format, accurate to within 1 meter and referenced to a minimum of two reference points from the California Spatial Reference System (CSRS-H), if available.
  3. **Monitoring Well Elevation Data** - The surveyed elevation relative to a geodetic datum of any permanent monitor well. Elevation measurements to the top of groundwater well casings for all groundwater monitoring wells.
  4. **Depth-to-Water Data** - The depth-to-water in monitoring wells even if groundwater samples are not actually collected during the sampling event.
  5. **Monitoring Well Screen Intervals** - The depth to the top of the screened interval and the length of screened interval for any permanent monitoring well.
  6. **Site Map** - Site map or maps which display discharge locations,<sup>6</sup> streets bordering the facility, and sampling locations for all soil, water, and vapor samples. The site map is a stand-alone document that may be submitted in various electronic formats.<sup>7</sup> A site map must also be uploaded to show the maximum extent of any waste constituent in groundwater. An updated site map may be submitted at any time.
  7. **Boring logs** - Boring logs (in searchable PDF format) prepared by an appropriately licensed professional.
  8. **Electronic Report** - A complete copy (in searchable PDF format) of all workplans, assessment, cleanup, and monitoring reports including the signed transmittal letters, professional certifications, and all data presented in the reports.
- L. VIOLATION REPORTS** - If Chevron violates any requirement of this Order, then Chevron must notify the San Diego Water Board office by telephone as soon as practicable once Chevron has knowledge of the violation. San Diego Water Board staff may, depending on violation severity, require Chevron to submit a separate technical report on the violation within five working days of telephone notification.

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<sup>6</sup> Former tank(s), product and vapor piping, dispenser locations, or sump locations, and unauthorized discharge or spill areas.

<sup>7</sup> Formats include .gif, .jpeg, .jpg, .tiff, .tif, .pdf

**M. OTHER REPORTS** - Chevron must notify the San Diego Water Board in writing prior to any facility activities, such as construction or removal of USTs, which have the potential to cause further migration of contaminants or which would provide new opportunities for Site investigation.

## **PROVISIONS**

**A. NO POLLUTION, CONTAMINATION OR NUISANCE** - The storage, handling, treatment, or disposal of soil containing petroleum hydrocarbon waste or polluted groundwater must not create conditions of nuisance as defined in Water Code section 13050(m). Chevron must properly manage, treat and dispose of wastes and polluted groundwater in accordance with applicable federal, State and local regulations.

**B. GOOD OPERATION AND MAINTENANCE** - Chevron must maintain in good working order and operate as efficiently as possible any monitoring system, or control system installed to achieve compliance with the requirements of this Order.

**C. CONTRACTOR/CONSULTANT QUALIFICATIONS** - All reports, plans and documents required under this Order must be prepared under the direction of appropriately qualified professionals. A statement of qualifications and license numbers, if applicable, of the responsible lead professional and all professionals making significant and/or substantive contributions must be included in the report submitted by Chevron. The lead professional performing engineering and geologic evaluations and judgments must sign and affix their professional geologist or civil engineering registration stamp to all technical reports, plans or documents submitted to the San Diego Water Board.

**D. LABORATORY QUALIFICATIONS** - Unless otherwise permitted by the San Diego Water Board, all analyses must be conducted at a laboratory certified for such analyses by the California Department of Health Services. Chevron must use a laboratory capable of producing and providing quality assurance/quality control (QA/QC) records for San Diego Water Board review. The director of the laboratory whose name appears on the certification must supervise all analytical work in his/her laboratory and must sign all reports submitted to the San Diego Water Board.

**E. LABORATORY ANALYTICAL REPORTS** - Any report presenting new analytical data is required to include the complete Laboratory Analytical Report(s). The Laboratory Analytical Report(s) must be signed by the laboratory director and contain:

1. A complete sample analytical report.

2. A complete laboratory quality assurance/quality control (QA/QC) report.
3. A discussion of the sample and QA/QC data.
4. A transmittal letter that must indicate whether or not all the analytical work was supervised by the director of the laboratory, and contain the following statement, "All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services in accordance with current USEPA procedures."

