

February 1, 1991

Mr. Norman Tuttle II
Crosby, Heafey, Roach & May
1999 Harrison Street
Oakland, California 94612

Subject: Additional Petroleum Contamination Exploration
9th and Jefferson Parcel

Dear Mr. Tuttle:

INTRODUCTION

This letter describes the results of additional petroleum contamination work performed to explore the extent of petroleum hydrocarbons in soil in the area adjacent to the parcel located at 9th and Jefferson Streets in Oakland, California. The work performed for this phase of the investigation included drilling and sampling of ten soil borings located in 10th Street and Jefferson Street adjacent to the northwestern ^{eastern} corner of the parcel. Previously, Woodward-Clyde Consultants performed a study (described in our June 5, 1990 ~~report~~) of the interior of the parcel consisting of nineteen soil borings, including three monitoring wells. That study showed that petroleum hydrocarbons (gasoline) occur in the soil and groundwater beneath the northwestern ^{eastern} corner of the parcel at the site of a former parking lot and/or service station.

SOIL SAMPLING AND LABORATORY TESTING

Soil borings numbered 20 through 29 were drilled on April 10 and 11, 1990 at the locations shown on Figure 1 using an eight-inch diameter hollow-stem auger. Soil boring locations were chosen to attempt to explore the extent of gasoline in soil beneath the sidewalks and streets adjacent to the property. Boring locations were selected in advance of drilling so that a concrete-cutting subcontractor could core holes through the concrete pavement surrounding the site, allowing the soil drilling to proceed more efficiently.

Soil samples for chemical analyses were obtained at selected depths in each boring based on the occurrence of gasoline odor in the soil cuttings or samples, or where headspace tests performed with an organic vapor monitor indicated that organic vapors were present. A drive sampler was used to collect the soil samples. The soil samples were retained in brass tubes. Upon removal



from the sample barrel, the ends of the tubes were capped with Teflon sheeting and plastic end caps. The soil sampler was cleaned between each sampling and between borings by washing in an Alconox detergent and tap water solution followed by a tap water rinse. Soil samples were immediately placed on ice in an ice chest for transport to NET Analytical Laboratories in Santa Rosa, California under chain-of-custody control. Following drilling, the borings were backfilled to the ground surface using a cement-bentonite grout, in accordance with Alameda County-Zone 7 requirements. Excess soil cuttings were placed in drums for storage on-site and later disposal.

Discrete soil samples from the soil borings in which a gasoline odor or organic vapors were detected were analyzed for total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, ethyl benzene and xylenes (BTEX) using EPA Method 5030/8015/8020. Analyses were performed on soil samples from borings 20,21,22,24 and 29. The results of the laboratory analysis of the soil samples are included as Attachment 2, and are plotted in Figure 1. The results may be summarized as follows:

- 1) TPH as gasoline was detected by the laboratory in soil samples from soil borings 21, 22, 24 and 29 at concentrations ranging from 600 to 9300 parts-per-million (ppm) at locations adjacent to the northwestern corner of the property. TPH as gasoline was detected at 6000 ppm in a soil sample from a depth of 25 feet in Boring 21. TPH as gasoline was detected at 9,300 ppm in a soil sample from a depth of 25 feet in Boring 22. TPH as gasoline was detected at 600 ppm in the soil sample taken from a depth of 25 feet in Boring 24 located on the east side of Jefferson Street. TPH as gasoline was detected a 6000 ppm in a soil sample from a depth of 25 feet in Boring 29.
- 2) Benzene was not detected in soil samples from Borings 21, 22, 24 and 29, but was detected at 11 ppm in soil from Boring 20. Of the five soil samples tested, only the sample from Boring 22 showed a detectable concentration of toluene (20 ppm). The concentration of ethylbenzene ranged from no detection in soil from Boring 20 to 85 ppm in soil from Boring 22. The concentration of xylenes ranged from 3.2 ppm in soil from Boring 20 to 210 ppm in soil from Boring 21.
- 3) No petroleum odors were detected in soil borings 26,27 and 28 located on the north side of 10th Street or in soil borings 25 and 23 located on Jefferson Street.

