

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

In the matter of:	)	
	)	
<b>Pacific Gas and Electric Company</b>	)	<b>Board Order No. R6V-2012-0013</b>
	)	
<b>Administrative Civil Liability</b>	)	<b>Settlement Agreement and Stipulation for Entry of Order</b>
	)	

**Section I: Introduction**

This Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order ("Settlement Agreement and Stipulation") is entered into by and between the California Regional Water Quality Control Board, Lahontan Region, Prosecution Staff ("Prosecution Staff") and Pacific Gas and Electric Company ("Settling Respondent") (collectively "Parties") and is presented to the California Regional Water Quality Control Board, Lahontan Region, ("Regional Water Board") for adoption as an Order, by settlement, pursuant to Government Code section 11415.60.

**Section II: Recitals**

1. The Settling Respondent is the owner and operator of a compressor station located at 35863 Fairview Road, approximately two miles southeast of the town of Hinkley, and a dozen miles west of Barstow in the Mojave Desert of San Bernardino County, California. The Compressor Station is used to compress natural gas for transportation through pipelines to central and northern California. Between 1952 and 1966, PG&E used hexavalent chromium, also known as chromium 6, to reduce corrosion in cooling tower water. The wastewater from the cooling towers was discharged to unlined ponds at the site. Some of the wastewater containing hexavalent chromium percolated to the groundwater and migrated, resulting in a plume of chromium-contaminated ground water.

2. The Regional Water Board adopted Cleanup and Abatement Order No. R6V-2008-0002 on August 6, 2008 which requires the Settling Respondent to clean up and abate the waste discharges of total and hexavalent chromium to the ground waters of the Mojave Hydrologic Unit (as identified in the Water Quality Control Plan for the Lahontan Region). Order Paragraph 3 of the Cleanup and Abatement Order, in summary, required the Settling Respondent to contain a) the hexavalent chromium plume to locations where hexavalent chromium was below the interim background level of 4 parts per billion (ppb), and b) the 50 ppb total chromium plume.

- a. The Settling Respondent was required to achieve containment of the hexavalent chromium plume in the ground water by December 31, 2008, using the Settling Respondent's *Boundary Control Monitoring Program and Updated Site-Wide Groundwater Monitoring Program* (submitted July 2, 2008 and prepared by Secor International) as described in Finding 16 in the Order.
  - b. The Settling Respondent was required to achieve containment of the total chromium plume in the ground water by December 31, 2008, also based on the *Boundary Control Monitoring Program and Updated Site-Wide Groundwater Monitoring Program* as described in Finding 16 in the Order.
3. Cleanup and Abatement Order No. R6V-2008-0002 required the Settling Respondent to clean up and abate the chromium plume to background levels and set an interim amount of 4 ppb. Amendment Order No. R6V-2008-0002A1, effective November 12, 2008, lowered the background hexavalent chromium level to 3.1 ppb for the purposes of cleanup. For plume containment, the level remained at 4 ppb. Amendment Order No. R6V-2008-0002A2, effective April 7, 2009, allowed lateral migration of the eastern 4 ppb hexavalent chromium plume boundary during cleanup actions. This Settlement Agreement and Stipulation addresses the plume containment aspects of the Cleanup and Abatement Order, as amended, and not the cleanup portions.
4. In its First Quarterly 2009 Evaluation Monitoring Report, the Settling Respondent reported that hexavalent chromium control limits were exceeded in Monitoring Well 62-A beginning in November 2008. The results were verified in February and March, 2009. The report was submitted April 29, 2009. Subsequent quarterly reports indicated that Monitoring Well 62-A continued to exceed hexavalent chromium control limits (with the exception of one quarter) through the Fourth Quarterly 2011 Groundwater Monitoring Report, submitted January 30, 2012. Based on that information and other information received by the Regional Water Board staff, the Prosecution Team alleges that Settling Respondent was out of compliance for a total of 1,093 days. Settling Respondent disputes that allegation.
5. The Prosecution Team alleges that the Settling Respondent has violated Paragraph 3 of Cleanup and Abatement Order No. R6V-2008-0002 as amended by failing to contain the hexavalent and total chromium plumes by December 31, 2008 (hereby referred to as the "Alleged Violations"). The Regional Water Board may impose administrative civil liability up to \$5,000 a day for discharging waste to waters of the State in violation of a cleanup and abatement order issued by a Regional Water Board pursuant to California Water Code section 13350. Settling Respondent disputes that it has violated Cleanup and Abatement Order No. R6V-2008-0002 and disputes the Prosecution Team's description of the requirements in the Order as well as the Alleged Violations, including the calculation of the number of days of the Alleged Violations. By signing this Settlement Agreement and Stipulation, Settling Respondent is not admitting to any violations of Cleanup and Abatement Order No. R6V-2008-0002 nor any allegations by the Prosecution Team.

6. To resolve by consent and without further administrative proceedings the Alleged Violations of the California Water Code, the Parties have agreed to the settlement described herein. The Settling Respondent shall incur an administrative civil liability of \$3,600,000. Regional Water Board staff has incurred costs; however, as a participant in the Regional Water Board's Cost Recovery Program, the Settling Respondent has committed to reimbursing the State of California for these costs outside this Settlement Agreement and Stipulation. Payment of \$1,800,000 to the State Water Resources Control Board Waste Discharge Permit Fund is due no later than 30 days following the Regional Water Board executing this Order. As described in Paragraph 12 below, the remaining \$1,800,000 in administrative civil liability shall be suspended upon completion of a Supplemental Environmental Project ("SEP") titled the *Hinkley Community Benefit Project* for providing new permanent water supply at the Hinkley school as described in Paragraph 12. Additionally, the plume containment provisions in Order Paragraph 3 of the Cleanup and Abatement Order will be amended to reflect the following compliance provisions (as more fully described below in Paragraphs 9 and 10): at the Settling Respondent's own cost, the Settling Respondent is to a) achieve year-round hydraulic containment of chromium-affected groundwater south of Thompson Road (as more fully described in Paragraph 9 and Attachments C and D), and b) to take actions to reduce hexavalent chromium concentrations in the area generally north of Thompson Road (as more fully described in Paragraph 10 and Attachment E).

7. The Parties have engaged in settlement negotiations and agree to settle the Alleged Violations without administrative or civil litigation and by presenting this Settlement Agreement and Stipulation to the Regional Water Board for adoption as an Order pursuant to Government Code section 11415.60. The Prosecution Staff believes that the resolution of the Alleged Violations is fair and reasonable and fulfills its enforcement objectives, that no further action is warranted concerning the Alleged Violations except as provided in this Settlement Agreement and Stipulation, and that this Settlement Agreement and Stipulation is in the best interest of the public.

### **Section III: Stipulations**

The Parties stipulate to the following:

8. **Administrative Civil Liability:** The Settling Respondent hereby agrees to pay the administrative civil liability totaling \$3,600,000 as set forth in Paragraph 6 of Section II herein. Further, the Settling Respondent agrees that \$1,800,000 of this administrative civil liability shall be suspended pending completion of a SEP as set forth in Paragraph 6 of Section II herein and Attachment A attached hereto and incorporated by reference.

9. **Hydraulic Containment of Chromium-Affected Groundwater South of Thompson Road:** As part of its effort to prevent further migration of chromium-affected groundwater, Settling Respondent shall achieve and maintain hydraulic capture within the targeted areas shown on Figures 1 and 2 in Attachment C (incorporated herein by reference) by completing the following.

- a. Settling Respondent shall operate and maintain the groundwater extraction system that exists as of January 15, 2012, or its functional equivalent, such that hydraulic containment is maintained within the areas indicated on Figures 1 and 2 in Attachment C on a year-round basis. Separate Areas of Hydraulic Containment are established for the shallow zone of the Upper Aquifer and the deep zone of the Upper Aquifer. The Regional Water Board will determine hydraulic containment compliance by comparing hydraulic gradients or groundwater flow direction vectors calculated from groundwater elevation data from select well pairs and piezometers with control limits, as outlined in Attachment D of this Settlement Agreement and Stipulation and Order (incorporated herein).
- b. Water levels shall be monitored on a monthly basis, year-round. For this evaluation, the Settling Respondent shall collect continual pressure transducer data by the end of the month (e.g. January 31) and a data evaluation shall be submitted by the Settling Respondent by the 15<sup>th</sup> of the subsequent month (e.g. February 15). If the evaluation demonstrates that the average monthly water level data from any of the well pair metrics provided in Attachment D is not met, the Settling Respondent shall:
  1. Verify the water levels manually within five days of the evaluation, and in any case no later than the 20<sup>th</sup> of the month when the data evaluation is submitted.
  2. If the manual measurements confirm that there is no longer an inward gradient, the Settling Respondent will adjust operations within five days in the field using existing infrastructure (i.e. adjust individual well pumping rates).
  3. With the Regional Water Board staff's written approval, the Settling Respondent may demonstrate plume capture using alternative metrics (e.g. well pairs) to verify inward plume capture.
- c. The Regional Water Board may find the Settling Respondent out of compliance with this Settlement Agreement and Stipulation if either of the following occurs:
  1. The third consecutive month of data (e.g. January, February and March) indicates that the well pair metrics are still not met, or
  2. If capture metrics are not met 3 out of 12 months during the course of one year (e.g., July 2012 through July 2013).
- d. Should either condition 9.c.1. or 9.c.2. occur, then by the 15<sup>th</sup> of the following month, the Settling Respondent shall submit a contingency plan to re-

establish capture in addition to the existing infrastructure. The Regional Water Board staff will review the contingency plan and either accept it or request modifications in writing.

