Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality

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Arnold Schwarzenegger
Governor

NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT

ON UNDERGROUND STORAGE TANK CASE CLOSURE FOR NEW PERFORMANCE, 186 EAST LEWELLING BOULEVARD, SAN LORENZO

NOTICE IS HEREBY GIVEN THAT the State Water Resources Control Board (State Water Board) will accept comments on the proposed underground storage tank (UST) case closure for New Performance at 186 East Lewelling Boulevard, San Lorenzo.

Enclosed is a draft UST case closure summary that was prepared by State Water Board staff for the above-entitled matter. Pursuant to Health and Safety Code section 25296.40, the State Water Board will be considering, at a future board meeting, whether this UST case should be closed. You will separately receive an agenda for this meeting.

All comments shall be based solely upon evidence contained in the record or upon legal argument. Supplemental evidence will not be permitted except under the limited circumstances described in California Code of Regulations, title 23, section 2814.8.

Comment letters to the State Water Board **must be received by 12:00 noon on May 28, 2010**. Please send comments on the above subject matter to: Jeanine Townsend, Clerk to the Board, by email at commentletters@waterboards.ca.gov (If less than 15 megabytes in size), by fax to (916) 341-5620, or addressed to State Water Resources Control Board, 1001 I Street, Sacramento, CA 95814. Please provide the following information in the subject line: **UST Case Closure, Petition of New Performance, 186 East Lewelling Boulevard, San Lorenzo**.

Please direct questions about this notice to Laura Fisher, Division of Water Quality at (916) 341-5870 or e-mail: lfisher@waterboards.ca.gov.

May 11, 2010
Date

Jeanine Townsend
Clerk to the Board

State Water Resources Control Board

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DRAFT
UST Case Closure Summary
New Performance; Mr. Carl Graffenstatte (Petitioner)
186 E. Lewelling Boulevard, San Lorenzo

Summary:
The release from the subject site was discovered during the removal of underground storage tanks (USTs) in 1990. The Alameda County Environmental Health Department (Alameda County) staff denied the Petitioner's request for closure because concentrations of total petroleum hydrocarbons as gasoline (TPHg), benzene, and xylenes remain above San Francisco Bay Water Board's Basin Plan Water Quality Objectives (WQOs) and contend that additional site characterization is needed.

The site is located in a commercial and residential area that is served by public water supply. An irrigation well is located approximately 1,100 feet northwest of the site. The well is about 600 feet deep with 200-foot sanitary seal. San Lorenzo Creek, a concrete lined channel, is approximately 300 feet south from the former UST's. The affected shallow groundwater (15 feet below ground surface (bgs)) in the vicinity of the former UST system is not used as a source of water supply nor is it likely to be used as a source of water supply in the future.

Monitor wells near the source area and groundwater grab samples from soil borings outside of the source area indicate that remaining residual petroleum hydrocarbons are limited to shallow soil and groundwater in the immediate vicinity of the site. Concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX), which are the more highly volatile/soluble petroleum hydrocarbons, have decreased to near or below WQOs. Trend lines show that water quality objectives for the less volatile constituents of TPHg will be attained in several decades within the limited affected groundwater.

Based on facts in the record and the hydrologic and geologic conditions at the site, the limited residual petroleum hydrocarbons that remain in shallow soil and groundwater in the immediate vicinity of the site pose a low risk to public health, safety and the environment. For these reasons, case closure is appropriate.

Background:
This UST Case Closure Summary has been prepared in support of a petition to the State Water Resources Control Board (State Water Board) for closure of the UST case at 186 E. Lewelling Boulevard, San Lorenzo (site). All record owners of fee title for this site as well as adjacent property owners and other interested parties have been notified of the recommendation for closure and were given the opportunity to provide comments.

Petitioner's site is a former gasoline service station that operated from 1965 to 1990 and is located at 186 E. Lewelling Boulevard, San Lorenzo, in western Alameda County. Land use is commercial bordered by residential. The UST site currently contains an auto repair shop. The local utility district provides businesses and residents in the area with water and sewer service.

Alameda County denied Petitioner's request for UST case closure asserting that additional investigation and if appropriate, remedial excavation of the near source soils will be to the maximum benefit to the people of the state. Petitioner contends that site conditions do not threaten public health and safety and that the burden of additional corrective actions outweighs the benefit of performing further corrective actions.