DISCUSSION

The soil exploration and laboratory test data collected in this phase of work appears to support the inference made in the June 5, 1990 WCC report that the probable source of petroleum hydrocarbons was a tank or other leak near the property boundary at the corner of 10th and Jefferson Streets. It is our opinion that the soil contamination appears to be confined primarily to the parcel corner and the adjacent sidewalk and City streets, although it is possible the soil contamination extends onto private property in the vicinity of soil boring 24 on the east side of Jefferson Street. In our opinion, the concentrations of petroleum hydrocarbons detected in the soil samples are great enough that the soil would be expected to act as a continuing source of

groundwater contamination, if groundwater comes into contact with the soil, or if rainwater migrates downward through the soil. Field evidence suggests that the groundwater at this site occurs at a depth of about 26 feet, immediately below the zone of maximum contamination identified in the soil borings.

Based on our recent discussions with Mr. Douglas Salter, we understand that the proposed developments of the property are likely to include one level of underground parking, requiring an excavation 12 to 15 feet deep within the property boundary. The soil contamination identified in these studies occurs at depths between about 22 to 25 feet below ground surface, well below the planned maximum depth of excavation. The relatively limited size of the undeveloped portions of the site and the occurrence of hydrocarbons outside of the property boundary on City of Oakland property suggest that an in-situ method of reducing petroleum hydrocarbon concentrations in the soil may be most feasible. Other methods requiring excavation of the contaminated soil for on-site aeration or bioremediation and later off-site disposal could impact the City street and require a larger work area for completion of the treatment process than is available at this site.

RECOMMENDATIONS

Based on the work completed to date, we recommend the following:

- 1) Installation and operation of a vapor extraction system to reduce concentrations of gasoline in the soil beneath the property and adjacent City streets. Such a system should be designed, permitted and operated in accordance with the requirements of the Bay Area Air Quality Management District (BAAQMD), and the Alameda County Department of Environmental Health, Division of Hazardous Materials and/or the California Regional Water Quality Control Board, San Francisco Bay Region.
- 2) Quarterly monitoring of the groundwater, using the existing monitoring wells on the property, during the period of vapor extraction to evaluate the effects of the remedial program on the quality of the shallow groundwater.

The goals of this program are to reduce or eliminate the concentrations of gasoline in the soil, thereby reducing the possibility of further contamination of the groundwater.

LIMITATIONS

This report was prepared in general accordance with the accepted standard of practice which exists in northern California at the time the investigation was performed. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface conditions present. More extensive studies, including additional subsurface

investigations can tend to reduce the inherent uncertainties associated with inferring subsurface conditions.

