

County of Santa Clara

Department of Environmental Health

1555 Berger Drive, Suite 300
San Jose, California 95112-2716
(408) 918-3400
www.EHinfo.org



September 4, 2013

Ms. Vivian Gomez-Latino (USTClosuresComments@Waterboards.ca.gov)
State Water Resources Control Board
1001 I Street, P.O. Box 2231, Sacramento, CA 95812

Subject: Proposed Underground Storage Tank Case Closure

Fuel Leak Investigation at Spartan Gas, 444 East Taylor Street, San Jose, CA
Case No. 14-480, SCVWDID No. 07S1E05F03f

Dear Ms. Gomez-Latino:

The Department of Environmental Health (DEH) has reviewed the Notice of Opportunity for Public Comment and UST Case Closure Summary prepared by the State Water Resources Control Board (State Board). This letter provides background information and comments to State Board statements.

The DEH does not support site closure at this time.

Background

1. In 2002 the Santa Clara Valley Water District referred the case to the County of Santa Clara Office of the District Attorney due to failure to comply with regulatory directives. The Order of Final Judgment and Injunction was filed on September 30, 2004 in California Superior Court, Santa Clara County. The injunction mandated the responsible parties to comply with all requirements of Exhibit 2 (Site Investigation and Cleanup Requirements). Final Cleanup Objectives are stated in Section 2, Paragraph 5. In addition, it is stated that "any deviations in these cleanup levels prior to case closure must be approved by the District or County." The Responsible Party has not met cleanup goals identified in the injunction.
2. The USTCF 5-Year Review Summary dated October 5, 2009 concurred with the DEH recommendation to conduct additional groundwater monitoring to evaluate groundwater concentration trends. These data are used to determine appropriate actions to move the site toward closure.
3. The DEH Directive Letter dated May 28, 2010 made the following findings and required next steps to move the site toward closure.
 - The concentrations were trending up in several key wells located along the down gradient portion of the property and just up gradient of a residential development.
 - The neighboring property in the downgradient direction was undergoing a multi-unit

residential development.

- Residual contamination mass may remain on the northwest portion of the Site and on the neighboring residential property.
4. At the request of the DEH, Allterra submitted a Work Plan for Residual Soil and Groundwater Contaminant Mass Evaluation dated July 29, 2010. The purpose of the work plan was to determine the extent of residual contamination in soil and groundwater beneath the northwest corner of the site and a portion of the downgradient neighboring property. The scope of work included drilling twelve soil borings arranged in a grid pattern in the area of concern and analyzing soil and groundwater samples.
 5. On July 11, 2011 the DEH received the Residual Soil and Groundwater Contaminant Mass Evaluation Report (the Report) prepared by Allterra and dated July 7, 2011. The Report partially completed the approved scope of work. Soil and groundwater samples were collected on-site, but not off-site. The proposed off-site soil borings (B-1 through B-3) were located on the downgradient neighboring property. At the time the Report was submitted, the DEH understood that the RP was negotiating access with the off-site neighbor. The DEH has not been recently updated on access negotiations.
 6. The results presented in the Report indicate that significant levels of hydrocarbon contamination are located along the Spartan Gas Station downgradient property line and it is very likely that the contamination has migrated onto the neighboring property. It is important to note that the neighboring property has been developed as residential property.
 7. The DEH received the Documentation Regarding Lack of Off-Site Vapor Intrusion Concerns for Fuel Leak Case No. 14-480 prepared by Allterra and dated February 3, 2012. The report evaluated historical soil vapor extraction and groundwater sampling results and concluded that "residual petroleum constituents that may remain beneath the adjacent residential property located immediately southwest of the Site presents no significant risk to human health." The DEH notes that the 2001 and 2011 soil and groundwater data which show that benzene in groundwater could present a risk to human health was excluded from the evaluation. For example, the 2011 Report documented up to 970 parts per billion (ppb) benzene in groundwater at a sampling point located approximately 4 feet upgradient of the residential property. This information was not included in the referenced report. Consequently, the report appears to be incomplete and the conclusions may be invalid.