- e. The Regional Water Board may determine that the Settling Respondent is out of compliance with this Settlement Agreement and Stipulation if Settling Respondent fails to timely submit a contingency plan as described in condition 9.d., the Regional Water Board may issue a letter of non-compliance for not complying with either condition 9.c.1. or 9.c.2., and/or 9.d. and seek additional civil liability as authorized by the California Water Code.

**10. Actions to Reduce Plume Migration in Area Generally North of Thompson**

**Road:** The Settling Respondent shall take reasonable and practicable corrective actions to reduce hexavalent chromium concentrations in groundwater and to reduce plume migration in areas north of Thompson Road (as illustrated by Attachment E) by taking the following interim actions prior to the approval of the final remedy proposed by Settling Respondent:

- a. Starting the summer of 2012, the Settling Respondent shall conduct groundwater extraction from June 1 through September 30 in at least one location to maximize extraction and chromium removal. Failure to implement this action will constitute a violation of this Settlement Agreement and Stipulation. The Parties may agree to modifications to this requirement, which are only effective upon the written approval of the Assistant Executive Officer or Executive Officer.
- b. By July 1, 2012, the Settling Respondent shall review existing extraction and well sampling data and evaluate the need for additional extraction within the area depicted by Attachment E. If additional extraction is deemed necessary, Settling Respondent shall evaluate extraction methods and propose additional actions and a schedule to implement further chromium removal north of Thompson Road in the area depicted on Attachment E. Settling Respondent shall include the most effective actions reasonably feasible. The Settling Respondent shall then implement these additional actions according to the schedule, subject to obtaining all required permits from regulatory agencies including approvals required by the California Environmental Quality Act and state and federal Endangered Species Acts, which approvals Settling Respondent shall diligently seek. In the event of any delay, Settling Respondent shall notify the Regional Water Board staff in writing and seek a modification of the schedule. Failure to implement this action will constitute a violation of this Settlement Agreement and Stipulation. The Parties may agree to modifications to this requirement, which modifications will be effective only on the written approval of the Assistant Executive Officer or Executive Officer.

- c. The Settling Respondent shall dispose of extracted groundwater containing chromium concentrations in a manner approved by Regional Water Board staff. The Parties may agree to modifications to this requirement in writing with the approval of the Assistant Executive Officer or Executive Officer.
  - d. In the event Settling Respondent determines that the new remedial components required by this Paragraph 10 are interfering with Settling Respondent's ability to maintain inward gradients as required by Paragraph 9, Settling Respondent shall notify Regional Water Board staff within 5 business days of that determination and provide written evidence supporting Settling Respondent's determination. After notifying the Regional Water Board, Settling Respondent may suspend the remedial requirements required by this Paragraph 10 for no longer than is necessary to develop alternative pumping regimes north and/or south of Thompson Road that will maintain internal hydraulic capture south of Thompson Road while maximizing chromium removal north of Thompson Road. Settling Respondent shall consult Regional Water Board staff as necessary and seek written approval before taking any actions inconsistent with either Paragraph 9 or 10 of this Settlement Agreement and Stipulation.
11. Any violation of this Settlement Agreement and Stipulation by the Settling Respondent may subject the Settling Respondent to civil liability as authorized by the California Water Code. Paragraphs 9 and 10 of this Settlement and Stipulation shall be incorporated into an amended 2008 Cleanup and Abatement Order. A violation of Paragraphs 9 and 10 shall be a violation of the 2008 Order as amended. Nothing herein precludes the Regional Water Board from issuing any additional investigative or cleanup and abatement orders related to the Settling Respondent's chromium discharge, including for areas north of Thompson Road.
12. **Supplemental Environmental Project:** The Parties agree that this resolution includes a supplemental environmental project (SEP) as provided for as follows:

**a. Definitions**

"Waste Discharge Permit Fund" – the State Water Pollution Waste Discharge Permit Fund.

"Designated Regional Water Board Representative" – the representative from the Regional Water Quality Control Board responsible for oversight of the supplemental environmental project (SEP). The contact information for this representative is as follows:

Lisa Dernbach, Senior Engineering Geologist (Specialist)  
Lahontan Regional Water Quality Control Board  
2501 Lake Tahoe Blvd.

South Lake Tahoe, CA 96150  
(530) 542-5424  
LDernbach@waterboards.ca.gov

"Enforcement Coordinator" – The person on the Regional Water Quality Control Board staff who is responsible for enforcement coordination.

"Milestone Requirement" – A requirement with an established time schedule for meeting/ascertaining certain identified measurements of completed work. Upon the timely and successful completion of each milestone requirement, an amount of liability will be permanently suspended or excused as set forth in the Description of the SEP below.

"SEP Completion Date" – The date on which the SEP will be completed in its entirety.

"SEP Amount" – The portion of the \$3,600,000 administrative civil liability that is to be spent by the Settling Respondent on constructing and maintaining the SEP.

#### **b. Administrative Civil Liability and Costs Of Enforcement**

##### **1. Total Civil Liability**

Settling Respondent shall be subject to administrative civil liability in the total amount of \$3,600,000. The civil liability includes credit for a SEP in the amount of \$1,800,000. The cost of the SEP will be referred to as the SEP Amount and will be treated as a Suspended Administrative Civil Liability.

##### **2. Payment and Costs**

Payment shall be made within 30 days of the effective date of the Settlement Agreement and Stipulation. Payment shall be made by a check payable to the State Water Resources Control Board's Waste Discharge Permit Fund. Payment shall be submitted to the Designated Regional Water Board Representative.

##### **3. Funding of Special Environmental Projects.**

Settling Respondent agrees to fund and perform the SEP as described further in Section III, Paragraph 12.c. and Attachment A.

#### **c. Description of the SEP**

The SEP is comprised of a water infrastructure project at the Hinkley Elementary/Middle School at 37600 Hinkley Road in Hinkley, California. The project will provide a new permanent water supply at the school. The SEP includes construction and maintenance of new facilities through the SEP Completion Date of December 31, 2017, but does not include plans for long-term maintenance, except for maintenance of

equipment on Settling Respondent's property. This project is related to the Alleged Violations in that the permanent replacement water will decrease water supply pumping in the immediate vicinity of the Hinkley School and the surrounding community, which will reduce the demand on the limited aquifer in the area. Sustained groundwater pumping at high enough volumes may cause movement in the groundwater plume in the Hinkley area. By lowering the amount of groundwater being pumped in the vicinity of the school, the SEP lowers the potential for the groundwater plume to move and provides more groundwater supply for other beneficial uses. Further details are contained in Attachment A.

#### **d. Representations and Agreements Regarding SEPS**

##### **1. Representation of the Settling Respondent**

As a material consideration for the Regional Water Board's acceptance of this Settlement Agreement and Stipulation, the Settling Respondent represents that it will utilize the funds outlined in Paragraph 6 to implement the SEP in accordance with the Schedule for Performance contained in Attachment A. The Settling Respondent understands that it is agreeing to implement the SEP in its entirety and in accordance with the schedule for implementation. Any failure to completely satisfy the milestones in the SEP may subject the Settling Respondent to paying a portion or all of the suspended administrative civil liability as described in Paragraphs 12.i. and 12.j. below.

##### **2. Agreement of Settling Respondent to Implement SEP**

The Settling Respondent represents that: a) it will spend the SEP amount as described in this Settlement Agreement and Stipulation, including Attachment A, b) it will provide a certified, written report to the Regional Water Board consistent with the terms of this Settlement Agreement and Stipulation detailing the implementation of the SEP, and c) within 30 days of the completion of the SEP, it will provide written certification, under penalty of perjury, that the SEP complied with all applicable environmental laws and regulations including, but not limited to, the California Environmental Quality Act, the federal Clean Water Act and the Porter-Cologne Act. The Settling Respondent agrees that the Regional Water Board has the right to require an audit of the funds expended by it to implement the SEP.

