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July 15, 2009

Mr. George Lockwood
State Water Resources Control Board
UST Cleanup Unit
P.O. Box 2231
Sacramento, CA 95812

Subject: Fuel Leak Case No. RO0000013 and Geotracker Global ID T0600100961, New Performance, 186 E. Lewelling Boulevard, San Lorenzo, CA 94580 – Response to Petition for Case Closure

Dear Mr. Lockwood:

This correspondence presents the Alameda County Environmental Health (ACEH) response to the May 11, 2009, *Request for Review, 189 E. Lewelling Boulevard, San Lorenzo, California*, (Petition), submitted by Environmental Risk Specialties Corporation (ERS) to the State Water Resources Control Board (SWRCB) on May 13, 2009, and received by ACEH as an attachment via e-mail correspondence from the SWRCB on June 22, 2009. The Petition requests that the SWRCB review the case and facilitate regulatory closure of the case. The Petition states that the criteria for evaluating a site for regulatory closure as summarized in the San Francisco Bay Regional Water Quality Control Board's (SFBRWQCB) January 5, 1996, *Supplemental Instructions to State Water Board December 8, 1995 Interim Guidance on Low-Risk Petroleum Hydrocarbons Cleanups*, have been satisfied with confidence, that relatively minor data gaps are present, that existing data allows an assessment or inference that potential human health risk or risk to the environment is acceptable, and that hydrocarbons in soil and groundwater will continue to naturally attenuate in a reasonable timeframe.

ACEH has reviewed the data for the subject site and ERS's request for closure review and finds that adequate technical justification for case closure was not presented except in a broad overview. Our responses below provide the technical rationale applied to the site that indicate the "Low Risk" criteria listed in the January 5, 1996, memorandum are not yet met. A case closure evaluation necessarily includes specifically addressing the six criteria therein contained. ACEH believes that regulatory closure of this case is not justified at this time. The primary reasons are identified below:

1. *The leak has stopped and ongoing sources, including free product, have been removed or remediated.*

In general, ACEH agrees that any primary leaks from the former underground storage tanks (USTs) were stopped upon removal of the USTs from the site in 1990. ACEH also agrees that free product does not appear to be present. However, contaminated soil, which may act as a source, is likely present within the tank pit area as there is no documentation of off-site soil disposal or overexcavation during UST removal. The available documentation in the electronic file consists of manifests for disposal of three USTs and tank residual liquids and wash only, suggesting that the UST tank pits were backfilled without segregation and disposal of contaminated soil. While soil samples were collected beneath the three USTs, no stockpile sampling appears to be documented, consistent with lack of a manifest for soil disposal. Additionally, while three USTs were manifested for disposal, an underground locating service positively

identified old product piping in 1995, five years after removal of the USTs. It is not unusual for product piping to contain residual hydrocarbon liquids. Each of these points, in addition to others further expanded below indicates that the site lacks adequate characterization.

2. *The site has been adequately characterized.*

The site has not been adequately characterized for the following reasons:

- The apparent lack of removal of UST tank hold spoils indicates that this impacted soil likely remains in the area of the former gasoline tanks and may be an ongoing source of groundwater contamination. The only soil sampling and analysis that has been conducted in the area of the former tank pit appears to be the soil sampling conducted during the 1990 tank removal and soil sampling conducted during installation of the three monitoring wells in the area of the former USTs. Soil samples collected beneath the USTs at removal indicate up to 4,000 milligrams per Kilogram (mg/Kg) of Total Petroleum Hydrocarbons (TPH) as gasoline, 1.3 mg/Kg benzene, 41 mg/Kg toluene, 49 mg/Kg ethylbenzene, and 350 mg/Kg xylenes (BTEX, respectively) to be present at a depth of 15 feet below ground surface (bgs). Groundwater has been encountered at a depth of approximately 18 to 21 feet bgs during subsequent soil borings.
- Assessment of the product piping and dispensers has not been conducted. The presence of remaining underground product piping (two runs between the former USTs and the former dispenser island and a vent line towards the existing building) create a potential for residual hydrocarbon liquids remaining in place, the apparent lack of any soil sampling along the three piping corridors, and the lack of any soil sampling beneath the dispenser island also indicate that additional sources can be present at the site. The presence of relatively shallow soil contamination approximately five feet from the dispenser island (MW-3) documents that a release that has not been adequately assessed did occur in the vicinity of the dispensers. All piping should be removed in conformance with standard tank removal protocols, and the trench should be sampled and / or over-excavated prior to closure.
- At present, the extent of the groundwater hydrocarbon plume remains unknown and unconfirmed. While several soil and grab groundwater probe investigations have been conducted (CET Environmental Services, Inc [CET], October 1995, and Sierra Environmental, [SE] September 2007) and preliminary data collected, the lateral extent of groundwater impact has not been confirmed by sampling. In addition, the stability (lack of migration) of the groundwater plume cannot be confirmed by repeated sampling of the existing three wells, which are located immediately adjacent to the former USTs.
- Two soil and groundwater probe investigations (CET and SE) conducted at the site suggest that the historic direction of groundwater flow, as indicated by higher analytical concentrations in grab groundwater, is towards the south, but also contains an additional westerly component. A plot of groundwater flow vectors for all groundwater sampling events suggests a predominately west to northwesterly flow direction. This apparent difference in contaminant flow and groundwater flow directions suggests either seasonal changes, or changes in the historic direction of groundwater flow. San Lorenzo Creek, currently a concrete channel is located approximately 300 feet south of the site along the historic pathway of the creek. Former channels may act as preferential pathways for groundwater and contaminant migration. Water supply wells at San Lorenzo High School west of the site, may have an impact on shallow groundwater flow. A closer inspection of well usage or construction may be appropriate.

