

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER No. R5-2009-0072

FOR

UNITED STATES BUREAU OF LAND MANAGEMENT
DIVISION OF ENERGY AND MINERALS

THE CLYDE MINE
COLUSA COUNTY

This Order is issued to the United States Bureau of Land Management, Division of Energy and Minerals (hereafter referred to as Discharger) based on provisions of California Water Code (CWC) section 13304, which authorizes the Central Valley Regional Water Quality Control Board (Central Valley Water Board or Board) to issue a Cleanup and Abatement Order (Order), and CWC section 13267, which authorizes the Central Valley Water Board to require the submittal of technical and monitoring reports.

The Central Valley Regional Water Quality Control Board (hereafter Central Valley Water Board) finds, with respect to the Discharger's acts, or failure to act, the following:

1. The Clyde Mine (hereafter "Mine") is an abandoned gold mine that includes mine tailings, exploration cuts and associated waste rock piles that erode or threatens to erode into a Sulphur Creek tributary during storm runoff conditions. The Mine has discharged and continues to discharge mining waste into waters of the state, where it has created or threatens to create a condition of pollution or nuisance.
2. The Mine is located in the Sulphur Creek Mining District (District) of Colusa County, about one mile southwest of the Wilber Springs resort near the head of Sulphur Creek and about 26 miles southwest of Williams. The 70-acre property mine site is located within a larger block of federal property described by Colusa County Assessor's Parcel Number 018-010-010-000, in Section 12, Township 14 North, Range 6 West, Mount Diablo Base and Meridian (MDBM), as shown in Attachment A, a part of this Order.
3. Mining waste at the Mine include rock and soil displaced from previous gold mining activities and tailings from former gold processing facilities. A tailings pile is actively eroding to a small tributary to Sulphur Creek, which is tributary to Cache Creek. Mining waste has been discharged at the Mine since mining activities began in the 1880s. Mining waste has been discharged onto ground surface where it has eroded into Sulphur Creek, resulting in elevated concentrations of metals within the creek. Mining waste discharged onto ground surface has not been evaluated for its potential impact to ground water.
4. The Discharger currently manages the land where the Mine is located and where mining waste has been discharged. As the current manager of the land, the Discharger has knowledge of the discharge and the ability to control it. In its current condition, mining waste is causing or threatens to cause a discharge of pollutants to waters of the state.

Clyde Mine
Colusa County

5. The Central Valley Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan) states: "By 6 February 2009, the Regional Water Board shall adopt cleanup and abatement orders or take other appropriate actions to control discharges from the inactive mines (Table IV-6.4) in the Cache Creek watershed."

Geology and Mineralogy

6. The country rocks in the Mine area are serpentinite and a soft slate or shale. Serpentinite is present to the North, East, and South of the mine area and shale occurs to the West. The body trends northwest-southeast and the ore deposit occurs in a silicified body of serpentine along the upper contact of the serpentine and shale. Gold ore was reported to occur in decomposed slate. Native gold and pyrite are reported to occur at the Mine. This information is described in the *CalFed-Cache Creek Study, Task 5C2: Final Report. Final Engineering Evaluation and Cost Analysis for the Sulphur Creek Mining District*, prepared by Tetra Tech EM Inc., September 2003 (hereafter CalFed Report).

Mining History

7. The Mine was opened in the 1860s or early 1870s and worked sporadically into the 1890s. No reports of mercury production are noted in existing records (CalFed Report).
8. The presence of gold bearing quartz veinlets was recognized at the Mine in the 1870s. In 1886 or 1887, a shaft was sunk to a reported depth of 146 feet below the ground surface. Gold production was reported to be \$200 per day by Watts in 1893. Drifts from the shaft were reportedly driven at depths of 60 and 90 feet. In 1888, a timbered adit and associated crosscut and two winzes were advanced below the earlier workings. In 1890, another shaft was located south east of the original workings, but was abandoned when "much water" was encountered. An upper adit was driven sometime in the 1970s or 1980s (CalFed Report).
9. In the 1880s, gold ore from the Mine was worked in a 31/2-foot Huntington mill. In the 1890s, a 5-foot Huntington mill was built just below the Mine to process ore from the Keely claim. In the 1970s, a trommel type placer gold recovery system was brought in, possibly to reprocess the older mined material on the site. It is likely that the current tailings pile and the three small ponds present on the site are a result of this activity (CalFed Report).
10. The Mine produced a small amount of gold and is relatively small compared to other District mines. The total disturbed surface area for the Mine was estimated at 15 acres (CalFed Report).