#### **e. Publicity Associated with SEP**

Whenever the Settling Respondent, or its agents or subcontractors, publicizes one or more elements of the SEP, they shall state in a **prominent manner** that the project is being undertaken as part of the settlement of an enforcement action by the Regional Water Board against the Settling Respondent.

#### **f. Submittal of Progress Reports**



Settling Respondent shall provide quarterly progress reports to the Designated Water Board Representative on the 40th day following the end of each quarter: May 10, August 9, November 9, and February 9 of each year. Reports shall state all actions under taken for implementing the SEP during the quarter and state planned actions for the following quarter.

Settling Respondent shall permit inspection of the SEP by the Regional Water Board staff at any time without notice.

**g. Audits and Certification of Environmental Project**

**1. Certification of Expenditures.**

On or before December 31, 2017, Settling Respondent shall submit a certified statement by responsible corporate officials documenting the expenditures by Settling Respondent during the completion period for the SEP. The expenditures may be external payments to outside vendors or contractors implementing the SEP. In making such certification, the official may rely upon normal company project tracking systems that capture employee time expenditures and external payments to outside vendors such as environmental and information technology contractors or consultants. Settling Respondent shall provide any additional information requested by the Regional Water Board staff that is reasonably necessary to verify Settling Respondent's SEP expenditures. The certification need not address any costs incurred by the Regional Water Board for oversight.

**2. Certification of Performance of Work**

On or before December 31, 2017, the Settling Respondent shall submit a report, under penalty of perjury, stating that the SEP has been completed in accordance with the terms of this Settlement Agreement and Stipulation. Such documentation may include photographs, invoices, receipts, certifications, and other materials reasonably necessary for the Regional Water Board to evaluate the completion of the SEP and the costs incurred by the Settling Respondent.

**3. Certification that Work Performed on SEP Met or Exceeded Requirements of CEQA and Other Environmental Laws**

On or before December 31, 2017, the Settling Respondent shall submit documentation, under penalty of perjury, stating that it provided the lead agency(ies) with all documentation and support requested by the lead agency(ies) and that the SEP complied with all other environmental laws. The Settling Respondent (or the lead agency on its behalf) shall, before the SEP implementation date, consult with other interested State Agencies regarding potential impacts of the SEP. Other interested State Agencies include, but are not limited to, the California Department of Fish and Game. To ensure compliance with CEQA where necessary, the Settling Respondent

shall provide the Regional Water Board with the following documents from the lead agency:

- a) Categorical or statutory exemptions;
- b) Negative Declaration if there are no "significant" impacts;
- c) Mitigated Negative Declaration if there are potential "significant" impacts but revisions to the project have been made or may be made to avoid or mitigate those potential significant impacts;
- d) Environmental Impact Report (EIR) if there are "significant" impacts.

4. Third Party Audit

If the Designated Regional Water Board Representative obtains information that causes the representative to reasonably believe that the Settling Respondent has not expended money in the amounts claimed by the Settling Respondent or has not adequately completed any of the work in the SEP work plan, the Designated Regional Water Board Representative may require, and the Settling Respondent shall submit, at its sole cost, a report prepared by an independent third party(ies) acceptable to the Regional Water Board staff providing such party(ies)'s professional opinion that Settling Respondent has expended money in the amounts claimed by the Settling Respondent. In the event of such an audit, the Settling Respondent agrees that it will provide the third-party auditor with access to all documents which the auditor requests. Such information shall be provided to the Designated Regional Water Board Representative within three (3) months of the completion of the Settling Respondent's SEP obligations. The audit need not address any costs incurred by the Regional Water Board for oversight.

**h. Regional Water Board Acceptance of Completed SEP**

Upon the Settling Respondent's satisfaction of its obligations under this Settlement Agreement and Stipulation, including the completion of the SEP and any audits, the Designated Regional Water Board Representative, with notice to the regional Enforcement Coordinator, shall request that the Regional Water Board issue a "Satisfaction of Order." The issuance of the Satisfaction of Order shall terminate any further obligations of the Settling Respondent under this Settlement Agreement and Stipulation.

**i. Failure to Expend All Suspended Administrative Civil Liability Funds on the Approved SEP**

In the event that Settling Respondent is not able to demonstrate to the reasonable satisfaction of the Regional Water Board staff that it has spent the entire SEP Amount for the completed SEP, Settling Respondent shall pay the difference between the Suspended Administrative Civil Liability and the amount Settling Respondent can demonstrate was actually spent on the SEP, as an administrative civil liability.

**j. Failure to Complete the SEP**

If the SEP is not fully implemented within the SEP Completion Period required by this Settlement Agreement and Stipulation, or there has been a material failure to satisfy a Milestone Requirement, the Settling Respondent shall be liable to pay the entire SEP Amount in administrative civil liability, or some portion thereof less the value of any adequately completed SEP requirement(s). The amount of the liability owed shall be determined by the Executive Officer, or the Executive Officer's delegate. Upon notification of the amount assessed for failure to fully implement the SEP, the amount assessed shall be paid to the State Water Pollution Waste Discharge Permit Fund within 30 days. In addition, the Settling Respondent shall be liable for the Regional Water Board's reasonable costs of enforcement, including but not limited to legal costs and expert witness fees. Payment of the demanded amount will satisfy the Settling Respondent's obligations to implement the SEP.

13. **Compliance with Applicable Laws:** The Settling Respondent understands that payment of administrative civil liability in accordance with the terms of this Order or compliance with the terms of this Order is not a substitute for compliance with applicable laws, and that violations of the provisions of this Settlement Agreement and Stipulation may subject it to further enforcement, including administrative civil liability.

14. **Regional Water Board is Not Liable:** Neither the Regional Water Board members nor the Regional Water Board staff, attorneys, or representatives shall be liable for any injury or damage to persons or property resulting from acts or omissions by Settling Respondent its directors, officers, employees, agents, representatives or contractors in carrying out activities pursuant to this Settlement Agreement and Stipulation, nor shall the Regional Water Board, its members or staff be held as Parties to or guarantors of any contract entered into by Settling Respondent, its directors, officers, employees, agents, representatives or contractors in carrying out activities pursuant to this Settlement Agreement and Stipulation.

15. **Attorney's Fees and Costs:** Except as otherwise provided herein, each Party shall bear all attorneys' fees and costs arising from the Party's own counsel in connection with the matters set forth herein.

16. **Matters Addressed by Stipulation:** Upon adoption by the Regional Water Board as an Order, this Settlement Agreement and Stipulation represents a final and binding resolution and settlement of the Alleged Violations. The provisions of this Paragraph are expressly conditioned on the full payment of the administrative civil liability by the deadlines specified in Paragraph 8 and the Settling Respondent's full satisfaction of the obligations described in Paragraph 12. Nothing herein is meant to, or should be interpreted as, releasing the Settling Respondent of any responsibility for the discharge of chromium described in Paragraph 1.

17. **Public Notice:** The Settling Respondent understands that this Settlement Agreement and Stipulation and Proposed Order must be noticed for at least a 30-day

public review period prior to consideration by the Regional Water Board. In the event objections are raised during the public comment period, the Parties agree to meet and confer concerning any such objections, and may agree to revise or adjust the proposed Order as necessary or advisable under the circumstances. The Assistant Executive Officer reserves the right to rescind her approval of this Settlement Agreement and Stipulation if, after meeting and conferring with Settling Respondent, the Assistant Executive Officer determines that comments regarding the Settlement Agreement and Stipulation disclose significant new facts regarding the Alleged Violations which indicate that the Settlement Agreement and Stipulation is inappropriate, improper, or inadequate. The Respondent agrees that it may not rescind or otherwise withdraw its approval of this proposed Stipulated Order. If the Assistant Executive Officers rescinds her approval of this Settlement Agreement and Stipulation pursuant to this paragraph, nothing in this Settlement Agreement and Stipulation, drafts of this Settlement Agreement and Stipulation, or any discussions leading to this Settlement Agreement and Stipulation shall be used as evidence to support Settling Respondent's Alleged Violations of the CAO.

**18. Addressing Objections Raised During Public Comment Period:** The Parties agree that the procedure contemplated for adopting the Order by the Regional Water Board and review of this Settlement Agreement and Stipulation by the public is lawful and adequate. In the event procedural objections are raised prior to the Order becoming effective, the Parties agree to meet and confer concerning any such objections, and may agree to revise or adjust the procedure as necessary or advisable under the circumstances.

**19. Interpretation:** This Settlement Agreement and Stipulation and Order shall be construed as if the Parties prepared it jointly. Any uncertainty or ambiguity shall not be interpreted against any one Party. The Settling Respondent is represented by counsel in this matter.

