AGI
TECHNOLOGIES

September 19, 1994

15,833.001.04

Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda CA. 94502

94 SEP 22 PM 3:43
ALCO HAZMAT

Dear Ms Shin:

Additional Data and Reports
Durham Transportation Site
19984 Meekland Road
Hayward, CA.

Enclosed is the information you requested regarding past investigations and groundwater monitoring at the referenced. Some of the items you requested I was unable to locate or had only partial information in our files, specifically information regarding over excavation of the tank pits, abandonment of MW-1, and well installation logs for MW-3 and MW-4. I have requested this information from Mr. Jeff Lawson and Durham Transportation and will pass the information on to you when I received it.

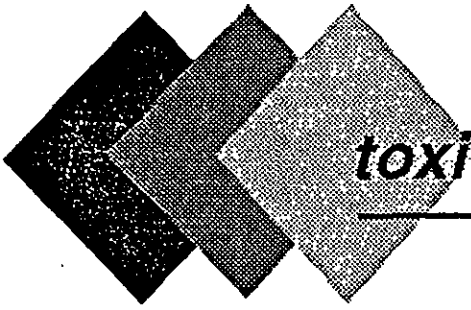
If you have any questions or need additional information, please give me a call at (510) 238-4595.

Sincerely,

Daniel T. Henninger
Senior Scientist

Attachments

827 Broadway, Suite 210 ■ Oakland, California 94607 ■ (510) 238-4590 ■ FAX (510) 238-4599
WASHINGTON OREGON CALIFORNIA



CTTS , Inc.
toxic technology services

PROGRESS REPORT # 19
February 1 - February 28, 1993

Durham Transportation
19984 Meekland Avenue
Hayward, California

Project # 93-1

CTTS, Inc.
toxic technology services

March 29, 1993
Project No. 93-1

Mr. Dave Delamotte
Durham Transportation
9171 Capitol of Texas Highway, North
Travis Building, Suite 200
Austin, Texas 78759

Subject: Progress Report #19
Period Covering
February 1, 1993 - February 28, 1993
19984 Meekland Avenue, Hayward, CA

Dear Mr. Delamotte:

Enclosed is the nineteenth progress report for the Phase II investigation to evaluate the extent of soil and groundwater contamination at 19984 Meekland Avenue in the unincorporated area of Alameda County, near Hayward, California.

This report covers the following topics:

Introduction
Monthly Monitoring of Groundwater Elevations
Soil Sample Collection and Analysis
Summary

After you review this document, it is recommended that copies be sent to Ms. Juliete Shin of the Alameda County Health Care Services Department, Hazardous Materials Division and Mr. Eddy So of the Regional Water Quality Control Board. Extra copies of this report have been provided to you for this purpose.

Thank you for this opportunity to provide Durham Transportation with these environmental services. If you have any questions, please call the undersigned at (510) 799-1140.

Sincerely,

Lisa A. Polos, REA, CHMM
Senior Scientist
Toxic Technology Services
CTTS, Inc.

Enclosure
LAP/JNA/lap

INTRODUCTION

The following is the nineteenth progress report of activities in the evaluation of the extent of soil and groundwater contamination at 19984 Meekland Avenue, in the unincorporated area of Alameda County, near Hayward, California. This report covers the period of February 1, 1993 through February 28, 1993.

The purpose of this on-going investigation is two fold; to assess the extent of soil and groundwater contamination and to characterize the contamination with regards to constituents and concentration.

MONTHLY MONITORING OF GROUNDWATER ELEVATIONS

As stated in previous reports, the groundwater gradient at the site is essentially flat. The elevation of the groundwater has been measured in the monitoring wells on site by surveying the elevation of the top of the casing and measuring the depth to groundwater using an electronic probe. The elevations are based on Alameda County benchmark BLO-MEEK located in the middle of the intersection of Blossom Way and Meekland Avenue. The depth to groundwater was measured in December of 1989, January of 1990, and then monthly since March of 1990.

Tables 1 and 1a and Figure 1 represent data for the previous twenty four month period. The groundwater elevation data are presented on Table 1. Figure 1 is a graph showing monthly variations in the elevation of groundwater at the site. In any given month, the groundwater elevation across the site generally varies within 0.1 feet. This variation is roughly within the range of error in the measuring techniques. The data indicate that the water table fluctuates in response to the various seasons of the year. Table 1a presents the monthly odor and sheen observations recorded concurrently with the elevations of groundwater.

Figure 2 is a gradient map depicting the interpolated groundwater gradient for the site over the reporting period. The data indicate that the site is essentially flat with a very low westward to northwestward gradient. This is consistent with the regional gradient.

SOIL SAMPLE COLLECTION AND ANALYSIS

On March 5, 1993, Lisa Polos of Toxic Technology Services collected soil samples from the waste oil excavation and fuel tank excavation for purposes of profiling contaminated soil for disposal. Excavation was conducted by Obert Einevoll General Contractor using a backhoe with extend-a-hoe capability. Excavation and sampling activities were conducted under the direction of John Alt, CEG.

Previously excavated soil was set aside and samples were collected from undisturbed soil. Analyses requested were specifically for profiling purposes

at Port Costa Materials and Forward Landfill.

Waste Oil Tank Excavation

One grab sample was collected at an approximate depth of 7.5 feet from the Southwest corner of the pit (Plate 2). There was no evidence of staining or odor from either this sample or the pit in general.

The sample was collected in a brass tube, teflon tape was put on the ends and then sealed with a plastic cap. The sample was put on ice and delivered to NET Pacific for analysis. Analyses requested were:

Total Petroleum Hydrocarbons - Gasoline (TPH-G)
Total Petroleum Hydrocarbons - Diesel (TPH-D)
Total Oil and Grease
Volatile Organics by Method 8240
Semi-volatile Organics by Method 8270
CAM 17 Metals
Reactivity (R)
Corrosivity (C)
Ignitability (I)

Table 2 presents a sampling summary indicating samples taken, analyses performed and regulatory significant results obtained. The full analytical report from NET Pacific is presented under Appendix A.

Fuel Tank Excavation

Eight discrete grab samples, labeled F-1 through F-8, were collected from the northwest side of the excavation. The previously excavated soil was set aside and samples were collected in the same manner as described above, from undisturbed soil at depths varying from 7 to 12 feet. Specific sampling locations are shown on Plate 2.

F-1 @ 8 feet - no odor, no staining: Analyzed for TPH-G, TPH-D and BTEX

F-2 @ 8 feet - no odor, no staining: On Hold

F-3 @ 8 feet - odor, no staining: Analyzed for TPH-G, TPH-D, Method 8240, CAM 17 metals, Fish Bioassay and RCI

F-4 @ 7 feet - odor, green mottling: On Hold

F-5 @ 12 feet - slight odor, green mottling: On Hold

F-6 @ 12 feet - odor, green mottling: Analyzed for TPH-G, TPH-D and BTEX

F-7 @ 8 feet - no odor, no staining: On Hold

F-8 @ 12 feet - no odor, black staining: Analyzed for TPH-G, TPH-D and BTEX

Table 2 presents a sampling summary indicating samples taken, analyses

performed and regulatory significant results obtained. The full analytical report from NET Pacific is presented under Appendix A.

SUMMARY

The soil sampling and analysis conducted this reporting period appears to support previous findings that the majority of the soil contamination is located in the northwest corner of the fuel tank excavation.

It appears that excavation activities for soil remediation should concentrate in the area between F-3 and F-6 and move in a westward direction. This does not mean to preclude excavating and sampling the other sides of the fuel tank excavation. However, it appears that sampling the other sides of the excavation will be more for verification of low or non-detectable levels of hydrocarbons rather than for removal of major contamination.

Data from the waste oil tank excavation sample supports data obtained at the time of tank removal. It appears that there is little or no contamination in this excavation. For remediation purposes, the pit will be cleaned of previously excavated soil and samples taken for verification purposes. Over excavation of this pit is not anticipated.

TABLE 1

GROUNDWATER ELEVATIONS (feet above MSL)
DURHAM TRANSPORTATION--MEEKLAND PROJECT

DATE	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11	MW12
Jan-91	25.16	25.22	25.54	25.16	25.21	.	.	.	.	.
Feb-91	25.38	25.45	25.39	25.40	25.46	25.48	25.40	.	.	.
Mar-91	27.45	29.56	26.62	27.46	27.50	27.40	27.40	.	.	.
Apr-91	28.09	27.99	28.04	28.00	28.02	28.06	27.99	.	.	.
May-91	27.12	27.16	27.17	27.11	27.19	27.19	27.13	.	.	.
Jun-91	26.45	26.56	26.77	26.46	26.53	26.57	26.58	.	.	.
Jul-91	26.04	26.05	26.13	26.04	26.10	26.13	26.04	.	.	.
Aug-91	25.49	25.62	25.37	25.50	25.59	25.60	25.52	.	.	.
Sep-91	25.18	25.18	25.49	25.06	25.16	25.18	25.15	.	.	.
Oct-91	24.86	24.92	25.00	24.82	24.97	24.94	24.84	.	.	.
Nov-91	24.90	24.97	24.94	24.87	24.94	24.96	24.89	.	.	.
Dec-91	24.69	24.78	24.89	24.67	24.76	24.79	24.70	.	.	.
Jan-92	25.31	25.28	25.48	25.31	25.37	25.37	25.32	25.16	25.90	.
Feb-92	28.23	28.22	28.24	28.15	28.24	28.26	28.19	28.37	28.18	.
Mar-92	28.54	28.46	28.49	28.40	28.46	28.59	28.42	28.32	28.41	.
Apr-92	28.43	28.48	28.39	28.43	28.49	28.51	28.44	28.32	28.44	.
May-92	27.76	27.75	27.79	27.56	27.75	27.79	27.70	27.67	27.68	.
Jun-92	26.92	26.87	26.88	26.81	26.87	26.92	26.81	26.64	26.76	.
Jul-92	26.40	26.47	26.49	26.41	28.16	26.53	26.41	26.23	26.37	.
Aug-92	25.88	25.85	25.81	25.76	25.83	25.88	25.79	25.26	26.07	.
Sep-92	25.68	25.64	25.60	25.56	25.61	25.67	25.56	25.39	25.54	.
Oct-92	25.30	25.27	25.29	25.17	25.23	25.32	25.19	25.00	25.14	.
Nov-92	25.17	25.25	25.25	25.17	25.25	25.29	25.19	25.01	25.13	.
Dec-92	26.10	26.06	26.03	26.02	26.05	26.10	26.02	25.92	26.08	26.35
Jan-93	30.74	30.76	30.72	30.73	30.82	30.82	30.74	30.65	30.74	30.82
Feb-93	30.32	30.32	30.22	30.29	30.39	30.37	30.29	30.17	30.28	30.32

MW-1 abandoned December 14, 1992. Consult previous reports for MW-1 data.

