STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION - DIVISION OF WATER QUALITY
DECEMBER 14, 2010

ITEM 10

SUBJECT

CONSIDERATION OF A PROPOSED ORDER ON THE DENIAL OF PETROLEUM UNDERGROUND STORAGE TANK CASE CLOSURE FOR -RCH CORPORATION 7891 STOCKTON BOULEVARD, SACRAMENTO, CALIFORNIA

DISCUSSION

Section 25296.40 of the Health and Safety Code authorizes owners and operators of underground storage tanks (USTs) and other responsible parties to petition the State Water Resources Control Board (State Water Board) for a review of their case if they believe the corrective action plan for their site has been satisfactorily implemented, but closure has not been granted. In response to a petition, the State Water Board may close the case, remand the case to the applicable regulatory agency, or take other appropriate action.

The subject site is currently used as a truck stop. The Sacramento County Environmental Management Department (SCEMD) was the agency overseeing corrective action at the site, but oversight was transferred to the Central Valley Regional Water Quality Control Board (Central Valley Water Board) in December of 2009. Both the SCEMCD and the Central Valley Water Board oppose UST case closure.

Petitioner contends that the corrective action performed at the site ensures the protection of human health, safety and the environment and that case closure is appropriate.

The proposed order finds that UST case closure is not appropriate at this time because the site has not been adequately assessed and any impacts to downgradient wells have not been evaluated. The proposed order denies UST case closure and remands the matter to the Central Valley Water Board for further regulatory action.

POLICY ISSUE

Should the State Water Board adopt an order that denies this petition and purposes further regulatory action?

FISCAL IMPACT

None.

REGIONAL BOARD IMPACT

Yes. Region 5, Sacramento.

STAFF RECOMMENDATION

The State Water Board should adopt the proposed order denying closure of the UST case and require further regulatory action pursuant to Health and Safety Code Section 25296.40.

State Water Board action on this item will assist the Water Boards in reaching Goal 2 of the Strategic Plan Update: 2008-2012 to improve and protect groundwater quality in high-use basins by 2030.

D R A F T

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2010-XXXX-UST

In the Matter of the Petition of

RCH CORPORATION for Review of Denial of Petroleum Underground Storage Tank Case Closure

at 7891 Stockton Boulevard, Sacramento, California

BY THE BOARD:

RCH Corporation (Petitioner) seeks review of a decision not to close its underground storage tank (UST) case at 7891 Stockton Boulevard, Sacramento, California (Site). The Central Valley Regional Water Quality Control Board (Central Valley Water Board) is the agency overseeing corrective action at the Site. For the reasons set forth below, this Order determines that Petitioner's case should not be closed at this time.

I. STATUTORY AND REGULATORY BACKGROUND

Owners and operators of USTs and other responsible parties may petition the State Water Resources Control Board (State Water Board) for a review of their case if they believe the corrective action plan for their site has been satisfactorily implemented, but closure has not been granted. (Health & Saf. Code, § 25296.40, subd. (a)(1).)

The State Water Board may take different actions in response to a petition, including closing the case or denying the request for case closure. (Cal. Code Regs., tit. 23, § 2814.7, subd. (d).) T he State Water Board may also take other actions as it deems appropriate. (*Id.*, § 2814.7, subd. (d)(5).)

Several statutory and regulatory provisions provide the State Water Board, regional water quality control boards, and local agencies with broad authority to require responsible parties to clean up a release from a petroleum UST. (See e.g., Health & Saf. Code, § 25296.10; Wat. Code, § 13304, subd. (a).) The State Water Board has promulgated regulations specifying corrective action requirements for petroleum UST cases. (Cal. Code Regs., tit. 23, §§ 2720-2728.) The regulations define corrective action as "any activity necessary to investigate and analyze the effects of an unauthorized release, propose a cost-effective plan to adequately

protect human health, safety and the environment and to restore or protect current and potential beneficial uses of water, and implement and evaluate the effectiveness of the activity(ies)." (*Id.*, § 2720.)

Closure of a UST case is appropriate where the corrective action ensures the protection of human health, safety, and the environment and where the corrective action is consistent with: 1) Chapter 6.7 (commencing with section 25280) of Division 20 the Health and Safety Code and implementing regulations; 2) Any applicable waste discharge requirements or other order issued pursuant to Division 7 (commencing with section 13000) of the Water Code; 3) All applicable state policies for water quality control; and 4) All applicable water quality control plans.