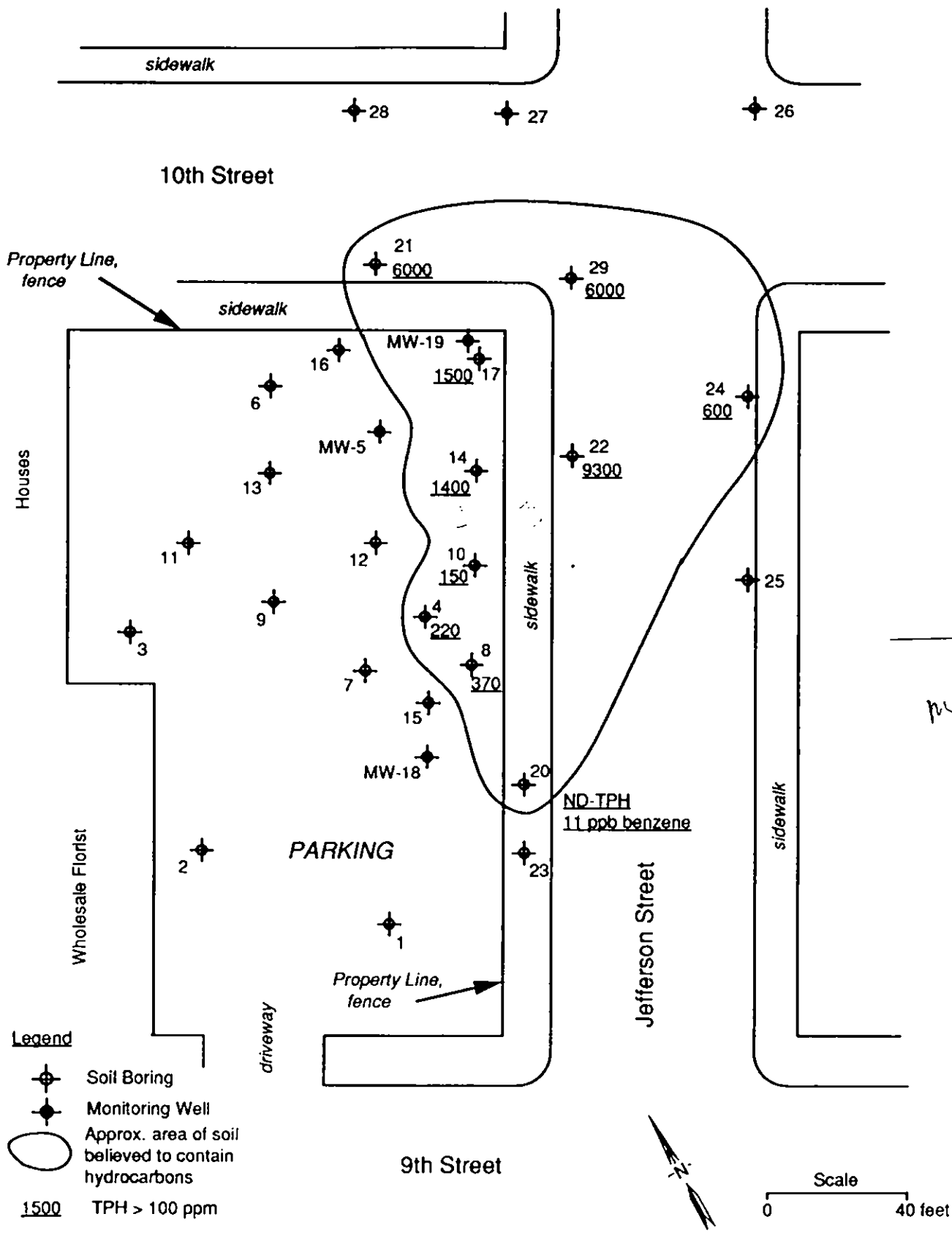
Please feel free to call if you have any questions.

Yours truly,
WOODWARD-CLYDE CONSULTANTS


George A. Ford
Associate

cc: Mr. Douglas N. Salter

Attachments: 1) Site Map- Figure 1
2) Boring Logs
3) Chemical Analytical Data



Project No. 8910084A	9th and Jefferson EA	9th and Jefferson Site Map	Attachment 1
Woodward-Clyde Consultants			

BORING NUMBER - 20		ELEVATION AND DATUM	
DRILLING AGENCY Exeltech	DRILLER Don / Dan	DATE STARTED	DATE FINISHED 4-10-90
DRILLING EQUIPMENT Trailer-mounted drill rig		COMPLETION DEPTH 31 feet	SAMPLER Modified Ca.
DRILLING METHOD 6" Hollow-stem Auger	DRILL BIT	NO. OF SAMPLES	DIST. 2
LOGGED BY: W. Copeland		WATER LEVEL	FIRST COMPL. 24 HRS.