**20. Modification:** This Settlement Agreement and Stipulation and Order shall not be modified by any of the Parties by oral representation made before or after its execution. All modifications must be in writing, signed by all Parties and approved by the Regional Water Board.

**21. If Order Does Not Take Effect:** In the event that this Order does not take effect because it is not approved by the Regional Water Board, or its delegate, or is vacated in whole or in part by the State Water Resources Control Board or a court, the Parties acknowledge that they expect to proceed to a contested evidentiary hearing before the Regional Water Board to determine whether to assess administrative civil liabilities for the underlying alleged violations, unless the Parties agree otherwise. The Parties agree that all oral and written statements and agreements made during the course of settlement discussions will not be admissible as evidence in the proceedings. The Parties agree to waive any and all objections based on settlement communications in this matter, including, but not limited to:

- a. Objections related to prejudice or bias of any of the Regional Water Board members or their advisors and any other objections that are premised in whole or in part on the fact that the Regional Water Board members or their advisors were exposed to some of the material facts and the Parties' settlement positions as a consequence of reviewing the Settlement Agreement and Stipulation and/or the Order, and therefore may have formed impressions or conclusions prior to any contested evidentiary hearing on the Complaint in this matter; or
- b. Laches or delay or other equitable defenses based on the time period for administrative or judicial review to the extent this period has been extended by these settlement proceedings.

22. **Waiver of Hearing:** The Settling Respondent has been informed of the rights provided by California Water Code section 13323, subdivision (b), and hereby waives its right to a hearing before the Regional Water Board prior to the adoption of the Order.

23. **Waiver of Right to Petition:** The Settling Respondent hereby waives its right to petition the Regional Water Board's adoption of the Order for review by the State Water Resources Control Board, and further waives its rights, if any, to appeal the same to a California Superior Court and/or any California appellate level court.

24. **Settling Respondent's Covenant Not to Sue:** The Settling Respondent covenants not to sue or pursue any administrative or civil claim(s) against any State Agency or the State of California, their officers, Board Members, employees, representatives, agents, or attorneys arising out of or relating to the Alleged Violations resolved by this Settlement Agreement and Stipulation.

25. **Necessity for Written Approvals:** All approvals and decisions of the Regional Water Board under the terms of this Order shall be communicated to the Settling Respondent in writing. No oral advice, guidance, suggestions or comments by employees or officials of the Regional Water Board regarding submissions or notices shall be construed to relieve the Settling Respondent of its obligation to obtain any final written approval required by this Order.

26. **Authority to Bind:** Each person executing this Settlement Agreement and Stipulation in a representative capacity represents and warrants that he or she is authorized to execute this Settlement Agreement and Stipulation on behalf of and to bind the entity on whose behalf he or she executes the Settlement Agreement and Stipulation.

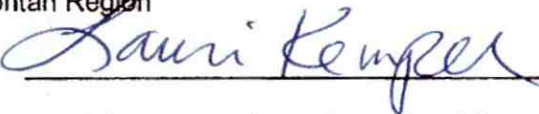
27. **Effective Date:** The obligations of this Settlement Agreement and Stipulation are effective and binding on the Parties only upon the entry of an Order by the Regional Water Board which incorporates the terms of this Settlement Agreement and Stipulation.

28. **Severability:** This Settlement Agreement and Stipulation and Order are severable; should any provision be found invalid the remainder shall remain in full force and effect.

29. **Counterpart Signatures:** This Settlement Agreement and Stipulation may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one document.

**IT IS SO STIPULATED.**

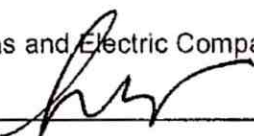
California Regional Water Quality Control Board Prosecution Team  
Lahontan Region

By: 

Lauri Kemper, Assistant Executive Officer

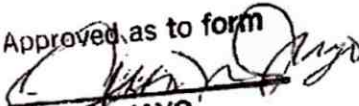
Date: 2/1/12

Pacific Gas and Electric Company

By: 

Sanford Hartman  
Vice President-Law Department

Date: 2/1/12

Approved, as to form  
  
JUAN M. JAYO  
PG&E Law Dept.

**Order of the Regional Water Board**

1. This Order incorporates the foregoing Settlement Agreement and Stipulation and Attachments A through D. The Regional Water Board will adopt an amendment to Cleanup and Abatement Order R6V-2008-0002, which amendment will replace Paragraph 3 of that Order with Paragraphs 9 and 10 of this Settlement Agreement and Stipulation.

2. In accepting the foregoing Settlement Agreement and Stipulation, the Regional Water Board has considered, where applicable, each of the factors prescribed in California Water Code section 13327. The Regional Water Board's consideration of

these factors is based upon information obtained by the Regional Water Board' staff in investigating the Alleged Violations. Recitals or otherwise provided to the Regional Water Board.

3. This is an action to enforce the laws and regulations administered by the Regional Water Board. The Regional Water Board finds that issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, sections 21000 et seq.), in accordance with section 15321(a)(2), Title 14, of the California Code of Regulations.

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 March 14, 2012.



Harold J. Singer  
Executive Officer

Date: March 14, 2012

ATTACHMENT A

HINKLEY COMMUNITY BENEFIT PROJECT PROPOSAL  
SUPPLEMENTAL ENVIRONMENTAL PROJECT



**Hinkley Community Benefit Project  
SUPPLEMENTAL ENVIRONMENTAL PROJECT  
PROPOSAL/WORK PLAN**

Pacific Gas and Electric Company ("PG&E") hereby submits this Supplemental Environmental Project ("SEP") proposal to the Lahontan Regional Water Quality Control Board ("Lahontan Regional Board") in furtherance of confidential settlement negotiations with respect to CAO No. R6V-2008-0002 (the "2008 CAO").

**1. NAME OF ORGANIZATION PROPOSING THE SEP, CONTACT PERSON, AND PHONE NUMBER.**

Name of Proposing Organization: PG&E

Primary Contact: Sheryl Bilbrey, Director of Chromium Remediation

Alternate Contact: Kevin Sullivan, PG&E Project Manager

**2. NAME AND LOCATION OF THE PROJECT, INCLUDING WATERSHED (CREEK, RIVER, BAY) WHERE IT IS LOCATED.**

Project Name: Hinkley Community Benefit Project (the "Project")

Project Location: The Project will be located at and in the vicinity of the Hinkley Elementary/Middle School at 37600 Hinkley Road, Hinkley CA 92347, in San Bernardino County, California (the "Hinkley School").

Watershed Location: The watershed is located in the Harper Valley Subarea of the Mojave Hydrologic Unit. The ephemeral Mojave River contributes more than 80 percent of the natural groundwater recharge to the Hinkley Valley. The closest surface water is an unnamed ephemeral stream, located about 4,000 feet northwest of the plume's northern boundary. The ephemeral Mojave River is located less than one mile to the southeast of the facility.

**3. DESCRIBE THE PROJECT AND HOW IT FITS INTO ONE OR MORE OF THE FOLLOWING SEP CATEGORIES:**

- (a) Pollution Prevention
- (b) Environmental Restoration
- (c) Environmental Auditing
- (d) Public Awareness/Education
- (e) Watershed Assessment
- (f) Watershed Management
- (g) Facilitation Services
- (h) Non-Point Source Program Implementation

Project Background

PG&E owns and operates the Hinkley Compressor Station, located approximately one-half mile southeast of the community of Hinkley in San Bernardino County, California at 35863 Fairview Road (APN 048S-112-52).

On August 6, 2008, the Lahontan Regional Board issued the 2008 CAO which, in part, required PG&E to prevent the chromium plume from migrating to locations where hexavalent chromium was below background concentration levels, and achieve "containment" by December 31, 2008 which was defined in part as "no further migration or expansion of the chromium plume to locations where hexavalent chromium [was] below the background level."<sup>1</sup>

On November 4, 2011, PG&E received a Notice of Proposed Enforcement Action and Offer to Engage in Pre-filing Settlement Discussions from the State Water Resources Control Board Office of Enforcement (the "**Enforcement Notice**"). The Enforcement Notice alleged that PG&E had violated the 2008 CAO by failing to achieve containment of the chromium plume.

PG&E desires to enter into a settlement agreement, whereby the Lahontan Regional Board will promise to forgo the initiation of any legal action against PG&E in exchange for PG&E's agreement to remit Total Assessed Penalties, as defined below.

#### Project Description

The Project contemplates a water infrastructure project at or near the Hinkley School with the provision of a new permanent water supply at the Hinkley School.