TABLE 1a

GROUNDWATER ODOR AND SHEEN OBSERVATIONS
DURHAM TRANSPORTATION--MEEKLAND PROJECT

	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11	MW12
Jan-91	- -	- -	- -	o -	o -	. .	. .	. .	. .	. .
Feb-91	- -	- -	o -	o -	- -	- -	o -	. .	. .	. .
Mar-91	X X	X X	X X	X X	X X	X X	X X	. .	. .	. .
Apr-91	- -	- S	- -	- -	- -	- -	- -	. .	. .	. .
May-91	- -	- -	o -	- -	- -	- -	- -	. .	. .	. .
Jun-91	- -	- -	o -	- -	- -	- -	- -	. .	. .	. .
Jul-91	- -	- -	- -	o -	- -	- -	- -	. .	. .	. .
Aug-91	- -	o -	o -	o -	o -	- -	- -	. .	. .	. .
Sep-91	- -	- -	o -	o -	- -	- -	- -	. .	. .	. .
Oct-91	- -	- -	- -	- -	- -	- -	- -	. .	. .	. .
Nov-91	- -	- -	o -	o -	- -	- -	- -	. .	. .	. .
Dec-91	o -	- -	o -	o -	- -	- -	- -	. .	. .	. .
Jan-92	o -	- -	o -	o -	- -	- -	o -	o -	o -	. .
Feb-92	- -	- -	o -	- -	- -	- -	- -	O -	- -	. .
Mar-92	- -	- -	o S	- -	- -	- -	o -	o -	- -	. .
Apr-92	o -	- -	o -	o -	- -	- -	- -	o -	- -	. .
May-92	o -	- -	o -	- -	o -	- -	- -	o -	o -	. .
Jun-92	- -	- -	- -	- -	- -	- -	- -	O -	- -	. .
Jul-92	- -	- -	o -	- -	- -	- -	- -	- -	- -	. .
Aug-92	- -	- -	o -	- -	- -	- -	- -	- -	- -	. .
Sep-92	- -	- -	o -	- -	- -	- -	- -	o -	- -	. .
Oct-92	- -	- -	o -	o -	- -	- -	- -	O -	- -	. .
Nov-92	- -	- -	o -	o -	- -	- -	o -	o -	o -	. .
Dec-92	- -	- -	- -	- -	- -	- -	- -	- -	- -	o -
Jan-93	o -	- -	O -	- -	- -	- -	o -	- -	- -	- -
Feb-93	- -	- -	o -	- -	- -	- -	- -	- -	- -	- -

O=Strong Odor o=Slight Odor S=Sheen -=None Present X= No Observation Made

MW-1 abandoned December 14, 1992. Consult previous reports for MW-1 data.

TABLE 2

SOIL SAMPLE RESULTS OF REGULATORY SIGNIFICANCE --FEBRUARY 1993
DURHAM TRANSPORTATION--MEEKLAND PROJECT

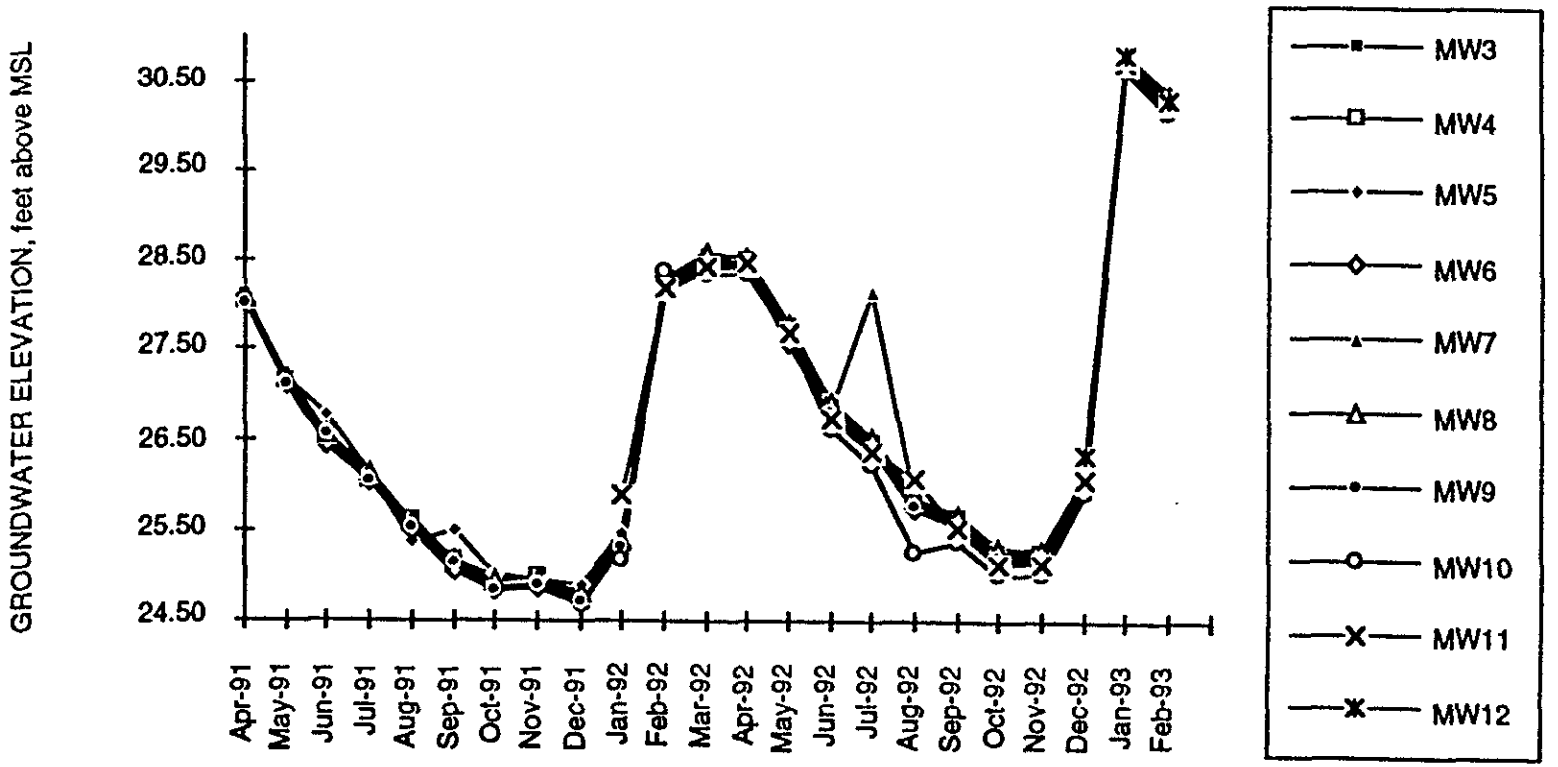
PARAMETER	METHOD	UNITS	F - 1	F - 2	F - 3	F - 4	F - 5	F - 6	F - 7	F - 8	WASTE
Gasoline	5030	mg/Kg	ND	-	2000	-	-	3800	-	1.1	ND
Diesel	3550	mg/Kg	ND	-	*1300	-	-	*1300	-	*110	ND
Motor Oil	3550	mg/Kg	ND	-	ND	-	-	ND	-	67	ND
Semi-Volatile Scan	8270	ug/Kg	-	-	-	-	-	-	-	-	ND
Volatile Scan	8240	ug/Kg	-	-	**ND	-	-	-	-	-	ND
Benzene	8240	ug/Kg	-	-	ND	-	-	-	-	-	ND
Ethylbenzene	8240	ug/Kg	-	-	2500	-	-	-	-	-	ND
Toluene	8240	ug/Kg	-	-	1600	-	-	-	-	-	ND
Xylene	8240	ug/Kg	-	-	120000	-	-	-	-	-	ND
Benzene	8020	ug/Kg	ND	-	-	-	-	ND	-	ND	ND
Ethylbenzene	8020	ug/Kg	ND	-	-	-	-	ND	-	ND	ND
Toluene	8020	ug/Kg	ND	-	-	-	-	ND	-	ND	ND
Xylene	8020	ug/Kg	ND	-	-	-	-	20000	-	ND	ND
pH	9040	units	-	-	7.0	-	-	-	-	-	7.9
Flash Point	1010	°F	-	-	>140	-	-	-	-	-	>140
LC_{50}	NPDES	mg/L	-	-	>750	-	-	-	-	-	-
Oil & Grease, Total	5520 C/E	mg/Kg	-	-	-	-	-	-	-	-	ND
Oil & Grease, TRPH	5520 C/E/F	mg/Kg	-	-	760	-	-	-	-	-	ND
CAM 17 Metals	EPA	mg/Kg	-	-	***	-	-	-	-	-	***
Lead, GFAA	7421	mg/Kg	-	-	52	-	-	-	-	-	5.8
Lead, GFAA, Wet	7421	mg/L	-	-	2.1	-	-	-	-	-	-

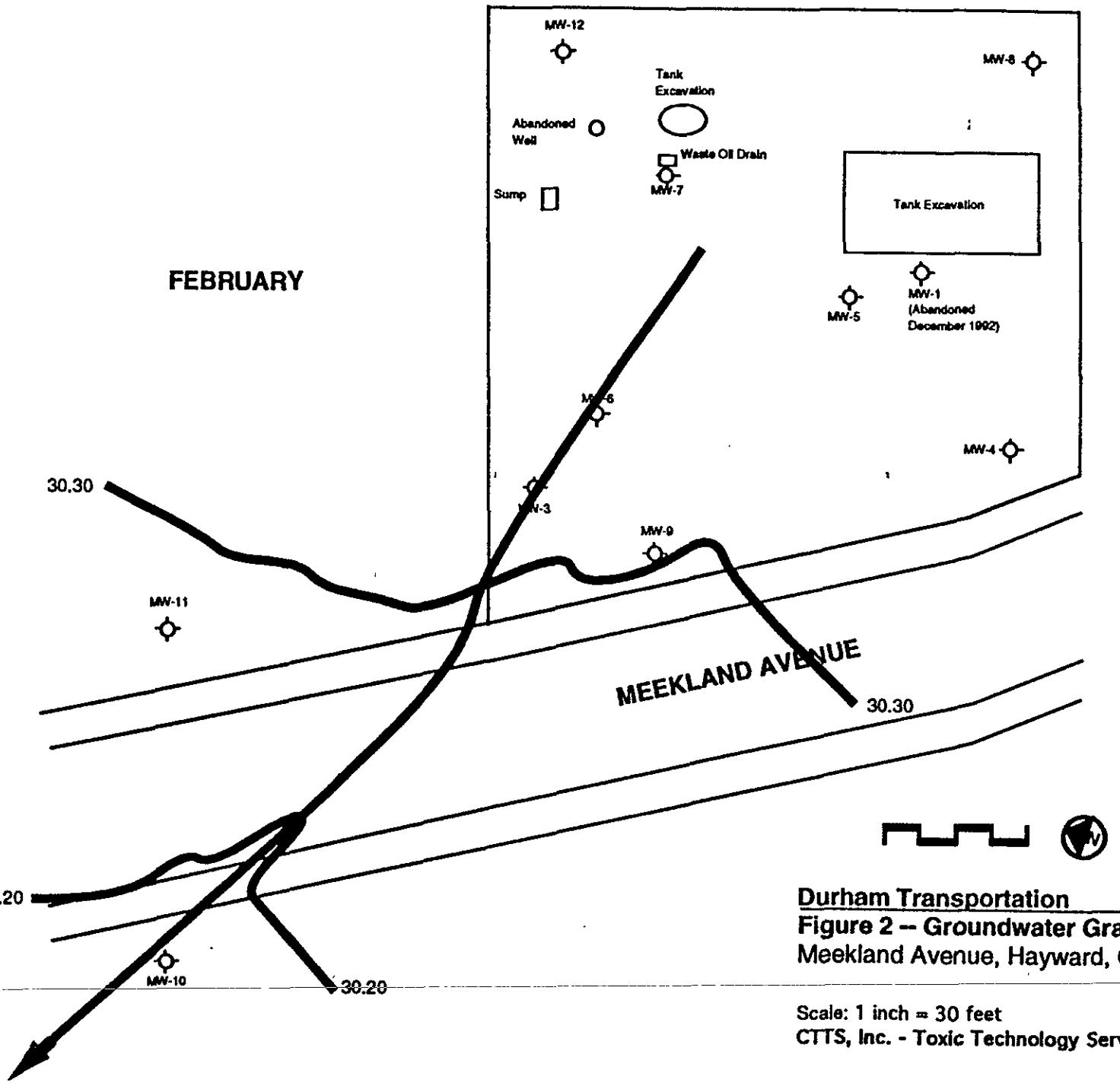
* The positive result for the Petroleum Hydrocarbon as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.