Mining Waste Description and Characterization

11. Mining waste at the Mine includes tailings, mine cuts, and mine openings that erodes or threatens to erode into a Sulphur Creek tributary with stormwater runoff. Primary sources for mercury at Clyde Mine are mine cuts and mine openings. Sampling of pond sediments resulted in detections of low concentrations of mercury. Ponds were constructed in tailings

from a gold recovery operation at the Clyde Mine but were dry at the time of the site inspection by Tetra Tech EM Inc. (Tetra Tech) in October 2002 (CalFed Report).

12. Tailings present at Clyde Mine consists of rock and soil displaced during exploration work and contains no visual evidence such as bleaching, presence of clay or quartz, or veins for the presence of mineralization. In addition, the tailings contain only low concentrations of mercury similar to background (CalFed Report).
13. Ambient or near background concentrations of mercury in potential mine wastes indicate a low chance that water rock interaction would mobilize mercury from the Clyde Mine. Roads at the Clyde Mine are not covered with tailings. Cuts at the Clyde Mine consist of exploration trenches excavated during exploration for ore. These cuts do not appear to concentrate runoff in a way that leads to slope failure or enhanced erosion of mercury-laden material (CalFed Report).
14. Mine openings consist of three adits. The two upper adits are partially collapsed. Water is visible within the two upper adits, however no evidence such as incised channels, rills, or sediment aprons for flow of water out of the adits was present. The material partially blocking each of the upper adits appears to prevent discharge of water from the adits. The lower adit, adjacent to a small stream, is open. It is possible that this adit drains to the unnamed stream during the rainy season. There were no springs observed at the Clyde Mine during this study but flow up to 10 gpm was observed in the drainage immediately below the adits. Freshwater springs above the mine are responsible for this flow (CalFed Report).
15. Tailings piles eroding into the creek may contain up to 15,500 cubic yards (CY) and the small piles related to the bulldozer trenches may contain a total of 1,450 CY (Churchill and Clinkenbeard 2002). Tailings piles from the adits are small and may total 2,000 CY. Tailings used to construct the storm water pond may contain up to 10,000 CY (CalFed Report).
16. Churchill and Clinkenbeard (2002) sampled solid materials from three locations at the Clyde mine. Results showed mercury concentrations of 6.6 to 40 parts per million (ppm) in soil and waste materials. The mercury mass estimated in the gold recovery tailings pile and three trench waste rock piles at Clyde Mine was approximately 140 kilograms (kg), almost entirely within the gold recovery tailings pile. Tailings from gold recovery operations are eroding into the small creek at the site (CalFed Report).
17. Contaminated media at Clyde Mine include tailings and exploration cuts. Approximately 13.5 ton/yr of sediment is estimated to erode from the exploration cuts and tailings located immediately adjacent to Sulphur Creek. The estimated mercury load from Clyde Mine is 0.04 to 0.07 kg/yr or 0.37 % of the total mine related mercury load of 4.4 to 18.6 kg/yr to Sulphur Creek. Clyde Mine contributes 0.24 % of the mine related mercury load from the SCMD (CalFed Report). Complete characterization of the soil and mining waste at the site has not been performed.
18. Aqueous mercury concentrations in Sulphur Creek are among the highest in the Cache Creek watershed, and remain elevated during non-peak flow periods. Active hydrothermal

springs constantly discharge into Sulphur Creek, with mercury concentrations ranging from 700 to 61,000 nanograms per liter (ng/L) (CalFed Report).

19. Dissolved mercury concentrations in Sulphur Creek are significantly higher than in the Cache Creek watershed in general, and dissolved mercury comprised as much as 90 percent of the total mercury in Sulphur Creek. Dissolved mercury appears to be released by the active hydrothermal system, whereas particulate-bound mercury in the upper Cache Creek basin comes from sediments and mercury-bearing mine waste mobilized into the creek during storms. Similar to total and dissolved concentrations, methyl mercury concentrations in Sulphur Creek are among the highest reported for the Cache Creek watershed. Methyl mercury concentrations were as high as 4 nanograms per liter (ng/L) in Sulphur Creek above the confluence with Bear Creek (CalFed Report).
20. Mercury is a toxic substance, which can cause damage to the brain, kidneys and to a developing fetus. Young children are particularly sensitive to mercury exposure. Methylmercury, the organic form of mercury that has entered the biological food chain, is of particular concern, as it accumulates in fish tissue and in wildlife and people that eat the fish. Mine waste present at this Mine may also pose a threat to human health due to exposure (dermal, ingestion, and inhalation) through recreational activities (hiking, camping, fishing, and hunting) or work at the site.

