

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
BOARD ORDER NO. R6V-2006-0054**

WDID NO. 6B369107001

NEW WASTE DISCHARGE REQUIREMENTS

FOR

**PACIFIC GAS AND ELECTRIC COMPANY
IN-SITU SOURCE AREA REMEDIATION PROJECT**

San Bernardino County

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

1. Discharger

Pacific Gas and Electric Company (PG&E) submitted a Report of Waste Discharge (RWD) to conduct an In-situ Source Area Remediation Project (Project) at the PG&E Compressor Station, located southeast of the community of Hinkley in San Bernardino County. The RWD consists of transmittals dated June 2, 2006 and August 4, 2006. The RWD was deemed complete on August 22, 2006. PG&E proposes to inject food-grade, biological reagents to groundwater to clean up chromium contamination at the source area of discharge. For the purposes of this Order, PG&E is referred to as the "Discharger."

2. Facility

PG&E has proposed to construct and operate a full-scale, in-situ remediation project in the source area of the chromium plume at the compressor station in Hinkley. The compressor station is located at 35863 Fairview Road (APN 0488-112-52) in Hinkley. The project area is approximately 2,400 feet long and 1,400 feet wide and is located near the intersection of Community Boulevard. PG&E owns the land on which the compressor station and project are located.

The compressor station began operating in 1952 and discharged untreated cooling tower water containing hexavalent chromium to unlined ponds until 1964. The ponds were taken out of service and replaced with lined ponds. While the unlined ponds were excavated years ago, dissolved hexavalent chromium remains within pore spaces in the vadose zone and saturated zone beneath the site, creating a chromium plume in groundwater. For the purposes of this Order, the project in the chromium source area is referred to as the "Facility."

3. Facility Location

The Facility is located about two miles southeast of the community of Hinkley in San Bernardino County in the Harper Valley Subarea of the Mojave Hydrologic Unit. The project will primarily take place at the compressor station property, bounded by Community Boulevard to the north and Fairview Road to the west, as shown on Attachment "A," which is made a part of this Order. Some project activities could potentially occur on two western adjacent parcels, County Assessor Parcel Numbers 0488-112-56 and 0488-112-58, also shown on Attachment "A".

4. Permit History

These are new Waste Discharge Requirements (WDRs) for a prior facility. PG&E had operated a groundwater remediation system at the East Land Treatment Unit (LTU) from 1991 to 2001 under the WDRs set forth in Board Order No. 6-91-917 and revised in Board Order No. 6-97-81. In addition, the Ranch LTU operated from 1997 to 2001 under WDRs set forth in Board Order No. 6-97-81. Also, since August 2004, PG&E has operated a groundwater remediation system at the Desert View Dairy under the WDRs set forth in Board Order No. R6V-2004-034. And on June 14, 2006, the Water Board issued Board Order No. R6V-2006-0023 allowing for the reagent injections to groundwater for the Central Area In-situ Remediation Pilot Study.

5. Enforcement History

On December 29, 1987, the Executive Officer issued Cleanup and Abatement Order (CAO) No. 6-87-160 to the Discharger, ordering the investigation, cleanup and abatement of the effects of chromium in the soil and groundwater that were discharged at the PG&E Compressor Station. The selected remediation system consisted of extracting groundwater for irrigation of pasture crops on the East and Ranch LTUs. Natural soil properties promoted the reduction of hexavalent chromium in extracted groundwater to trivalent chromium [Cr(III)] that adhered to soil.

In June 2001, the Executive Officer issued CAO 6-01-50 ordering PG&E to eliminate the threatened nuisance condition created at the East and Ranch LTUs due to the spray irrigation of chromium-polluted groundwater to crops. In response to this order, PG&E shut down the groundwater remediation system.

6. Reason for Action

Following termination of the prior remediation method at the East and Ranch LTUs, PG&E proposed a two-fold approach for groundwater remediation. The first part included a temporary measure to limit further movement of the groundwater plume. In July 2004, the Regional Board issued WDRs for a new LTU located at the Desert View Dairy (DVD). The DVD LTU receives the discharge of extracted groundwater associated with a groundwater containment and remediation system designed to protect the beneficial uses of downgradient groundwater. The second part proposed to conduct pilot studies (bench-scale and field-scale) for evaluating the effectiveness of in-situ remediation of chromium in groundwater.

