



TANK PROTECT ENGINEERING

2821 Whipple Road
Union City, CA 94587
(415) 429-8088 • (800) 523-8088
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91 JAN 26 AM 10:39

January 25, 1991

Mr. Scott O. Seery
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94612

RE: Quarterly Report, December 31, 1990, Anthony's Auto service, 19592 Center Street,
Castro Valley, CA 94546

Dear Mr. Seery:

This letter report presents details of the work performed by Tank Protect Engineering (TPE) at the subject site for the fourth quarter of 1990. Work performed by TPE at the site prior to the fourth quarter of 1990 was presented in detail to you in TPE's September 17, 1990 workplan for a preliminary site assessment.

BACKGROUND

In the above referenced workplan, TPE recommended, and you conditionally approved in your October 8, 1990 letter to Mr. Anthony Pettiti the following scope of work:

• Conduct additional soil excavation on the sidewalls and base of the underground gasoline tank excavation.

- 2 . After excavating contaminated soils in the above task (confirmed by chemical analyses of verification soil samples), backfill the excavation.
- 3 . Remediate the stockpiled soils on site, if appropriate.
 - . Conduct a file review at the CRWQCB for documented off- site sources of contamination and for regional groundwater flow direction.
 - . Install 1 to 3 groundwater monitoring wells.
 - . If borings for the above monitoring wells are located farther than 5-feet from the borings previously drilled, collect soil samples for chemical analysis.
 - . Develop, purge, and sample groundwater from each monitoring well for chemical analysis.
 - . Analyze soil and groundwater samples for TPHG and BTEX, additionally analyze groundwater for lead.
 - . Survey top-of-well casings for elevation and determine groundwater flow direction and gradient if three wells are installed.
 - . Write a report documenting work performed and analytical results with conclusions and recommendations.

WORK PERFORMED FOURTH QUARTER 1990

During the fourth quarter of 1990, TPE has performed tasks 1 and 3 listed above; that is, TPE has overexcavated contaminated soil from the area of the former underground fuel tank complex and has conducted on-site remediation of the excavated soil (including soil excavated during tank removal activities). Details of these tasks are presented below.

Overexcavation

During the week of November 5, 1990, TPE conducted overexcavation of the 4 sides and base of the underground fuel tank excavation (see attached Figure 1). During overexcavation, soil in the sidewalls and base were sampled and field-screened for contamination by performing a head-space analysis using a combustible gas indicator. Overexcavation continued until field-screening indicated all contaminated soil had been excavated from all 4 sides and base of the excavation. Vertical overexcavation was conducted to a depth of about 17 feet. ~~During~~ excavation at the time of tank removal, ~~about 400 cubic yards of contaminated soil was excavated and stockpiled on site.~~

Verification Soil Sampling

Eight verification soil samples (see attached Figure 1 for sample locations) were collected for chemical analyses to ensure that all contaminated soil had been removed. Soil samples were collected by excavating soil 1 to 2 feet below the exposed surfaces of the excavation with a backhoe and then, collecting a freshly exposed soil sample from the bucket of the backhoe in a 6-inch brass tube driven by a slide hammer corer. The ends of the brass tubes were quickly covered with aluminum foil capped by plastic end-caps which were taped with duct tape to the brass tubes. The brass tubes were then labeled, preserved in an iced-cooler and transported with a chain-of-custody to a California State certified laboratory (Sequoia Analytical in Redwood City, CA) for chemical analysis. Verification soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHG); and benzene, toluene, ethylbenzene, and xylenes (BTEX) by the United States Environmental Protection Agency Methods 5030/8015 and 5030/8020, respectively.

Results of Chemical Analyses

Results of chemical analyses are summarized in attached Table 1 and documented in the attached certified analytical reports and chain-of-custodies. Results of chemical analyses were all below detection limits with the exception of soil sample VSW-2 which contained trace levels of benzene, toluene, and xylenes; soil sample VSE-1 which contained trace levels of xylenes; and soil sample VSBP-1 which contained trace levels of toluene and xylenes.