Responses to UST Case Closure Summary

Issue 1

State Board Statement – *Site conditions demonstrate that the residual petroleum constituents in soil and groundwater are protective (See Attachments 1 and 2 for further discussion). A Tier 2 RBCA closure evaluation was completed in 2008. The report concluded that residual contamination concentrations in soil and groundwater at the site pose no significant risk to human health and the environment.*

DEH Comment – The Tier 2 RBCA evaluation was completed before the downgradient residential property was developed and a soil and groundwater investigation conducted along the downgradient property line was completed. This indicates that it is very likely that significant levels of contamination underlie the neighboring residential property. Groundwater samples

collected in the northwest portion of the site contained up to 4,200,000 ppb TPH-diesel, 41,000 ppb TPH-gasoline, and 970 ppb benzene. The DEH notes that State Board Attachments 1 and 2 do not include the recently collected groundwater samples from the northwest portion of the site. These data clearly demonstrate that significant contamination remains and additional assessment is required to define the extent of the plume. Copies of the soil and groundwater results from the 2011 Report are attached to this letter.

Issue 2

State Board Comment – *The Site has been sufficiently assessed/monitored and additional assessment/monitoring won't likely change the conceptual model.*

DEH Comment – As stated above, the DEH believes that the high levels of contamination along the downgradient property line warrant additional site assessment. The results of this work will allow the downgradient neighboring property owner to understand the potential risk associated with the conditions underlying the property. In addition, until the site is completely assessed the DEH believes it is premature to conclude remediation should not be considered.

Issue 3

State Board Comment – *Based on an analysis of current and reasonably anticipated near-term future scenarios, the residual contamination plume poses a low-threat to human health, safety and the environment and WQOs will be achieved within a reasonable time frame.*

DEH Comment – The DEH is concerned that the groundwater plume along the downgradient side of the Site is not defined. As stated above, the groundwater samples collected in 2011 indicate that significant contamination underlies the downgradient side of the site and it has likely migrated onto the downgradient residential property.

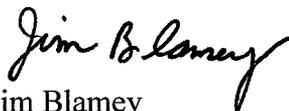
Issue 4

State Board Statement – *The relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in groundwater. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight.*

DEH Comment – In a letter to the State Board (DEH Comment Letter, Western States Oil Case Closure Summary Petition, July 8, 2013) the DEH provided comments on the State's determination that in soil, the concentration of naphthalene can be determined by the concentration of benzene. As of the date of this letter, the DEH has not received a response from the State Board.

If you have any questions, please contact Gerald O'Regan at (408) 918-1974.

Sincerely,



Jim Blamey
Acting Director

Attachment: Residual Soil and Groundwater Contamination Mass Evaluation Report, prepared by Allterra; Table 1, Soil Analytical Data, and Table 2, Groundwater Analytical Results

cc: Geoff Blair, Environmental Services Department, City of San Jose
(Geoffrey.Blair@sanjoseca.gov)
George Cook, Groundwater Monitoring and Analysis Unit, Santa Clara Valley Water District (gcook@valleywater.org)
Nathan King, RWQCB, SF Bay Area, (nking@waterboards.ca.gov)
Steve Lopes, Western States Oil, 1790 South 10th Street, San Jose, CA 95112
James Allen, Allterra Environmental, Inc., (james@allterraenv.com)
File