CHECKED BY: G. Ford

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density pcf
			CONCRETE			
5			SILTY SAND (SM) dark brown, dry, fine grain			
			becomes medium brown			no odor
10			some clay			no odor
15			CLAYEY SAND (SC) brown, some silt, damp			no odor
20			SILTY SAND (SM) greenish brown, damp, some clay, fine grain			
25			20-1 becomes green, wet, little clay			slight odor
30			20-2			no odor
			Bottom of Boring - 31 feet			
35			Backfilled borehole with sand / cement grout, 4-12-90			

BORING NUMBER - 21			ELEVATION AND DATUM					
DRILLING AGENCY Exeltech		DRILLER Don / Dan	DATE STARTED 4-10-90		DATE FINISHED			
DRILLING EQUIPMENT Trailer-mounted drill rig			COMPLETION DEPTH 26 feet	SAMPLER Modified Ca.				
DRILLING METHOD 6" Hollow-stem Auger		DRILL BIT	NO. OF SAMPLES	DIST. 1	UNDIST.			
LOGGED BY: W. Copeland			WATER LEVEL	FIRST	COMPL. 24 HRS.			
CHECKED BY: G. Ford								
Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION			USCS	Moisture Content	Dry Density
			CONCRETE					
5			SILTY SAND (SM) brown, dry, some gravel up to 1.5" diameter no gravel becomes medium brown some clay, becomes damp					
10								
15								
20			CLAYEY SAND (SC) brown, some silt, damp becomes green					
25			21-1					
			strong odor HNU = 375 ppm					
30			Bottom of Boring - 26 feet					
35			Backfilled borehole with sand / cement grout, 4-12-90					

BORING NUMBER - 22		ELEVATION AND DATUM	
DRILLING AGENCY Exeltech	DRILLER Don / Dan	DATE STARTED	DATE FINISHED 4-10-90
DRILLING EQUIPMENT Trailer-mounted drill rig		COMPLETION DEPTH 26 feet	SAMPLER Modified Ca.
DRILLING METHOD 6" Hollow-stem Auger	DRILL BIT	NO. OF SAMPLES	DIST. 1
LOGGED BY: W. Copeland		WATER LEVEL	FIRST <input checked="" type="checkbox"/> UNDIST.
CHECKED BY: G. Ford		COMPL.	24 HRS.

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density
			CONCRETE			
5			SILTY SAND (SM) medium brown, dry, fine grain becomes olive brown, saturated increasing clay			no odor
10						no odor
15			decreasing clay			no odor
25			22-1			strong odor HNU = >500 ppm
30			Bottom of Boring - 26 feet			
35			Backfilled borehole with sand / cement grout, 4-12-90			

BORING NUMBER - 23		ELEVATION AND DATUM	
DRILLING AGENCY Exeltech	DRILLER Don / Dan	DATE STARTED	4-10-90
DRILLING EQUIPMENT Trailer-mounted drill rig		COMPLETION DEPTH 30 feet	SAMPLER Modified Ca.
DRILLING METHOD 6" Hollow-stem Auger	DRILL BIT	NO. OF SAMPLES	DIST. 0
LOGGED BY: W. Copeland		WATER LEVEL	FIRST <input checked="" type="checkbox"/> COMPL. 24 HRS.

CHECKED BY: G. Ford

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density
			CONCRETE			
5			SILTY SAND (SM) reddish brown, damp, fine grain no odor			
10			no odor			
15			CLAYEY SAND (SC) brown, some silt, damp no odor			
20			decreasing clay			
25			SILTY SAND (SM) brown, damp, fine grain no odor			
30			no odor			
			Bottom of Boring - 30 feet			
35			Backfilled borehole with sand / cement grout, 4-12-90			

BORING NUMBER - 24		ELEVATION AND DATUM	
DRILLING AGENCY Exetech	DRILLER Don / Dan	DATE STARTED	DATE FINISHED 4-10-90
DRILLING EQUIPMENT Trailer-mounted drill rig		COMPLETION DEPTH 26 feet	SAMPLER Modified Ca.
DRILLING METHOD 6" Hollow-stem Auger	DRILL BIT	NO. OF SAMPLES	DIST. 1
LOGGED BY: W. Copeland		WATER LEVEL	FIRST <input checked="" type="checkbox"/> COMPL. 24 HRS.
CHECKED BY: G. Ford			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density pcf
			CONCRETE			
5			SILTY SAND (SM) brown, moist, some clay, fine grain no odor			
10			no odor			
15			CLAYEY SAND (SC) brown, some silt, damp no odor			
20			decreasing clay			
25			SILTY SAND (SM) brown, damp, some clay, fine grain becomes gray strong odor HNU = 140 ppm			
			24-1			
			Bottom of Boring - 26 feet			
30						
35			Backfilled borehole with sand / cement grout, 4-12-90			