Bench-scale pilot testing was completed in March 2004 and documented in the April 2004 report, *Final Report, In-situ Remediation Bench-scale Testing*. The bench-scale pilot test results were used to propose field-scale pilot testing using food-grade, biological reagents, lactate and emulsified vegetable oil (EVO).

The field-scale pilot test was implemented in two small-scale areas for six-months starting in December 2004, under the WDRs set forth in Board Order No. R6V-2004-041. The results are documented in the July 2005 Final In-situ Remediation Project Report and the October 17, 2005 Addendum. The pilot test demonstrated that biological reduction of Cr(VI) to Cr(III) occurred under anaerobic conditions created from the injection of carbon substrates, lactate and EVO, to groundwater. Monitoring data shows that reduced conditions remain in groundwater more than one year after the last reagent injection. Follow-up groundwater monitoring data, however, has provided inconclusive results concerning the fate and transport of remediation by-products, such as manganese and iron. The Discharger has been directed to collect additional monitoring data to determine the outcome of by-products and verify that receiving waters limits are not exceeded.

In June 2006, the Water Board issued WDRs for the Central Area In-situ Remediation Pilot Study in Board Order No. R6V-2006-0023. The Discharger plans to inject reagents over a larger area of the plume to evaluate a biological treatment zone or "biobarrier" to be implemented cross-gradient to groundwater flow. The WDRs allow the large, field-scale project to proceed in a manner that does not adversely impact water quality.

7. Site Geology

The soils underlying the Facility are comprised of interbedded sands, gravels, silts, and clays. The depth to bedrock is about 300 feet below the Facility. The nearest active fault is the northwest-southeast trending Lenwood fault located 200 feet southwest from the Facility.

8. Site Hydrogeology and Hydrology

The hydrogeology in the vicinity of the Facility consists of an upper unconfined aquifer and a lower confined aquifer separated by up to 60 feet of lacustrine clay that forms a regional aquitard. The upper aquifer is approximately 80 feet thick and extends from 80 feet to 160 feet below ground surface (bgs). The unconsolidated, upper aquifer is comprised of interbedded gravels, silts, and clay and is divided into two major production zones, the "A" zone, and the "B" zone. Groundwater flow in the upper aquifer is primarily to the north-northeast with an average gradient of 0.004 feet per foot.

The lower aquifer, or "C" zone, consists of semi-consolidated calcareous sediments, layers of silty sand, and minor amounts of clay. The lower aquifer extends from approximately 180 feet to 700 bgs and is bounded at its base by competent crystalline rock. The closest surface water body is the Mojave River, which is located approximately 1.2 miles southeast of the Facility.

9. Climate

The precipitation in the area of the Facility is less than five inches annually. The evaporation rate is approximately 74 inches annually. The area has hot summers and mild winters.

10. Groundwater Quality

The groundwater below the Facility contains hexavalent chromium from the PG&E compressor station plume and naturally occurring constituents. The most significant constituent is chromium. At the Facility, groundwater quality, based on 2006 data from monitoring wells, has total chromium [Cr(T)] concentration ranging from 136 to 4240 micrograms per liter ($\mu\text{g/L}$) and hexavalent chromium concentration ranging from 135 to 3610 $\mu\text{g/L}$.

The maximum contaminant level (MCL) for a municipal water source for these constituents is 50 $\mu\text{g/L}$ for Cr(T). Therefore, groundwater at the Facility does not presently support the beneficial use of a municipal and domestic supply. There is no standard for hexavalent chromium.

11. Project Description

The purpose of this project is to implement full-scale, in-situ remediation for reducing hexavalent chromium in groundwater to trivalent chromium for achieving water quality standards. The project will be built and operated in two phases over at least five years. Implementation will take place in the groundwaters of the Middle Mojave River Valley Ground Water Basin.

The project includes two major elements: 1) injection of food-grade, biological reagents to ground water and 2) extraction of ground water to spread the reagents downgradient of the injection point. Two reagents, lactate and EVO, were selected for the project following small-scale pilot testing that concluded in 2005. In addition, whey is being added as a reagent since it has properties that are nearly identical to that of lactate. Following successful pilot testing at the Facility, ethanol will be added to the suite of reagents used for injection.