This SEP proposal recommends total assessed penalties ("**Total Assessed Penalties**") in an amount of \$3,600,000.00. PG&E asks that the Lahontan Regional Board permit fifty percent (50%) of the Total Assessed Penalties to be applied toward effectuating this SEP, and requests that fifty percent (50%) of the Total Assessed Penalties be applied as a fine to the California State Water Pollution Cleanup and Abatement Account (the "**Cleanup and Abatement Account**"). Accordingly, the term "**SEP-Allocated Fee**" as used herein shall mean fifty percent (50%) of Total Assessed Penalties, or \$1,800,000.00; and the term "**C&AA Fine**" as used herein shall mean fifty percent (50%) of Total Assessed Penalties, or \$1,800,000.00.

#### How the Project Fits into the SEP Categories

Implementing the Project will support the following SEP category:

- *Watershed Management*

<sup>1</sup> The 2008 CAO, at Order No. 3(a).

The permanent replacement water component will decrease water supply pumping in the immediate vicinity of the Hinkley School and surrounding community which will reduce the demand on the limited aquifer in this area. Sustained groundwater pumping at high enough volumes can cause movement in the groundwater plume in the Hinkley area. By lowering the groundwater pumping demand in the vicinity of the Hinkley School and surrounding community, the Project lowers the potential for the pumping to cause movement in the groundwater plume in the Hinkley area.

**4. DESCRIBE HOW THE PROJECT BENEFITS WATER QUALITY.**

The Project will have direct impacts on water quality by increasing the groundwater supply in the vicinity of the Hinkley School through the process of aquifer recharge. Additionally, the Project will benefit water quality for the students at the Hinkley School through watershed management, by decreasing water supply pumping in the immediate vicinity and decreasing the potential of causing movement to the area of groundwater contamination. This component will also facilitate watershed management by decreasing demand on groundwater supplies in the vicinity of the impacted area of groundwater contamination.

**5. DESCRIBE HOW THE PROJECT BENEFITS THE PUBLIC.**

The Project benefits the public through the provision of various community benefits by providing the Hinkley School with a reliable, source of water anticipated to be from PGE14, FW01 or FW02 (or an equivalent source of water with similar water quality) which meets all state and federal drinking water standards.

**6. INCLUDE DOCUMENTED SUPPORT BY ONE OR MORE OF THE FOLLOWING:**

- (a) Other agencies
- (b) Public groups
- (c) Impacted persons
- (d) Compliance with the California Environmental Quality Act

*(a) Other Agencies:*

A Letter of Support from the Barstow Unified School District is attached hereto as Exhibit A.

*(d) Compliance with the California Environmental Quality Act:*

Before construction of the Project begins, PG&E shall submit documentation, under penalty of perjury, stating that the lead agency for each component of the SEP has complied with

the requirements of CEQA, if applicable. To ensure compliance with CEQA if applicable, PG&E shall provide the Regional Board with one of the following documents from the lead agency for the SEP:

- (a) A determination by the lead agency that a categorical or statutory exemption applies to the SEP;
- (b) An adopted Negative Declaration if there are no significant impacts;
- (c) An adopted Mitigated Negative Declaration if there are potentially significant impacts but revisions to the project have been made or may be made to avoid or mitigate those potential significant impacts;
- (d) A certified Environmental Impact Report (EIR) if there are significant impacts.

**7. KEY PERSONNEL INVOLVED WITH THE PROJECT.**

- Sheryl Bilbrey, Director of Chromium Remediation
- Kevin Sullivan, PG&E Project Manager

**8. PROVIDE A DESCRIPTION OF THE PRIMARY PROJECT ACTIVITIES.**

- **“Replacement Water”**: PG&E will plan and construct infrastructure for a permanent water supply at the Hinkley School. PG&E possesses sufficient water rights for the duration of the SEP. PG&E will maintain the water supply infrastructure that is not located on the school property but which is necessary to implement this agreement (Water Supply Infrastructure). The Water Supply Infrastructure shall remain within the sole ownership, custody, and control of PG&E. PG&E shall provide sufficient water to satisfy the school’s current water needs for a period of 20 years or until, after meeting and conferring with PG&E, the School District chooses to use an alternative water supply. The source of the water is anticipated to be wells PGE14, FW01 or FW02 (or an alternative source of water with similar water quality) that meets all state and federal drinking water standards .
- **Deadline for Usage of SEP-Allocated Fee**: In the event that the SEP-Allocated Fee is not fully utilized by December 31, 2017 any remainder of the SEP-Allocated Fee will become due and payable to the Lahontan Regional Board, regardless of whether any portion of that amount has been actually expended on construction and/or start-up costs.

**9. DESCRIBE WHAT THE PROJECT HOPES TO ACHIEVE AND A DETAILED PLAN FOR DOING SO.**

The Hinkley School serves as a central gathering place for the community. By implementing the Hinkley School Community Benefit Project, PG&E seeks to demonstrate its commitment to the betterment of the Hinkley community.

All obligations under this SEP shall terminate upon the date of the exhaustion of the SEP-Allocated Fee, or December 31, 2017, whichever occurs first (the “**Project Termination Date**”), although PG&E may decide to complete or pursue Project components at its discretion after the Project Termination Date.

**10. INCLUDE A MONITORING PLAN OR QUALITY ASSURANCE PROGRAM PLAN (IF APPLICABLE).**

A monitoring plan and/or quality assurance program plan is not necessary in the context of the Project, which will involve the build-out and completion of the Project elements without ongoing maintenance or monitoring requirements.

**11. DESCRIBE THE SPECIFIC GOALS OF THE PROJECT, INCLUDING NUMERICAL OBJECTIVES WHERE APPROPRIATE (I.E., NUMBER OF PARTICIPATING STUDENTS, STUDENT-HOURS, WORKSHOPS HELD, ACRES RESTORED). WOULD THE PROJECT CREATE ANY LASTING PROGRAMS, STRUCTURES, OR DOCUMENTS?**

The specific goal of the Project is to provide the Hinkley School with a reliable, high quality water supply.. The Project’s benefits and structures would be permanent.

**12. PROVIDE A TIMETABLE FOR PROJECT IMPLEMENTATION, INCLUDING ANY PROJECT MILESTONES.**

Date	Project Task
January 2012	Present SEP Proposal to Lahontan Regional Board staff for preliminary approval.
February 2012	Upon preliminary approval by Lahontan Regional Board staff, submit SEP Proposal to PG&E’s technical team and consultants for advanced planning and refinement.
March 2012	Final approval of Settlement Agreement and SEP Proposal.
March 2012	Upon receipt of final approval, commence Project preparations.
October 31, 2012	Completion of preliminary site condition surveys and 10% design of necessary infrastructure construction. Submit site condition report, surveys and 10% design documentation to Water Board and CEQA Lead Agency for environmental analysis
2013	Project Implementation Phase Continues. CEQA compliance and permitting anticipated during this year – construction may begin.
2014	Project Implementation Phase Continues.
December 31, 2017	Specific Goal: Anticipated Project Completion Date.
December 31, 2017	Project Termination Date

**13. DESCRIBE WHAT MEASURES, IF ANY, YOU WOULD TAKE TO OFFSET OR OVERCOME ANY IMPEDIMENTS AFFECTING PROJECT IMPLEMENTATION.**

*Permanent Water Supply for the Hinkley School – Implementation Impediments*

In order to supply permanent water to the Hinkley School, PG&E plans to construct an underground waterline system and source water from an offsite location. An initial impediment to construction will be obtaining the necessary approvals from the Hinkley School/Barstow Unified School District and ensuring that the school district or other appropriate lead agency complies with CEQA. Additionally, the Project may require additional land use approvals and/or state and federal environmental permits. Thereafter, PG&E will need to negotiate the terms of a construction agreement with a general contractor. Once an agreement has been reached, a remaining impediment will be the construction schedule for the water supply lines. Additionally, various permits will need to be acquired.

Measures to Offset Impediments to the Project

Since potential impediments involve approvals from third parties, CEQA compliance by third party lead agencies and actions by vendors, PG&E will have little control over issues that may arise due to delay. Nevertheless, PG&E will work judiciously and collaboratively with all third parties to ensure maximum expediency. PG&E can also provide technical assistance on CEQA compliance to the appropriate lead agencies, and actively work with municipalities and permitting authorities to ensure prompt permitting.

**14. DESCRIBE THE CRITERIA THAT WILL BE USED TO ASSESS PROJECT SUCCESS.**

Project success will be measured by the timely implementation of Project components of the Project.

**15. IDENTIFY A COMPANY OR ORGANIZATION RETAINED TO AUDIT THE PROJECT.**

PG&E will retain an independent auditing firm to audit Project implementation and SEP fund usage.