State Water Board Resolution 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* is a state policy for water quality control and applies to petroleum UST cases. State Water Board Resolution 92-49 directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. (State Water Board Resolution 92-49, Section III.G.) Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. (*Ibid*.) Resolution 92-49 does not require, however, that the requisite level of water quality be met at the time of site closure. Resolution No. 92-49 specifies compliance with cleanup goals and objectives within a reasonable time frame. (*Id*. at section III.A.) Therefore, even if the requisite level of water quality has not yet been attained, a site may be closed if the level will be attained within a reasonable period of time.

The Central Valley Water Board's Basin Plan (Basin Plan) designates existing and potential beneficial uses of groundwater as municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO) in this basin. (Central Valley Water Board and State Water Board, Water Quality Control Plan for the Central Valley Region (2009) at p.II-3.00.) The Basin Plan specifies the following narrative water quality objective for "Tastes and Odors": "Ground waters shall not contain taste-or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." (*Id*. at p. III-10.00.) The Basin Plan also contains the following narrative water quality objective for "Chemical Constituents":

> [G]round waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the

> California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of 0.015 mg/l. To protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

(*Id*. at III-10.00.)

II. FACTUAL BACKGROUND

Summary:

The Site began operation as a gas station in 1961. The Site is currently used as a truck stop – Hawks Truck Stop (formerly Dhami Truck Plaza, formerly Hayes River City Truck Plaza.) In 1985 and 1986, six original tar-coated USTs were upgraded by installing fiberglass lining. In 1995, an unauthorized release was discovered during a Phase II site assessment. The following summarizes cleanup actions undertaken at the Site.

- August 1995 – soil assessment
- November 1995 – soil and groundwater assessment
- October 1996 – soil and groundwater assessment
- February 1997 – vapor extraction wells installed
- March 1997 – soil vapor extraction (SVE) pilot study
- May 1998 – SVE system began operation
- November 1999 – air sparge well installed
- January 2000 – soil assessment
- February 2000 – air sparge pilot study
- May 2000 – soil assessment
- August 2000 to April 2002 – free product removal by bailing well MW-3; approximately 2 gallons of free product were removed
- July 2001– soil and groundwater assessment
- September 2002 – air sparge wells installed; soil and groundwater assessment
- February 2004 – SVE system shut down due to removal rates less than one pound per day total petroleum hydrocarbons as gasoline (TPHg); approximately 95,000 pounds of TPHg were reported removed during system operation
- April 2004 – free product skimmers installed in sparge wells; approximately one gallon of free product removed
- August 2004 – SVE system removed
- September 2005 – extraction well installed; soil and groundwater assessment
- October 2005 – soil and groundwater assessment
- December 2006 through March 2007 – remove and replace six USTs and approximately 3,000 feet of product piping and associated fuel dispensers; approximately 2,300 tons of hydrocarbon impacted soil were excavated and removed from the Site

- July 2008 – soil and groundwater assessment
- August 2008 – soil and groundwater assessment

The Site is located in a commercial and residential area of Sacramento that is supported by both local-utility-district-provided water and public/domestic water supply wells. A public water supply well that serves the commercial truck stop is located within Petitioner's property. The well is about 145 feet deep with a 50-foot conductor casing. There are multiple domestic water supply wells 500 feet to 2000 feet downgradient of the Site. Several nearby property owners and occupants have expressed concern that the release may impact their wells.

The State Water Board's Local Oversight Program (LOP) provides for local agency abatement of, and oversight of the abatement of, unauthorized releases of hazardous substances from USTs. In implementing the LOP, the State Water Board is authorized to enter into contracts with local agencies to oversee site cleanup of unauthorized releases. (Health & Saf. Code, § 25297.1, subd. (b).) The Sacramento County Environmental Management Department (SCEMD) has a contract with the State Water Board and is participating in the LOP.

On October 23, 2009, the Petitioner requested UST case closure from the SCEMD, which was the regulatory agency overseeing corrective action. On November 2, 2009, the SCEMD denied the request for UST case closure. On December 7, 2009, lead regulatory oversight was transferred to the Central Valley Water Board. On December 17, 2009, Danny Hayes, on behalf of Petitioner, filed a petition with the State Water Board seeking review of the SCEMD's denial of case closure. On February 4, 2010, the Central Valley Water Board responded to the petition, objecting to UST case closure on several grounds.

III. SUMMARY OF STATE WATER BOARD TECHNICAL CONCLUSIONS

<u>Excavation and SVE have removed the bulk of the petroleum above the water table.</u>

Approximately 31 tons of soil were removed in 1998 during waste oil UST excavation. Approximately 2,300 tons of soil were removed during 2006-2007 tank, fuel dispenser line and dispenser removal and replacement activities. An SVE system operated from 1998 through 2004 and it was estimated to have removed 95,000 pounds of gasoline range fuel.

