

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 West 4th Street, Suite 200, Los Angeles, California 90013**

**FACT SHEET
WASTE DISCHARGE REQUIREMENTS
FOR
DIXXIE DIESEL TRUCK STOP
6417 VENTURA BOULEVARD
VENTURA, CALIFORNIA**

**ORDER NO. R4-2002-0030 (Series No. 054)
FILE NO. 04-164**

FACILITY ADDRESS

6417 Ventura Boulevard
Ventura, CA 93003

FACILITY MAILING ADDRESS

16 N. Oak Street
Ventura, CA 93001

PROJECT DESCRIPTION:

Lehman Becker Community Property Management owns Dixie Diesel Truck Stop located at 6417 Ventura Boulevard in the City of Ventura, but the business is operated by United Oil Truck Stop. The Dixie Diesel Truck Stop (the Station) is an active diesel truck refueling station with one cashier's office/customer service area and four fuel dispenser islands; other onsite facilities include a café and warehouse. The site is located directly north of Highway 101 and southeast of Victoria Avenue and the large Ventura County Administrative complex. The Santa Clara River is located approximately 2500 feet to the southeast from the site. The Station operated four underground storage tanks (USTs) in two separate tank areas (2-10,000 gallon tanks located near the southeast corner of the cashier' office and 2-12,000 gallon tanks located to the northwest cashier's office). During a 1985 inspection of the Station by the Ventura Fire Department, the Fire Department became concerned about leakage from the existing USTs, and required that an underground storage tank management plan be prepared. On February 27, 1986, an Underground Storage Tank Management Plan was submitted by Jirsa Environmental Services. Subsequent tank integrity testing June (1986), determined leakage at the rate of approximately 3 gallons per day. In May 1986, as part of the initial site assessment, soil borings (J-001 through J-005) made to a depth of 21 below ground surface (bgs) found concentrations of petroleum hydrocarbons at depths between 5 feet to 20 feet at concentrations as high as TRPH (6400mg/kg). In 1992, the USTs and piping were removed prior to replacement with a new fuel dispensing system with double wall USTs and piping required to meet new State requirements.

As a result of the initial assessment, in a letter dated August 15, 1986, the Regional Water Quality Control Board (RWQCB) required additional site assessments. Additional site assessment and free product recovery occurred between December 1986 and March 1987. The second site assessment was made by Holguin & Associates (Holguin). Eight soil borings were made which were converted to 2-inch diameter monitoring wells. In addition to impacted soil and groundwater, free-floating product was observed in several of these monitoring wells. After a November 20, 1986 meeting, the RWQCB ordered that a free product recovery program start immediately from all wells

where free product was observed. Free product recovery efforts by Holguin were relatively ineffective due to low recharge rates in the monitoring wells. As of February 1987, only 4.3 gallons of product and 136 gallons of water had been recovered

In 1989, an additional soil and groundwater assessment was made by Staal, Gardener & Dunne, Inc. (SGD). According to SGD, hydrocarbons had migrated south of the former tanks and offsite, but the southern extent of impacted area was not determined. A soil vapor survey conducted by SGD later in 1989, indicated petroleum hydrocarbons extended south and east under Ventura Boulevard to the U.S. highway 101 Freeway Corridor. In October 1989 groundwater samples were collected by SGD from the Holguin wells, and floating product was found in three wells, H-2, H-6 and H-8.

In response to the RWQCB a remedial action order, Applied Environmental Technologies, Inc (AET) initiated a second free product recovery program at the site from October 1990 until June 1993. Free product recovery operations were terminated in June 1993. However, on January 15, 2003, free product recovery was again initiated in well H-2 after 2.53 feet of free product was found, and a total of 75.9 gallons of free product was recovered.

On November 20, 1990, AET submitted a site-specific Feasibility Study/Corrective Action Plan (FS/CAP) recommending a remediation program consisting of in-situ and ex-situ soil treatment combined with groundwater extraction and air sparging. RWQCB approved the FS/CAP on March 6, 1991. When groundwater extraction wells were installed in June 1992, two shallow, silty groundwater zones were identified at depths of 8 to 13 feet below ground surface (bgs) and from 20 to 29 feet bgs.