Table 1
Soil Analytical Results
 444 East Taylor Street, San Jose, California

Sample ID	Sample Depth (feet)	Date Collected	Total Petroleum Hydrocarbons as (mg/kg)		Aromatic Volatile Organic Compounds (mg/kg)					Oxygenated Volatile Organics (mg/kg)				
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	MTBE (8260b)	DIPE	ETBE	TAME	TBA
MW1	5	8/20/99	<1.0	4.4	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW1	10	8/20/99	37	44	0.83	0.3	0.23	0.34	0.56	--	--	--	--	--
MW2	5	8/20/99	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.8	--	--	--	--	--
MW2	10	8/20/99	40	13	<0.005	1.0	0.51	5.4	<0.05	--	--	--	--	--
MW3	5	8/20/99	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW3	10	8/20/99	130	44	<0.005	0.45	<0.005	<0.005	<0.05	--	--	--	--	--
MW4	5	8/20/99	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW4	10	8/20/99	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW5	5	8/20/99	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW5	10	8/20/99	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-1	8	5/1/01	<1.0	1.2	<0.005	<0.005	<0.005	<0.005	NA	0.78	<0.005	<0.005	<0.005	<0.025
GP-1	12	5/1/01	61	13	1.1	1.0	2.0	8.9	NA	2.0	<0.005	<0.005	<0.005	<0.025
GP-1	15	5/1/01	160	28	0.32	0.85	2.0	9.1	NA	3.3	<0.005	<0.005	<0.005	<0.025
GP-1	20	5/1/01	12	<1.0	0.1	0.38	0.28	1.2	NA	2.4	<0.005	<0.005	<0.005	<0.025
GP-2	8	5/1/01	<1.0	<1.0	0.018	<0.005	0.018	0.06	NA	1.2	<0.005	<0.005	<0.005	<0.025
GP-2	12	5/1/01	220	13	6.1	0.42	6.5	22	NA	3.4	<0.005	<0.005	<0.005	<0.025
GP-2	15	5/1/01	<1.0	6.0	0.14	<0.005	0.012	0.042	NA	1.8	<0.005	<0.005	<0.005	<0.025
GP-2	20	5/1/01	<1.0	<1.0	0.016	<0.005	<0.005	<0.005	NA	3.1	<0.005	<0.005	<0.005	<0.025
GP-3	8	5/1/01	<1.0	4.9	<0.005	<0.005	<0.005	<0.005	NA	0.018	<0.005	<0.005	<0.005	<0.025
GP-3	12	5/1/01	55	83	1.1	0.12	0.47	0.92	NA	<0.005	<0.005	<0.005	<0.005	<0.025
GP-3	15	5/1/01	<1.0	<1.0	0.04	<0.005	<0.005	<0.005	NA	1.1	<0.005	<0.005	<0.005	<0.025
GP-3	20	5/1/01	<1.0	<1.0	0.024	<0.005	<0.005	<0.005	NA	2.4	<0.005	<0.005	<0.005	<0.025
GP-12	8	2/6/02	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.025
GP-12	12	2/6/02	370	67	<0.01	<0.01	0.6	1.5	<0.2	<0.05	<0.05	<0.05	<0.05	<0.25
GP-13	8	2/6/02	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.025
GP-13	12	2/6/02	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.025
MW-11	10	2/8/02	46	68	0.042	0.26	0.16	0.22	<1.0	0.35	<0.01	<0.01	<0.01	<0.05
Recent Soil Samples:														
B-4-5'	5	6/21/11	<1.0	2.4	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-4-10'	10	6/21/11	<1.0	22	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-4-15'	15	6/21/11	29	45	0.048	0.031	<0.005	0.027	<0.05	--	--	--	--	--
B-5-5'	5	6/21/11	<1.0	1.3	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-5-10'	10	6/21/11	150	1,600	<0.25	<0.25	<0.25	<0.25	<2.5	--	--	--	--	--
B-6-5'	5	6/21/11	<1.0	2.2	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-6-10'	10	6/21/11	<1.0	27	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-6-15'	15	6/21/11	32	92	0.031	0.082	<0.025	0.043	<0.25	--	--	--	--	--
B-7-5'	5	6/20/11	<1.0	2.9	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-7-10'	10	6/20/11	660	330	<0.10	2.3	<0.10	1.1	<1.0	--	--	--	--	--
B-7-15'	15	6/20/11	18	19	0.0052	0.041	<0.005	0.032	<0.05	--	--	--	--	--
B-8-5'	5	6/20/11	<1.0	2.7	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-8-10'	10	6/20/11	350	520	<0.10	1.5	<0.10	0.50	<1.0	--	--	--	--	--
B-8-15'	15	6/20/11	36	82	0.066	0.14	<0.010	0.050	<0.10	--	--	--	--	--
B-9-5'	5	6/20/11	<1.0	3.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-9-10'	10	6/20/11	<1.0	50	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-9-15'	15	6/20/11	150	640	<0.17	0.37	<0.17	<0.17	<1.7	--	--	--	--	--
B-10-5'	5	6/20/11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-10-10'	10	6/20/11	390	280	<0.10	1.6	0.23	0.48	<1.0	--	--	--	--	--
B-11-5'	5	6/20/11	<1.0	1.6	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-11-10'	10	6/20/11	360	360	<0.10	1.3	<0.10	0.67	<1.0	--	--	--	--	--
B-11-15'	15	6/20/11	13	70	0.043	0.053	<0.005	0.016	<0.05	--	--	--	--	--
B-12-5'	5	6/20/11	<1.0	2.4	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-12-10'	10	6/20/11	340	260	<0.25	0.87	<0.25	0.44	<2.5	--	--	--	--	--
B-12-15'	15	6/20/11	24	230	0.042	0.065	<0.005	0.014	<0.05	--	--	--	--	--