12. Waste Classification

The chromium-contaminated groundwater is classified as a liquid designated waste under California Code of Regulations, title 27, section 20210.

13. Waste Management Unit Classification

The aquifer soils beneath the test cells are classified as a Class II LTU in accordance with California Code of Regulations, title 27, section 20164.

14. Authorized Disposal Sites

The project in the chromium source area, shown on Attachment "B", is the only authorized disposal sites (via injection wells).

15. Water Quality Protection Standard

A Water Quality Protection Standard (WQPS) is established in the Order for the Facility, and consists of constituents of concern (including monitoring parameters), concentration limits, monitoring points, and the point of compliance. The WQPS applies over the active life of the Facility, post-closure monitoring period, and the compliance period.

16. Land Uses

The land uses at, and surrounding, the Facility consist of residential, commercial, agricultural, and open desert land. The nearest residences and domestic wells are located 1,100 feet west and 1,500 feet east of the Facility.

17. Receiving Waters

The receiving waters are the groundwaters of the Harper Valley Hydrologic Area of the Mojave Hydrologic Unit. The Department of Water Resources (DWR) designation for the Harper Valley Hydrologic Area is 628.42.

18. Lahontan Basin Plan

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

19. Beneficial Groundwater Uses

The beneficial uses of the groundwater of the Middle Mojave River Valley Groundwater Basin as set forth in the Basin Plan are:

- a. MUN - municipal and domestic supply;
- b. AGR - agricultural supply;
- c. IND - industrial supply;
- d. FRSH - freshwater replenishment; and
- e. AQUA - aquaculture.

20. Non-Degradation

In accordance with State Water Resources Control Board (State Water Resources Control Board) Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*) and the Water Quality Control Plan for the Lahontan Region (Basin Plan), water degradation may be allowed if the following conditions are met: 1) any change in water quality must be consistent with maximum benefit to the people of the State; 2) will not unreasonably affect present and anticipated beneficial uses; and 3) will not result in water quality less than that prescribed in the Basin Plan; and 4) discharges must use the best practicable treatment or control to avoid pollution or nuisance and maintain the highest water quality consistent with maximum benefit to the people of the State.

The injections of lactate, whey, EVO, and ethanol will temporarily cause some organic carbon and oily degradation to water quality in the area between the injection and extraction wells. During bioremediation, the reagents will be consumed by naturally occurring microbes, and the concentrations will become diluted in the aquifer during groundwater recirculation. The capture zone of downgradient extraction wells will spread the reagents across the treatment zone. The project will monitor anaerobic reducing conditions used to convert Cr(VI) to Cr(III) to concentrations below the MCL. Any potential by-products of the reaction, such as mobilized metals, should also attenuate with distance following contact with aerobic aquifer conditions in the downgradient portion of the project area. Therefore, any degradation to water quality will be temporary, should improve over time, and will be localized to the project area.

The recirculation process is designed to be the equivalent of the Best Practicable Technology, as required by the State Water Board's Resolution No. 68-16. In addition, reagent injection has been calculated to be the lowest dosage possible for creating anaerobic reducing conditions and should minimize the likelihood of creating conditions that could produce potential by-products. The long-term benefit of the project will result in removal of chromium from groundwater. Therefore, the resulting water quality from this project will be consistent with the State Water Board's Resolution No. 68-16.

21. Constituents of Concern

The Constituents of Concern (COCs) consist of total chromium Cr(T) and hexavalent chromium Cr(VI). Potential constituents of concern include reagents to be analyzed as volatile fatty acids (lactic acid, acetate, pyruvate, propionate, and butyrate), and naturally-occurring reducible metals, such as arsenic, manganese, and iron.

22. Water Quality Data Evaluation

Since the project involves the injection of unregulated, food-grade reagents to groundwater to stimulate bioremediation, a statistical method of monitoring data for detection of a release of waste from the Facility is inapplicable. Therefore, a method for statistical analysis is not necessary for this project.

23. Detection Monitoring

For the same reason listed above in Finding No. 22, a detection monitoring program to determine whether there has been a release to groundwater is inapplicable. Therefore, a detection monitoring program is not necessary for this project.