Stockpiled Soil Remediation

Notification of soil remediation was made by TPE to the Bay Area Quality Management District.

Tank Protect Engineering remediated hydrocarbons in the stockpiled soil by oxidizing the hydrocarbons with a hydrogen peroxide solution. When applying the solution to hydrocarbon contaminated soil, the chemical reaction between the hydrogen peroxide and hydrocarbons produces non-toxic and non-hazardous carbon dioxide and water as reaction products.

Prior to on-site treatment, TPE ensured that the site was secured by a fence and/or access gates so that unexpected entry and potential exposure to the hydrogen peroxide mixture could not be made during soil treatment.

Treatment began by measuring off a treatment area and covering the ground with plastic covered with about 8-inches of clean soil. The plastic and clean soil provide a protective barrier to prevent cross contamination between in-situ soil in the treatment area and the contaminated soil to be treated.

At the beginning of the treatment, contaminated soil was moved by backhoe from the contaminated stockpiled soil to the treatment area and spread from 8-inches to 16-inches deep. The soil was then treated by applying a hydrogen peroxide mixture to the exposed surface with a sprayer. The mixture was applied in several doses with the contaminated soil being turned before each dose to expose new surfaces. Additional layers of contaminated soil were spread from about 8-inches to 16-inches deep over the previously treated soil and treated. This process continued until all the contaminated soil had been treated. Remediation was conducted by TPE during November, 1990.

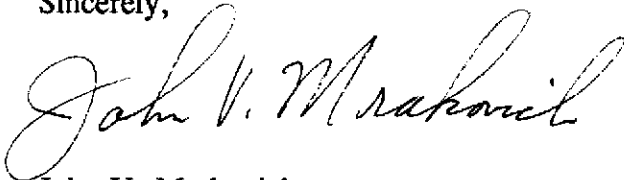
WORK PLANNED TO BE PERFORMED FOR FIRST QUARTER 1991

Work planned to be performed by TPE at the subject site during first quarter 1991 is:

- Collect 1 verification soil sample for each 20 cubic yards from the remediated stockpiled soil for chemical analysis for TPHG and BTEX.
- After verifying remediation and with approval of the Alameda County Health Care Services Agency, reuse the remediated stockpiled soil for backfill and closure of the underground fuel tank excavation.
- Install 3 groundwater monitoring wells.
- If borings for the above monitoring wells are located farther than 5-feet from the borings previously drilled, collect soil samples for chemical analysis.
- Develop, purge, and sample groundwater from each monitoring well for chemical analysis.
- Survey top-of-well casings for elevation and determine groundwater flow direction and gradient.
- Write a report documenting work performed and analytical results with conclusions and recommendations.

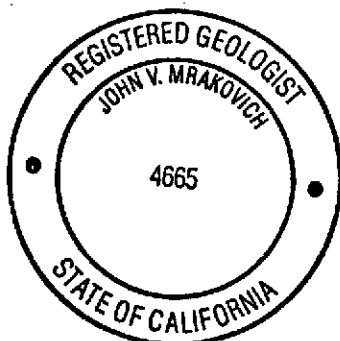
If you have any questions, please call TPE at (415) 429-8088.