Notes:

All results are in milligrams per kilogram (mg/kg)
 TPHg and TPHd were analyzed by EPA Method 8015B
 Benzene, toluene, ethylbenzene, and xylenes were analyzed by EPA Method 8021B
 MTBE, DIPE, ETBE, TAME, and TBA were analyzed by EPA Method 8260B.
 -- = not analyzed

MTBE = methyl tertiary butyl ether TBA = tert-butanol
 DIPE = di-isopropyl ether
 ETBE = ethyl tert-butyl ether
 TAME = tert-amyl methyl ether



Table 2
Groundwater Analytical Results
 444 East Taylor Street, San Jose, California

Monitoring Well ID	Date Collected	Total Petroleum Hydrocarbons as (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)				
		Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	DIPE	ETBE	TAME	TBA
Active Remediation Targets (ARTs)		1,000	none	100	200	500	300	200	200	none	none	none	none
GP-9	8/16/01	<50	200	<0.5	0.65	<0.5	<0.5	--	<5.0	<5.0	<5.0	<5.0	<20
GP-10	8/16/01	760	3,100	<0.5	2.7	<0.5	<0.5	--	<5.0	<5.0	<5.0	<5.0	<20
GP-11(20')	8/16/01	4,200	110	<0.5	<0.5	<0.5	<0.5	--	19,000	<1,000	<1,000	<1,000	<4,000
GP-11(65')	8/16/01	<50	1,400	<0.5	<0.5	<0.5	<0.5	--	<5.0	<5.0	<5.0	<5.0	<20
GP-12	2/6/02	25,000	35,000	580	60	550	180	--	99	<5.0	<5.0	<5.0	<25
GP-13	2/6/02	<50	<50	<0.5	<0.5	<0.5	<0.5	--	<1.0	<1.0	<1.0	<1.0	<5.0
GP-14	2/6/02	<50	<50	<0.5	0.61	<0.5	<0.5	--	<1.0	<1.0	<1.0	<1.0	<5.0
GP-15	2/6/02	<50	<50	<0.5	<0.5	<0.5	<0.5	--	<1.0	<1.0	<1.0	<1.0	<5.0
GP-16	2/6/02	140	140	<0.5	31	2.8	18	--	<1.0	<1.0	<1.0	<1.0	<5.0
Recent Grab Groundwater Samples:													
B-4-W	6/21/11	29,000	1,200,000	970	89	91	48	<300	--	--	--	--	--
B-5-W	6/21/11	7,600	1,300,000	28	35	<5.0	5.2	<150	--	--	--	--	--
B-6-W	6/21/11	29,000	2,500,000	76	110	5.2	84	<50	--	--	--	--	--
B-7-W	6/20/11	9,500	490,000	36	22	8.5	10	<45	--	--	--	--	--
B-8-W	6/20/11	30,000	810,000	95	95	<10	62	<100	--	--	--	--	--
B-9-W	6/20/11	5,000	4,200,000	28	17	<5.0	5.2	<50	--	--	--	--	--
B-10-W	6/20/11	41,000	2,100,000	38	110	<25	150	<250	--	--	--	--	--
B-11-W	6/20/11	6,400	1,400,000	4.7	19	<2.5	4.7	<55	--	--	--	--	--
B-12-W	6/20/11	9,700	2,700,000	110	38	5.4	22	<50	--	--	--	--	--

Notes:

Samples analyzed for TPHg by EPA Method 8015B, BTEX/MTBE by EPA Method 8021B, and the fuel oxygenates MTBE, DIPE, ETBE, TAME, and TBA by EPA Method 8260B

-- = not sampled/not analyzed

NS* = Pay for Performance guidelines, well was not sampled

µg/L = micrograms per liter

ARTs used for Pay For Performance Conditions for Payment

BTEX = benzene, toluene, ethylbenzene, xylenes

MTBE = methyl tertiary butyl ether

DIPE = Di-isopropyl Ether

ETBE = Ethyl tert-Butyl Ether

TAME = tert-Amyl Methyl Ether

TBA = tert-Butanol