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ENVIRONMENTAL
CONSULTANTS

September 28, 2004

Mr. Terry Davis
TD Rowe
3 Riverway, Suite 1140
Houston, Texas 77056

RE: Opinion Letter – Subsurface Investigation Results
8134 Capwell Drive, Oakland, California
ACC Project Number 6520-001.01

Dear Mr. Davis:

ACC Environmental Consultants, Inc. (ACC) has prepared this Opinion Letter to help evaluate findings reported in ACC's September 9, 2004 *Additional Subsurface Investigation Report* for work conducted at 8134 Capwell Drive, Oakland, California (Site). This investigation was performed to further characterize suspect petroleum hydrocarbon impacts in soil and groundwater in the vicinity of the two former underground storage tanks (USTs) removed from the Site in April 1999.

In its September 9, 2004 report, ACC concluded the following:

1. Reported petroleum hydrocarbon constituents in the grab groundwater samples indicate that significant natural attenuation is occurring as evidenced by the significant decreases in total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) reported between ACC soil borings TDR-B1 and TDR-B4, the relatively low BTEX concentrations reported in soil boring TDR-B3, and the attenuation of methyl tertiary butyl ether (MTBE) with distance from the suspect source area;
2. Low to nondetectable petroleum hydrocarbons in grab groundwater samples collected from each soil boring, indicate that offsite migration of dissolved-phase petroleum hydrocarbons is limited in the horizontal extent and is relatively well defined;
3. No significant source of impact to soil or groundwater is present;
4. Reported BTEX concentrations indicate that BTEX is being preferentially degraded and residual concentrations are decreasing through naturally occurring processes; and
5. Impacted groundwater appears to be confined to the Site and offsite migration and potential human exposure is minimal to nonexistent.

Conclusion #1

As summarized in Tables 1 and 2, significant attenuation of residual petroleum hydrocarbons in soil and groundwater is evident between August 1999 and September 2004. BTEX concentrations have been preferentially degraded and residual petroleum hydrocarbons consist primarily of gasoline-range hydrocarbons. Significant attenuation of residual TPHg, BTEX, and MTBE was reported in grab groundwater samples collected in the vicinity of the former UST excavation and exploratory soil boring TDR-B4, located approximately 50 feet downgradient.

TABLE 1 - SOIL SAMPLE ANALYTICAL RESULTS

Sample ID	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
August 1999						
TDR-Pit-N	5,900	ND	8.3	66	420	ND
TDR-Pit-S	10	ND	ND	ND	ND	42[1]
TDR-Pit-E	73	ND	ND	ND	ND	ND
TDR-Pit-W	ND	ND	ND	ND	ND	57[1]/32[2]
TDR-SP1-SP8	84	ND	ND	ND	ND	ND
TDR-NWall-1	ND	ND	ND	ND	ND	ND
TDR-NWall-2	ND	ND	ND	ND	ND	ND
September 2004						
TDR-B1-4.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
TDR-B2-4.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.0098

Notes: All results reported in milligrams per kilogram (mg/kg)
< Sample tested below the laboratory minimum detection limit indicated
[1] Tert Butyl Ether (TBA) [2] Methyl Tertiary Butyl Ether (MTBE)

TABLE 2 - GRAB GROUNDWATER SAMPLE ANALYTICAL RESULTS

Sample ID	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
August 1999						
TDR-Pit	99,000	220	500	1,500	14,000	ND
Pit-2	3,200	40	3.1	11	54	ND
September 2004						
TDR-B1-W	<50	<0.50	<0.50	<0.50	<0.50	1.5
TDR-B3-W	4,900	3.0	<2.5	9.8	<5.0	72
TDR-B4-W	<50	<0.50	<0.50	<0.50	<1.0	<0.50

Notes: All water sample results reported in micrograms per Liter (µg/L)

Conclusion #2

As summarized in Table 2 and shown on Figure 2, no offsite migration of residual petroleum hydrocarbons in groundwater is evident.

Conclusion #3

As summarized in Table 1, residual TPH in soil is minimal and not indicative of an ongoing source of impact to shallow groundwater. Significantly impacted soil was successfully excavated during UST removal. As summarized in Table 2, elevated TPH concentrations in groundwater in the former UST pit was largely removed during tank removal activities, and current residual TPHg and BTEX concentrations have decreased significantly.

Conclusion #4

ACC estimates that shallow groundwater (less than 10 feet), flushing action from tidal influences, and active natural attenuation processes at the Site enhance natural degradation of residual TPH in the subsurface. BTEX concentrations are low and well below any applicable risk-based screening levels.

Conclusion #5

Based on the location of residual TPH and BTEX in shallow groundwater, the relatively minor concentrations of BTEX, and the expected continued natural degradation of TPH residuals in the subsurface, potential risk to human health is anticipated to be minimal and acceptable based on a realistic exposure scenario. A relatively small, defined plume of impacted groundwater exists just beyond the boundary of the former UST excavation and is likely elongated to the west in the estimated downgradient direction.

Human Health Risk

Based on the conclusions listed above and other site-specific criteria, ACC believes that potential human health risk is minimal and should be considered acceptable under a realistic conceptual site model for the Site. Residual TPHg exists in a highly localized area approximately 10 feet outside the existing office/warehouse building in the driveway to the facility. The Site has been a commercial facility in a commercial business park since it was constructed and will likely remain commercial for many years.