**Volatile Scan: All parameters ND except for Ethylbenzene, Toluene and Xylene as indicated below.

***For complete results of CAM 17 metals analysis see Appendix A.

FIGURE 1
DURHAM TRANSPORTATION -- MEEKLAND PROJECT
GROUNDWATER ELEVATIONS, feet above MSL





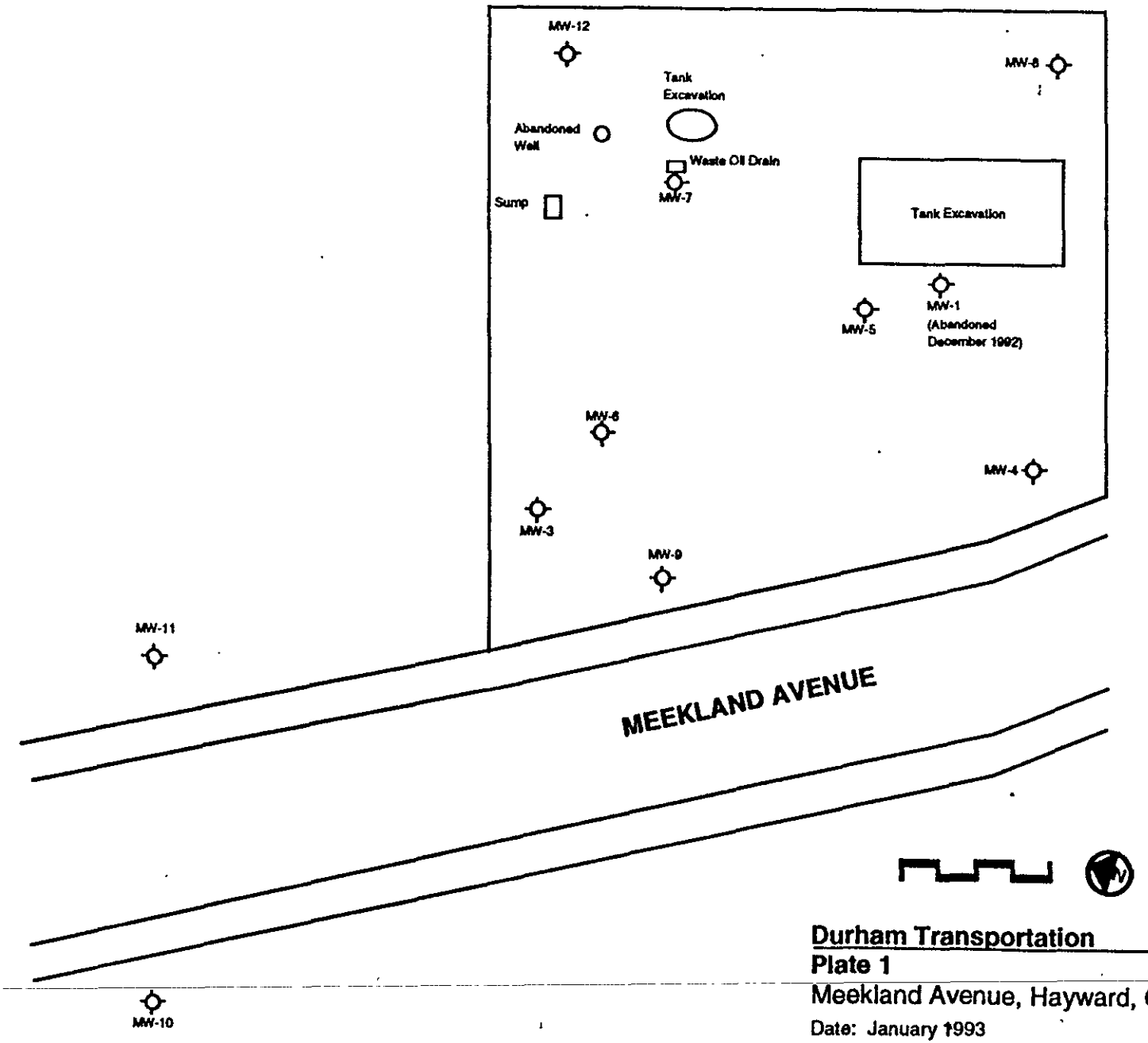
Durham Transportation

Figure 2 -- Groundwater Gradient Map

Meekland Avenue, Hayward, California

Scale: 1 inch = 30 feet

CTTS, Inc. - Toxic Technology Services



Durham Transportation

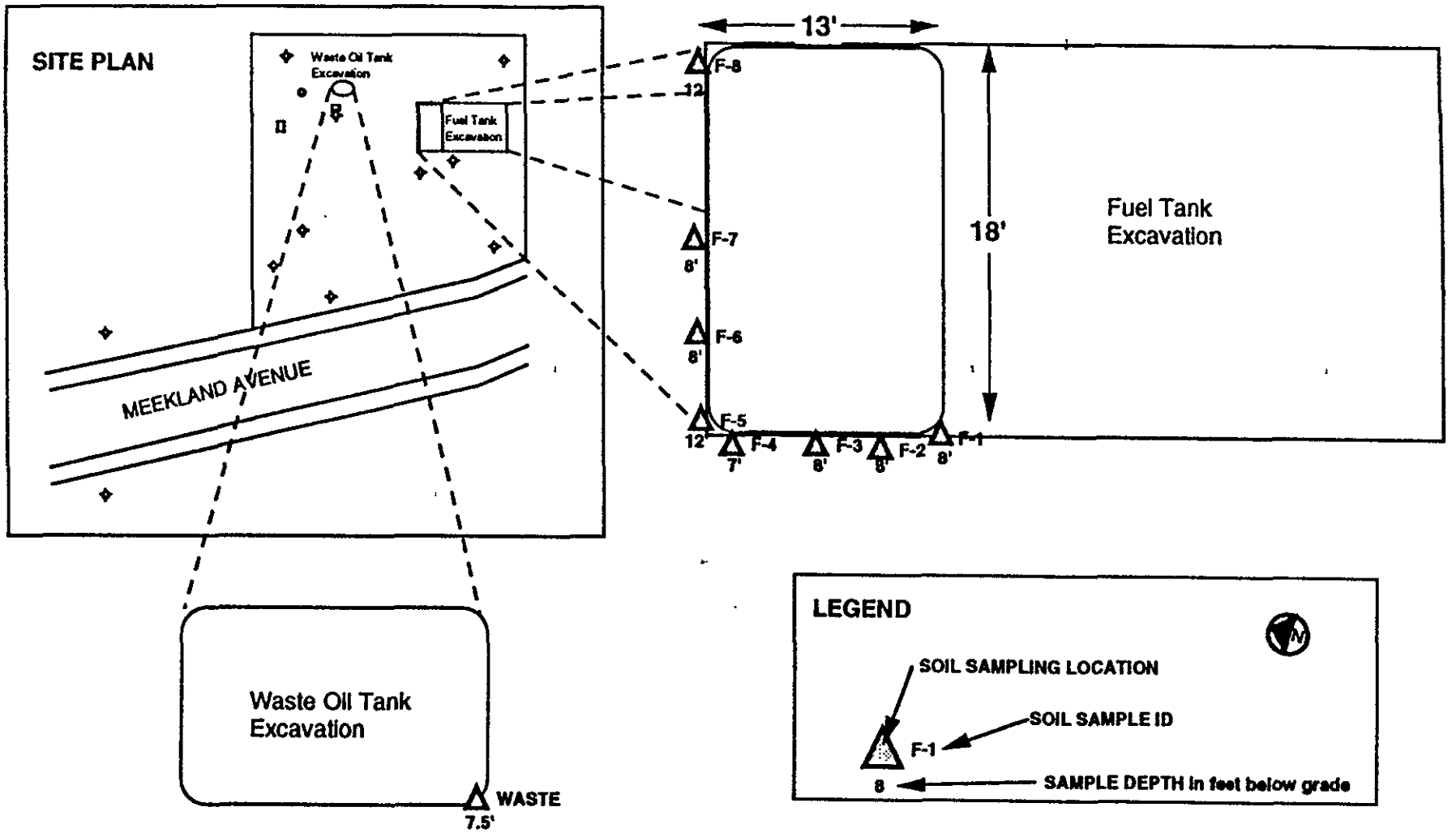
Plate 1

Meekland Avenue, Hayward, California

Date: January 1993

Scale: 1 inch = 30 feet

CTTS, Inc. - Toxic Technology Services



Durham Transportation

Plate 2 -- Soil Sample Locations

Meekland Avenue, Hayward, California

Date: February 1993

Scale: Varies

CTTS, Inc. - Toxic Technology Services

APPENDIX A

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Lisa A. Polos
Toxic Technology Services
PO Box 515
Rodeo, CA 94572

Date: 03/01/1993
NET Client Acct. No: 70700
NET Pacific Job No: 93.00533
Received: 02/06/1993

Client Reference Information

Durham-Meekland/93-1M3

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)

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: F-1
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151058)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-17-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-17-93			
DILUTION FACTOR*	1			
Benzene	ND	2.5	ug/Kg	8020
Ethylbenzene	ND	2.5	ug/Kg	8020
Toluene	ND	2.5	ug/Kg	8020
Xylenes (Total)	ND	2.5	ug/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	84		% Rec.	5030
METHOD 3550 (GC,FID)				
DILUTION FACTOR*	1			
DATE EXTRACTED	02-15-93			
DATE ANALYZED	02-16-93			
as Diesel	ND	1	mg/Kg	3550
as Motor Oil	ND	10	mg/Kg	3550

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: F-6
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151059)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-17-93			
DILUTION FACTOR*	500			
as Gasoline	3,800	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	100			
Benzene	ND	2.5	ug/Kg	8020
Ethylbenzene	ND	2.5	ug/Kg	8020
Toluene	ND	2.5	ug/Kg	8020
Xylenes (Total)	20,000	2.5	ug/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	944		% Rec.	5030
METHOD 3550 (GC,FID)				
DILUTION FACTOR*	100			
DATE EXTRACTED	02-15-93			
DATE ANALYZED	02-16-93			
as Diesel	1,300**	1	mg/Kg	3550
as Motor Oil	ND	10	mg/Kg	3550

** The positive result for Petroleum Hydrocarbons as Diesel appears to be due to the presence of lighter hydrocarbons rather than Diesel.

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: F-8
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151060)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-17-93			
DILUTION FACTOR*	1			
as Gasoline	1.1	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-17-93			
DILUTION FACTOR*	1			
Benzene	ND	2.5	ug/Kg	8020
Ethylbenzene	ND	2.5	ug/Kg	8020
Toluene	ND	2.5	ug/Kg	8020
Xylenes (Total)	ND	2.5	ug/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	58***		% Rec.	5030
METHOD 3550 (GC,FID)				
DILUTION FACTOR*	5			
DATE EXTRACTED	02-15-93			
DATE ANALYZED	02-16-93			
as Diesel	110**	1	mg/Kg	3550
as Motor Oil	67	10	mg/Kg	3550

** The positive result for Petroleum Hydrocarbons as Diesel appears to be due to the presence of lighter hydrocarbons rather than Diesel.

*** Low surrogate recovery due to matrix interference, confirmed upon reanalysis.

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: F-3
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151061)

Parameter	Results	Reporting Limit	Units	Method
LC50 (NPDES)	100	N/A	%	
pH - Corrosivity	7.0	N/A	pH units	9040
Flashpoint/Ignitability	>140	N/A	Degree F	1010
Sulfide	ND	10	mg/Kg	376.1
Oil & Grease (IR,TRPH)	760	50	mg/Kg	5520C/E/F
Cyanide (Total)	ND	0.2	mg/Kg	335.2
CAM METALS (Solid,TTLC)				
Antimony (ICP)	ND	10	mg/Kg	EPA 6010
Arsenic (GFAA)	4.6	0.5	mg/Kg	EPA 7060
Barium (ICP)	180	2.0	mg/Kg	EPA 6010
Beryllium (ICP)	ND	2.0	mg/Kg	EPA 6010
Cadmium (ICP)	2.5	2.0	mg/Kg	EPA 6010
Chromium (ICP)	27	2.0	mg/Kg	EPA 6010
Chromium+6 (FLAA)	NA	2.0	mg/Kg	EPA 7197
Cobalt (ICP)	11	5.0	mg/Kg	EPA 6010
Copper (ICP)	22	2.0	mg/Kg	EPA 6010
Lead (GFAA)	52	0.2	mg/Kg	EPA 7421
Mercury (CVAA)	ND	0.1	mg/Kg	EPA 7471
Molybdenum (ICP)	ND	5.0	mg/Kg	EPA 6010
Nickel (ICP)	45	5.0	mg/Kg	EPA 6010
Selenium (GFAA)	ND	0.5	mg/Kg	EPA 7740
Silver (ICP)	ND	2.0	mg/Kg	EPA 6010
Thallium (ICP)	ND	20	mg/Kg	EPA 6010
Vanadium (ICP)	32	5.0	mg/Kg	EPA 6010
Zinc (ICP)	50	2.0	mg/Kg	EPA 6010
METHOD 5030 (GC,FID)				
DILUTION FACTOR*	200			
DATE ANALYZED	02-16-93			
as Gasoline	2,000	1	mg/Kg	5030
SURROGATE RESULTS	--			
Bromofluorobenzene	106		% Rec.	5030
METHOD 3550 (GC,FID)				
DILUTION FACTOR*	50			
DATE EXTRACTED	02-15-93			
DATE ANALYZED	02-16-93			
as Diesel	1,300**	1	mg/Kg	3550
as Motor Oil	ND	10	mg/Kg	3550

WET test done <5ppm

** The positive result for Petroleum Hydrocarbons as Diesel appears to be due to the presence of lighter hydrocarbons rather than Diesel.