3. *The dissolved hydrocarbon plume is not migrating.*

As discussed above the extent of the groundwater hydrocarbon plume remains unknown and unconfirmed. No groundwater wells have been installed in a confirmed downgradient direction outside the immediate area of the USTs to monitor the plume. Currently, the concentration of TPH as gasoline remains elevated in two of the three existing monitoring wells. The concentration of TPH as gasoline were 3,200 and 12,000 micrograms per liter ($\mu\text{g/L}$) in groundwater samples from wells MW-2 and MW03, respectively during the most recent (April 2007) sampling event.

According to the San Francisco Bay RWQCB's Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, "the term 'groundwater' includes all subsurface waters, whether or not these waters meet the classic definition of an aquifer or occur within identified groundwater basins." It is also stated in the Basin Plan that "all groundwaters are considered suitable, or potentially suitable, for municipal or domestic water supply (MUN)." The site is located in San Lorenzo and overlies the East Bay Plain sub-basin. Therefore, the groundwater beneath the subject site is considered beneficial for these uses unless shown to be non-beneficial using criteria presented in the Basin Plan. These criteria remain unevaluated.

Groundwater in the area of the site is used for domestic supply and irrigation. Within a one-mile radius of the site, 19 irrigation, 4 domestic, and 1 public wells are reported to be present.

Since removal of the USTs, no remedial actions have been implemented. While the concentrations of onsite groundwater contaminants appear to be trending downward, it does not appear that the concentration of TPH as gasoline will reach water quality objectives in a reasonable time in accordance with the Basin Plan and corrective action, in accordance with Title 23, California Code of Regulations, Section 2725, appears warranted to protect the potential beneficial uses of the waters of the State.

4. *No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted.*

As discussed above the apparent difference in contaminant flow and groundwater flow directions suggest changes in the historic direction of flow of groundwater, and can suggest vicinity wells such as the wells at the high school to the west of the site may have an impact on shallow groundwater. A closer inspection of well usage may be appropriate. However, since the extent of the plume is unknown, the potential impacts to water wells in the area has not been evaluated.

5. *The site presents no significant risk to human health.*

Because the removal of tank hold excavation materials is undocumented, three shallow product or vent line corridors have not been evaluated for releases, and the presence of documented relatively shallow hydrocarbon releases in the vicinity of the former dispenser indicate inadequate contaminant characterization of the dispenser area, near surface contaminant vapor sources may remain beneath the site. It is premature to assert no significant risks to human health are present.

6. *The site presents no significant risk to the environment.*

The San Lorenzo Creek was identified by SE as a potential sensitive receptor (Sierra Environmental 2008), while ERS implies that the distance and direction to the concrete channel precludes the concrete channel as a sensitive receptor. While ACEH concurs that the concrete channel is not likely to be a

sensitive receptor, we request some confirmation that the channel does not contain openings or "weep holes" that allow water to enter or leave the channel.

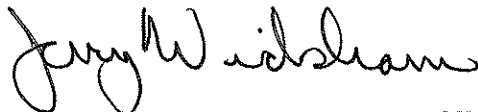
Conclusion

Investigation, and if appropriate, remedial excavation of what is likely the most heavily impacted soils in the area of the UST system (UST excavation, product lines, and etc.), is feasible and readily implemented. Delineation of the groundwater plume is feasible and readily implemented. ACEH believes that investigation and if appropriate, remedial excavation of near source soils will be to the maximum benefit to the people of the state because it will allow natural attenuation processes to restore water quality within a significantly shorter time period and will remove a long-term nuisance that would remain at the site for decades and avoid transferring the liability for dealing with the contamination to future owners, nearby inhabitants, and workers. Given a readily implemented remedial alternative for the site, leaving high concentrations of sorbed petroleum hydrocarbons in close proximity to groundwater at the site does not appear to be consistent with the maximum benefit to the people of the state.