Regulatory Considerations

21. Section 303(d) of the Federal Clean Water Act requires states to identify waters not attaining water quality standards (referred to as the 303(d) list). Since 1990, Sulphur Creek has been identified by the Central Valley Water Board as an impaired water body because of high aqueous concentrations of mercury.
22. The Basin Plan designates beneficial uses of the waters of the state, establishes Water Quality Objectives (WQOs) to protect these uses, and establishes implementation policies to achieve WQOs.
23. Beneficial uses for Sulphur Creek, a tributary of Cache Creek, are: municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; water contact recreation and non-contact water recreation; warm freshwater habitat; cold fresh water habitat; spawning, reproduction, and/or early development; and wildlife habitat. In accordance with the Sources of Drinking Water Policy (State Water Resources Control Board Resolution No 88-63), the municipal and domestic supply designation (MUN) also applies to Sulphur Creek.
24. The beneficial uses of underlying groundwater, as stated in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
25. The WQOs listed in the Basin Plan include numeric objectives, e.g., State drinking water Maximum Contaminant Levels (MCLs) that are incorporated by reference, and narrative objectives, including toxicity and taste and odor objectives for surface water and

Clyde Mine
Colusa County

groundwater. Chapter IV of the Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that “[w]here compliance with narrative objectives is required (i.e., where the objectives are applicable to protect specified beneficial uses), the Regional Board will, on a case-by-case basis, adopt numerical limitations in Orders which will implement the narrative objectives.” The numerical limits for the constituents of concern listed in the following table implement the Basin Plan objectives for mercury and methylmercury in Sulphur Creek.

Constituent	Limits	Type of WQO	Reference
Methyl Mercury (organic)	0.07 µg/L	Narrative Toxicity	USEPA IRIS Reference Dose (RfD) as a drinking water standard
Methyl Mercury (organic)	0.3 µg/L	Narrative Toxicity	USEPA National Ambient Water Quality Criteria (fish tissue)
Mercury (total)	0.050 µg/L	Narrative Toxicity	California Toxics Rule Human Health Protection
Mercury (inorganic)	1.2 µg/L	Narrative Toxicity	Public Health Goal

µg/L = micrograms/liter

26. The Cache Creek Watershed Mercury Program, included in the Basin Plan, requires responsible parties to develop plans to reduce existing loads of mercury from mining or other anthropogenic activities by 95% in the Cache Creek watershed (i.e., Cache Creek and its tributaries).
27. The Basin Plan, Chapter IV, page 33.05 states that,

Responsible parties shall develop and submit for Executive Officer approval plans, including a time schedule, to reduce loads of mercury from mining or other anthropogenic activities by 95% of existing loads consistent with State Water Resources Control Board Resolution 92-49. The goal of the cleanup is to restore the mines to premining conditions with respect to the discharge of mercury. Mercury and methylmercury loads produced by interaction of thermal springs with mine wastes from the Turkey Run and Elgin mines are considered to be anthropogenic loading.
28. The Discharger shall be deemed in compliance with the above requirements if cleanup actions and maintenance activities are conducted in accordance with the approved plans.
29. Under CWC section 13050, subdivision (q)(1), “mining waste” means all solid, semisolid, and liquid waste materials from the extraction, beneficiation, and processing of ores and minerals. Mining waste includes, but is not limited to, soil, waste rock, and overburden, as defined in Public Resources Code section 2732, and tailings, slag, and other processed waste materials....” The constituents listed in Findings No.11 and 12 are mining wastes as defined in CWC section 13050, subdivision (q)(1).
30. Because the site contains mining waste as described in CWC sections 13050, closure of Mining Unit(s) must comply with the requirements of California Code of Regulations, title 27, sections 22470 through 22510 and with such provisions of the other portions of California Code of Regulations, title 27 that are specifically referenced in that article.

Clyde Mine
Colusa County

31. Affecting the beneficial uses of waters of the state by exceeding applicable WQOs constitutes a condition of pollution as defined in CWC section 13050, subdivision (1). The Discharger has caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance.

32. CWC section 13304(a) states that:

Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Water Board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a Regional Water Board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.

33. The State Water Resources Control Board (State Board) has adopted Resolution No. 92-49, the *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under CWC Section 13304*. This Resolution sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Board Resolution No. 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution No. 92-49 and the Basin Plan establish cleanup levels to be achieved. Resolution No. 92-49 requires waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with California Code of Regulations, title 23, section 2550.4. Any alternative cleanup level to background must: (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Board.

34. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Central Valley Water Board's policy for managing contaminated sites. This policy is based on CWC sections 13000 and 13304, California Code of Regulations, title 23, division 3, chapter 15; California Code of Regulations, title 23, division 2, subdivision 1; and State Water Board Resolution Nos. 68-16 and 92-49. The policy addresses site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the basis for establishment of soil and groundwater cleanup levels.

Clyde Mine
Colusa County

35. The State Board's *Water Quality Enforcement Policy* states in part:

At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the Central Valley Water Board allows a containment zone. In the interim, and if restoration of background water quality cannot be achieved, the Order should require the discharger(s) to abate the effects of the discharge (*Water Quality Enforcement Policy*, p. 19).

36. CWC section 13267(b)(1) states that:

In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

37. The technical reports required by this Order are necessary to ensure compliance with this Cleanup and Abatement Order, and to ensure the protection of the waters of the state. The Discharger manages, has managed, or has permitted exploration and or mining activities at the mining site subject to this Order.

38. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (CEQA) (Pub. Resources Code, section 21000 et seq.), pursuant to California Code of Regulations, title 14, section 15321(a)(2). The implementation of this Order is also an action to assure the restoration of natural resources and/or the environment and is exempt from the provisions of the CEQA, in accordance with California Code of Regulations, title 14 sections 15307 and 15308. This Order may also be classified as a minor action to prevent, minimize, stabilize, mitigate or eliminate the release or threat of release of hazardous waste or substances, and is exempt from the provisions of CEQA in accordance with California Code of Regulations, title 14 section 15330.

39. Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of the Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

IT IS HEREBY ORDERED that, the Discharger, and its agents, assigns and successors, in order to meet the provisions contained in Division 7 of the California Water Code and regulations, plans and policies adopted thereunder, shall cleanup and abate, forthwith, the effects of the discharges.

"Forthwith" means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.

The Discharger shall:

1. Conduct all work in conformance with State Board Resolution No. 92-49 Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304 and with the Regional Board's Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (in particular the Policies and Plans listed within the Control Action Considerations portion of Chapter IV).

Waste Characterization

2. By **15 October 2009**, submit a *Mining Waste Characterization Work Plan* (hereafter *Characterization Plan*) for the Mine site. The Characterization Plan shall assess the nature and extent of mining waste discharged at the site and the potential threat to water quality and/or human health. The Characterization Plan shall describe the methods that will be used to establish background levels for soil, surface water, and ground water at the site, and the means and methods for determining the vertical and lateral extent of the mining waste.

The Characterization Plan shall also address slope stability of the site and assess the need for slope design and slope stability measures to minimize the transport of mining waste-laden soils to surface water and ephemeral streams. The Characterization Plan shall adopt the time schedule as described below in items 3 through 13 below for implementation of the proposed work.

3. Within **30 days** of staff concurrence with the Characterization Plan, but no later than **15 December 2009**, begin implementing the Characterization Plan in accordance with the approved time schedule, which shall become part of this Order.
4. By **15 April 2010**, submit a *Mining Waste Characterization Report* (hereafter *Characterization Report*) for the Mine. The Characterization Report shall include:
 - a. A narrative summary of the field investigation;
 - b. A section describing background soil concentrations, mining waste concentrations, and the vertical and lateral extent of the mining waste;
 - c. Surface water and ground water sampling results;
 - d. A section describing slope stability and erosion potential and recommendations for slope stabilization;
 - e. An evaluation of risks to human health from site conditions, and;

Clyde Mine
Colusa County

- f. A work plan for additional investigation, if needed, as determined by staff. If no additional investigation is needed, this report shall be the Final Characterization Report.

5. By **15 April 2010**, submit a *Surface and Ground Water Monitoring Plan* (hereafter *Monitoring Plan*) for the Mine. The Monitoring Plan shall describe the methods and rationale that will be used to establish background levels for surface water and ground water at the site. The Monitoring Plan shall also address long-term monitoring necessary to confirm the effectiveness of the remedies.

Water Supply Well Survey

6. By **15 December 2009**, submit the results of a water supply well survey within one-half mile of the site and a sampling plan to sample any water supply well(s) threatened to be polluted by mining waste originating from the site. The sampling plan shall include specific actions and a commitment by the Discharger to implement the sampling plans, including obtaining any necessary access agreements. If the Discharger demonstrates that exceedances of water quality objectives in the water supply well survey discussed above are the result of naturally occurring hydrothermal sources, then the Discharger may request a waiver of requirements No. 7 and 8 listed below.
6. Within **30 days** of staff concurrence with the water supply well sampling plan, the Discharger shall implement the sampling plan and submit the sampling results in accordance with the approved time schedule, which shall become part of this Order.
7. Within **30 days** of staff notifying the Discharger that an alternate water supply is necessary, submit a work plan and schedule to provide an in-kind replacement for any impacted water supply well. The Discharger shall implement the work plan in accordance with an approved time schedule, which shall become part of this Order.