BORING NUMBER - 25			ELEVATION AND DATUM					
DRILLING AGENCY Exeltech		DRILLER Don / Dan	DATE STARTED 4-10-90		DATE FINISHED			
DRILLING EQUIPMENT Trailer-mounted drill rig			COMPLETION DEPTH 30 feet	SAMPLER Modified Ca.				
DRILLING METHOD 6" Hollow-stem Auger		DRILL BIT	NO. OF SAMPLES	DIST. 0	UNDIST.			
LOGGED BY: W. Copeland			WATER LEVEL	FIRST	COMPL. 24 HRS.			
CHECKED BY: G. Ford								
Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION			USCS	Moisture Content	Dry Density pct
			CONCRETE					
5			SILTY SAND (SM) reddish brown, damp, some clay, fine grain					
			no odor					
10			no odor					
15			CLAYEY SAND (SC) brown, some silt, damp					
			decreasing clay					
			no odor					
20			SILTY SAND (SM) brown, damp, some clay, fine grain					
			no odor					
25			becomes gray					
			becomes wet					
			no odor					
30			Bottom of Boring - 30 feet					
35			Backfilled borehole with sand / cement grout, 4-12-90					

BORING NUMBER - 26		ELEVATION AND DATUM	
DRILLING AGENCY Exeltech	DRILLER Don / Dan	DATE STARTED	DATE FINISHED 4-11-90
DRILLING EQUIPMENT Trailer-mounted drill rig		COMPLETION DEPTH 30 feet	SAMPLER Modified Ca.
DRILLING METHOD 6" Hollow-stem Auger	DRILL BIT	NO. OF SAMPLES	DIST. 0
LOGGED BY: W. Copeland		WATER LEVEL	FIRST <input checked="" type="checkbox"/> COMPL. 24 HRS.
CHECKED BY: G. Ford			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density	pct
			CONCRETE				
5			SILTY SAND (SM) dark brown, moist, some clay, fine grain becomes medium brown				no odor
10							no odor
15			CLAYEY SAND (SC) brown, some silt, moist				no odor
20			SILTY SAND (SM) dark brown, moist, some clay, fine grain				
25			<input checked="" type="checkbox"/> STD becomes wet				no odor
30			Bottom of Boring - 30 feet				
35			Backfilled borehole with sand / cement grout, 4-12-90				

BORING NUMBER - 27		ELEVATION AND DATUM	
DRILLING AGENCY Exeltech	DRILLER Don / Dan	DATE STARTED	DATE FINISHED 4-11-90
DRILLING EQUIPMENT Trailer-mounted drill rig		COMPLETION DEPTH 30 feet	SAMPLER Modified Ca.
DRILLING METHOD 6" Hollow-stem Auger	DRILL BIT	NO. OF SAMPLES	DIST. 0
LOGGED BY: W. Copeland		WATER LEVEL	FIRST <input checked="" type="checkbox"/> COMPL. 24 HRS.

CHECKED BY: G. Ford

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density pcf
			CONCRETE			
5			SILTY SAND (SM) dark brown, damp, some clay, fine grain becomes medium brown			no odor
10			becomes gray			no odor
15			CLAYEY SAND (SC) brown, some silt, moist			no odor
25			becomes wet			no odor
30			Bottom of Boring - 30 feet			
35			Backfilled borehole with sand / cement grout, 4-12-90			

BORING NUMBER - 28		ELEVATION AND DATUM	
DRILLING AGENCY Exeltech	DRILLER Don / Dan	DATE STARTED	4-11-90
DRILLING EQUIPMENT Trailer-mounted drill rig		COMPLETION DEPTH	30 feet
DRILLING METHOD 6" Hollow Stem Auger	DRILL BIT	NO. OF SAMPLES	DIST. 0
LOGGED BY: W. Copeland		WATER LEVEL	FIRST <input checked="" type="checkbox"/> 24 HRS.