24. Corrective Action

A Corrective Action Program (CAP) to remediate released wastes from the Facility may be required pursuant to California Code of Regulations, title 27, sections 20385 and 20430, if results of an Evaluation Monitoring Program (EMP) warrant a CAP.

25. California Environmental Quality Act

The Project is a new project under CEQA and is subject to the provisions of the CEQA (Public Resources Code, Section 21000 et seq.) in accordance with California Code of Regulations, title 14, section 15301. The Lahontan Water Board is the lead agency for this project under the California Environmental Quality Act (Public Resources Code section 21000 et seq.).

An Initial Study describing the project was prepared by CH2M Hill on behalf of the Lahontan Water Board and PG&E. It was circulated under State Clearinghouse No. 2006091092 to satisfy CEQA with the Water Board as Lead Agency. The Initial Study indicates the intent of the Lahontan Board to consider a Mitigated Negative Declaration.

In a public meeting on November 9, 2006, the Lahontan Water Board adopted a resolution certifying the environmental document that states the effects on the environment from the Project are not significant as mitigated, adopting a Mitigated Negative Declaration and a Mitigation Monitoring and Reporting Plan to satisfy CEQA, and authorizing Lahontan Water Board staff to send a Notice of Determination to the State Clearinghouse.

The discharge described in these WDRs is consistent with the Negative Declaration and no new significant impacts are expected from the discharge allowed by these WDRs.

26. Notification of Interested Parties

The Lahontan Water Board has notified the Discharger and all known interested parties of its intent to adopt new WDRs for the project.

27. Consideration of Interested Parties

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

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

I. DISCHARGE SPECIFICATIONS

A. Discharge Limitations

1. The injection to groundwater at the Facility shall be limited to lactate, whey, and EVO and groundwater containing chromium extracted on site. The injection of ethanol to groundwater must first consist of a successful pilot test, as concurred by Water Board staff, prior to implementing full-scale injection of ethanol.
2. The maximum volume of lactate to be discharged to groundwater at the Facility over five years shall be 50,000 gallons of 60% solution.

3. The maximum volume of whey to be discharged to groundwater at the Facility over five years shall be 120,000 pounds of powder and 300,000 gallons in liquid solution.
4. The maximum volume of EVO to be discharged to groundwater at the Facility over five years shall be 70,000 gallons of 100% vegetable oil (soy based).
5. The maximum volume of ethanol to be discharged to groundwater at the Facility over five years shall be 15,000 gallons.

B. Receiving Water Limitation

The discharge of waste shall not cause a violation of any applicable water quality standards outside the project boundaries, with the exception of chromium, for receiving water adopted by the Lahontan Water Board or the State Water Board. The boundaries are described in Finding No. 3 and shown in Attachment "B." The discharge shall not cause the presence of the following substances or conditions in groundwaters of the Middle Mojave River Valley Groundwater Basin.

The groundwater quality, as a result of the discharge, shall not exceed a total chromium [Cr(T)] concentration of 4240 µg/L and hexavalent chromium [Cr(VI)] concentration of 3610 µg/L outside the project boundaries. These limits are based on the maximum concentration detected in monitoring well samples taken during 2006 within the project area. If baseline data from new wells within the project area indicate chromium concentrations greater than the above stated concentrations prior to initial reagent injections, the Discharger may make a case for proposing higher receiving water limits.

1. Chemical Constituents - Groundwaters shall not contain concentrations of chemical constituents (with the exception of chromium) outside the project boundaries in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of Title 22 of the California Code of Regulations (with the exception of TDS and nitrate): Table 64431-A of Section 64431 (Maximum Contaminant Levels—Inorganic Chemicals), Table 64431-B of Section 64431 (Fluoride), Table 64444-A of Section 64444 (Maximum Contaminant Levels—Organic Chemicals), Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels—"Consumer Acceptance Contaminant Levels"), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels—"Consumer Acceptance Contaminant Level Ranges"). This

incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect. Groundwaters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

2. Taste and Odors - Groundwaters shall not contain taste or odor-producing substances other than from chromium in concentrations that cause nuisance or that adversely affect beneficial uses. For groundwaters designated as Municipal or Domestic Supply, at a minimum, concentrations shall not exceed adopted Secondary Maximum Contaminant Levels specified in Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels, "Consumer Acceptance Contaminant Levels"), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels—"Consumer Acceptance Contaminant Level Ranges") of Title 22 of the California Code of Regulations, including future changes as the changes take effect.
3. Any presence of toxic substances in concentrations that individually, collectively, or cumulatively cause detrimental physiological response in humans, plants, animals, or aquatic life is prohibited.
4. The migration of hexavalent chromium and total chromium outside the project boundaries described in Findings No. 3 in concentrations exceeding the maximum concentration detected during site-wide sampling in 2006 is prohibited.