**16. DESCRIBE PLANS TO CONTINUE AND/OR MAINTAIN THE PROJECT BEYOND THE SEP-FUNDED PERIOD. IDENTIFY POTENTIAL FUNDING SOURCES FOR MAINTENANCE/CONTINUATION ACTIVITIES. FOR RESTORATION PROJECTS, DESCRIBE THE MONITORING PLAN, WHO WILL IMPLEMENT THE PLAN, AND LENGTH OF TIME THE PLAN WILL BE IN PLACE.**

The Project includes construction and maintenance of new facilities, but does not include plans for long-term maintenance beyond the Project Termination Date.

**17. INCLUDE A STATEMENT WHICH STATES THAT AFTER SUCCESSFUL COMPLETION OF THE SEP, ANY FUNDS LEFT OVER MUST BE TURNED OVER TO THE STATE CLEANUP AND ABATEMENT ACCOUNT.**

It is understood that after successful completion of the Project, any funds left over must be turned over to the Cleanup and Abatement Account if another approved SEP project is not identified.

**18. REPORTING PROCEDURES (PROGRESS REPORTS, FINAL REPORT)**

PG&E will provide quarterly progress reports, as well as a final report, to the Lahontan Regional Board, on progress towards meeting construction and start-up of the Project. The final report will detail the final specifications of the completed Project and the proportion for which the funding is responsible.

Quarterly progress reports will include a list of all activity on the SEP for each reporting period and the proposed work for the following year. Reports are due no later than the end of January, following the completion of the reporting year, in accordance with the schedule shown below. PG&E shall submit progress reports on the SEP until the project is completed, and the SEP contribution is fully expended or otherwise approved by the Lahontan Regional Board Executive Officer. A Final Report shall be submitted on January 31, 2017.

**19. INCLUDE A DETAILED BUDGET FOR THE PROJECT.**

SUPPLEMENTAL ENVIRONMENTAL PROJECT Hinkley Community Benefit Project		
ITEM No.	TASK DESCRIPTION	ESTIMATED COSTS
1	SEP: Provide permanent water supply at the Hinkley School	\$1,800,000.00
2	Pay Fine to the Cleanup and Abatement Account within 60 days of approval by the Lahontan Regional Board.	\$1,800,000.00
	<b>Total Assessed Penalties</b>	<b>\$3,600,000.00</b>



**ATTACHMENT B**

**LIABILITY METHODOLOGY DRAFTED BY THE CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD, LAHONTAN  
REGION, PROSECUTION STAFF<sup>1</sup>**

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<sup>1</sup> The Settling Respondent did not participate in drafting this liability methodology and does not agree with the methodology, findings or assessment.

## RECOMMENDED ADMINISTRATIVE CIVIL LIABILITY

On November 17, 2010, the State Water Resources Control Board ("State Water Board") adopted Resolution No. 2009-0083 amending the Water Quality Enforcement Policy ("Enforcement Policy"). The Enforcement Policy was approved by the Office of Administrative Law and became effective on May 20, 2010. The Enforcement Policy establishes a methodology for assessing administrative civil liability. Use of the methodology addresses the factors in California Water Code section 13327.

The policy can be found at:

[http://www.waterboards.ca.gov/water\\_issues/programs/enforcement/docs/enf\\_policy\\_final111709.pdf](http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf)

The proposed administrative civil liability is based on the use of that methodology.

## DISCHARGE VIOLATIONS

Per Day Determination:

Based on the facts in this case, a per day assessment for the discharge is appropriate and is ranked as 0.8. The failure to contain the hexavalent chromium plume and the extent of its expansion that has occurred since the issuance of Cleanup and Abatement Order No. R6V-2008-0002 has resulted in significant harm to the municipal and domestic supply beneficial use of the ground waters. The per day assessment is derived from considering the potential for harm for the discharge and the deviation from the regulatory requirement. The potential for harm factor includes an analysis for the potential harm to beneficial uses, the characteristics of the discharge, and the discharge's susceptibility to cleanup or abatement.

In this matter, first, the harm to beneficial uses of the receiving groundwater basin is major because use of the groundwater for water supply will continue to be significantly restricted for decades in the expanded chromium plume area, earning a score of 5 in the methodology. Second, the discharge poses a significant risk to potential receptors. The potential health impacts associated with elevated groundwater hexavalent chromium concentrations in the plume pose a significant threat to human health given the magnitude by which the concentrations exceed the public health goal of 0.02 ppb. Hexavalent chromium is recognized as a potent carcinogen via inhalation and oral exposure. Accordingly, a score of 4 is assigned to the characteristics of the discharge. Third, the Settling Respondent has developed several remediation proposals that indicate the Settling Respondent is able to clean up the chromium to the control limits established by the Cleanup and Abatement Order. Doing so constitutes 100% of the discharge of the chromium plume expansion being susceptible for cleanup and abatement. Since more than 50% of the discharge is susceptible to cleanup, a score of zero is assigned. The total of the three factors is 9.

Next is the extent of deviation from the regulatory requirement. Here, there was a major deviation from the plume containment provision in the Cleanup and Abatement Order. The Settling Respondent reported a hexavalent chromium concentration of 5.9 ppb in sentry well MW-62A in November 2008, and the well exceeded control limits

through the fourth quarter of 2011, except for the third quarter of 2010. However, other monitoring wells have shown increases in chromium down gradient for the entire 1,093 days of violation indicating plume migration. The Settling Respondent's inability to re-establish plume containment as defined by the 2008 Cleanup and Abatement Order has rendered the Order's plume containment requirement completely ineffective. Therefore, there is a major deviation from the requirement.

Based on the potential for harm score of 9 and the major deviation from requirement assessment, the per day deviation factor is 0.8 (see Table 2 – Per Day Factor for Discharges in the Enforcement Policy).

There are 1,093 days of violation. Therefore, the initial amount of liability based on the days of violation is \$4,372,000 (number of days of violation x per day factor x statutory maximum per day).

#### ADJUSTMENTS TO DETERMINATION OF INITIAL LIABILITY

The Settling Respondent's culpability factor is valued at 1.4 based on the response to the plume expansion. The Settling Respondent failed to maintain plume containment when it reduced groundwater extraction at the Desert View Dairy starting in November 2008. By the time the Settling Respondent began increasing extraction rates at the Desert View Dairy in spring 2009, the chromium plume had migrated enough distance to come under the influence of groundwater pumping activities at off-site agricultural fields to the northeast.

The Settling Respondent's cleanup and cooperation factor is 1.3. This value is based on the Settling Respondent's delay in implementing corrective actions when groundwater monitoring data indicated that the plume was losing containment in November 2008. Pumping was finally increased beyond normal rates in extractions wells at the Desert View Dairy in July 2010.

The Settling Respondent's history of violations factor is 1.3 in light of the history of the plume and its associated permits and enforcement actions with the Regional Water Board.

Based on these adjustments, the amount revised from the initial liability is \$9,492,392 (Initial liability x culpability factor x cleanup and cooperation factor x history of violations factor) for this violation.

The maximum statutory liability amount is \$5,465,000.

#### ABILITY TO PAY AND ABILITY TO CONTINUE IN BUSINESS

The Settling Respondent has the ability to pay the total base liability amount based on the fact that the Settling Respondent is a major energy and gas company, based in San Francisco, California. The Settling Respondent is a subsidiary of PG&E Corporation that employs approximately 20,000 people in the transmission and delivery of energy to

northern and central California. The 2010 combined annual report for PG&E Corporation and PG&E Company shows total assets of \$46.025 billion, and operating revenues of \$13.841 billion. Therefore, the Settling Respondent has the ability to pay the liability, and the total base liability amount is not adjusted.

#### OTHER FACTORS AS JUSTICE MAY REQUIRE

Staff costs for investigating and enforcing this matter are estimated at \$270,000. The prosecution is not seeking to recover staff costs in this Settlement Agreement and Stipulation because the Settling Respondent has actively partaken in the Cleanup Cost Recovery Program and has essentially already paid the staff costs.

#### ECONOMIC BENEFIT

The economic benefit estimated for the violation(s) at issue is estimated at \$521,105. The Settling Respondent realized economic savings by failing to implement its Action Plan for Well MW-62A approximately one year after plume expansion was first verified. The economic benefit was determined as follows:

(Estimated cost to implement Action Plan, \$250,000) x (0.073 interest rate) x (US EPA BEN calculation) = \$352,855

$\$352,855 + (4 \text{ staff} \times \text{average year-end bonuses for meeting internal budget objectives, } \$37,500) = \$521,105$

The Enforcement Policy requires that the adjusted Total Base Liability Amount be at least 10% higher than the economic benefit amount, which would be \$573,215.

Therefore the liability should not be adjusted.