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: F-3
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151061)

Parameter	Results	Reporting Limit	Units	Method
METHOD 8240(GCMS,Solid)				
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	50			
Benzene	ND	5.0	ug/Kg	8240
Acetone	ND	25	ug/Kg	8240
Bromodichloromethane	ND	5.0	ug/Kg	8240
Bromoform	ND	5.0	ug/Kg	8240
Bromomethane	ND	5.0	ug/Kg	8240
2-Butanone	ND	10	ug/Kg	8240
Carbon disulfide	ND	5.0	ug/Kg	8240
Carbon tetrachloride	ND	5.0	ug/Kg	8240
Chlorobenzene	ND	5.0	ug/Kg	8240
Chloroethane	ND	5.0	ug/Kg	8240
2-Chloroethyl vinyl ether	ND	10	ug/Kg	8240
Chloroform	ND	5.0	ug/Kg	8240
Chloromethane	ND	5.0	ug/Kg	8240
Dibromochloromethane	ND	5.0	ug/Kg	8240
1,2-Dichlorobenzene	ND	5.0	ug/Kg	8240
1,3-Dichlorobenzene	ND	5.0	ug/Kg	8240
1,4-Dichlorobenzene	ND	5.0	ug/Kg	8240
1,1-Dichloroethane	ND	5.0	ug/Kg	8240
1,2-Dichloroethane	ND	5.0	ug/Kg	8240
1,1-Dichloroethene	ND	5.0	ug/Kg	8240
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	8240
1,2-Dichloropropane	ND	5.0	ug/Kg	8240
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	8240
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	8240
Ethyl benzene	2,500	5.0	ug/Kg	8240
2-Hexanone	ND	10	ug/Kg	8240
Methylene chloride	ND	25	ug/Kg	8240
4-Methyl-2-pentanone	ND	10	ug/Kg	8240
Styrene	ND	5.0	ug/Kg	8240
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	8240
Tetrachloroethene	ND	5.0	ug/Kg	8240
Toluene	1,600	5.0	ug/Kg	8240
1,1,1-Trichloroethane	ND	5.0	ug/Kg	8240
1,1,2-Trichloroethane	ND	5.0	ug/Kg	8240
Trichloroethene	ND	5.0	ug/Kg	8240
Trichlorofluoromethane	ND	5.0	ug/Kg	8240
Vinyl acetate	ND	10	ug/Kg	8240
Vinyl chloride	ND	5.0	ug/Kg	8240
Xylenes (total)	120,000	5.0	ug/Kg	8240
SURROGATE RESULTS	--			
Toluene-d8	94		% Rec.	8240
Bromofluorobenzene	110		% Rec.	8240
1,2-Dichloroethane-d4	91		% Rec.	8240

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: Waste Oil
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151062)

Parameter	Results	Reporting Limit	Units	Method
pH - Corrosivity	7.9	N/A	pH units	9040
Flashpoint/Ignitability	>140	N/A	Degree F	1010
Sulfide	ND	10	mg/Kg	376.1
Oil & Grease (IR,Total)	ND	50	mg/Kg	5520C/E
Oil & Grease (IR,TRPH)	ND	50	mg/Kg	5520C/E/F
Cyanide (Total)	ND	0.2	mg/Kg	335.2
CAM METALS (Solid,TTLC)				
Antimony (ICP)	ND	10	mg/Kg	EPA 6010
Arsenic (GFAA)	4.7	0.5	mg/Kg	EPA 7060
Barium (ICP)	110	2.0	mg/Kg	EPA 6010
Beryllium (ICP)	ND	2.0	mg/Kg	EPA 6010
Cadmium (ICP)	ND	2.0	mg/Kg	EPA 6010
Chromium (ICP)	21	2.0	mg/Kg	EPA 6010
Chromium+6 (FLAA)	NA	2.0	mg/Kg	EPA 7197
Cobalt (ICP)	9.1	5.0	mg/Kg	EPA 6010
Copper (ICP)	34	2.0	mg/Kg	EPA 6010
Lead (GFAA)	5.8	0.2	mg/Kg	EPA 7421
Mercury (CVAA)	ND	0.1	mg/Kg	EPA 7471
Molybdenum (ICP)	ND	5.0	mg/Kg	EPA 6010
Nickel (ICP)	37	5.0	mg/Kg	EPA 6010
Selenium (GFAA)	ND	0.5	mg/Kg	EPA 7740
Silver (ICP)	ND	2.0	mg/Kg	EPA 6010
Thallium (ICP)	ND	20	mg/Kg	EPA 6010
Vanadium (ICP)	28	5.0	mg/Kg	EPA 6010
Zinc (ICP)	58	2.0	mg/Kg	EPA 6010
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	2.5	ug/Kg	8020
Ethylbenzene	ND	2.5	ug/Kg	8020
Toluene	ND	2.5	ug/Kg	8020
Xylenes (Total)	ND	2.5	ug/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	84		% Rec.	5030
METHOD 3550 (GC,FID)				
DILUTION FACTOR*	1			
DATE EXTRACTED	02-15-93			
DATE ANALYZED	02-16-93			
as Diesel	ND	1	mg/Kg	3550
as Motor Oil	ND	10	mg/Kg	3550

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: Waste Oil
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151062)

Parameter	Results	Reporting Limit	Units	Method
METHOD 8240(GCMS,Solid)				
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	5.0	ug/Kg	8240
Acetone	ND	25	ug/Kg	8240
Bromodichloromethane	ND	5.0	ug/Kg	8240
Bromoform	ND	5.0	ug/Kg	8240
Bromomethane	ND	5.0	ug/Kg	8240
2-Butanone	ND	10	ug/Kg	8240
Carbon disulfide	ND	5.0	ug/Kg	8240
Carbon tetrachloride	ND	5.0	ug/Kg	8240
Chlorobenzene	ND	5.0	ug/Kg	8240
Chloroethane	ND	5.0	ug/Kg	8240
2-Chloroethyl vinyl ether	ND	10	ug/Kg	8240
Chloroform	ND	5.0	ug/Kg	8240
Chloromethane	ND	5.0	ug/Kg	8240
Dibromochloromethane	ND	5.0	ug/Kg	8240
1,2-Dichlorobenzene	ND	5.0	ug/Kg	8240
1,3-Dichlorobenzene	ND	5.0	ug/Kg	8240
1,4-Dichlorobenzene	ND	5.0	ug/Kg	8240
1,1-Dichloroethane	ND	5.0	ug/Kg	8240
1,2-Dichloroethane	ND	5.0	ug/Kg	8240
1,1-Dichloroethene	ND	5.0	ug/Kg	8240
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	8240
1,2-Dichloropropane	ND	5.0	ug/Kg	8240
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	8240
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	8240
Ethyl benzene	ND	5.0	ug/Kg	8240
2-Hexanone	ND	10	ug/Kg	8240
Methylene chloride	ND	25	ug/Kg	8240
4-Methyl-2-pentanone	ND	10	ug/Kg	8240
Styrene	ND	5.0	ug/Kg	8240
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	8240
Tetrachloroethene	ND	5.0	ug/Kg	8240
Toluene	ND	5.0	ug/Kg	8240
1,1,1-Trichloroethane	ND	5.0	ug/Kg	8240
1,1,2-Trichloroethane	ND	5.0	ug/Kg	8240
Trichloroethene	ND	5.0	ug/Kg	8240
Trichlorofluoromethane	ND	5.0	ug/Kg	8240
Vinyl acetate	ND	10	ug/Kg	8240
Vinyl chloride	ND	5.0	ug/Kg	8240
Xylenes (total)	ND	5.0	ug/Kg	8240
SURROGATE RESULTS	--			
Toluene-d8	95		% Rec.	8240
Bromofluorobenzene	96		% Rec.	8240
1,2-Dichloroethane-d4	92		% Rec.	8240

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: Waste Oil
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151062)

Parameter	Results	Reporting Limit	Units	Method
METHOD 8270(GCMS,Solid)				
DATE EXTRACTED	02/16/93			
DATE ANALYZED	02/15/93			
DILUTION FACTOR*	1			
Acenaphthene	ND	330	ug/Kg	8270
Acenaphthylene	ND	330	ug/Kg	8270
Aldrin	ND	1600	ug/Kg	8270
Anthracene	ND	330	ug/Kg	8270
Benzidine	ND	1600	ug/Kg	8270
Benzo(a)anthracene	ND	330	ug/Kg	8270
Benzo(b)fluoranthene	ND	330	ug/Kg	8270
Benzo(k)fluoranthene	ND	330	ug/Kg	8270
Benzo(a)pyrene	ND	330	ug/Kg	8270
Benzo(g,h,i)perylene	ND	330	ug/Kg	8270
Benzoic acid	ND	1600	ug/Kg	8270
Benyzl alcohol	ND	330	ug/Kg	8270
Butyl benzyl phthalate	ND	330	ug/Kg	8270
delta-BHC	ND	1600	ug/Kg	8270
gamma-BHC	ND	1600	ug/Kg	8270
bis(2-Chloroethyl)ether	ND	330	ug/Kg	8270
bis(2-Chloroethoxy)methane	ND	330	ug/Kg	8270
bis(2-Chloroisopropyl)ether	ND	330	ug/Kg	8270
bis(2-Ethylhexyl)phthalate	ND	330	ug/Kg	8270
4-Bromophenyl phenyl ether	ND	330	ug/Kg	8270
4-Chloroanaline	ND	330	ug/Kg	8270
2-Chloronaphthalene	ND	330	ug/Kg	8270
4-Chlorophenyl phenyl ether	ND	330	ug/Kg	8270
Chrysene	ND	330	ug/Kg	8270
4,4'-DDD	ND	1600	ug/Kg	8270
4,4'-DDE	ND	1600	ug/Kg	8270
4,4'-DDT	ND	1600	ug/Kg	8270
Dibenzo(a,h)anthracene	ND	330	ug/Kg	8270
Dibenzofuran	ND	330	ug/Kg	8270
Di-n-butylphthalate	ND	330	ug/Kg	8270
1,2-Dichlorobenzene	ND	330	ug/Kg	8270
1,3-Dichlorobenzene	ND	330	ug/Kg	8270
1,4-Dichlorobenzene	ND	330	ug/Kg	8270
3,3'-Dichlorobenzidine	ND	660	ug/Kg	8270
Dieldrin	ND	1600	ug/Kg	8270
Diethylphthalate	ND	330	ug/Kg	8270
Dimethyl phthalate	ND	330	ug/Kg	8270
2,4-Dinitrotoluene	ND	330	ug/Kg	8270
2,6-Dinitrotoluene	ND	330	ug/Kg	8270
Di-n-octyl phthalate	ND	330	ug/Kg	8270
Endrin aldehyde	ND	1600	ug/Kg	8270
Fluoranthene	ND	330	ug/Kg	8270
Fluorene	ND	330	ug/Kg	8270

Ref: Durham-Meekland/93-1M3

SAMPLE DESCRIPTION: Waste Oil
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151062)