In addition, residual TPHg and BTEX concentrations reported in the September 9, 2004 report were from grab groundwater samples. Grab groundwater samples are typically collected in the top 1-3 feet of saturated soil and often represent "worst-case" conditions when characterizing less dense non-aqueous phase liquids (LNAPLs) like gasoline. Reported LNAPL concentrations in grab groundwater samples are typically skewed high and non-detectable grab groundwater sample analytical results confidently demonstrate the lack of LNAPL impacts in groundwater.

As shown in Table 3, residual BTEX concentrations are significantly below their respective risk-based screening level (RBSL) as summarized in Table B of the San Francisco Bay Regional Water Quality Control Board *Application of Risk-Based Screening Levels and Decision Making to Sites With Impacted Soil and Groundwater, Volume 1: Summary Tier 1 Lookup Tables.*

TABLE 3 – APPLICABLE RBSLs

Sample ID	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
TDR-B3-W	4,900	3.0	<2.5	9.8	<5.0	72
Applicable Table B RBSL						
	500	46	130	290	13	1,800

Notes: All water sample results reported in micrograms per Liter (µg/L)

While human health risk cannot and should not be calculated from grab groundwater sample analytical results, Table 3 demonstrates that if a site-specific human health risk evaluation were prepared for the Site, it would likely yield an acceptable human health cancer risk and hazard index less than 1.0.

Summary

Source removal activities conducted during UST removal successfully remediated the majority of impacted soil and groundwater and additional remediation is not warranted. Minor localized concentrations of TPHg and BTEX exist in shallow groundwater under the driveway of a commercial facility and no offsite migration is occurring. Groundwater monitoring and/or additional subsurface investigation would likely confirm known characterization data only and would not increase our understanding of subsurface site conditions. Potential risk to human health and the environment is not significant and ACC requests that the Site be evaluated for regulatory closure with no further action.

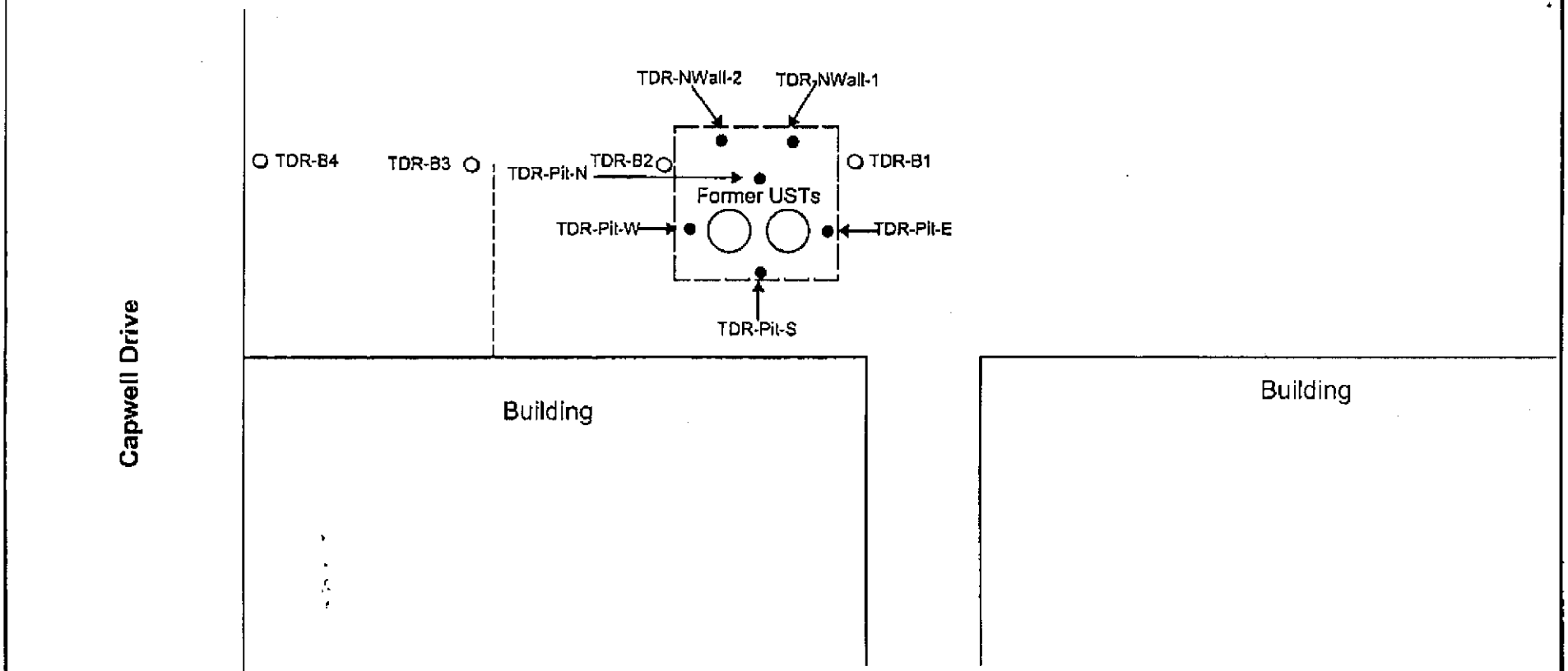
Sincerely,

David R. DeMent, RG, REA II
Environmental Division Manager

/ejg:drd

Attachment

cc: Mr. Leroy Griffin, OFSA



LEGEND

TDR-B3 - Additional Soil Boring Locations

TDR-Pit-N -Initial Soil Sampling Locations

-Chainlink Fence

-Area of Former Excavation

Title: ***Site Plan***
8134 Capwell Drive
Oakland, California

Figure Number: 2	Scale: 1"= 20'
Project No:6520-001.01	Drawn By: EJG
	Date: 9/9/04

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