There are two apparent release areas: near the former/current USTs and around wells MW-103 and MW-104 which are located near several dispensers.

Historically, free product/high concentrations of gasoline and diesel have consistently been reported in wells near the former/current USTs (e.g., MW-2, MW-3, and EW-1). (See Site Map, attached as Exhibit 1.) Concentrations of 1,2 dichloroethane (1,2 DCA), however, have primarily and consistently been reported in wells MW-103 and MW-104. The lack of 1,2 DCA in the other Site monitor wells, particularly in the wells located near the former/current USTs, suggest that there are two release areas at the Site.

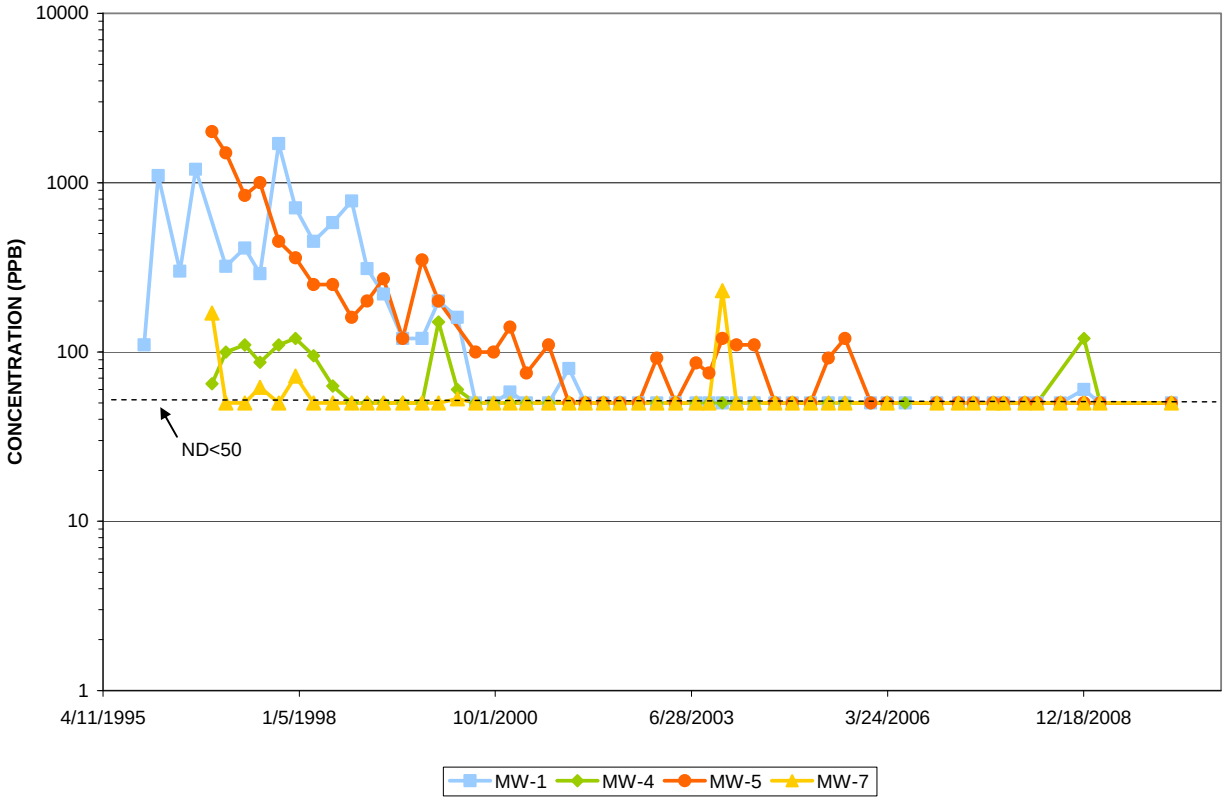
Free product is likely trapped in soil at approximately 75 feet below ground surface (bgs).

Groundwater flow direction ranges east-northeast to southeast. Wells MW-4, MW-5, MW-8, MW-9, MW-103 and MW-104 are located downgradient of the former/current USTs. Wells MW-9, MW-103 and MW-104 are screened above the historic water table (approximately 70 feet bgs.) Free product/sheen has historically been detected in wells MW-2, MW-3, AS-2, AS-3, AS4, AS-5, and EW-1, which are screened at approximately 70 feet bgs and not detected in wells screened above 55 feet bgs. Because groundwater has risen to approximately 55 feet bgs, free product is likely trapped in soil at approximately 75 feet bgs.