Parameter	Results	Reporting Limit	Units	Method
Heptachlor	ND	1600	ug/Kg	8270
Heptachlor epoxide	ND	1600	ug/Kg	8270
Hexachlorobenzene	ND	330	ug/Kg	8270
Hexachlorobutadiene	ND	330	ug/Kg	8270
Hexachlorocyclopentadiene	ND	330	ug/Kg	8270
Hexachloroethane	ND	330	ug/Kg	8270
Indeno(1,2,3-cd)pyrene	ND	330	ug/Kg	8270
Isophorone	ND	330	ug/Kg	8270
2-Methylnaphthalene	ND	330	ug/Kg	8270
Naphthalene	ND	330	ug/Kg	8270
2-Nitroaniline	ND	1600	ug/Kg	8270
3-Nitroaniline	ND	1600	ug/Kg	8270
4-Nitroaniline	ND	1600	ug/Kg	8270
Nitrobenzene	ND	330	ug/Kg	8270
N-Nitroso-Di-N-propylamine	ND	330	ug/Kg	8270
N-Nitrosodiphenylamine	ND	330	ug/Kg	8270
Phenanthrene	ND	330	ug/Kg	8270
Pyrene	ND	330	ug/Kg	8270
1,2,4-Trichlorobenzene	ND	330	ug/Kg	8270
ACID EXTRACTABLES	--			
4-Chloro-3-methylphenol	ND	330	ug/Kg	8270
2-Chlorophenol	ND	330	ug/Kg	8270
2,4-Dichlorophenol	ND	330	ug/Kg	8270
2,4-Dimethylphenol	ND	330	ug/Kg	8270
2,4-Dinitrophenol	ND	1600	ug/Kg	8270
4,6-Dinitro-2-methylphenol	ND	1600	ug/Kg	8270
2-Nitrophenol	ND	330	ug/Kg	8270
4-Nitrophenol	ND	1600	ug/Kg	8270
Pentachlorophenol	ND	1600	ug/Kg	8270
Phenol	ND	330	ug/Kg	8270
2,4,6-Trichlorophenol	ND	330	ug/Kg	8270
2-Methylphenol	ND	330	ug/Kg	8270
4-Methylphenol	ND	330	ug/Kg	8270
2,4,5-Trichlorophenol	ND	1600	ug/Kg	8270
SURROGATE RESULTS	--			
Nitrobenzene-d5	77		% Rec.	8270
2-Fluorobiphenyl	73		% Rec.	8270
p-Terphenyl-d14	55		% Rec.	8270
Phenol-d5	71		% Rec.	8270
2-Fluorophenol	71		% Rec.	8270
2,4,6-Tribromophenol	72		% Rec.	8270

Ref: Durham-Meekland/93-1M3

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Diesel	1	mg/Kg	100	ND	66	77	15
Motor Oil	10	mg/Kg	103	ND	N/A	N/A	N/A
O&G (Total)	50	mg/Kg	103	ND	97	91	6.4
O&G(Non-Polar)	50	mg/Kg	104	ND	N/A	N/A	N/A
Gasoline	1	mg/Kg	112	ND	91	101	11
Benzene	2.5	ug/Kg	92	ND	83	92	9.3
Toluene	2.5	ug/Kg	92	ND	84	92	9.9
Gasoline	1	mg/Kg	109	ND	106	103	2.3
Benzene	2.5	ug/Kg	98	ND	97	97	<1
Toluene	2.5	ug/Kg	101	ND	98	98	<1

COMMENT: Blank Results were ND on other analytes tested.

pH	N/A	pH units	100	N/A	N/A	N/A	<1
Flashpoint	N/A	Degree F	100	N/A	N/A	N/A	<1
Sulfide	10	mg/Kg	N/A	ND	118	120	<1
Cyanide	0.20	mg/Kg	85	ND	106	111	3.9
Antimony	10	mg/Kg	97	ND	80	82	1.5
Arsenic	0.5	mg/Kg	109	ND	78	82	2.3
Barium	2	mg/Kg	100	ND	125	114	3.5
Beryllium	2	mg/Kg	96	ND	97	99	1.6
Cadmium	2	mg/Kg	104	ND	98	100	2.1
Chromium	2	mg/Kg	98	ND	97	97	<1
Cobalt	5	mg/Kg	102	ND	96	98	1.8
Copper	2	mg/Kg	102	ND	98	98	<1
Lead	20	mg/Kg	101	ND	95	99	2.0
Mercury	0.1	mg/Kg	110	ND	106	102	4.0
Molybdenum	5	mg/Kg	102	ND	75	77	2.3
Nickel	5	mg/Kg	103	ND	96	99	2.2
Selenium	0.5	mg/Kg	97	ND	83	97	15
Silver	2	mg/Kg	100	ND	95	94	<1
Thallium	20	mg/Kg	100	ND	94	96	1.9
Vanadium	5	mg/Kg	102	ND	97	97	<1
Zinc	2	mg/Kg	103	ND	98	104	3.7

Ref: Durham-Meekland/93-1M3

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
1,1-Dichloroethene	5	ug/Kg	107	ND	103	109	6.0
Trichloroethene	5	ug/Kg	108	ND	110	108	2.0
Toluene	5	ug/Kg	111	ND	104	94	10
Benzene	5	ug/Kg	108	ND	104	103	1.0
Chlorobenzene	5	ug/Kg	107	ND	104	100	4.0
Phenol	330	ug/Kg	106	ND	66	69	5.0
2-Chlorophenol	330	ug/Kg	105	ND	77	79	2.0
1,4-Dichlorobenzene	330	ug/Kg	110	ND	80	83	4.0
1,2,4-Trichlorobenzene	330	ug/Kg	105	ND	78	83	6.0
4-Nitrophenol	1600	ug/Kg	59	ND	101	92	9.0
Pyrene	330	ug/Kg	104	ND	66	70	6.0

COMMENT: Blank Results were ND on other analytes tested.

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	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 (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
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 [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.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

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.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

SANTA ROSA DIVISION, 435 TESCONI CIRCLE, SANTA ROSA, CA 95401
(707) 526-7200 PHONE (707) 526-9623 FAX

2029

CHAIN OF CUSTODY RECORD

COMPANY: GTTS
ADDRESS: PO Box 515 Rodeo, CA 94572
PHONE: (510) 799-1140 FAX: Same
PROJECT NAME/LOCATION: Durham - Moakland
PROJECT NUMBER: 93-1M3
PROJECT MANAGER: L. Blos

Lisa Blos

SAMPLED BY: Lisa Blos (PRINT NAME) SIGNATURE: Lisa Blos

(PRINT NAME) SIGNATURE

TURNAROUND TIME 14 DAY (S)

ANALYSES: 8270, TPH-G, BTEX, TPH-D+MO, CAM 17 Metals, VOCs (8010), total O+G, 8240, 418.1 OG, RCI, 960 LC50 per LP, fat head minnows

DATE	TIME	SAMPLE ID/DESCRIPTION	GRAB	COMP	# OF CONTAINERS	MATRIX	PRESERVED Y/N	ANALYSES	COMMENTS
2/5/93		F-1	X		1	soil	N	~~X X X X~~	~~Cancel gtbx, 8010, diesel per LPto JR 2/8/93 on the composite~~
↓		F-2	↓		↓	↓	↓	hold →	
		F-3						X X X X X X X	
		F-4 (F-1 to F-8: ~~composite into 1 sample~~ NO COMP)						hold →	
		F-5						hold →	~~add motor oil + total O+G to waste oil sample per LP to JR 2/8/93~~
		F-6						X X X	
		F-7						hold →	
		F-8						X X X	
2/5/93		Waste oil	X		1	soil	N	X X X X X X X X	—run all circled analyses; cancel 8010 per Lisa to NF.

for F1 F3 F6 F8 gas/diesel
F1 F6 F8 btxe
F3 8240, CAM17, RCI, 418.1
on Waste oil all but 8010.
per Lisa to Nora 2/12/93

CUSTODY SEALED 2-5-93 @ 1800 [initials]
Seals intact. AL.

RESULTS TO: L. Blos

INVOICE TO: L. Blos

RELINQUISHED BY.	DATE/TIME	RECEIVED BY.	RELINQUISHED BY:	DATE/TIME	RECEIVED BY.
Lisa Blos	2/5/93 16:00	Andy Mackey 2-5-93 1600	Andy Mackey	2-5-93 1800	
RELINQUISHED BY.	DATE/TIME	RECEIVED BY.	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR LABORATORY BY
				2/6/93 10:00	A Lopez

METHOD OF SHIPMENT

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

NATIONAL ENVIRONMENTAL TESTING, INC.

Lisa A. Polos
Toxic Technology Services
PO Box 515
Rodeo, CA 94572

Client Reference Information

Sample analysis in support of the project re
and results are presented on following pages
"Key to Abbreviations" for definition of ter
regarding procedures or results, please feel
Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

Ref:

SAMPLE DESCRIPTION: F-3
Date Taken: 02/05/1993
Time Taken:
LAB Job No: (-151814)

Parameter	Results	Reporting Limit	Units	Method
Lead (GFAA,WET)	2.1	0.01	mg/L	EPA 7421

Ref:

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
WET-Lead	0.01	mg/L	106	ND	85	87	<1

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	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 (but do not multiply reported values).
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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.
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MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
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ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
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RPD	:	Relative percent difference, 100 [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.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

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.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Lisa A. Polos
Toxic Technology Services
PO Box 515
Rodeo, CA 94572

Date: 03/01/1993
NET Client Acct. No: 70700
NET Pacific Job No: 93.00533
Received: 02/06/1993

Client Reference Information

Durham-Meekland/93-1M3

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:

Subcontract report attached.

Jules Skamarack
Laboratory Manager

Enclosure(s)

NORTH COAST LABORATORIES LTD.

Date: 02 March 1993

Report to: National Environmental Testing
435 Tesconi Circle, Building #14
Santa Rosa, CA 95401

Attn: Kelly Temple

Sample Description: 93.00533-151061

NCL #: 93-02-402-01A

Date Received: 02-17-93 Date Sampled: 02-05-93

HAZARDOUS WASTE BIOASSAY SCREENING TEST

Supporting Data: Hardness and alkalinity (run only on controls and highest concentration).

	Control #1	Control #2	750 mg/L #1	750 mg/L #2	Units
Hardness Initial	40	40	44	40	mgCaCO3/L
Hardness Final	38	39	38	37	mgCaCO3/L
Alkalinity Initial	30	30	31	30	mgCaCO3/L
Alkalinity Final	34	33	33	35	mgCaCO3/L

Fish Data:
Average Length: 2.5 cm Max. Length: 2.7 cm Min. Length: 2.2 cm
Average Weight: 0.25g Max. Weight: 0.26g Min. Weight: 0.20g
Acclimatization: 50 days
Species: Fathead Minnow, Pimephales promelas
Date Started: 02-25-93
2 tanks per dilution, 10 fish per tank
Samples were maintained at 20 ± 2°C

Laboratory Supervisor(s) QA Officer

Jesse G. Chaney, Jr.
Laboratory Director

NORTH COAST LABORATORIES LTD.

