



California Regional Water Quality Control Board Central Valley Region

Karl E. Longley, ScD, P.E., Chair



Linda S. Adams
Secretary for
Environmental
Protection

Sacramento Main Office
11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
<http://www.waterboards.ca.gov/centralvalley>

Arnold
Schwarzenegger
Governor

TO: Jim Munch, P.E.
Senior Engineer
UST Program

FROM: David Stavarek, P.G.
Engineering Geologist
UST Unit II

DATE: 25 February 2008

SIGNATURE: _____

**SUBJECT: NO FURTHER ACTION REQUIRED, FORMER SPRECKELS SUGAR FACILITY,
40600 COUNTY ROAD 18C, WOODLAND, YOLO COUNTY**

I reviewed the 8 November 2006 *Addendum to No Further Action Required (NFAR) Request Report*, 1 June 2007 *Additional Information for No Further Action Required (NFAR)*, 21 June 2007 *Additional Information for No Further Action Required (NFAR)*, and 17 September 2007 *Addendum No. 4 to No Further Action Required Report (Report)*, prepared for Sugarland Farms, LLC (Sugarland), on their behalf by their consultant, Kwest Engineering (Kwest). In addition, I reviewed the 10 February 2008 report for the *Destruction of Monitoring Wells prepared for Sugarland* by their new consultant, KR Environmental. Following is a summary and my comments regarding this case and the criteria for issuing a No Further Action Required (NFAR) letter. See attached copy of Kwest's Figure 2 for location of site features, borings, and monitoring wells.

BACKGROUND

The site was used from 1937 through 2000 for the purpose of processing sugar beets, then sugar packaging and distribution from 2001 until September 2002. The facility was formerly owned by Imperial Sugar Company and operated by Holly Sugar Corporation doing business as Spreckels Sugar Company. Sugarland Farms, LLC bought the property in September 2002. During a 10 May 2007 telephone conversation, Mr. Alex Waterbury at Presidio Development Company stated they represent potential new buyers of the property. According to Kwest, the site will "...remain industrial, with a new industrial park to be developed on the Site."

In August 1987 a 1,000-gallon underground storage tank (UST) was removed from the site. This UST reportedly was used to dispense gasoline. According to Yolo County Environmental Health Service (YCEHS) records a hole was observed in the UST. Three soil samples were collected from the UST cavity, then two cubic yards of soil was removed and another soil sample was collected. Analysis of the soil samples showed 16 and 22 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons as diesel (TPHd), however, the samples were not analyzed for gasoline and there is no explanation for the diesel analysis.

Investigation by Kwest began in 2002 with boring SB-1 drilled through the former UST cavity to groundwater, which was encountered approximately 25 feet below ground surface (bgs). This

was followed by three borings for monitoring wells MW-1, MW-2, and MW-3, and then Geoprobe borings B-1 and B-2 drilled northeast of MW-3.

SOIL INVESTIGATIONS

Soil samples were collected from six borings at 10, 15, 20, 25, and 55 feet below ground surface and analyzed for TPHd, total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), MtBE, tertiary butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), ethanol, methanol, ethylene dibromide (EDB), and 1, 2-dichloroethane (1, 2-DCA). The only constituent detected was 0.0051 mg/kg of ethylbenzene detected at SB-1 (former UST cavity) at 20 feet bgs. Petroleum hydrocarbon constituents were not detected in the soil samples from the six borings, including the soil sample collected 55 feet bgs at B-1, northeast of MW-3.

GROUNDWATER INVESTIGATIONS

Groundwater has been encountered during drilling at 20 to 25 feet bgs, but was not observed in boring B-1 at 55 feet bgs. Monitoring wells MW-1, MW-2, and MW-3 were installed in April 2004 and screened from 20 to 25 feet bgs. Since the three monitoring wells were installed in 2004, eight quarterly monitoring events have been performed. The groundwater gradient has been to the northwest during five events, then one each to the northeast, southwest, and southeast at 0.0045 to 0.00051 foot per foot. Groundwater elevation data show that groundwater has been 17 to 26 feet bgs in the three wells.

During the 28 September 2004 sampling event, TPHg, benzene, toluene, and xylenes were detected in MW-2 at 52, 1.6, 1.1, and 2.1 ug/L, respectively. Xylenes at 1.1 ug/L were also detected in MW-1 during this sampling event. Gasoline hydrocarbons were not detected in MW-1 and MW-2 during any of the other seven groundwater sampling events. Table 1 shows the results of groundwater sampling for monitoring well MW-3, where petroleum hydrocarbons have been repeatedly detected.