CHECKED BY: G. Ford

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density pcf
			CONCRETE			
5			SILTY SAND (SM) dark brown, damp, some clay, fine grain			no odor
10			becomes medium brown			no odor
15						no odor
20						
25						no odor
30			Bottom of Boring - 30 feet			
35			Backfilled borehole with sand / cement grout, 4-12-90			

BORING NUMBER - 29		ELEVATION AND DATUM	
DRILLING AGENCY <u>Exeltech</u>	DRILLER <u>Don / Dan</u>	DATE STARTED	DATE FINISHED <u>4-11-90</u>
DRILLING EQUIPMENT <u>Trailer-mounted drill rig</u>		COMPLETION DEPTH <u>26 feet</u>	SAMPLER <u>Modified Ca.</u>
DRILLING METHOD <u>6" Hollow-stem Auger</u>	DRILL BIT	NO. OF SAMPLES: <u>1</u>	DIST. <u>1</u>
LOGGED BY: <u>W. Copeland</u>		WATER LEVEL: <u>FIRST</u>	COMPL. <u>24 HRS.</u>
CHECKED BY: <u>G. Ford</u>			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density	pcf
			CONCRETE				
5			SILTY SAND (SM) dark brown, damp, some clay, fine grain becomes medium brown				no odor
10			becomes gray				no odor
15			CLAYEY SAND (SC) mottled gray and brown, some silt, damp				no odor
25							strong gasoline odor OVM = >500 ppm
			Bottom of Boring - 26 feet				
35			Backfilled borehole with sand / cement grout, 4-12-90				



NATIONAL
ENVIRONMENTAL
TESTING, INC.

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Fax: (707) 526-9623

George Ford
Woodward-Clyde Cons.
500 12th Street, Suite 100
Oakland, CA 94607-4014

Date: 05-01-90
NET Client Acct. No: 120
NET Pacific Log No: 1562
Received: 04-13-90 0800

Client Reference Information

Project: 8910084A

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:


Jules Skamarack
Laboratory Manager

Enclosure(s)

Client Acc 120
Client Name: Woodward-Clyde Cons.
NET Log No: 1562

Date: 05-01-90
Page: 2

Ref: Project: 8910084A

SAMPLE DESCRIPTION: 20-1 04-11-90
LAB Job No: (-50803)

Parameter	Reporting Limit	Results	Units
Lead (EPA 7421)	0.2	1.7	mg/Kg
PETROLEUM HYDROCARBONS VOLATILE (SOIL)		--	
DILUTION FACTOR *		1	
DATE ANALYZED		04-25-90	
METHOD GC FID/5030 as Gasoline	1	ND	mg/Kg
METHOD 8020		--	
DILUTION FACTOR *		1	
DATE ANALYZED		04-25-90	
Benzene	2.5	11	ug/Kg
Ethylbenzene	2.5	ND	ug/Kg
Toluene	2.5	ND	ug/Kg
Xylenes, total	2.5	3.2	ug/Kg

Client Acc: 120
Client Name: Woodward-Clyde Cons.
NET Log No: 1562

Date: 05-01-90
Page: 3

Ref: Project: 8910084A

SAMPLE DESCRIPTION: 22-1 04-11-90
LAB Job No: (-50804)

Parameter	Reporting Limit	Results	Units
Lead (EPA 7421)	0.2	5.4	mg/Kg
PETROLEUM HYDROCARBONS VOLATILE (SOIL)		--	
DILUTION FACTOR *		1,000	
DATE ANALYZED		04-25-90	
METHOD GC FID/5030 as Gasoline	1	9,300	mg/Kg
METHOD 8020		--	
DILUTION FACTOR *		1,000	
DATE ANALYZED		04-25-90	
Benzene	2.5	ND	ug/Kg
Ethylbenzene	2.5	85,000	ug/Kg
Toluene	2.5	20,000	ug/Kg
Xylenes, total	2.5	210,000	ug/Kg