**F. ANALYTICAL METHODS** - Specific methods of analysis must be identified in monitoring program reports. If Chevron proposes to use methods or test procedures other than those included in the most current version of "*Test Methods for Evaluations Solid Waste, Physical/Chemical Methods, SW-846*" (USEPA) or 40 CFR 136, "*Guidelines Establishing Test Procedures for the Analysis of Pollutants; Procedures for Detection and Quantification*," the exact methodology must be submitted for review and must be approved by the San Diego Water Board prior to use.

**G. REPORTING OF CHANGED OWNER OR OPERATOR** - Chevron must notify the San Diego Water Board of any changes in Site occupancy or ownership associated with the property described in this Order.

**H. PENALTY OF PERJURY STATEMENT** - All reports must be signed by Chevron's principal executive officer or their duly authorized representative, and must include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

**I. REGULATIONS** - All corrective actions must be in accordance with the provisions of CCR Title 23, Chapter 16; the Cleanup and Abatement Policy in the Water Quality Control Plan for the San Diego Basin (9); and State Water Board Resolution No. 92-49.

## NOTIFICATIONS

**A. COST RECOVERY** - Pursuant to Water Code section 13304(c), the San Diego Water Board is entitled to, and will seek reimbursement for all reasonable costs actually incurred by the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by the Order.

**B. ENFORCEMENT NOTIFICATION** - Failure to comply with requirements of this Order may subject Chevron to enforcement action, including but not limited to: imposition of administrative civil liability, pursuant to Water Code sections 13268 and 13350, in an amount not to exceed \$5,000 for each day in which the violation

occurs, or referral to the Attorney General for injunctive relief or civil or criminal liability.

**C. REQUESTING EVIDENTIARY HEARING BY THE SAN DIEGO WATER BOARD -**

Any person affected by this action of the San Diego Water Board may request an evidentiary hearing before the San Diego Water Board. The San Diego Water Board's Executive Officer may elect to hold an informal hearing or a "paper hearing" in lieu of scheduling a hearing before the San Diego Water Board itself. If Chevron decides to request an evidentiary hearing, they must send their request to the San Diego Water Board Executive Officer, Attn: Supervisor Central San Diego County Groundwater Unit, at the address provided on the Order transmittal letter. Please consider the following carefully:

1. The San Diego Water Board must receive the request within 30 days of the date of this Order.
2. The request must include all comments, technical analysis, documents, reports, and other evidence that Chevron wishes to submit for the evidentiary hearing. Please note that the administrative record will include all materials the San Diego Water Board has previously received regarding this facility. Chevron is not required to submit documents that are already in the record.
3. The Executive Officer or San Diego Water Board may deny the request for a hearing after reviewing the evidence.
4. If Chevron does not request an evidentiary hearing, the State Water Board may prevent Chevron from submitting new evidence in support of a State Water Board petition.
5. The request for an evidentiary hearing, if Chevron submits one, does not stay the effective date of the Order, whether or not a hearing is scheduled.
6. A request for a hearing does not extend the 30-day period to file a petition with the State Water Board (see below). It is recommended that Chevron ask the State Water Board to hold the petition in abeyance while the request for a hearing is pending. (Refer to CCR Title 23 section 2050.5(d)) Additional information regarding the State Water Board petition process is provided below.

**D. REQUESTING ADMINISTRATIVE REVIEW BY THE STATE WATER BOARD -**

Any person affected by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with section 13320 of the Water Code and CCR Title 23 section 2050. The petition must be received by the State Water Board (Office of Chief Counsel, P.O. Box 100, Sacramento,

Cleanup and Abatement Order  
No. R9-2010-0019

February 24, 2010

California 95812) within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.



JAMES G. SMITH  
Assistant Executive Officer

24 Feb 2010  
DATE