Table 1. Groundwater Data, MW-3

Location	Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
MW-3	4/21/2004	390	96	<0.5	1.5	<0.5	<0.5
MW-3	9/28/2004	290	60	0.78	0.82	<0.5	2.2
MW-3	12/16/2004	170	63	<0.5	0.8	<0.5	2.2
MW-3	3/21/2005	71	96	<0.5	0.96	0.84	1.8
MW-3	6/15/2005	66	66	<0.5	<0.5	<0.5	<0.5
MW-3	9/16/2005	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-3	12/19/2005	190	<50	<0.5	<0.5	<0.5	<0.5
MW-3	3/28/2006	260	<50	<0.5	<0.5	<0.5	<0.5
MW-3	7/26/2007	<50	NA	NA	NA	NA	NA
MW-3	9/6/2007	<50	NA	NA	NA	NA	NA

Concentrations in micrograms per liter. TPHd: total petroleum hydrocarbons as diesel. TPHg: total petroleum hydrocarbons as gasoline. NA: not analyzed.

Grab groundwater samples were collected from SB-1 in 2002 and B-2 in 2006. The sample from B-2 was used to verify that hydrocarbons detected at MW-3 had not migrated toward two

onsite water supply wells that are 300 and 370 feet northeast of the former UST. According to Kwest the water supply wells have not been active since 1999. To verify that hydrocarbons had not migrated vertically an attempt was made to collect a water sample at 55 feet bgs at B-1. However, groundwater was not present at 55 feet bgs, therefore, a soil sample was collected. As previously stated in this memorandum, petroleum hydrocarbons were not detected in the soil sample collected 55 feet bgs. Analytical results of groundwater samples from borings SB-1 and B-2 are shown in Table 2.

Table 2. Groundwater Data

Location	Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
SB-1*	6/17/2002	NA	12,000	120	<30	1,600	1,400
B-2	3/28/2006	<50	<50	<0.5	<0.5	<0.5	<0.5

Concentrations in micrograms per liter. TPHd: total petroleum hydrocarbons as diesel. SB-1*: location is the former UST cavity. TPHg: total petroleum hydrocarbons as gasoline. NA: not analyzed.

The TPHd and TPHg detected in groundwater samples from MW-3 were reported by the laboratory as samples that contain compounds in the retention time range associated with diesel or gasoline, but their respective chromatograms were not consistent with the expected chromatographic pattern or "fingerprint" for diesel or gasoline. TPHg detections were also reported by the laboratory to be weathered gasoline. Groundwater samples from MW-3 were then analyzed for volatile organic compounds and semi-volatile compounds using Environmental Protection Agency (EPA) Methods 8260 and 8270, respectively, to determine whether the hydrocarbons detected within the gasoline and diesel range represented single compounds found in these fuels. Both the EPA Methods were non-detect for all compounds analyzed. The laboratory stated in a 23 May 2007 electronic mail: "The compound present is in the retention time of Diesel but does not fit the profile of our current standard. This SVOC and VOC scans did not indicate the presence of any Petro based components. One may conclude the material present is not a recent sample of Diesel." In 2007, analysis of samples from MW-3 for TPHd indicated TPHd was not present in groundwater at MW-3.

Groundwater samples from B-2, MW-1, MW-2, and MW-3 were also analyzed for MtBE, TBA, DIPE, ETBE, TAME, methanol, ethanol and analytical results for these compounds were non-detect. The water sample from B-2 was also analyzed for 1, 2-DCA and EDB, and the analytical results were non-detect for these two lead scavengers.

On 1 February 2008, MW-1, MW-2, and MW-3 were destroyed according to Yolo County ordinances and under permit from the YCEHS. These three wells were pressure grouted with a cement/bentonite slurry, the wellhead removed, and the top five feet of each well was over drilled and backfilled with concrete.

REMEDIATION

Remediation was limited to the two cubic yards of soil removed in 1987, and the approximately 210 gallons of groundwater removed during monitoring well development and subsequent sampling events. According to Kwest soil generated during drilling borings for the monitoring wells was analyzed for gasoline hydrocarbons and diesel. Analytical results indicated hydrocarbons were not detected; therefore, Sugarland Farms representative used the soil onsite as infill material. According to a waste manifest submitted to us by Kwest, the purge

water from the monitoring wells was removed from the site and recycled/disposed at the Alta Environmental Class II Landfill.