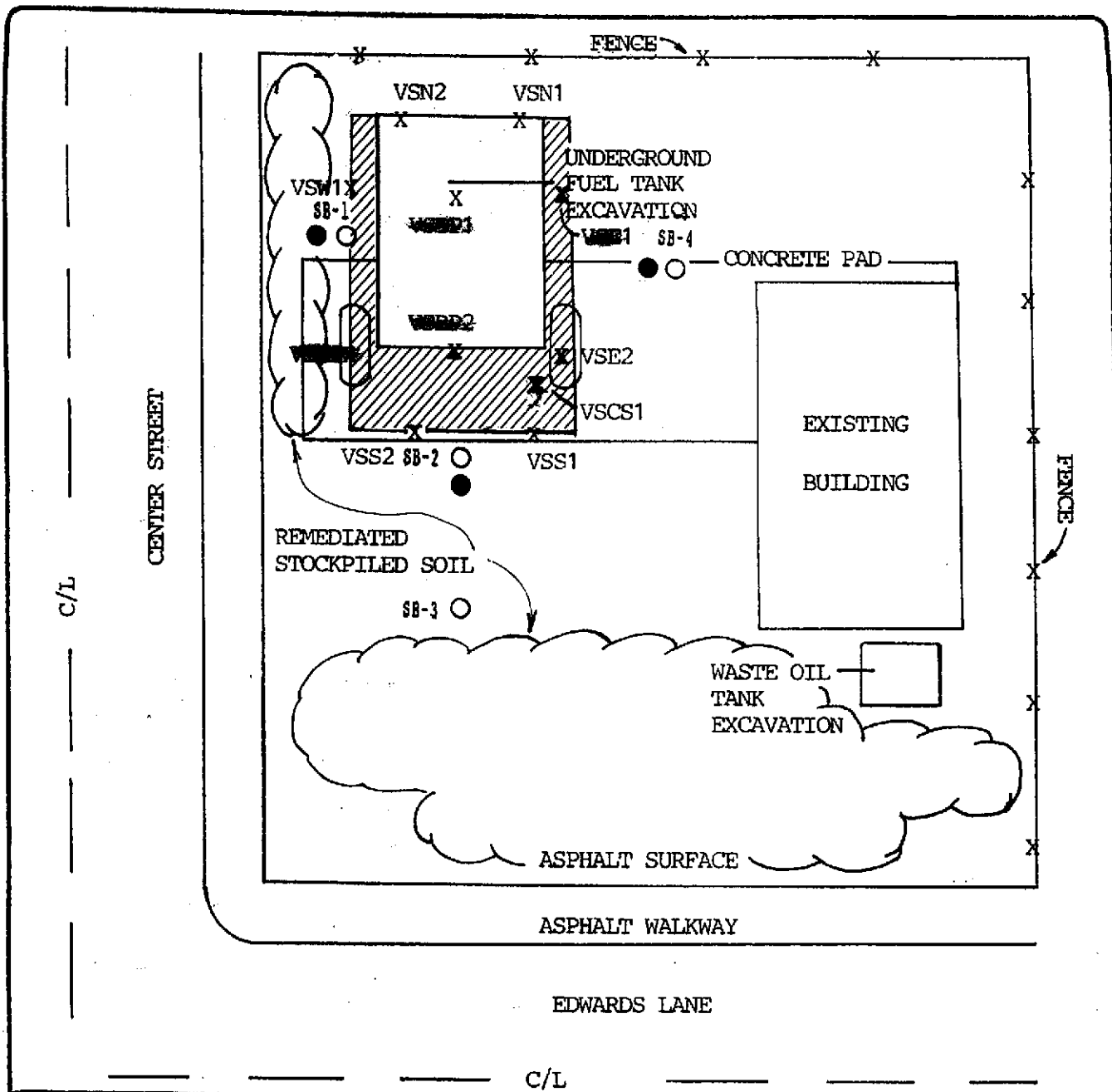
Sincerely,



John V. Mrakovich

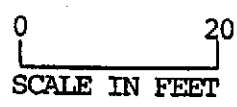
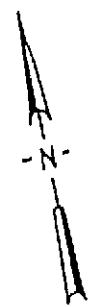
Attachments





LEGEND

- SB-1 NAME AND LOCATION OF SOIL BORING
- PROPOSED GROUNDWATER MONITORING WELL LOCATION
-
- VSN1 X NAME AND LOCATION OF SOIL SAMPLING