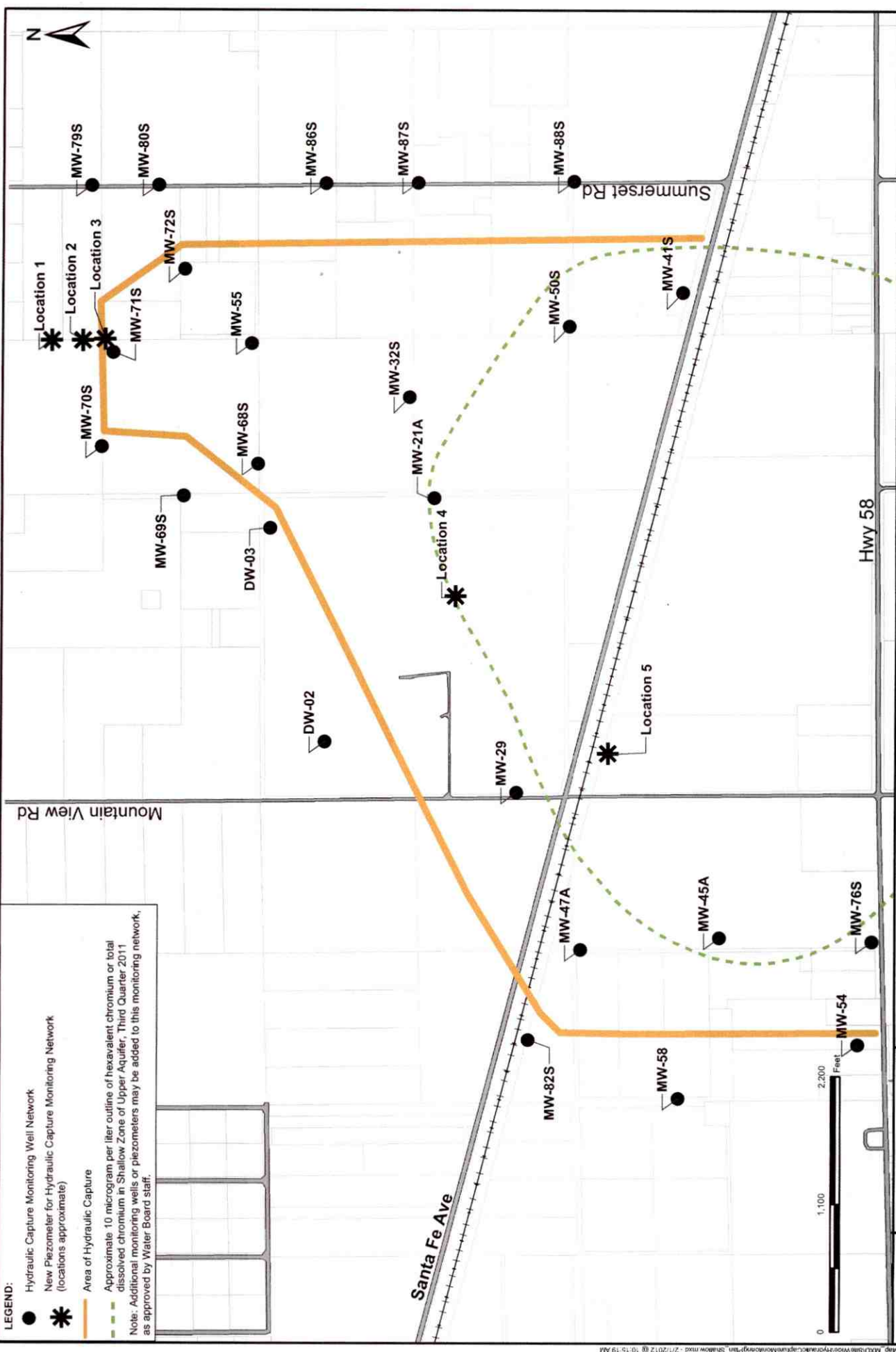
#### FINAL LIABILITY AMOUNT

Based on the foregoing analysis, and consistent with the Enforcement Policy and Water Code section 13350, the final liability amount is calculated at \$5,465,000, the statutory maximum. The proposed stipulated administrative civil liability is \$3,600,000 for purposes of early resolution considering the risks of litigation that include mitigating circumstances (e.g. stipulating to amending Cleanup and Abatement Order R6V-2008-0002 for injunctive terms).

ATTACHMENT C

FIGURE 1 – HYDRAULIC CAPTURE MONITORING PLAN,  
SHALLOW ZONE OF UPPER AQUIFER

FIGURE 2 – HYDRAULIC CAPTURE MONITORING PLAN,  
DEEPER ZONE OF UPPER AQUIFER



**LEGEND:**

- Hydraulic Capture Monitoring Well Network
- ★ New Piezometer for Hydraulic Capture Monitoring Network (locations approximate)
- Area of Hydraulic Capture
- - - Approximate 10 microgram per liter outline of hexavalent chromium or total dissolved chromium in Shallow Zone of Upper Aquifer, Third Quarter 2011

Note: Additional monitoring wells or piezometers may be added to this monitoring network, as approved by Water Board staff.

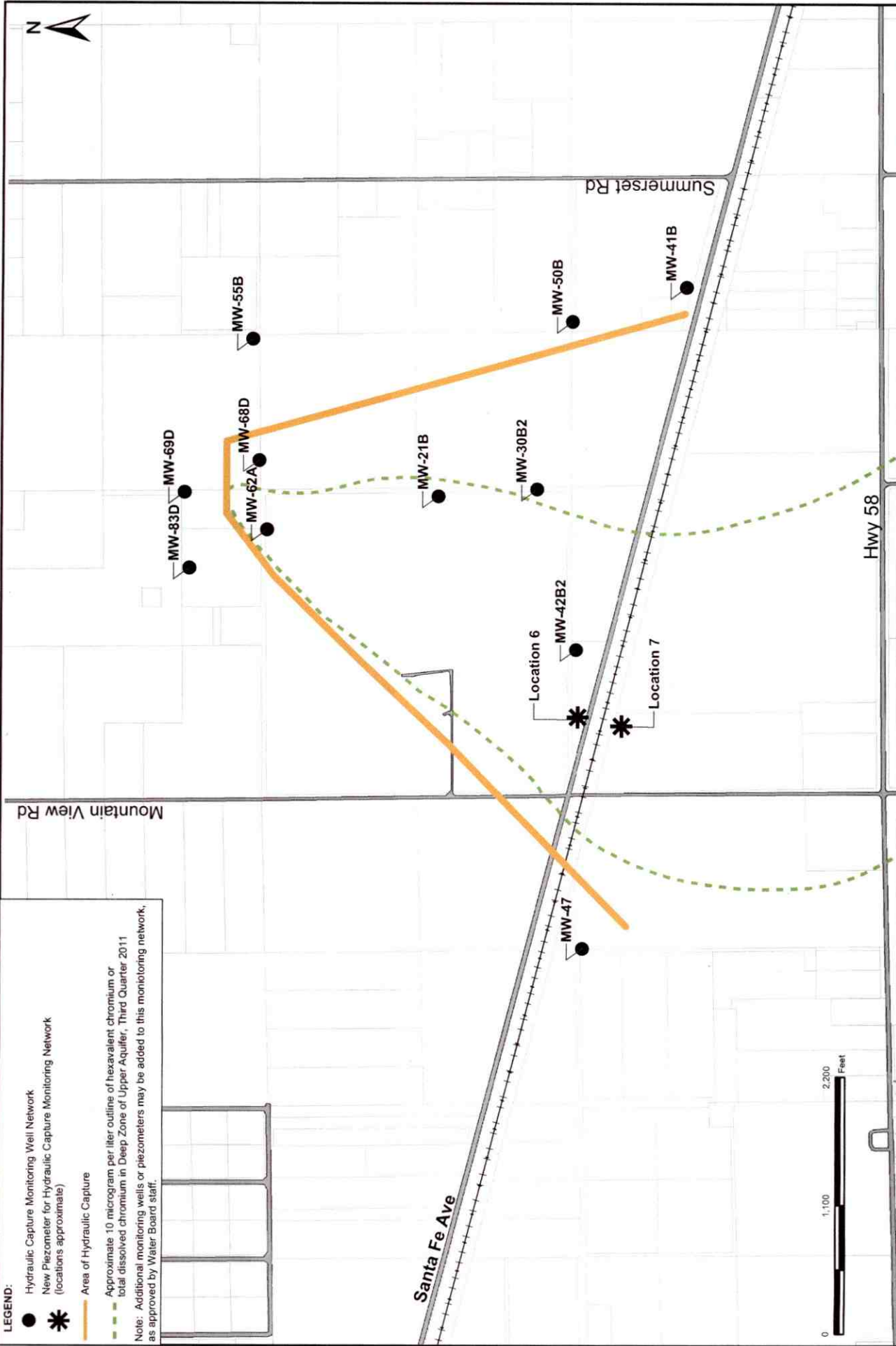
FIGURE  
Attachment C,  
Figure 1

# Hydraulic Capture Monitoring Plan, Shallow Zone of Upper Aquifer

Pacific Gas and Electric Company  
Hinkley, California

**ARCADIS**  
 100 Montgomery Street, Suite 300  
 San Francisco, California 94104  
 Tel: 415 374 2744  
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 www.arcadis-us.com

Program Manager Lisa Cope
Project Manager Jennifer Beatty
Task Manager Margaret Gemble
Technical Review Scott Seyfried



**LEGEND:**

- Hydraulic Capture Monitoring Well Network
- \* New Piezometer for Hydraulic Capture Monitoring Network (locations approximate)
- Area of Hydraulic Capture
- - - Approximate 10 microgram per liter outline of hexavalent chromium or total dissolved chromium in Deep Zone of Upper Aquifer, Third Quarter 2011

Note: Additional monitoring wells or piezometers may be added to this monitoring network, as approved by Water Board staff.