Date: 02 March 1993

Report to: National Environmental Testing
435 Tesconi Circle, Building #14
Santa Rosa, CA 95401

Attn: Kelly Temple

Sample Description: 93.00533-151061

NCL #: 93-02-402-01A

Date Received: 02-17-93 Date Sampled: 02-05-93

HAZARDOUS WASTE BIOASSAY SCREENING TEST

Supporting Data:

	Control		250 mg/L		750 mg/L		Units
	#1	#2	#1	#2	#1	#2	
Initial							
pH	7.7	7.7	7.7	7.7	7.7	7.7	pH units
DO	9.0	9.0	9.0	9.0	9.0	9.0	mg/L
24 Hour							
pH	7.5	7.5	7.6	7.6	7.6	7.6	pH units
DO	8.2	8.2	8.5	8.5	8.6	8.7	mg/L
Total dead	0	0	0	0	0	0	
48 Hour							
pH	7.4	7.5	7.6	7.6	7.6	7.6	pH unit
DO	8.0	8.3	8.5	8.6	8.2	8.6	mg/L
Total dead	0	0	0	0	0	0	
72 Hour							
pH	7.4	7.4	7.5	7.6	7.6	7.7	pH units
DO	8.4	8.4	8.2	8.6	8.6	8.8	mg/L
Total dead	0	0	0	0	0	0	
96 Hour							
pH	7.8	7.8	7.5	7.6	7.7	7.7	pH units
DO	8.2	8.1	8.1	8.2	8.6	8.4	mg/L
Total dead	0	0	0	0	0	0	
Survival	100%	100%	100%	100%	100%	100%	

Fish Data:

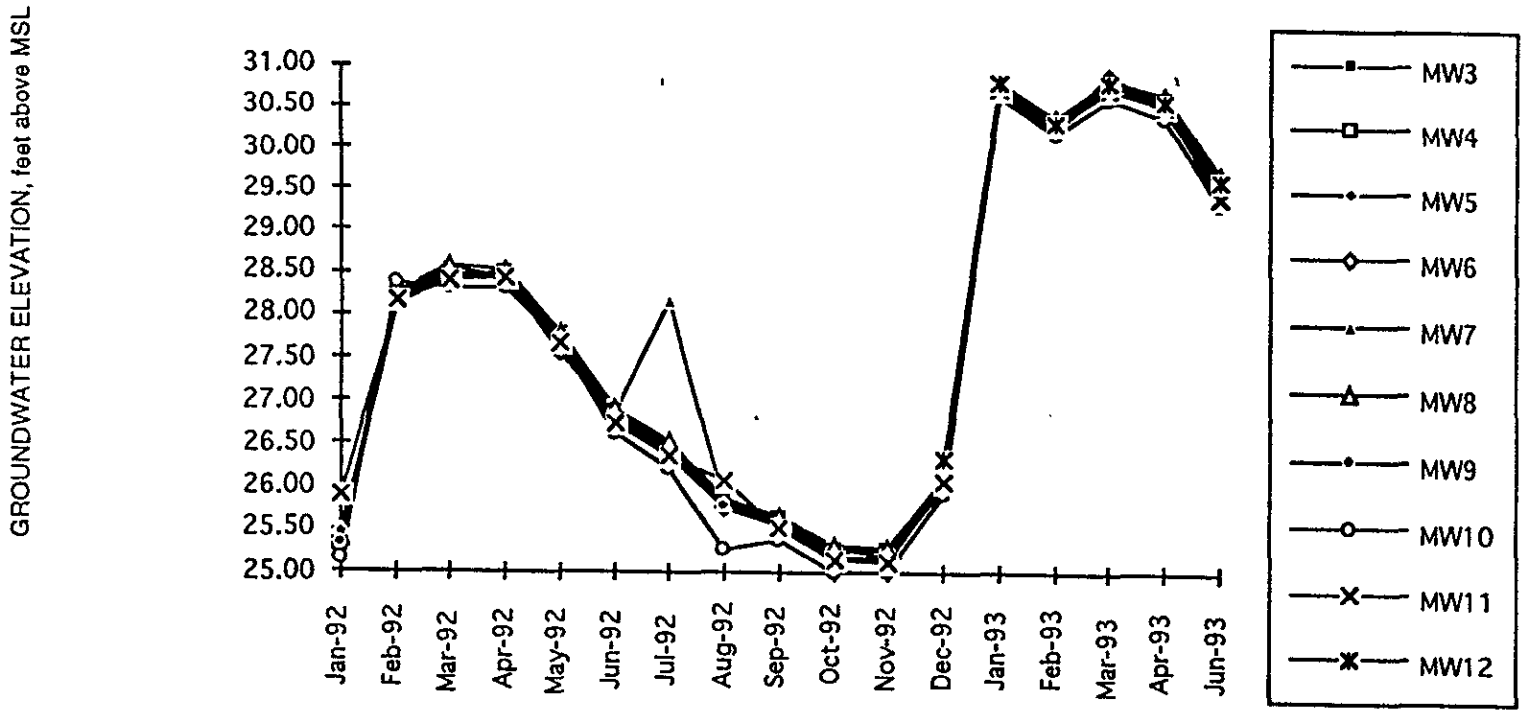
Average Length: 2.5 cm Max. Length: 2.7 cm Min. Length: 2.2 cm
Average Weight: 0.25g Max. Weight: 0.26g Min. Weight: 0.20g
Acclimatization: 50 days
Species: Fathead Minnow, Pimephales promelas
Date Started: 02-25-93
2 tanks per dilution, 10 fish per tank
Samples were maintained at 20 ± 2°C

Laboratory Supervisor(s)

QA Officer

Jesse G. Chaney, Jr.
Laboratory Director

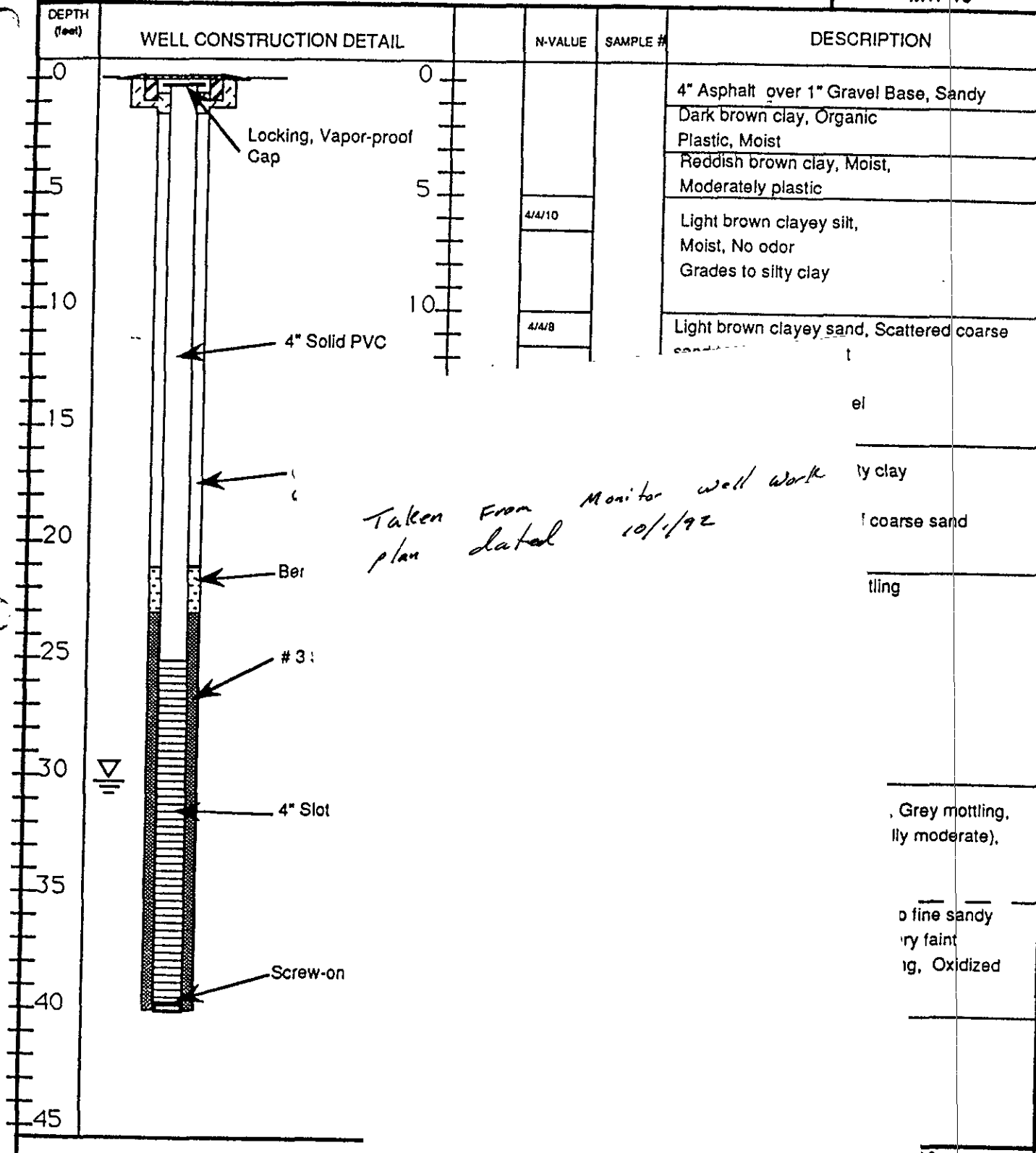
FIGURE 1
DURHAM TRANSPORTATION -- MEEKLAND PROJECT
GROUNDWATER ELEVATIONS, feet above MSL



From July 16, 1993
CTTR Progress Report

BORING LOG AND RECORD OF MONITORING WELL INSTALLATION

Figure 1
MW-10

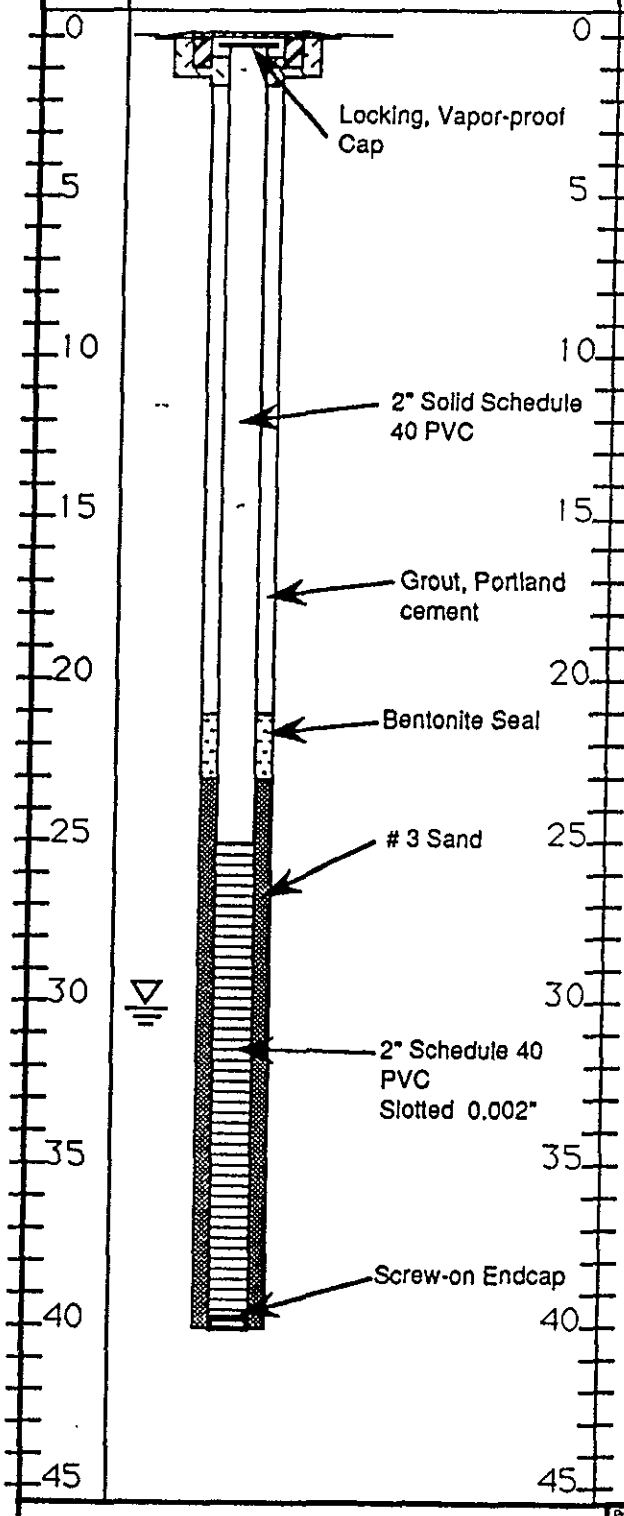


CTTS, Inc.
toxic technology services
P.O. Box 515 • Rodeo, California 94572
(510) 799-1140

91-15	Diameter of Drill Hole: 10"
Geologist/Engineer: J. N. Alt	Total Depth of Hole: 40'
Driller: HEW	Date Started: 1/21/92
	Date Completed: 1/21/92