Petitioner information

Site Name: New Performance	Address: 186 E. Lewelling Blvd, San Lorenzo, CA 94545
Global ID: T0600100961	Petition Date: May 13, 2009
USTCUF Claim No: 319 and 8240	USTCUF Expenditures: $51,250

Agency Information

Agency Name: County of Alameda Environmental Health Department	Address: 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577
Agency Case No: RO0000013	Number of Years Case has Been Open: 20 years

Release Information:

- USTs: Two 4,000-gallon gasoline USTs and one 350-gallon waste oil tank were removed in 1990
- Discovery Date: September 1990
- Affected Media: Soil and shallow groundwater
- Free Product: None reported
- Corrective Actions:
    - September 1990 – USTs removed
    - June 1994 – soil and groundwater assessment
    - October 1995 – soil and groundwater assessment
    - May 2007 – soil and groundwater assessment
    - 1994-2009 – groundwater monitoring

Site Description/Conditions:

- Groundwater Subbasin: East Bay Plain
- Beneficial Uses: Municipal (MUN), Agricultural (AGR), Industrial Service (IND), Industrial Process (PRO).
- Land Use: Commercial, residential
- Distance to Nearest Supply Well: One irrigation well approximately 1,100 feet northwest; The well is about 600 feet deep with 200-foot sanitary seal
- Minimum Groundwater Depth: ~12 feet
- Groundwater Flow Direction: Westerly to southwesterly
- Geology: Alluvial deposit consisting primarily of sand, silt and clay

- Hydrology: Semi-confined and has varied historically in the monitor wells from 12 to 17 feet bgs. First water was encountered during drilling at approximately 19 feet bgs, static level was about 15 feet bgs
- Estimate of Remaining Mass in Soil: Small – shallow and limited to immediate vicinity of former UST's
- Estimated Time to Meet WQOs: Several decades
- Potential Receptors: San Lorenzo Creek, concrete channel located approximately 300 feet south of the site

Site History:
The site operated as a gasoline service station from 1965 to 1990. In September 1990, two 4,000-gallon gasoline USTs and one 350-gallon waste oil tank were removed. Analytical results from soil samples indicated an impact by fuel hydrocarbons. Over the course of several corrective actions, three monitoring wells and six soil borings have been drilled and sampled.

In June 2002, the Petitioner's consultant requested case closure. In correspondence dated September 25, 2006, Alameda County staff denied the request and requested an additional soil and groundwater investigation. On May 11, 2009 the Petitioner petitioned the case to the State Water Board.

Contaminant Concentrations:
Over the course of corrective actions at the site, concentrations of BTEX have been reported for samples from wells MW-1, MW-2, and MW-3. Site data show concentrations of toluene and ethylbenzene have decreased to below WQO concentrations in all wells. (Table 1 presents a summary of soil samples and Table 2 presents a summary of groundwater samples.)

Concentrations of benzene and xylenes were reported in well MW-3 in August 2009 as not detected above laboratory reporting limits (<10 ppb, <20 ppb, respectively) and are anticipated to continue to attenuate and follow the deceasing trend. Benzene and xylenes concentrations are estimated to reach the WQO concentrations in less than a decade.

Concentrations of TPHg were reported in wells MW-2 (151 ppb) and MW-3 (1,790 ppb) in August 2009 and are anticipated to continue to attenuate and follow the deceasing trend. TPHg concentrations are estimated to reach the WQO concentration in several decades (Figure 1).

Petroleum hydrocarbon concentrations in groundwater near the source area (wells MW-1, through MW-3) have substantially decreased over time, specifically concentrations of BTEX, which are more highly volatile/soluble petroleum hydrocarbons, have decreased to near or below WQOs. Six soil borings (SB-1 through SB-6) were drilled and sampled in May 2007. Of the six grab groundwater samples[1] only one sample (W-3) was

[1] A grab groundwater sample typically collected directly from borehole.

reported with any BTEX concentrations (1.0 ppb xylenes). Concentrations of TPHg were reported in four of the six groundwater samples. However, the same samples were reported with little[2] to no BTEX concentrations, and considering that the samples were collected directly from boreholes, TPHg concentrations likely represent residual mass trapped in the capillary fringe that was made available for dissolution by the inherent mixing that takes place during drilling and/or during the collection of a grab groundwater sample.[3] This data supports that the groundwater plume is contained to area between the six soil borings (SB-1 through SB-6) and the source area.