From June 1992 through March 1993 a total of five underground storage tanks holding diesel and waste oil were removed. Additional free product was recovered from some of the tank excavations. From 3389 to 4500 tons of diesel impacted soils were removed from the excavated UST tanks. These soils were placed in onsite, above ground treatment cells from June 1992 through August 1994 using above ground biodegradation and vapor extraction. AET excavated and treated approximately 4580 to 5700 tons of hydrocarbon impacted soil at the site. RWQCB issued a soil closure letter dated April 27, 1995.

From March 1993 to December 1996, impacted groundwater was extracted from wells, GW-1 through GW-3, pumped through activated carbon and re-injected to an in-situ biotreatment area created by the injection of bacteria and water. In a December 9, 1996 letter, RWQCB issued requirements for further site clean-up work.

It was AET's understanding that concentrated air sparging was required as the final prerequisite to obtaining site closure status. AET initiated groundwater air sparging on a continuous basis from January 1997 through March 2003 and the present.

In a letter dated January 19, 2000, RWQCB approved a workplan to install additional groundwater monitoring wells to characterize to off-site, down-gradient extent of petroleum hydrocarbons impacted soil and groundwater. Groundwater monitoring wells GW-4 and GW-5 were installed on October 6, 2000 and wells, MW-6 and MW-7, were installed in March 2002. The groundwater impacted source area is around wells MW/GW-2, H-2 and H-5. By January 2003, the benzene plume was found to be 165 feet long and 95 feet wide.

In accordance with RWQCB requirements, enhanced groundwater remediation in the southern portion of the site and off-site across Ventura Boulevard. In March 24, 2003, for further reduction of hydrocarbons, AET proposed hydrogen peroxide injection for oxidation of residual VOCs in groundwater.

AET initially proposed to inject a 10% H₂O₂ solution (containing a trace amount of FeSO₄ as a catalyst and hydrochloric acid for pH control) into existing wells MW/GW-1 through MW/GW-3, MW-4, MW-5, MW-7, H-2 and H-5 and vapor trenches VT-2 through VT-4. The initial H₂O₂ injection would be performed weekly or bi-weekly for one to two quarters while monitoring for progress. Approximately 5 gallons of H₂O₂ solution will be injected/gravity feed at a rate of ½ to 2 gallons per minute (gpm) into each well per injection event. Due to the strong exothermic reaction, extreme care will be used while injecting H₂O₂. Injection rates, temperature, and dissolved oxygen will be continuously monitored and recorded on field logs.

Based on the initial H₂O₂ injection results, a series of horizontal wells (2-inch diameter Schedule 40 PVC) may be installed in shallow trenches (see Plate 2). These injection wells will be equipped with vertical risers and installed in the vicinity of wells GWE-2, MW-4, and MW-5. AET will also inject H₂O₂ into off-site well MW-7. AET recommends continued operation of the groundwater air sparging and a soil venting/vapor recovery system for removal of any hydrocarbons that may be released from groundwater as a result of the H₂O₂ treatment process.

GROUNDWATER:

The Station is located on the Ventura Coastal Plain approximately 2500 feet northwest of the Santa Clara River. The site is essentially flat with a surface elevation of + 82 feet mean sea level (msl). The San Buenaventura Mountains rise to the north behind the site. The site is underlain by recent stream deposits consisting of interbedded clay, silt, sand and gravel. The silts and clays in the hydrocarbon impacted sediments beneath the site have very low permeabilities, the percolation of groundwater into the groundwater recovery wells is low (approximately 1 gpm). Recent surface deposits unconformably overlie Upper Pleistocene age, fluvial clays, silts and sands and gravels. Groundwater is found at depths less than 10 feet below the ground surface (bgs) and the flow direction is south/southwesterly toward the Santa Clara River and the Pacific Ocean. The depth to shallow perched groundwater at the site averages 4.5 feet bgs and has ranged from 2.7 feet bgs to 9.92 feet bgs.

VOLUME AND DESCRIPTION OF DISCHARGE:

The estimated volume of 10% hydrogen peroxide to be initially injected into wells MW/GW-1 through MW/GW-3, MW-4, MW-5, MW-7, H-2 and H-5 and vapor trenches VT-2 through VT-4 is 660 to 2640 gallons, depending upon whether H₂O₂ is injected for one or two quarters and weekly or bi-weekly, into the above 11 wells and trenches. The Dixie Diesel Truck Stop is located at Latitude: 34° 14' 55", and Longitude: 119° 16' 50".