SITE PLAN
 ANTHONY'S AUTO SERVICE
 1952 CENTER STREET
 CASTRO VALLEY, CALIFORNIA

FIGURE
 1

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
FOR VERIFICATION SOIL SAMPLES
COLLECTED DURING OVEREXCAVATION
(PPM)

Sample Identification	Depth (in feet)	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes
VSN-2	15.0-15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
VSE-2	16.0-16.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
VSS-1	16.0-16.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
VSS-2	16.0-16.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
VSBP-2	17.5-18.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
VSE-1	17.0-17.5	<1.0	<0.0050	<0.0050	<0.0050	0.0053
VSW-1	15.0-15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
VSN-2	16.0-16.5	<1.0	0.0092	0.0190	<0.0050	0.0180
VSBP-1	17.5-18.0	<1.0	<0.0050	0.0070	<0.0050	0.0071
VSN-1	15.0-15.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
VSCS-1	03.0-03.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Tank Protect Engineering of N. Calif Client Project ID: 121 A - 111290	Matrix Descript: Soil	Sampled: Nov 9, 1990
2821 Whipple Road	Analysis Method: EPA 5030/8015/8020	Received: Nov 12, 1990
Union City, CA 94587	First Sample #: 011-1495	Analyzed: Nov 23, 1990
Attention: John Mrakovich		Reported: Nov 27, 1990

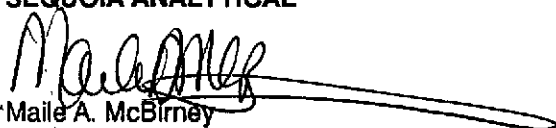
TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons				
		Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)	
011-1495	VSN-2	N.D.	N.D.	N.D.	N.D.	
011-1496	VSE-2	N.D.	N.D.	N.D.	N.D.	
011-1497	VSS-1	N.D.	N.D.	N.D.	N.D.	
011-1498	VSS-2	N.D.	N.D.	N.D.	N.D.	
011-1499	VSBP-2	N.D.	N.D.	N.D.	N.D.	

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Maile A. McBirney
Project Manager

111495.TPE <1>



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CHAIN OF CUSTODY SEQUOIA PAGE 10F1

PROJECT NO. 121A-111290		SITE NAME & ADDRESS 19592 CENTER STREET CASTRO VALLEY, CA				(1) TYPE OF CON- TAINER	ANALYTES REQUESTED TOTAL LIGHT HC AROMATIC HC TOTAL HEAVY HC (BTEX) OIL & GREASE PCB SCAN (224's) OTHER	REMARKS				
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER LYLE TRAVIS TANK PROTECT ENGINEERING												
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION							
✓ VSN-2	11/9/90	1645	✓		VSN-2 @ 15'	BRASS TUBE	✓	✓				
✓ VSE-2		950			VSE-2 @ 16'							
✓ VSS-1		1130			VSS-1 @ 16'							
✓ VSS-2		1620			VSS-2 @ 16'							
✓ VSBP-2		1630			VSBP-2 @ 17.5'							
Relinquished by : (Signature) <i>[Signature]</i>		Date / Time 10/21 2:35		Received by : (Signature) <i>[Signature]</i>		Relinquished by : (Signature)		Date / Time		Received by : (Signature)		
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)		
Relinquished by : (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks NORMAL TURN AROUND				

DATE: _____



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Tank Protect Engineering of N. Calif Client Project ID:	121 A - 111290	Sampled:	Nov 9, 1990
2821 Whipple Road	Matrix Descript: Soil	Received:	Nov 12, 1990
Union City, CA 94587	Analysis Method: EPA 5030/8015/8020	Analyzed:	Nov 23, 1990
Attention: John Mrakovich	First Sample #: 011-1494	Reported:	Nov 26, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl	Xylenes
		Hydrocarbons			Benzene	
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
011-1494	VSCS-1	N.D.	N.D.	N.D.	N.D.	N.D.