C. Water Quality Protection Standard

1. Monitoring Parameters

The monitoring parameters within the treatment zone and at sentry wells, located downgradient of extraction wells and south of Community Boulevard, are: total chromium [Cr(T)], hexavalent chromium [Cr(VI)], volatile fatty acids (VFAs), total organic carbon (TOC), nitrate, nitrite, sulfate, bicarbonate alkalinity, and mobilized metals (arsenic, iron, and manganese). At contingency wells located north of Community Boulevard, monitoring parameters are: Cr(T), Cr(VI), mobilized metals, and other constituents that are detected at trigger concentrations in sentry wells.

2. Monitoring Points

The monitoring points at the Facility are monitoring wells in the treatment zone, sentry wells, and contingency wells, as shown on Attachment "B."

3. Point of Compliance

The point of compliance as defined in California Code of Regulations, title 27, section 20164 for the project are the contingency wells located north of Community Boulevard, approximately 900 feet, 1,300 feet, and 2,200 feet downgradient of extraction wells. The discharge of Cr(T), Cr(VI), and by-products, such as arsenic, iron, and manganese, at the contingency wells cannot exceed the concentration limits established in the Section I.C.4 at the point of compliance.

4. Concentration Limits

The concentration limits for the monitoring parameters located at the monitoring points for the Facility are the following:

Monitoring Parameter	Matrix	1. Concentration Limit (mg/L)	Reporting Limit (mg/L)	Recommended Analytical Method
Hexavalent Chromium Cr(VI)	Liquid	3.61*	0.001	EPA 7199
Total Chromium Cr(T)	Liquid	4.24*	0.005	EPA 6010
VFA ¹	Liquid	10	1.0	EPA 300.M
Arsenic ²	Liquid	0.01	0.005	EPA 6010
Iron (Fe ²⁺ and Fe ³⁺) ³	Liquid	0.3	0.05	EPA 6010
Manganese ³	Liquid	0.05*	0.01	EPA 6010

Note:

¹ Volatile Fatty Acids; includes lactic acids, acetate, pyruvate, propionate, and butyrate. Standard based on bench-scale study results.

² Federal Primary MCL for drinking water

³ California Secondary MCL for drinking water

*Limit may be increased upon demonstration that baseline sampling shows higher concentrations prior to reagent injection

D. General Requirements and Prohibitions

1. Surface flow or visible discharge of waste to land surface, surface waters, or surface water drainage courses is prohibited.
2. The discharge shall not cause pollution as defined in Water Code section 13050, or a threatened pollution.
3. Neither the treatment nor the discharge shall cause a nuisance as defined in Water Code section 13050.
4. The discharge of waste except to the authorized disposal site is prohibited.
5. The discharge of waste, as defined in the Water Code, that causes a violation of any narrative water quality objective (WQO) contained in the Basin Plan, including the Nondegradation Objective, is prohibited.
6. The integrity of the LTU shall be maintained throughout the life of Project, and shall not be diminished as a result of any maintenance operation.
7. The discharge of waste that causes a violation of any numeric WQO contained in the Basin Plan is prohibited.
8. Where any numeric or narrative WQO contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution is prohibited.
9. The Discharger shall remove and relocate or otherwise mitigate any wastes that are discharged not in accordance with these WDRs.
10. Hazardous waste as defined under California Code of Regulations, title 22, section 66261.3 et seq. shall not be disposed and/or treated at the Facility, outside the scope of these discharge requirements.
11. The discharge to the ground of any chemicals stored in tanks at the Facility is prohibited.
12. Discharge of solid waste to the Facility is prohibited.