In spite of the mass of petroleum trapped below the water table, the dissolved plume that is monitored by the existing well network appears to be stable and not to have migrated offsite.

As the graph below depicts, there is a decreasing trend of TPHg concentrations in perimeter wells MW-1, MW-4, MW-5, and MW-7. This decreasing trend demonstrates that the remaining petroleum hydrocarbon mass is likely confined to soils in the central portion of the Site near the gasoline and diesel UST area and that the groundwater plume that is monitored by the existing well network is likely shrinking by natural attenuation (Figure 1).

FIGURE 1: TPHg CONCENTRATIONS IN PERIMETER WELLS



IV. DATA GAPS THAT JUSTIFY FURTHER ASSESSMENT

1) At the time the fuel release was discovered (August 1995), groundwater was around 70 feet bgs. Petroleum may be trapped deeper and the plume could be moving underneath the existing monitor wells. No samples have been collected at these depths.
2) Samples from wells MW-103 and MW-104 have consistently detected methyl tertiary butyl ether (MTBE) and 1,2 DCA, which are more mobile and less biodegradable than other gasoline constituents. There have been no samples collected downgradient of these points to define the extent of the impacts.
3) Nearby domestic water supply wells have not been sampled for benzene, toluene, ethylbenzene, and xylenes (BTEX), MTBE and 1,2 DCA.

V. CONTENTIONS AND FINDINGS

Petitioner contends that the corrective action performed at the Site ensures the protection of human health, safety and the environment and that case closure is appropriate.

The State Water Board finds that UST case closure is not appropriate at this time. The Site has not been adequately assessed and any impacts to downgradient wells have not been evaluated. The corrective action performed at this point does not ensure protection of human health, safety and the environment and is not consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations, State Water Board Resolution 92-49, and applicable water quality control plans.

In a response to the petition dated February 4, 2010, the Central Valley Water Board indicated that case closure is not appropriate at this time. The Central Valley Water Board's comments on case closure and our responses are as follows:

Comment 1: Free product continues to be detected in Site wells screened across the historic water table, at approximately 75 feet bgs; free product has not been removed to the extent technologically and economically feasible and is acting as a source of the dissolved petroleum plume that may migrate away from the Site.
Response: Additional free product removal at the Site would require additional corrective action at considerable cost. Prior to determining if further free product removal is appropriate, the groundwater plume should be adequately delineated, and, potential receptor pathways from the affected groundwater should be assessed.

Comment 2: The groundwater petroleum plume is not delineated laterally or vertically.
Response: We concur with the Central Valley Water Board.

Comment 3: Declining contaminant trends cannot be established for all Site wells, and a prediction of when water quality objectives will be met cannot be made for the petroleum constituents found at the Site.

Response: Declining concentration trends are not a requirement for case closure. While a declining trend line may indicate that natural attenuation is occurring, it is not the only indicator of natural attenuation. There are many UST cases that show stable concentrations in one or more site monitoring wells. This commonly occurs when petroleum-impacted soil is in contact with groundwater and is dissolution limited. At these sites, natural attenuation is occurring at the same rate as petroleum is dissolving into groundwater leading to stable concentrations.

Comment 4: Water supply wells closest to the Site should be sampled.

Response: We concur with the Central Valley Water Board.

Comment 5: Public participation has not occurred and is needed to inform nearby property owners, residents, and water purveyors in the area of the release risks to their water supply.

Response: Subsequent to the Central Valley Water Board's response, a public notice was distributed to interested persons.

VI. ORDER

IT IS THEREFORE ORDERED that:

A. The Petitioner's request for UST case closure is denied.
B. The matter shall be remanded to the Central Valley Water Board for further regulatory action, which shall include the completion of a site assessment to address the following issues:
    a. The extent to which groundwater affected by the Petitioner's unauthorized petroleum release migrated at depths greater than the screened intervals of the existing monitor wells.
    b. The vertical and lateral extent of MTBE and 1,2 DCA in groundwater downgradient of wells MW-103 and MW-104.
C. The Central Valley Water Board shall require the sampling of the domestic water supply wells within 1,000-foot radius of the Site for BTEX, MTBE and 1,2 DCA.

D. Upon completion of items B and C, above, the Central Valley Water Board shall reevaluate the UST case for closure. If the Central Valley Water Board determines that closure is not appropriate, the Central Valley Water Board shall provide the Petitioner with an updated closure review that identifies the impediments to UST case closure. The Central Valley Water Board shall not require additional free product removal before it provides the updated closure review that identifies any impediments to UST case closure.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on December 14, 2010.

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Jeanine Townsend
Clerk to the Board