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maile A. McBirney
Project Manager



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CHAIN OF CUSTODY SEQUOIA PAGE 1 OF 1

PROJECT NO. 121A-111290		SITE NAME & ADDRESS 1952 CENTER STREET CASTRO VALLEY, CA.				(1) TYPE OF CON- TAINER	ANALYTES REQUESTED						REMARKS
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER LYLE TRAVIS TANK PROTECT ENGINEERING							TOTAL LIGHT HC	AROMATIC HC	TOTAL HC (BTEX)	OIL & GREASE	VOC SCAN (624's)	OTHER	
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION								
VSCS-1	11/19/92	1400	✓		VSCS-1	BENTONITE TUBE	✓	✓					
Relinquished by: (Signature) J.D. Adams		Date / Time 10/14 2:35		Received by: (Signature) E.I. Burn		Relinquished by: (Signature)		Date / Time		Received by: (Signature)			
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)			
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks NORMAL TURN AROUND					

DATE: _____



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Tank Protect Engineering	Client Project ID: 121A-11790 / 19592 Center St., Castro Valley	Sampled: Nov 1, 1990
2821 Whipple Road	Matrix Descript: Soil	Received: Nov 7, 1990
Union City, CA 94587	Analysis Method: EPA 5030/8015/8020	
Attention: John Mrakovich	First Sample #: 011-1037	Reported: Nov 21, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
011-1037	VSE-1 @ 17'	N.D.	N.D.	N.D.	N.D.	0.0053
011-1038	VSW-1 @ 15'	N.D.	N.D.	N.D.	N.D.	N.D.
011-1039	VSW-2 @ 16'	N.D.	0.0092	0.019	N.D.	0.018
011-1040	VSBP-1 @ 17.5'	N.D.	N.D.	0.0070	N.D.	0.0071
011-1041	VSN-1 @ 15'	N.D.	N.D.	N.D.	N.D.	N.D.

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maile A. McBirney
Project Manager



TANK PROTECT ENGINEERING

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P.O.# 128

CHAIN OF CUSTODY

SEQUOIA 9 CFS

PROJECT NO. 121A-11690		SITE NAME & ADDRESS 19592 CENTER STREET CASTRO VALLEY, CA				(1) TYPE OF CONTAINER	ANALYTES REQUESTED TOTAL LIGHT HC AROMATIC HC TOTAL HEAVY HC OIL & GREASE POC SCAM (624's) OTHER	REMARKS			
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER LYLE TRAVIS TANK PROTECT ENGINEERING TEL(415)429-8088											
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION						
S7-4	11/6/90	1521	✓		S7-4 @ 10'	BRASS TUBE	✓	from P.			
VSE-1	11/5/90	1326			VSE-1 @ 17'						
VSW-1	11/6/90	1100			VSW-1 @ 15'						
VSW-2	11/6/90	1413			VSW-2 @ 16'						
VSBP-1	11/6/90	1420			VSBP-1 @ 17.5'						
Relinquished by: (Signature) <i>[Signature]</i>		Date / Time 11/7/90 15:05		Received by: (Signature) <i>[Signature]</i>		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks NORMAL TANK AROUND			

DATE: _____



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CHAIN OF CUSTODY SEQUOIA S O F S

PROJECT NO.		SITE NAME & ADDRESS					(1) TYPE OF CON- TAINER	ANALYTES REQUESTED							REMARKS		
101A-11090		19592 CENTER ST CASTRO VALLEY						TOTAL LIGHT HC	TOTAL HC (BTEX)	OIL & GREASE	VOC SCAN (22's)	OTHER					
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER																	
CYCLE TRAVIS TANK PROTECT ENGINEERING TEL#(415)4298088																	
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION												
VSN-1	11/6/90	1050	-		VSN-1@ 15'		BRASS TUBE	✓									
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)							
<i>[Signature]</i>		11/7/90 15:05		<i>[Signature]</i>													
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)							
				<i>[Signature]</i>													
Relinquished by : (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks									
								NORMAL TURN AROUND									

DATE: _____