II. PROVISIONS

A. Standard Provisions

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

B. Monitoring and Reporting

The Monitoring and Reporting Program is made specifically a part of this Order. Pursuant to Water Code section 13267, subdivision (b), the Discharger shall comply with Monitoring and Reporting Program No. R6V-2006-**(PROPOSED)** as specified by the Executive Officer. The Monitoring and Reporting Program may be modified by the Executive Officer after the first phase of the Project is completed and submitted for Water Board staff review.

C. Claim of Copyright or Other Protection

Any and all reports and other documents submitted to the Lahontan Water Board pursuant to this request will need to be copied for some or all of the following reasons: (1) normal internal use of the document, including staff copies, record copies, copies for Board members and agenda packets, (2) any further proceedings of the Lahontan Water Board and the State Water Board, (3) any court proceeding that may involve the document, and (4) any copies requested by members of the public pursuant to the Public Records Act or other legal proceeding.

If the Discharger or its contractor claims any copyright or other protection, the submittal must include a notice, and the notice will accompany all documents copied for the reasons stated above. If copyright protection for a submitted document is claimed, failure to expressly grant permission for the copying stated above will render the document unusable for the Lahontan Water Board's purposes, and will result in the document being returned to the Discharger as if the task had not been completed.

III. TIME SCHEDULE

A. Submittal of Technical Reports

1. Beginning **May 15, 2007**, the Discharger must submit quarterly status reports describing project activities during the previous quarter. The reports are required to:

- List the type, volume, and concentrations of discharges to groundwater during the prior quarter.
- Describe each and every instance of violation of the waste discharge requirements, equipment failures, and unexpected environmental impacts.
- State whether or not adverse impacts have occurred in groundwater requiring implementation of the Contingency Plan.
- State whether or not current monitoring wells are adequate in number and location to monitor remediation by products. If not, the reports must include a workplan to conduct further groundwater monitoring.
- Describe planned activities during the next three months of the project.

The reports must be prepared by, or under the supervision of, either a California Registered Geologist or a California Registered Civil Engineer. Subsequent quarterly reports are **due on August 15, November 15, February 15, and May 15 of each year.**

2. **Within 60 days upon completion of the project,** submit to the Lahontan Water Board a final project report. The report shall describe the type, concentration, and volume of all chemical and compounds injected into the subsurface during the project. The report shall contain the results of sampling and laboratory analysis of samples collected during the project. The report must include a map showing the location of project cells, injection wells, monitoring wells, and extraction wells. The results of sample analysis of monitoring parameters from monitoring and extraction wells shall be reported in tabular and graphic form, as well as discussed in the text of the report. The report must state whether any portion of the Contingency Plan was implemented during the project and, if so, provide details. The report shall also describe the findings and conclusions of in-situ remediation of hexavalent chromium and other possible by-products.

The final project report must include a discussion of any violations of the WDRs and a description of action(s) taken to correct those violations. If no violations occurred, this shall be so stated. The report shall be signed by a principal executive officer at the level of vice-president, or higher, or their designated representative who is responsible for the overall operation of the facility. The report shall contain a statement that, under penalty of perjury, to the best of their knowledge the report is true, complete, and correct.