Kwest stated that the laboratory has identified the hydrocarbons detected in groundwater as weathered petroleum fuel hydrocarbons, and conclude that this indicates that natural degradation processes are occurring.

SENSITIVE RECEPTOR SURVEY

Two water supply wells are onsite 300 and 370 feet northeast of the former UST, but according to Kwest have not been used since 1999. Monitoring well MW-3 is between the former UST and these two wells. Kwest collected soil and groundwater samples from borings northeast of MW-3, to determine whether the hydrocarbons detected in MW-3 were part of a plume migrating to the northeast, because Kwest reasoned that pumping from the two nearby wells had the potential for the greatest influence on plume migration. Petroleum hydrocarbons were not detected in the samples from B-1 and B-2; therefore, Kwest concluded the two nearby wells were not threatened by hydrocarbons detected at and near the former UST.

HUMAN HEALTH RISKS

The concentrations of petroleum hydrocarbons detected in soil beneath the UST do not exceed the appropriate Environmental Screening Levels (ESLs) and California Health Hazard Screening Levels (CHHSLs), as established by the San Francisco Bay Regional Water Quality Control Board and the Office of Environmental Health Hazards Assessment, respectively. Petroleum hydrocarbons are no longer present in groundwater; therefore, there is no risk to human health based on ESLs and CHHSLs

SUMMARY

One UST reportedly used for gasoline was removed in 1987. However, diesel hydrocarbons were detected in soil below the former UST. Subsequent groundwater sampling indicated that weathered diesel and gasoline hydrocarbons and possible naturally occurring hydrocarbons were present in groundwater at and northeast of the former UST. Individual volatile and semi-volatile compounds were not detected in groundwater in the monitoring well between the former UST and the nearest onsite water supply wells. Only trace concentrations of BTEX compounds were detected during one sampling event in the two other monitoring wells. Laboratory data indicate that the hydrocarbons detected in the one monitoring well are degrading petroleum hydrocarbons that have since reached water quality goals in July 2007. Soil and groundwater data showed hydrocarbons have not impacted the nearby water supply wells and the aquifer those wells are screened through. Further, because hydrocarbons are no longer present in groundwater, the appropriate ESLs and CHHSLs are not exceeded, and therefore, there is no risk to human health. The site is an industrial facility and future plans are for new industrial developments. Public participation notification is not needed because the property boundaries of the site are greater than 500 feet from the former UST. All appropriate documents have been submitted to Geotracker, and the monitoring wells have been destroyed as we requested. Therefore, I concur with KR Environmental's conclusion that closure for this site is appropriate, and I recommend that a NFAR letter be issued for closure of this case.



Linda S. Adams
Secretary for
Environmental
Protection

California Regional Water Quality Control Board Central Valley Region

Karl E. Longley, ScD, P.E., Chair



Arnold
Schwarzenegger
Governor

Sacramento Main Office

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
<http://www.waterboards.ca.gov/centralvalley>

25 February 2008

Mr. Chris Ochoa
Sugarland Farms, LLC
9 Colgate Court
Woodland, California 95695

NO FURTHER ACTION REQUIRED, UNDERGROUND STORAGE TANK, FORMER SPRECKELS SUGAR FACILITY, 40600 COUNTY ROAD 18C, WOODLAND, YOLO COUNTY (LUSTIS NO. 570315)

This letter confirms the completion of a site investigation and corrective action for the underground storage tank that was removed at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the underground storage tanks are greatly appreciated.

Based on the information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code.

Please contact Mr. David Stavarek at (916) 464-4673 if you have any questions regarding this matter.

PAMELA C. CREEDON
EXECUTIVE OFFICER

Enclosures (Memorandum and NFAR Checklist)

cc w/encls.: Ms. Christina Ochoa, SWRCB, UST Cleanup Fund, Sacramento
Mr. Jeff Pinnow, Yolo County Environmental Health Services, Woodland
Mr. Kent Calfee, Calfee and Young, 611 North Street, Woodland
Mr. Mike Goodwin, KR Environmental, Chico

dfs\c:\proj\570315NFRL001

California Environmental Protection Agency