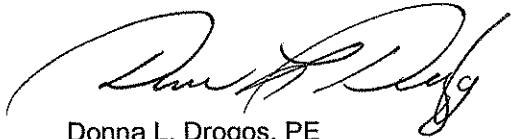
Based on the above discussion, this case clearly does not meet the "Low Risk" criteria listed in the SFBRWQCB January 5, 1996 Memorandum. The case cannot be closed at this time without addressing the issues discussed above. ACEH requests that the Petition be denied and that regulatory oversight of the case by ACEH continue.

If you have any questions regarding this case, please call Jerry Wickham at (510) 567-6791 or Donna Drogos at (510) 567-6721.

Sincerely,



Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist



Donna L. Drogos, PE
Supervising Hazardous Materials Specialist

Attachment 1: Request for Review (Petition) dated May 11, 2009 (w/o attachments)

cc: Carl J. and Donna P. Graffenstatte, Graffenstatte Corporation, P.O. Box 1295, Eatonville, WA 98328
Sue Pawley, C/o Carl Graffenstatte, Graffenstatte Corporation, P.O. Box 1295, Eatonville, WA 98328
Wai Yee Young, 4230 Harbor View Avenue, Oakland, CA 94619

Mr. Lockwood
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Katherine Dungca, Property Manager, AvioRealco, LLC, 27675 Vista Bahia Way, Hayward, CA 94542

Reza Baradaran, Sierra Environmental, Inc., 980 W. Taylor St., San Jose, CA 95126

Mitch Hajiaghaj, Sierra Environmental, Inc., 980 W. Taylor St., San Jose, CA 95126

Kevin Graves, SWRCB, UST Cleanup Unit, P.O. Box 223, Sacramento, CA 95812

Chuck Headlee, San Francisco Bay RWQCB, 1515 Clay Street, Suite 1400, Oakland, CA 94512

Mary Rose Cassa, San Francisco Bay RWQCB, 1515 Clay Street, Oakland, CA 94612

D. Drogos, J. Wickham, Files

ENVIRONMENTAL RISK SPECIALTIES CORPORATION



May 11, 2009

RECEIVED

MAY 13 2009

DIVISION OF WATER QUALITY

Mr. George Lockwood
State Water Resources Control Board
Division of Water Quality
P.O. Box 2231
Sacramento, California 95812

Re: Request for Review
189 E. Lewelling Boulevard, San Lorenzo, California
ACEH Case RO# 184, RWQCB Case 01-1041

Dear Mr. Lockwood:

At the request of Mr. Carl Graffenstatte, responsible party for the Underground Storage Tank (UST) Case at 189 E. Lewelling Boulevard, San Lorenzo, California, Environmental Risk Specialties Corporation (ERS) has prepared this petition requesting that the State Water Resources Control Board (SWRCB) review this case and facilitate regulatory closure of the case.

Petitioner

Mr. Carl Graffenstatte
P.O. Box 1295
Eatonville, Washington 98328
(760) 770-6858 home
(760) 832-5111 mobile

Site

186 E. Lewelling Boulevard, San Lorenzo, California, ACEH RO# 184, RWQCB Case 01-1041.

Site Owner

Mr. Carl Graffenstatte
P.O. Box 1295
Eatonville, Washington 98328

Responsible Party

2009 JUN 22 PM 2:20

Mr. Carl Graffenstatte (Property Owner and RP in the UST Cleanup Fund)



Reasons for Request for Closure

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. In June 1994, CET Environmental Services, Inc. (CET) installed three groundwater monitoring wells. CET subsequently conducted an exploratory soil boring investigation on and off the Site in the calculated downgradient direction and reported varying concentrations of total petroleum hydrocarbons as gasoline (TPHg) and relatively low to non-detect concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) in grab groundwater samples. CET did not issue a report due to payment problems with Ms. Wai Lee Young but did provide analytical results on a faxed site plan (attached). We understand that Ms. Young purchased the property from Mr. Graffenstatte. According to the September 18, 2007 Sierra Environmental, Inc. (SEI) *Subsurface Investigation & Site Conceptual Model* report, the three wells were monitored and sampled once in 1994, three times in 1995, once in 1999, four times in 2001, and once in 2007.