B. Expiration

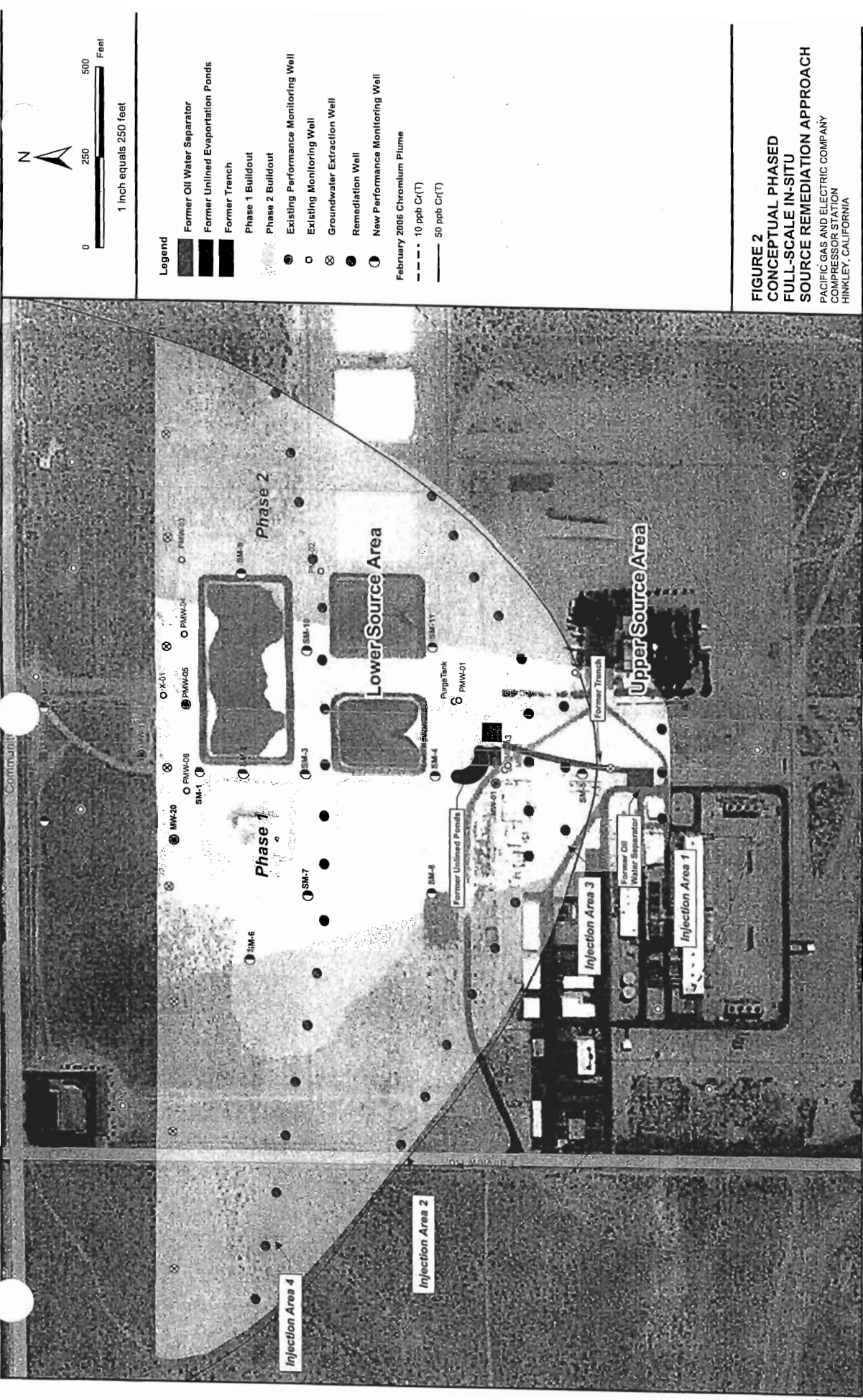
These waste discharge requirements do not expire.

I, Harold J. Singer, 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, Lahontan Region, on November 9, 2006.



HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. Location Map
B. Map of Project Area
C. Standard Provisions for Waste Discharge Requirements