Site Remediation

8. Within **90 days** of staff concurrence with the *Characterization Report*, submit a *Site Remediation Work Plan* (hereafter *Remediation Plan*) for the site. The Remediation Plan shall describe remediation activities to clean up or remediate the mining waste to background concentrations, or to the lowest level that is technically and economically achievable to reduce the movement of mining waste to ground water and Sulphur Creek. The Remediation Plan shall also address long-term maintenance and monitoring necessary to confirm and preserve the long-term effectiveness of the remedies. The potential remediation activities shall comply with all applicable WQOs and mercury TMDLs of the Basin Plan and promulgated water quality criteria for Sulphur Creek. The Remediation Plan shall also include:
- An evaluation of water quality risk assessment:
 - A human health risk assessment:
 - A time schedule to conduct the remediation activities.

Check any cross references w/ renumbering

9. Within **60 days** of staff concurrence with the *Remediation Plan*, submit a *Site Implementation Plan (hereafter Implementation Plan)*, which describes the preferred remediation activity for site remediation. The Implementation Plan and the approved time schedule shall become a part of this Order.
10. Within **30 days** of staff concurrence of the *Implementation Plan* for site cleanup of the mining waste, the Discharger shall commence remedial activities of the mining waste. The Discharger shall notify staff a minimum of 72 hours prior to beginning fieldwork.
11. By **31 December 2011**, clean up and abate the effects, including threats to human health and waters of the state, of mining waste discharged from past mining activities at the Clyde Mine.
12. Within **60 days** of completion of the remedial activities described in the Implementation Plan, the Discharger shall submit a Completion Report describing the remediation and results of the cleanup work. The Completion Report shall clearly describe the installation of any containment structures, covers and/or stabilization efforts, and any required post closure maintenance of the Mining Unit(s) described in Finding No. 30 above.

General Requirements

The Discharger shall:

13. Reimburse the Central Valley Water Board for reasonable costs associated with oversight of the investigation and remediation of the site. Within **30 days** of the effective date of this Order, the Discharger shall provide the name and address where the invoices shall be sent. Failure to provide a name and address for invoices and/or failure to reimburse the Central Valley Water Board's oversight costs in a timely manner shall be considered a violation of this Order. If the Central Valley Water Board adopts Waste Discharge Requirements (WDRs), review of reports related to writing of the WDRs and all compliance measures thereafter would be subject to the fees required by issuance of the Order and the reimbursement under this requirement would no longer apply.
14. Submit all reports with a cover letter signed by the Discharger. In the cover letter, the Discharger shall express their concurrence or non-concurrence with the contents of all reports and work plans.
15. Notify staff at least three working days prior to any onsite work, testing, or sampling that pertains to environmental remediation and investigation and is not routine monitoring, maintenance, or inspection.
16. Obtain all local and state permits and access agreements necessary to fulfill the requirements of this Order prior to beginning work.
17. Continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished to fully comply with this Order and this Order has been rescinded.

Any person signing a document submitted under this Order must make the following certification:

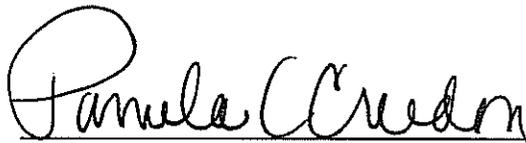
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information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

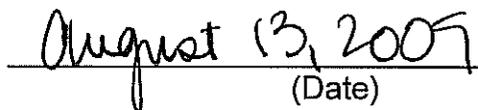
In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments must be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain work plans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology must be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger must contain the professional's signature and, where necessary, his stamp or seal.

The Executive Officer may extend the deadlines contained in this Order if the Discharger demonstrates that unforeseeable contingencies have created delays, provided that the Discharger continue to undertake all appropriate measures to meet the deadlines and make the extension request in advance of the expiration of the deadline. The Discharger shall make any deadline extension request in writing prior to the compliance date. An extension may be denied in writing or granted by revision of this Order or by a letter from the Executive Officer. Any request for an extension not responded to in writing by the Board shall be deemed denied.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability. Failure to comply with this Order may result in the assessment of an Administrative Civil Liability of up to \$10,000 per violation per day pursuant to the California Water Code sections 13268, 13350 and/or 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

I, Pamela C. Creedon, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 13 August 2009.


PAMELA C. CREEDON, Executive Officer


(Date)