FIGURE  
Attachment C,  
Figure 2

# Hydraulic Capture Monitoring Plan, Deep Zone of Upper Aquifer

Pacific Gas and Electric Company  
Hinkley, California

**ARCADIS**  
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ATTACHMENT D

HYDRAULIC CAPTURE METRICS



## APPENDIX A

Hydraulic capture shall be demonstrated through analysis of potentiometric surfaces in the A1 and A2 layers of the upper aquifer measured at least monthly. Hydraulic capture shall be demonstrated using those monitoring wells or piezometers identified in Table A-1 or other wells as accepted by Water Board staff. For well pairs, the inner well must have a potentiometric surface lower than the outer well. For well triplets, the vector described by the potentiometric surfaces at the three wells must show a gradient directed inward of the capture boundary line shown on Figures A-1 or A-2, for the A1 and A2 depth layers, respectively.

**Table A-1 Hydraulic Capture Monitoring Plan**

Depth Interval	Well Pairs		Well Triplets
A1 Layer	Outer Well	Inner Well	
	MW-86S	MW-55S	
	MW-80S	MW-72S	
	DW-03	MW-68S	
	MW-79S	MW-71S	
	New wells <sup>1,2</sup>	MW-71S	
			MW-88S, -87S, -32S
			MW-70S, -69S, -71S <sup>2</sup>
			DW-02, MW-29, -21A or new piezometer <sup>3</sup> near MW-31
			MW-58, -45A and -47A
	MW-82S	new piezometer <sup>3</sup> near EX-29/-30	
			MW-54, -76S and -45A
			MW-50S, -88S and -41S
A2 Layer	Outer Well	Inner Well	
	MW-41B	MW-30B2	
	MW-83D	MW-62A	
	MW-69D	MW-62A <sup>2</sup>	
	MW-50B	MW-21B	
	MW-47	MW-42B2 or new piezometer <sup>3</sup> near EX-29/-30 or EX-26	
			MW-69D, MW55B, MW-68D <sup>2</sup>

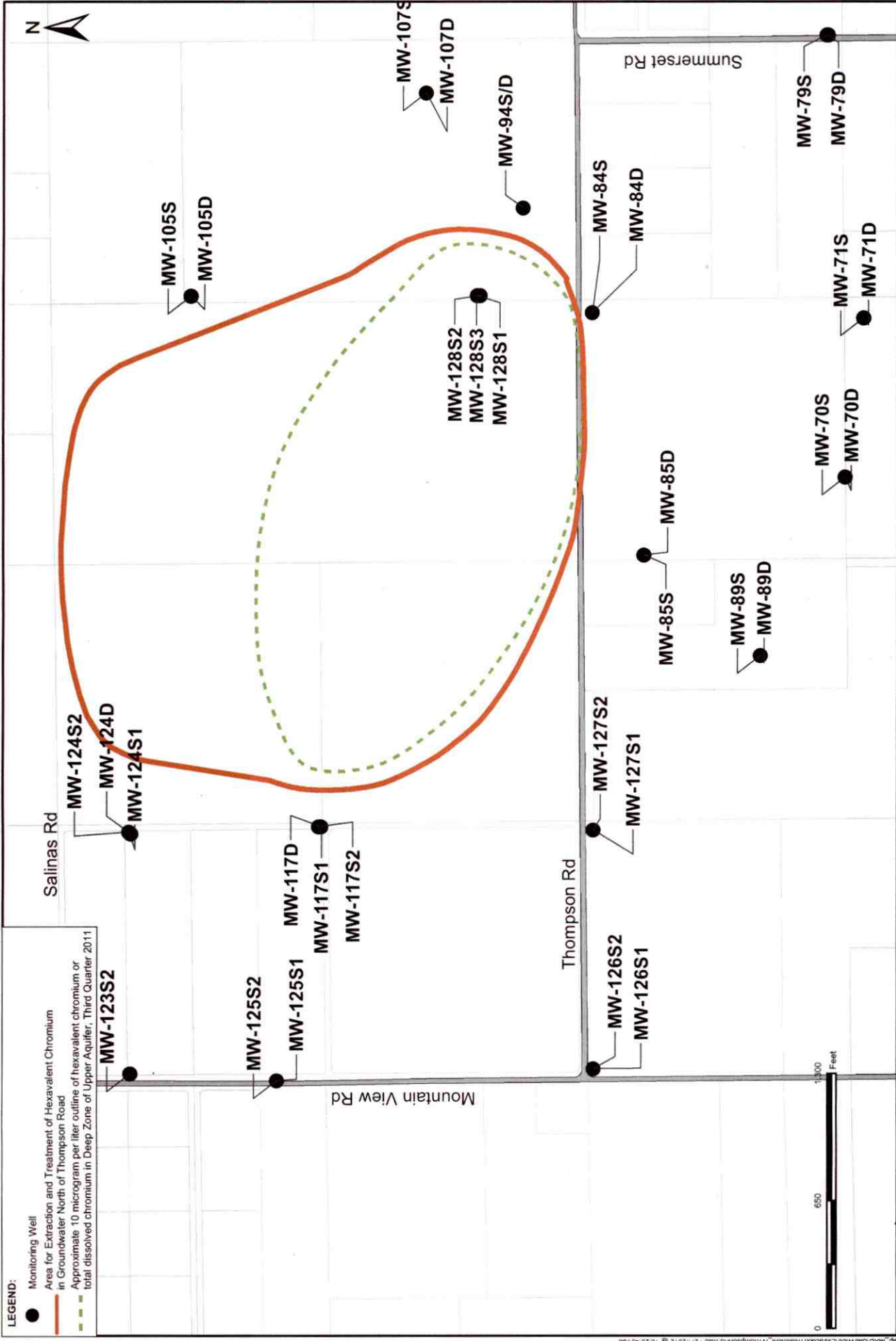
<sup>1</sup>"New Wells" indicates one or more piezometers in a row north of 71S. There is technical uncertainty as to the exact location of the down gradient capture line. Therefore only one of the piezometers will need to indicate an inward gradient. This piezometer must be outboard of the containment line."

<sup>2</sup> It is understood that seasonal groundwater extraction to the north of this well pair/triplet may temporarily expand capture to the north. As a result, it is acceptable that an inward gradient or vector at these points may not be demonstrated during extraction from the A1 interval north of G2R, and/or from the A2 interval north of Alcurdia Road. Expanding capture to the north will continue to meet the minimal plume capture requirement.

<sup>3</sup> If the new piezometer cannot be installed due to access limitations pursuant to Endangered Species Act, then PG&E will develop an alternative location.

ATTACHMENT E

AREAS NORTH OF THOMPSON ROAD AS  
DISCUSSED IN PARAGRAPH 10



**LEGEND:**

- Monitoring Well
- Area for Extraction and Treatment of Hexavalent Chromium in Groundwater North of Thompson Road
- - - Approximate 10 microgram per liter outline of hexavalent chromium or total dissolved chromium in Deep Zone of Upper Aquifer, Third Quarter 2011

<p>Program Manager <b>Lisa Cope</b></p> <p>Project Manager <b>Jennifer Beatty</b></p> <p>Task Manager <b>Margaret Gentile</b></p> <p>Technical Review <b>Scott Seyfried</b></p>	<p><b>ARCADIS</b></p> <p>100 Montgomery Street, Suite 300 San Francisco, California 94104 Tel: 415 374 2744 Fax: 415 374 2745 www.arcadis-us.com</p>	<p>FIGURE</p> <p><b>Attachment E</b></p>
<p><b>Area for Extraction and Treatment of Hexavalent Chromium in Groundwater North of Thompson Road</b></p> <p>Pacific Gas and Electric Company Hinkley, California</p>		