Table 1: August 29, 2007 Subsurface Soil Investigation

Sample	TPHd (ppm)	TRPH (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE (ppm)
SB1-20	ND	ND	ND	ND	ND	ND	NA
SB2-16	ND	0.280	ND	ND	ND	ND	NA
SB3-17	ND	0.110	ND	ND	ND	ND	NA
SB4-16	ND	ND	ND	ND	ND	ND	NA
SB5-20	ND	0.500	ND	ND	ND	ND	NA
SB6-20	ND	ND	ND	ND	ND	ND	NA

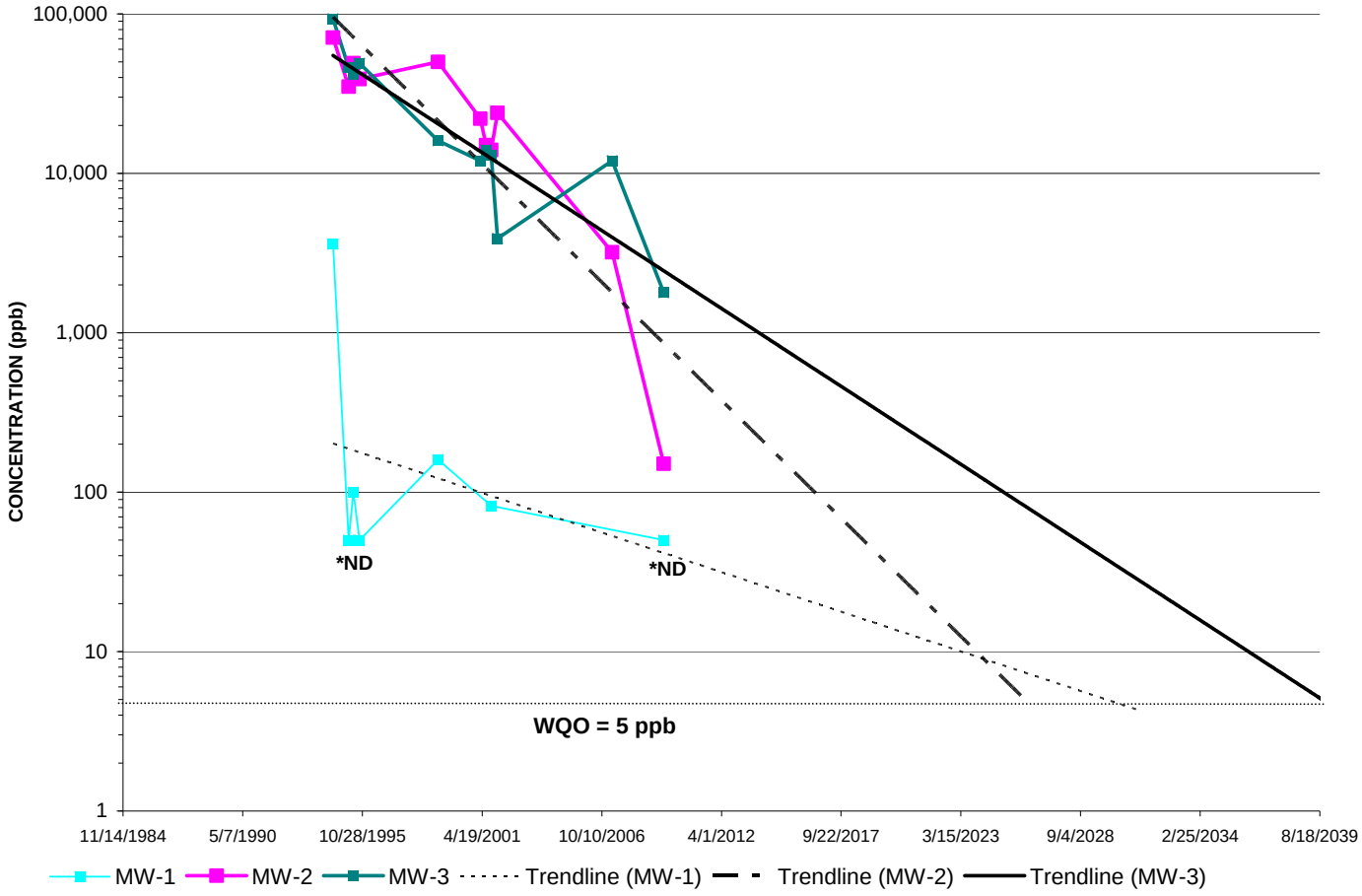
Table 2: August 12, 2009 Groundwater Assessment Sampling