Client Acc 120
Client Name: Woodward-Clyde Cons.
NET Log No: 1562

Date: 05-01-90
Page: 4

Ref: Project: 8910084A

SAMPLE DESCRIPTION: 29-1 04-11-90
LAB Job No: (-50805)

Parameter	Reporting Limit	Results	Units
Lead (EPA 7421)	0.2	2.2	mg/Kg
PETROLEUM HYDROCARBONS VOLATILE (SOIL)		--	
DILUTION FACTOR *		1,000	
DATE ANALYZED		04-26-90	
METHOD GC FID/5030 as Gasoline	1	6,000	mg/Kg
METHOD 8020		--	
DILUTION FACTOR *		1,000	
DATE ANALYZED		04-26-90	
Benzene	2.5	ND	ug/Kg
Ethylbenzene	2.5	51,000	ug/Kg
Toluene	2.5	ND	ug/Kg
Xylenes, total	2.5	98,000	ug/Kg

Client Acc 120
Client Name: Woodward-Clyde Cons.
NET Log No: 1562

Date: 05-01-90
Page: 5

Ref: Project: 8910084A

SAMPLE DESCRIPTION: 21-1 04-11-90
LAB Job No: (-50806)

Parameter	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS		--	
VOLATILE (SOIL)		--	
DILUTION FACTOR *		1,000	
DATE ANALYZED		04-26-90	
METHOD GC FID/5030		--	
as Gasoline	1	6,000	mg/Kg
METHOD 8020		--	
DILUTION FACTOR *		1,000	
DATE ANALYZED		04-26-90	
Benzene	2.5	ND	ug/Kg
Ethylbenzene	2.5	54,000	ug/Kg
Toluene	2.5	ND	ug/Kg
Xylenes, total	2.5	100,000	ug/Kg

Client Account 120
Client Name: Woodward-Clyde Cons.
NET Log No: 1562

Date: 05-01-90
Page: 6

Ref: Project: 8910084A

SAMPLE DESCRIPTION: 24-1 04-11-90
LAB Job No: (-50807)

Parameter	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS		--	
VOLATILE (SOIL)		--	
DILUTION FACTOR *		100	
DATE ANALYZED		04-25-90	
METHOD GC FID/5030		--	
as Gasoline	1	600	mg/Kg
METHOD 8020		--	
DILUTION FACTOR *		100	
DATE ANALYZED		04-25-90	
Benzene	2.5	ND	ug/Kg
Ethylbenzene	2.5	3,700	ug/Kg
Toluene	2.5	ND	ug/Kg
Xylenes, total	2.5	10,000	ug/Kg

KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following, which supercedes the listed reporting limit.
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference, $100 \text{ [Value 1 - Value 2] / mean value}$.
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- unhos/cm : Microns per centimeter.

Method References

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

- * Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated reporting limits by the dilution factor.

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4041
(415) 893-3600

Chain of Custody Record

PROJECT NO. **8910084A**

SAMPLERS: (Signature) *Wm Copeland*

DATE TIME SAMPLE NUMBER

ANALYSES

Sample Matrix (Soil, Water, Air)	EPA Method	EPA Method	EPA Method	EPA Method	TPH GAS	BETA	LEAD Pb	TOTAL	Number of Containers
					X	X	X		1
					X	X	X		1
					X	X	X		1
					X	X	X		1
					X	X	X		1

REMARKS
(Sample preservation, handling procedures, etc.)

Normal Turnaround

Pls call George Ford w/ questions +/or results 874-3203

** CUSTODY SEAL APPLIED 4/12/90 6:30p J.S. custody seal intact 4/13*

RELINQUISHED BY: (Signature) *W Copeland*

DATE/TIME *4/12 3:45*

RECEIVED BY: (Signature) *James Green*

RELINQUISHED BY: (Signature) *James Green*

DATE/TIME

RECEIVED BY: (Signature)

METHOD OF SHIPMENT:

SHIPPED BY: (Signature)

COURIER: (Signature) *(UACNS)*

RECEIVED FOR LAB BY: (Signature) *Kemp*

DATE/TIME *4/13/90 0800*

TOTAL NUMBER OF CONTAINERS **5** *Soil*