BORING LOG AND RECORD OF MONITORING WELL INSTALLATION

Figure 2
MW-11



N-VALUE	SAMPLE #	DESCRIPTION
		4" Concrete over 6" Base Dark brown clay, Moist, Plastic
10/10/11		Light brown silty fine sand, Moist
8/10/10		Light brown clayey silt with some fine sand, Moist, No hydrocarbon odor
4/6/8		Medium brown silty clay Moderately plastic, Moist, No hydrocarbon odor, Grades into clayey to silty sand
3/5/5	1	Gray clay, Moist, Plastic, No hydrocarbon odor
8/12/15		Lost most of sample-- Tan sandy clay with gray mottling, Very faint hydrocarbon odor
4/8/7	2	Tan sandy clay, Wet, Grey mottling, Moderate hydrocarbon odor
8/9/10	3	Medium brown silty to fine sandy clay, Grey mottling, Moist to wet, No hydrocarbon odor
		End of Boring

CTTS, Inc.
toxic technology services
P.O. Box 515 • Rodeo, California 94572
(510) 799-1140

Project	Durham Transportation	Hole/Well #	11
Location	Residence, 19870 Meekland Ave.	Diameter of Drill Hole	8"
Job #	91-15	Total Depth of Hole	40'
Geologist/Engineer	J. N. Alt	Date Started	1/24/92
Driller	HEW	Date Completed	1/24/92

Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

REPORT
SUBSURFACE ENVIRONMENTAL INVESTIGATION
TWO SOIL BORINGS
AND MONITORING WELL INSTALLATION
at
Harbert Transportation
19984 Meekland Avenue
Hayward, California

AGS Job No. 8660-1

Report prepared for

Harbert Transportation
Hayward, California

by

Glenn R. Dembroff
Project Geologist

Michael N. Clark
C.E.G. 1264

July 20, 1986

Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

REPORT
SUBSURFACE ENVIRONMENTAL INVESTIGATION
SOIL BORING AND MONITORING WELL INSTALLATION
at Harbert Transportation
Hayward, CA
for: Harbert Transportation

INTRODUCTION

The following report describes the work elements associated with two soil borings and installation of one monitoring well near the fuel storage tank cluster at Harbert Transportation located on 19984 Meekland Avenue, Hayward, California. The well was installed after the Groundwater Protection Ordinance Permit from the Alameda County Flood Control and Water Conservation District (ACFCWCD) was approved by Mr. Craig Mayfield. A copy of this permit is included in the Appendix of this report. Methods used in this project are in compliance with Guidelines for Addressing Fuel Leaks (California Regional Water Quality Control Board, San Francisco Bay Region, September 1985) and Groundwater Monitoring Guidelines (Alameda County Water District, May 1984).

SITE HISTORY

The Harbert Transportation site is located on the corner of Meekland Avenue and Blossom Way in Hayward, as shown on the Site Vicinity Map, Plate P-1. Three underground motor fuel storage tanks are buried in a single cluster at the site. One waste oil tank is buried in a cavity on the northern side of the property. A water well is located approximately 15 feet west of the waste oil tank. The water from this well is collected in a 300 gallon holding tank and it is our understanding that the water is used primarily for vehicle washing. We assume that the waste water used at the site is disposed of in the storm water runoff drain and sewer.

FIELD WORK

On June 30, 1986, a geologist from Applied GeoSystems was present at the station to observe the soil borings and well construction. Drilling began at 3:30 PM. The equipment used for the boring was a CME-55 truck-mounted drill rig with steam-cleaned hollow stem augers operated by Datum Exploration of Pittsburg, California. The borings were drilled with eight-inch O.D. augers. The total depth drilled in the boreholes was 41.5 feet for B-1/MW-1 and 23 feet in B-2. Ground water was encountered at 24 feet in MW-1. Boring B-1 was drilled at 41.5 feet to accomodate 15 feet of well

screen below the saturated zone. Boring B-2 was terminated at a total depth of 23 feet in order to sample the soil immediately above the saturated zone. No well was constructed in this boring. The locations of these two borings are shown on the Generalized Site Plan, Plate P-2.

Soil samples were collected from the boreholes with a modified California split spoon sampler. Descriptions of earth materials encountered in borings B-1 and B-2 are presented on the Boring Logs, Plates P-4 through P-6. Plate P-3 gives a summary of the Unified Soils Classification System used to identify the soils. The earth materials encountered at this site consist of silty clay material to a depth of approximately sixteen feet underlain by clay. The cuttings excavated from the borings were sealed in appropriately-lined D.O.T. 17 55-gallon drums left on the site and remain the responsibility of Harbert Transportation. Applied GeoSystems can make arrangements, with the authorization of Harbert Transportation, to schedule to have the drums transported by a licensed waste hauler to a Class I dump site.

SOIL SAMPLING PROCEDURE

Seven soil samples were collected and described from boring B-1 and four samples were collected and described from boring B-2 at the time of drilling. These samples, labeled as indicated on the Boring Logs, were collected at five-foot intervals from the ground surface to Total Depth. When soil samples were missed (i.e. were not retained in the sampler due to saturated and unconsolidated condition of the materials), the sampler was cleaned and placed in the boring with a sand catcher for resampling. Soil samples were collected by advancing the boring to a point immediately above the sampling depth, and then driving a modified California split spoon sampler into the soil through the hollow center of the auger. The sampler was driven 18 inches with a standard 140 pound hammer repeatedly dropped 30 inches. The number of blows to drive the sampler each successive six inches were counted and recorded.

The samples were removed from the sampler and immediately sealed in their brass sleeves with aluminum foil, plastic caps and air-tight tape, labeled, and placed in iced storage. The samples were delivered to Applied GeoSystems' laboratory for analytical testing. The Chain-of-Custody form for samples tested is included in the Appendix of this report.

July 20, 1986
Harbert Transportation - Hayward, CA

AGS 8660-1

MONITORING WELL CONSTRUCTION

A ground water monitoring well was constructed in the soil boring B-1. The well (MW-1) was completed with two-inch I.D. PVC casing. The casing consists of 0.020-inch machine-slotted PVC from the base of the borings to the twenty foot depth in MW-1. Blank casing completes the well from the twenty foot depth to the surface. Both ends of the casing were plugged with PVC caps.

The annular space of the well was backfilled with washed sand to approximately eighteen feet below surface grade. A one foot bentonite plug was placed above the sand as a seal against cement entering the sand pack. The remaining annulus was backfilled with neat cement to grade. Graphic representation of the well construction is shown on the right margin of the Boring Log.

A utility box was placed over the well head and cemented into place flush with the surrounding surface grade. The utility box has a water-tight seal to protect against surface water infiltration and requires a specially-designed key to reduce the possibility of well vandalism.

July 20, 1986
Harbert Transportation - Hayward, CA

AGS 8660-1

WATER SAMPLING PROCEDURE

Prior to development, a subjective water sample was collected by lowering a teflon bailer approximately halfway through the air/water interface. The sample was retrieved and inspected for the presence of floating product, product odor, sheen, and emulsion. No subjective evidence of floating product, sheen, or emulsion was detected. A moderate product odor was detected in the subjective sample.

The well was developed by pumping, swabbing, and air surging. A minimum of three well volumes were removed from the monitoring well by pumping prior to sampling. Following the purge period, and after well recovery of approximately one hour, the water sample was collected using a teflon bailer. The bailer was lowered through the air/water interface in order to retrieve a sample representative of the formation water.

The sample was transferred to a clean finger vial, made acidic by the addition of hydrochloric acid, immediately sealed with a teflon-lined cap, and placed in iced storage for transport to the analytical laboratory for testing.

Additionally, a water well sample was collected from the 300 gallon holding tank at the site. It is our understanding that this well water is currently being used as a non-potable water source. The sample was collected by filling the finger vials from a faucet plumbed to the holding tank after the tank was emptied and refilled. Preparation and transport procedures for this sample are the same as the monitoring well water sample. Chain-of-Custody forms for the soil and water samples are included in the Appendix of this report.

ANALYTICAL RESULTS

Two soil samples (S-20-MW1 and S-20-B2) were analyzed for total hydrocarbon using gas chromatography with flame-ionization detection (EPA Method 8020). Two water samples, one from the monitoring well (MW-1) and one from the water well at the site, were analyzed for purgeable aromatic hydrocarbons by EPA method 602 using gas chromatography with photo- and flame-ionization detection. The results of the chemical analyses are presented in Table 1 and in the Appendix of this report.

TABLE 1
RESULTS OF CHEMICAL ANALYSES
OF SOIL AND WATER SAMPLES
Harbert Transportation
Hayward, California

Material	Soil	Soil	Water	Water
Boring No.	B-1	B-2	MW1	-
Sample No.	S-20-B1	S-20-B2	W-28-MW1	W-Well
Depth	20 feet	20 feet	28 feet	-
Total Hydrocarbons	235.16	0.27	42.09	0.66
Benzene	--	--	5.52	0.03
Toluene	--	--	4.92	ND
Xylenes	--	--	6.07	0.01

Note: Results in parts-per-million (ppm)
ND: Non-detectable
Detection limits: 0.05 ppm (soil)
0.0005 ppm (water)

The soil samples taken from borings B-1 and B-2 show detectable levels of total hydrocarbons. The sample from boring B-2, drilled adjacent to the waste oil tank, shows low levels of contamination. The soil analyzed from boring B-1, adjacent t the tank cluster, shows higher levels of hydrocarbon contamination.

The water samples collected and analyzed also show detectable levels of hydrocarbon. The lab results for water collected from monitoring well MW-1 shows a more pronounced hydrocarbon influence than the water collected from the 300 gallon holding tank at the site.

CONCLUSIONS AND RECOMMENDATIONS

Although the soils from the two borings show detectable amounts of hydrocarbon contamination, no soil remediation is warranted at this time. We do feel, however, that hydrocarbon levels found in water samples collected from MW-1 may suggest a potential contamination problem. We recommend that the hydrocarbon level in the water of MW-1 be monitored monthly to assess possible changes in concentration. This information, in conjunction with inventory records, may be used to evaluate the possibility of a contaminant source. In order to monitor any future negative contamination trends, we recommend that the well be sampled monthly for subjective analysis for at least one year.

This work can be done by Applied GeoSystems. The subjective analyses would include examination of a sample collected with a laboratory-cleaned teflon bailer. The bailer would be used to

