



California Regional Water Quality Control Board
Santa Ana Region



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da S. Adams
 Secretary for
 Environmental Protection

Arnold Schwarzenegger
 Governor

M60050_004414
 MCAS EL TORO
 SSIC NO. 5090.3.B

August 28, 2008

Base Realignment and Closure
 Attn: Ms. Debra Theroux (debra.theroux@navy.mil)
 Deputy Base Closure Manager
 7040 Trabuco Road
 Irvine, California 92618

**DETERMINATION OF NO FURTHER ACTION, FORMER UNDERGROUND STORAGE TANK
 RELEASE SITE 850, FORMER MARINE CORPS AIR STATION, EL TORO
 GeoTracker No. T0605999094**

Dear Ms. Theroux:

This letter confirms the completion of the site investigation and remedial action which were required to mitigate the release of jet fuel from the underground storage tanks formerly located at the above described site. Enclosed is the Case Closure Summary for the referenced site for you records.

Based on the available information, including the current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground storage tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulation, Division 3, Chapter 16, Section 2721 (e), (If a land use is proposed, the owner must promptly notify this agency.)

Please telephone John Broderick of my staff at (951) 782-4494, or send email to jbroderick@waterboards.ca.gov, if you have any questions regarding this matter.

Sincerely,

for Gerard J. Thibeault
 Executive Officer

Enclosure: Case Closure Summary

cc via electronic copy w/attachment:
 Ms. Lynn Hornecker, BRAC PMO West – lynn.hornecker@navy.mil
 Ms. Lilly Lee, SWRCB, Cleanup Fund – LLLEE@waterboards.ca.gov

received
 9/3/08

CASE CLOSURE SUMMARY

Leaking Underground Fuel Tank Program

I. Agency Information

DATE: August 27, 2008

AGENCY NAME	California Regional Water Quality Control Board - Santa Ana Region	STAFF	John Broderick
ADDRESS	3737 Main St. Suite 500	TITLE	Engineering Geologist
CITY/STATE/ ZIP	Riverside CA 92501-3348	PHONE	(951) 782-4494, main # 782-4130

II. Case Information

SITE NAME	former Underground Storage Tank Group 850 Site			
LOCATION	Former Marine Corps Air Station, El Toro, Irvine			
REGIONAL BOARD CASE #	T0605999094	LOCAL AGENCY CASE #	083003661T	
RESPONSIBLE PARTIES	ADDRESS	PHONE NUMBER		
Attn: Ms. Debra Theroux Deputy Base Closure Manager	BRAC PMO West 1455 Frazee Road, Suite 900 San Diego, CA 92108	(619) 532-0919		
TANK NO.	SIZE IN GALLONS	CONTENTS	CLOSED IN PLACE/ REMOVED	DATE
850A	≈ 5,000	Jet fuel	Removed	2/7/2000
850B	≈ 5,000	Jet fuel	Removed	2/7/2000
850E	1,500	Residual fuel/water mixture	Removed	2/7/2000
OWS				

.... Release and Site Characterization Information

CAUSE AND TYPE OF RELEASE:	Fuel oil or heating oil fuel release to soil		
MONITORING WELLS INSTALLED?	No	NUMBER	PROPER SCREEN INTERVAL?
DEEPEST GW DEPTH		SHALLOWEST GW DEPTH	160 feet
GROUNDWATER, MOST SENSITIVE CURRENT USE:	Municipal	GW FLOW DIRECTION	West
DRINKING WATER WELL(S) AFFECTED?	No	AQUIFER NAME	Irvine Groundwater Management Zone
IS SURFACE WATER AFFECTED?	No	NEAREST/AFFECTED SW NAME	
OFF-SITE BENEFICIAL USE IMPACTS (ADDRESSES/LOCATIONS):	None		
REPORT(S) ON FILE?	Yes	WHERE IS/ARE REPORT(S) FILED?	RWQCB – Santa Ana Region
TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
MATERIAL	AMOUNT	ACTION (TREATMENT, DISPOSAL)/ DESTINATION	DATE
TANK/PIPING	3/400 feet	Transported for destruction/recycling	2/7/2000
FREE PRODUCT			
SOIL	1,198.7 tons	Transported for disposal at a recycling facility	1 & 2/2001, 3/2007, & 3/2008
GROUNDWATER			

Release and Site Characterization Information (Continued)

Maximum Document Contaminant Concentration – Before and After Cleanup

CONTAMINANT	SOIL (mg/kg)		WATER (µg/L)	
	INITIAL	CURRENT	INITIAL	CURRENT
BENZENE	0.003	ND	0.53	
TOLUENE	4.6	ND		
ETHYLBENZENE	5.9	ND		
XYLENE	48	ND		
MTBE	ND	ND		
TPRH				
TPH – G	73,000	170	140	
TPH – D	81,000	2,900	1,000	
DIPE	ND	ND		
TAME	ND	ND		
ETBE	ND	ND		
TBA	0.024	ND		

COMMENTS REGARDING INVESTIGATION AND REMEDIATION

Former UST 850A and 850B and Former Oil/Water Separator 850E (OWS) were installed in 1988 and located in the northwestern quadrant near Installation Restoration Site 16 of the former Marine Corps Air Station, El Toro, in the City of Irvine. The sites are also known as the Former UST Group 850. UST 850A and 850B were used for storage of jet fuel for use in firefighter training activities at a former burn pit. Waste water and fuel from the training activities was discharged through a drain in the burn pit to OWS 850E. Fire training activities were discontinued by mid-1999. UST 850A and 850B, OWS 850E, and 400 feet of piping were removed on February 7, 2000 and confirmation sampling activities were conducted under Orange County Health Care Agency oversight.