Sample	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)
MW-1	<50	<1.0	<1.0	<1.0	<2.0	<1.0
MW-2	151	<1.0	<1.0	1.3	<2.0	<1.0
MW-3	1,790	<10	<10	12.1	<20	<10
WQOs	5	1	42	29	17	5

[2] 1.0 ppb xylenes in sample W-3

[3] Petroleum hydrocarbon concentrations reported in turbid groundwater samples create uncertainty as to whether concentrations in groundwater came from soil, groundwater or both.

FIGURE 1: TPHg CONCENTRATIONS IN WELLS MW-1, MW-2 and MW-3



Objections to Closure:

1. In a response to the petition dated July 15, 2009, Alameda County staff indicated that contaminated backfill likely remains in the area of the former gasoline tanks and beneath the former dispenser island.

   Response**:** Soil sampling confirms that petroleum impacted soil remains at the site. However, to remove all traces of residual petroleum constituents at Petitioner's site in the short-term would require additional excavation of soil at the site to depths of up to 20 feet. Excavation of approximately 4,700 cubic yards of soil would eliminate most if not all of the residual petroleum hydrocarbons at the site. However, there would be little benefit to current or anticipated beneficial uses of groundwater that is not meeting WQOs for benzene, xylenes and TPHg. In addition, if complete removal of detectable traces of petroleum constituents becomes the standard for UST corrective actions, the statewide technical and economic implications will be enormous. For example, disposal of soils from comparable areas of excavation throughout the state would greatly impact

already limited landfill space. In light of the minimal benefit of attaining further reductions in concentrations of benzene, xylenes and TPHg at this site, the precedent that would be set by requiring additional excavation, and the fact that affected groundwater is unlikely to be used during the period of impairment, additional excavation at petitioner's site is neither reasonable nor necessary.

The site is located in a mixed residential/commercial zoning arena of San Lorenzo and covered with concrete and asphalt; this in turn puts a control on the quantity of surface water, i.e. precipitation, available for infiltration. The annual average precipitation in the area is approximately 18 inches. The residual sorbed soil contamination will continue to attenuate over time and allow future mass reduction. Concentrations of gasoline constituents have decreased in all site wells and are estimated to reach WQOs in several decades.

2. Alameda County further contends that old product piping left in the ground may hold liquid.

   Response: It is extremely unlikely that the piping contains residual liquid. By the inherent design of UST systems the piping slopes to the tank; therefore, during UST removal, the piping would have to have been drained when detached from the tank.

3. Alameda County further contends that the hydrocarbon plume remains unknown.

   Response: Monitor wells near the source area and groundwater grab samples from soil borings outside of the source area indicate that remaining residual petroleum hydrocarbons are limited to shallow soil and groundwater in the immediate vicinity of the site. Concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX), which are the more highly volatile/soluble petroleum hydrocarbons, have decreased to near or below WQOs. Trend lines show that water quality objectives for the less volatile constituents of TPHg will be attained in several decades within the limited affected groundwater. No further site assessment or groundwater monitoring is necessary to adequately understand the extent of the soil and groundwater plume that resulted from the Petitioner’s release.

4. Alameda County further contends that San Lorenzo Creek may contain openings or weep holes that allow water to enter or leave the channel.

   Response: San Lorenzo Creek is cross gradient and it is unlikely that any residual petroleum contamination will impact the creek.

5. Alameda County further contends irrigation wells at San Lorenzo High School may have an impact on shallow groundwater flow.

Response: An irrigation well at San Lorenzo High School is located approximately 1,100 feet northwest of the site. The well is about 600 feet deep with 200-foot sanitary seal.

Downward migration of petroleum hydrocarbons is minimal. The data show that fine grained sediments at the site are retarding the migration of petroleum hydrocarbons in the groundwater beneath the site and allowing for the plume to naturally attenuate. It is unlikely that the shallow groundwater plume is hydraulically connected to the irrigation well at San Lorenzo High School that is located 1,100 feet northwest of the site. Even if shallow groundwater was affected in the vicinity of the high school well, the well has a 200-foot sanitary seal which would preclude any shallow groundwater from impacting the well

Closure:

Does corrective action performed to date ensure the protection of human health, safety, and the environment? Yes.