Following the December 2001 groundwater sampling event, SEI requested closure as a "low risk groundwater case" case based on criteria in the SWRCB January 5, 1996 Memorandum. In its September 25, 2006 Comment Letter, Alameda County Environmental Health (ACEH) denied closure stating that five of the six closure criteria had not been satisfied and requested additional soil and groundwater investigation, plume definition, sample analyses, and submittal of case related documents to the SWRCB Geotracker database.

In May 2007, SEI sampled the three monitoring wells and conducted additional subsurface investigation onsite and offsite in the documented groundwater flow direction, and reported the results in its September 18, 2007 report. In April 2007, well MW-2 reported 3,200 micrograms per Liter ($\mu\text{g/L}$) TPHg, 21 $\mu\text{g/L}$ ethylbenzene, and 20 $\mu\text{g/L}$ xylenes, and well MW-3 reported 12,000 $\mu\text{g/L}$ TPHg, 18 $\mu\text{g/L}$ ethylbenzene, and 27 $\mu\text{g/L}$ xylenes. No total petroleum hydrocarbon as diesel (TPHd), benzene, toluene, or methyl tertiary butyl ether (MTBE) was reported in the three wells. The six grab groundwater samples reported varying concentrations of TPHg ranging from nondetect to 11,000 $\mu\text{g/L}$ in SB-5-W and were nondetect for BTEX and all fuel oxygenates.

While SEI did not repeat its request for closure in its September 18, 2007 report, ACEH's subsequent December 29, 2008 comment letter indicates it would have denied closure again for similar reasons. In its December 29, 2008 comment letter, ACEH again requested additional source area characterization, plume characterization and definition, and extended site maps. Specifically, ACEH requested: 1) further source area characterization based on 110 to 120 mg/kg TPHg reported in a soil samples collected from 14.5 to 19.5 feet bgs in well MW-3 during its installation in June 1994 (15 years ago); 2) additional plume definition based on selected "worst case" TPHg concentrations in two grab groundwater samples while ignoring numerous other pertinent lines of evidence including an almost complete lack of reportable BTEX, other grab groundwater sample results, historical well monitoring data, age of the release, geological conditions and other fate & transport mechanisms, and significant natural attenuation; 3) residential ESLs be used for assessing potential human health risk in onsite soil citing groundwater migration offsite onto residential

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property; and 4) evaluation of San Lorenzo Creek as a potential sensitive receptor, even though San Lorenzo Creek is located over 350 feet south (cross-gradient of the Site) and is, in reality, a concrete lined flood control channel (see attached Google Earth figure, white line is 350 feet long).

Petition

ERS believes that criteria for evaluating a site for regulatory closure, as summarized in the SWRCB January 5, 1996 Memorandum, have been satisfied sufficiently with confidence. While relatively minor data gaps are present, sufficient data and lines of evidence exist to assess or infer that potential human health risk and risk to the environment are acceptable and residual petroleum hydrocarbon concentrations in soil and groundwater will continue to naturally attenuate in a reasonable timeframe.

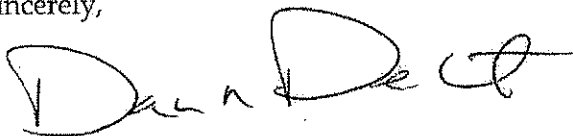
ERS believes many of the issues summarized in ACEH's December 29, 2008 comment letter should be discussed/evaluated within the context of a Closure Summary request, not be the basis for requesting still yet more site characterization. Most of the direction summarized in the latest comment letter does little to improve our understanding of site conditions for evaluating a site for regulatory closure, and is not consistent with the Draft SWRCB Resolution titled *Actions to Improve Administration of the Underground Storage Tank (UST) Cleanup Fund and UST Cleanup Program*.

Copies of the September 25, 2006, November 14, 2006, and December 29, 2008 denial letters and select pages from SEI's September 18, 2007 report are attached. Some reports are currently on the Geotracker database and other investigation and groundwater monitoring reports are on ACEH's FTP database at <http://ehgis.acgov.org/dehpublic/dehpublic.jsp>.

We respectfully request that the case be reviewed and considered for full regulatory closure in regards to the former USTs. In the event further work is necessary to fully justify a finding of no further action, we respectfully request that the case be transferred to the RWQCB for any further oversight.

If you have any questions, please contact me at (925) 938-1600 extension 109 or via email at ddement@erscorp.us.

Sincerely,



David DeMent, PG, REA II
Senior Geologist

Attachments

cc: Mr. Carl Graffenstatte w/o Attachments