The February 2000 tank excavation was approximately 54 feet by 26 feet with depths varying from 12 to 16 feet. In addition to the USTs and OWS, two valve boxes were removed along with the piping. The excavation was completed down to a concrete slab the USTs rested on. This slab was abandoned in place. One confirmation soil sample was collected adjacent to the southeastern end of the slab and one confirmation sample was collected adjacent to the northwestern end. Two confirmation soil samples were collected beneath the OWS. Two soil confirmation samples were collected near the south valve box, one confirmation soil sample was collected at the north valve box, and one confirmation soil sample was collected at the edge of the tank excavation and the pipe trench. The maximum detected concentrations were 73,000 mg/kg and 24,800 mg/kg of gasoline and diesel, respectively. Detected above their reporting limits were: acetone, sec-butylbenzene, ethylbenzene, isopropylbenzene, p-isopropyltoluene, naphalene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and total xylenes.

During October and November of 2000, petroleum-impacted soil was removed from the former OWS area and south valve box area. Approximately 912 tons of contaminated soil were excavated and stockpiled. The contaminated soil was transported off site for disposal early in 2001. The OWS area excavation was 40 feet by 20 feet and approximately 19 feet deep. The south valve box area excavation was 23 feet by 23 feet and approximately 10 feet deep. Confirmation soil samples were taken during the excavations.

The extent of the petroleum releases at former OWS site and south valve box was verified during 2003 and 2004 by collecting soil samples from eight soil borings. One boring was drilled to groundwater to allow for collection of a groundwater sample at 160 feet below ground surface (bgs). The maximum diesel concentration of 26,000 mg/kg was detected in a sample collected 30 feet bgs. The maximum gasoline concentration of 11,000 mg/kg was detected in a sample collected 90 feet bgs. The groundwater contaminant concentrations detected were: 1 mg/L diesel, 0.14 mg/L gasoline, and 0.53 µg/L benzene. Some of the soil samples from the verification soil borings were analyzed by the Synthetic Precipitation Leaching Procedure (SPLP), Method 1312, for leachate concentrations of diesel and gasoline. The leachate concentrations were variable and were generally much less than the associated soil concentrations.

Additional soil excavations were completed in February 2007 at the south valve box area and former OWS. The excavation at the south valve box was approximately 40 feet by 25 feet and 20 feet deep. The excavated soil was screened utilizing a Photo Ionization Detector (PID). Soil readings of 50 ppm or higher were considered petroleum impacted. Readings below 50 ppm were considered clean and used as backfill. A soil sample was collected at the base of the excavation, and analyzed by Method 8015 modified for gasoline, diesel, and motor oil, and by Method 8260B for VOCs, including MTBE and other fuel oxygenates. Motor oil was detected at 7 mg/kg and all other contaminants were not detected at or above their reporting limits. Approximately 46 tons of petroleum impacted soil were transported off-site for disposal in March 2007. The excavation at the former OWS was approximately 52 feet by 28 feet and 20 feet deep. The excavated soil was not stained or discolored, and no petroleum odors were encountered. Motor oil was detected at 6 mg/kg. Gasoline, diesel, and VOCs were not detected at or above their detection limits. The excavated soil was placed back in the excavation.

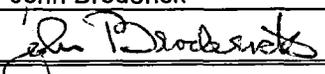
On March 12 and 13, 2008, an excavator was used to remove soil from the former location of the OWS. A PID was used to screen the soil. Stained soil with petroleum odors was encountered at an approximate depth of 17 feet bgs. The completed excavation was 58 feet by 45 feet by 50 feet deep. Approximately 240.7 tons of petroleum-impacted soil was removed and transported off-site for disposal in March 2008. Two soil samples were collected from the base of the excavation and analyzed by Method 8015 modified for gasoline, diesel, jet propulsion fuel, grade 5 (JP5) and motor oil and by Method 8260B for VOCs including MTBE and other fuel oxygenates. Gasoline, diesel, JP5 and motor oil were detected at concentrations of 170 mg/kg, 2,900 mg/kg, 3,100 mg/kg and 13 mg/kg, respectively. VOCs were not detected at or above their reporting limits.

Closure is recommended, based on the removal of the significant mass of petroleum impacted soil. This site is no longer believed to be a threat to underlying groundwater quality, beneficial uses, and the environment.

Closure

DOES COMPLETED CORRECTIVE ACTION PROTECT <i>EXISTING</i> BENEFICIAL USES PER REGIONAL BOARD BASIN PLAN?		Yes
DOES COMPLETED CORRECTIVE ACTION PROTECT <i>POTENTIAL</i> BENEFICIAL USES PER THE REGIONAL BOARD BASIN PLAN?		Yes
MONITORING WELLS	n/a	NUMBER DECOMMISSIONED
		NUMBER RETAINED
LIST ENFORCEMENT ACTIONS TAKEN		None
LIST ENFORCEMENT ACTIONS RESCINDED		n/a

V. Regional Board Representative Data

STAFF	John Broderick	TITLE	Engineering Geologist
SIGNATURE		DATE	8/27/2008
SUPERVISOR	Ann Sturdivant	TITLE	Senior Engineering Geologist
SIGNATURE		DATE	8/27/2008

VI. Additional Comments, Data etc.

None.