Is corrective action and UST case closure consistent with State Water Board Resolution 92-49? Yes.

Is achieving background water quality feasible? No.

To remove all traces of residual petroleum constituents at the site would require significant additional effort and cost. As previously noted, the site is completely paved. Approximately 4,700 cubic yards of soil would have to be removed to eliminate all traces of petroleum contamination in the soil. If complete removal of detectable traces of petroleum constituents becomes the standard for UST corrective actions, the statewide technical and economic implications will be enormous. For example, disposal of soils from comparable areas of excavation throughout the state would greatly impact already limited landfill space. In light of the precedent that would be set by requiring additional excavation at this site and the fact that beneficial uses are not threatened, it is not feasible to attain background water quality at this site.

If achieving background water quality is not feasible, is the alternative cleanup level consistent with the maximum benefit to the people of the state? Yes.

It is impossible to determine the precise level of water quality that will be attained given the limited residual petroleum hydrocarbons that remain at the site, but in light of all the factors discussed above, and the fact that the residual petroleum constituents will not unreasonably affect present and anticipated beneficial uses of groundwater, a level of water quality will be attained that is consistent with the maximum benefit to the people of the state.

Will the alternative cleanup level unreasonably affect present and anticipated beneficial uses of water? No.

Impacted groundwater is not used as a source of drinking water currently and it is highly unlikely that the impacted groundwater will be used as a source of drinking water in the foreseeable future.

Will the alternative level of water quality exceed water quality prescribed in applicable Basin Plans? No.

The final step in determining whether cleanup to a level of water quality less stringent than background is appropriate for this site requires a determination that the alternate level of water quality will not result in water quality less than that prescribed in the relevant basin plan. Pursuant to State Water Board Resolution 92-49, a site may be closed if the basin plan requirements will be met within a reasonable time frame.

Have factors contained in Title 23 of the California Code of Regulations, Section 2550.4 been considered? Yes.

In approving an alternative level of water quality less stringent than background, the State Water Board has also considered the factors contained in California Code of Regulations, title 23, section 2550.4, subdivision (d). As discussed earlier, the adverse effect on shallow groundwater is minimal and localized and there will be no adverse effect on the groundwater contained in deeper aquifers, given the physical and chemical characteristics of petroleum constituents, the hydrogeological characteristics of the site and surrounding land, and the quantity of the groundwater and direction of the groundwater flow. In addition, the potential for adverse effects on beneficial uses of groundwater is low, in light of the proximity of the groundwater supply wells, the current and potential future uses of groundwater in the area, the existing quality of groundwater, the potential for health risks caused by human exposure, the potential damage to wildlife, crops, vegetation, and physical structures, and the persistence and permanence of potential effects.

Finally, a level of water quality less stringent than background is unlikely to have any impact on the surface water quality of San Lorenzo Creek due to the volume and physical and chemical characteristics of petroleum constituents; the hydrogeological characteristics of the site and surrounding land; the quantity and quality of affected groundwater, and the proximity of residual petroleum to San Lorenzo Creek.

Has the requisite level of water quality been met? No.

The approximate time period in which the requisite level of water quality for dissolved petroleum hydrocarbons will be met is estimated to be several decades.

Though the requisite level of water quality has not been met, water quality objectives will be achieved via natural attenuation in a few decades. This is a reasonable period in which to meet the requisite level of water quality because the affected groundwater is not currently being used as a source of drinking water and it is highly unlikely that the affected groundwater will be used as a source of drinking water during the period of impairment.

Summary and Conclusions:

Two USTs and one waste oil tank were removed from the site in 1990. Since that time, data shows that residual petroleum hydrocarbons dissolved in groundwater and sorbed to shallow soil are localized and limited in extent and will continue to naturally degrade and attenuate. Based on the hydrology, geology, and other factors at and in the vicinity of the site, shallow affected groundwater does not represent a threat to public health and safety, or the environment. Site stratigraphy and well construction standards preclude any pathway to local water production zones. Shallow groundwater is not used as a source of drinking water or for any other designated beneficial use nor is it likely to be beneficially used in the foreseeable future. Case closure is appropriate.

Prepared By: _____ _____
Ben Wright Date
Engineering Geologist

Reviewed By: _____ _____
Kevin Graves, PE#55596 Date
Supervising Water Resource Control Engineer

186 E. Lewelling Blvd., San Lorenzo