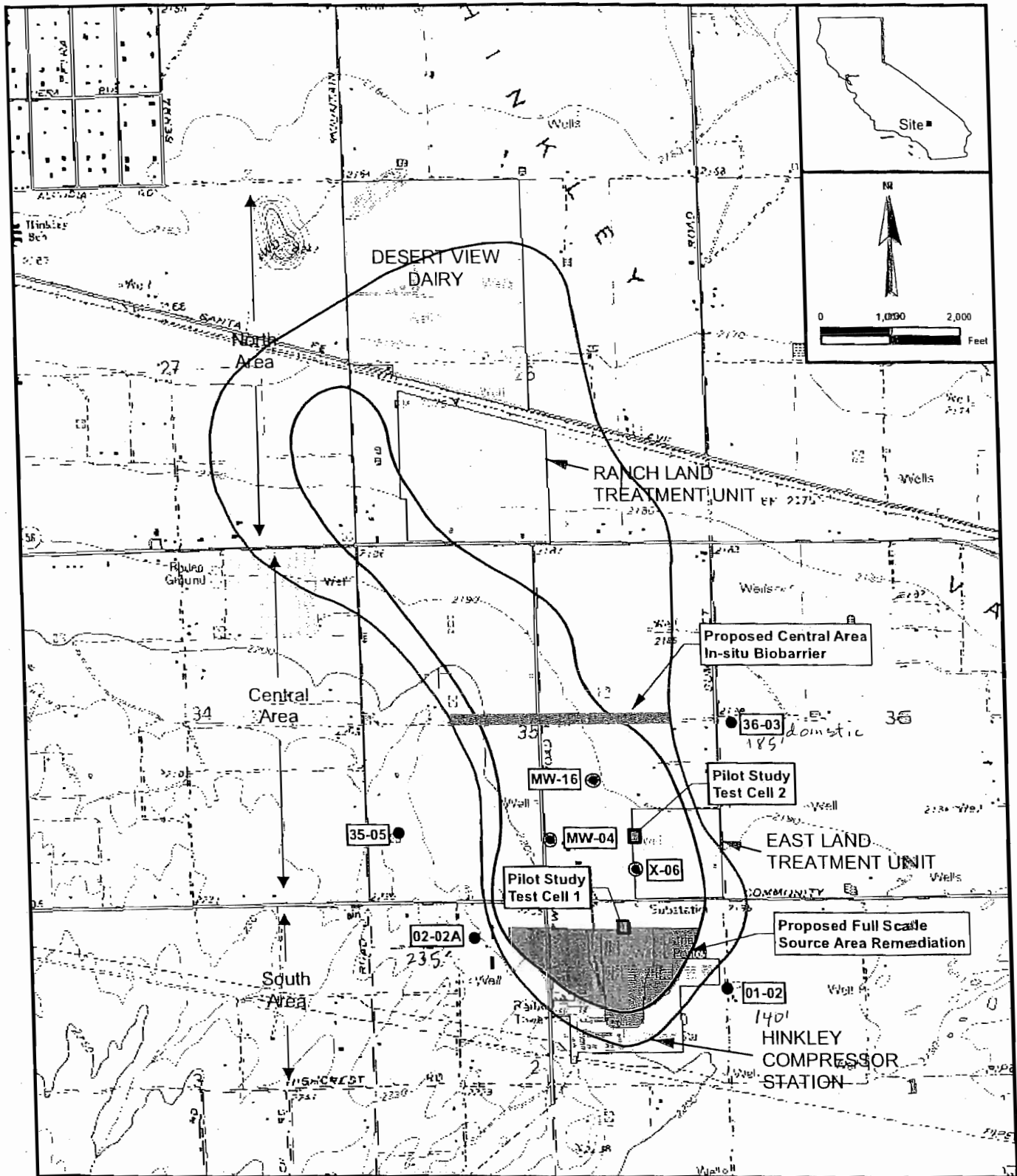
Legend

- ◼ Former Oil Water Separator
- ◼ Former Unlined Evaporation Ponds
- ◼ Former Trench
- ◼ Phase 1 Buildout
- ◼ Phase 2 Buildout
- Existing Performance Monitoring Well
- Existing Monitoring Well
- ⊗ Groundwater Extraction Well
- Remediation Well
- New Performance Monitoring Well







February 2006 Chromium Plume

- 10 ppb Cr(T)
- 50 ppb Cr(T)

FIGURE 2
CONCEPTUAL PHASED
FULL-SCALE IN-SITU
SOURCE REMEDIATION APPROACH
 PACIFIC GAS AND ELECTRIC COMPANY
 COMPRESSOR STATION
 HINKLEY, CALIFORNIA



LEGEND

-  PG & E Property
-  Main Roads
-  Nearest Active Private Wells
-  Existing Contingency Monitoring Well
-  Draft Approximate outline 10 µg/L Total Chromium (including Hexavalent Chromium) concentration, Upper Aquifer, February 2006
-  Draft Approximate outline 50 µg/L Total Chromium (including Hexavalent Chromium) concentration, Upper Aquifer, February 2006

**FIGURE 1
SITE LOCATION MAP
PHASED FULL-SCALE IN-SITU
SOURCE REMEDIATION**

PACIFIC GAS AND ELECTRIC COMPANY
COMPRESSOR STATION
HINKLEY, CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