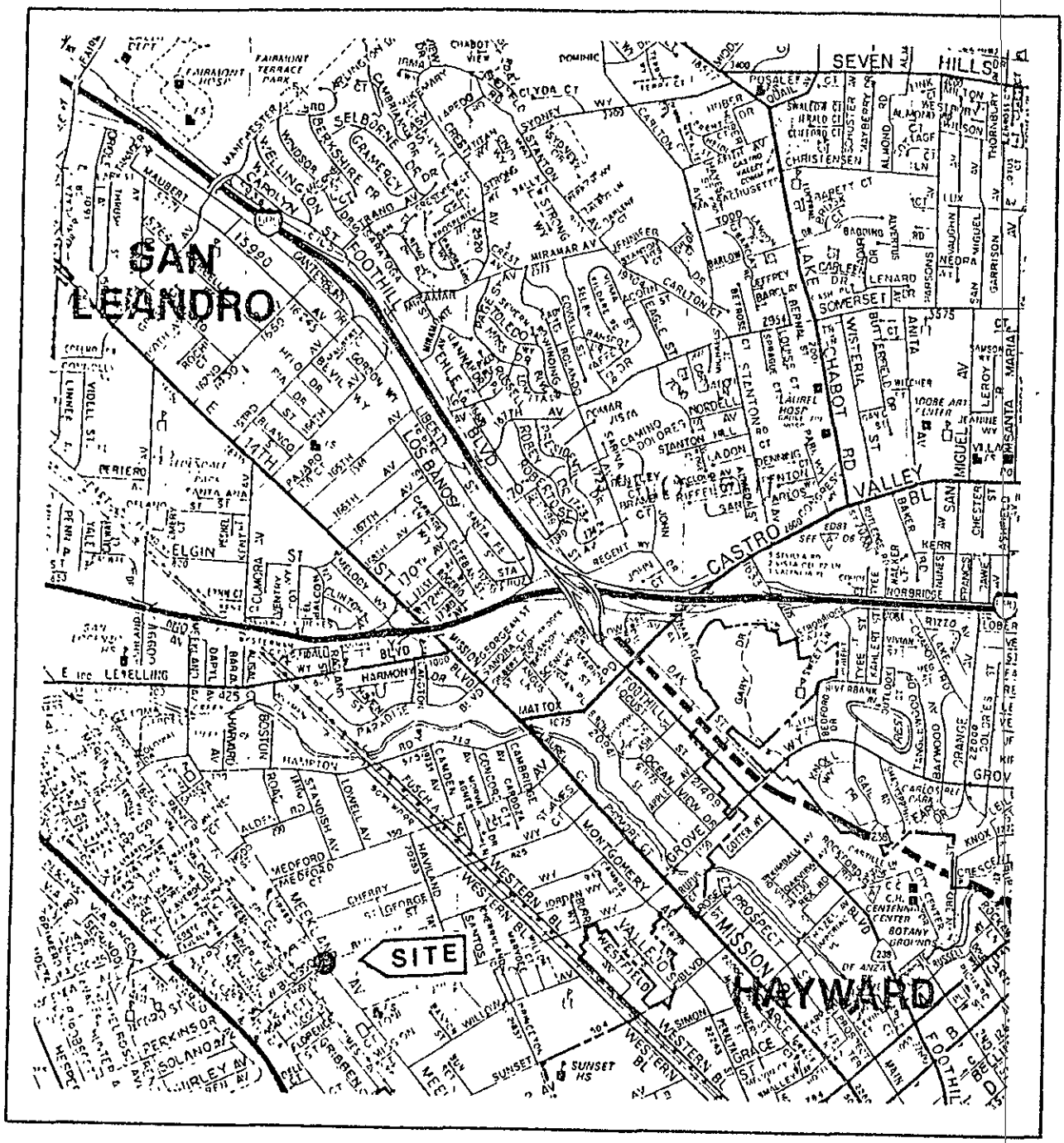
collect a relatively undisturbed water sample from the air/water interface in the well which would be examined for evidence of floating product, petroleum odor, sheen, and emulsion. In addition, every six months a water sample would be analyzed by EPA method 602 for total hydrocarbons and dissolved constituents. The well would be purged of approximately three to four well volumes prior to the collection of this semi-annual sample. The sample would be collected from below the air/water interface in the well in order to be representative of the formation water. The information obtained from the semi-annual sample should show a trend for the ground water quality at the site.

The source of the hydrocarbon contamination found in the soil borings and wells at the site may be from surface spillage, other limited source, or from off-site. The subjective analysis that we recommend should supply data that can be used to evaluate whether or not the source of product is still active.

The water sampled from the holding tank shows low levels of hydrocarbons. We recommend this water be analyzed every six months in order to monitor ground water quality. We recommend that this water remain a non-potable source.

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time this investigation was performed. It need be emphasized that evaluation of geologic conditions at the site, for the purpose of this investigation, are made from a limited number of observation points. Subsurface conditions may vary away from the data points available. Additional work, including further subsurface investigations, can reduce the inherent uncertainties associated with this type of investigation.



Source: Thomas Bros. Maps, Alameda County, 1985

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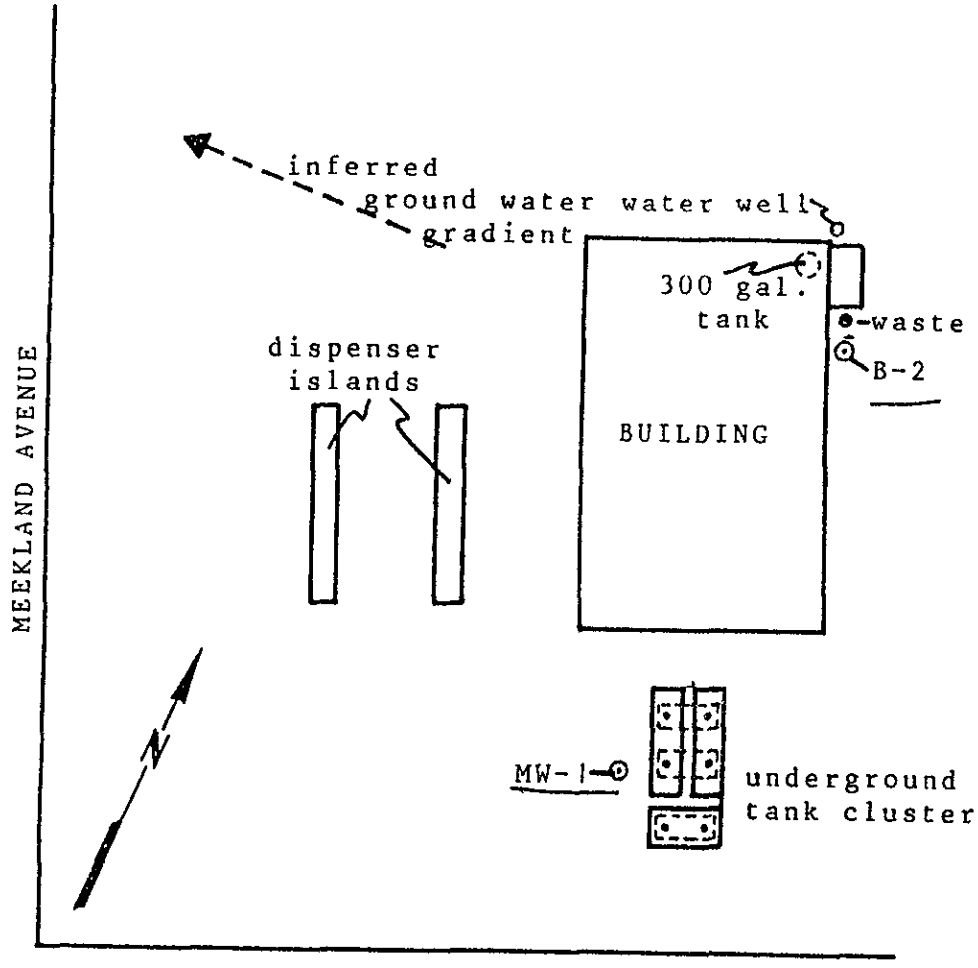
PROJECT NO. 8660-1

SITE VICINITY MAP
Harbert Transportation
Hayward, California

PLATE
P-1



5 0 10 20 30 40 50 60 70 80

feet

Approximate Scale

Applied GeoSystems

PROJECT NO. 8660-1

GENERALIZED SITE PLAN

Harbert Transportation
Hayward, California

PLATE

P-2

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS (MORE THAN HALF IS LARGER THAN #200 SIEVE)	GRAVELS (MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL - SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL - SAND - SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL - SAND - CLAY MIXTURES
	SANDS (MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE)	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POORLY GRADED SAND - SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND - CLAY MIXTURES
FINE GRAINED SOILS (MORE THAN HALF IS SMALLER THAN #200 SIEVE)	SILTS AND CLAYS (LIQUID LIMIT LESS THAN 50)		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

Depth through which sampler is driven

Relatively undisturbed sample (Calif. Modified Sampler)

Disturbed sample

Bag or grab sample

Ground water level observed in boring

I-2 Sample No.

Sand pack

Bentonite annular seal

Neat cement annular seal

PVC blank

Machine-slotted PVC

BLOW/FT. REPERSENTS THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH THE LAST 12 INCHES OF AN 18 INCH PENETRATION.

LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDRIES ONLY. ACTUAL BOUNDRIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

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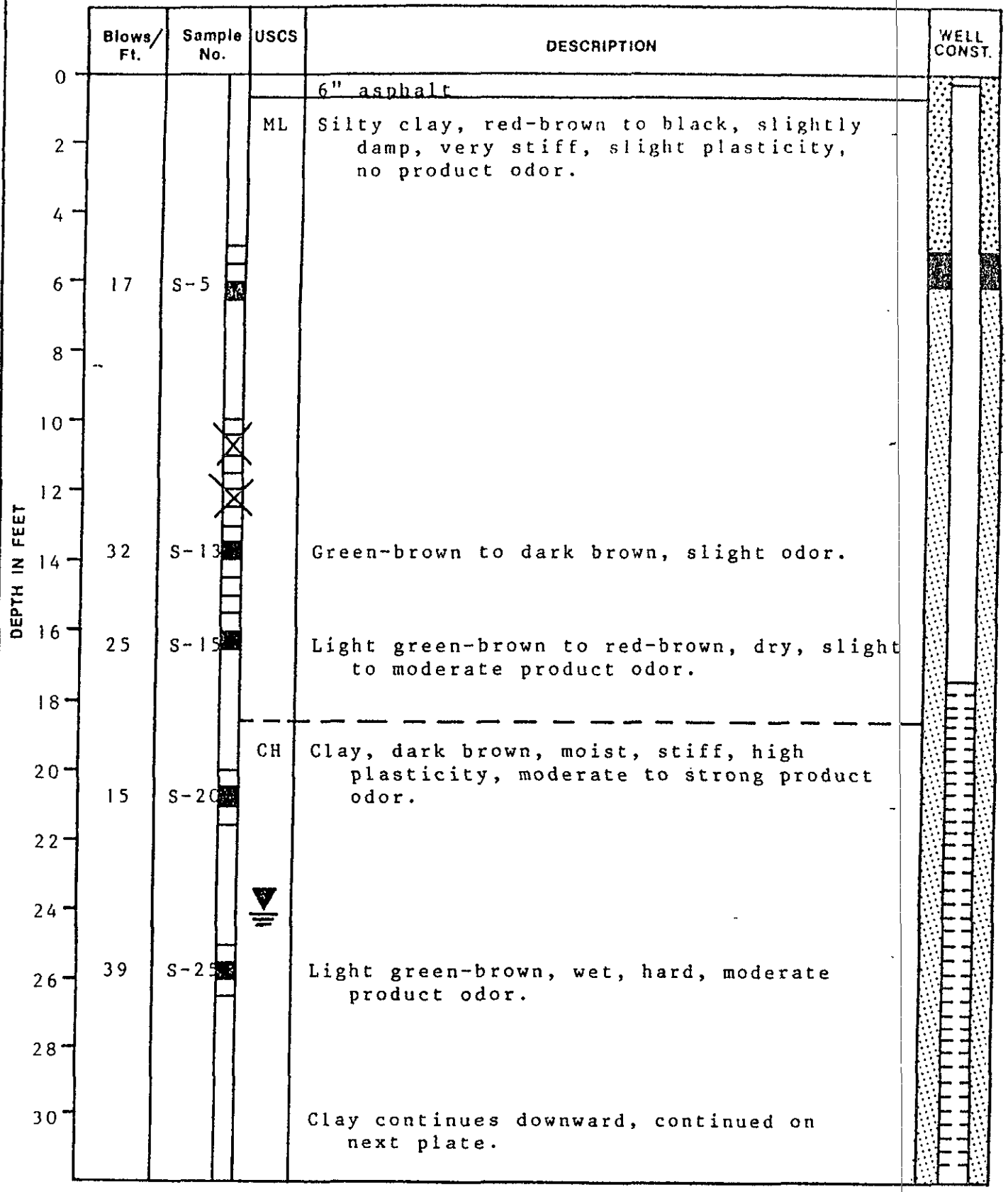
UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY

Harbert Transportation
Hayward, California

PLATE
P-3



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LOG OF BORING B1/MW-1

Harbert Transportation
Hayward, California

PLATE
P-4

PROJECT NO. 8650-1

DEPTH IN FEET	Blows/ Ft.	Sample No.	USCS	DESCRIPTION	WELL CONST.
30			CH	Clay, light green-brown, wet, hard, high plasticity, moderate product odor.	
32	18	S-30		Dark green-brown, very stiff.	
34					
36	38	S-35		Red-brown, hard, slight product odor.	
38					CAVED
40					
42				Total depth = 41.5 feet.	

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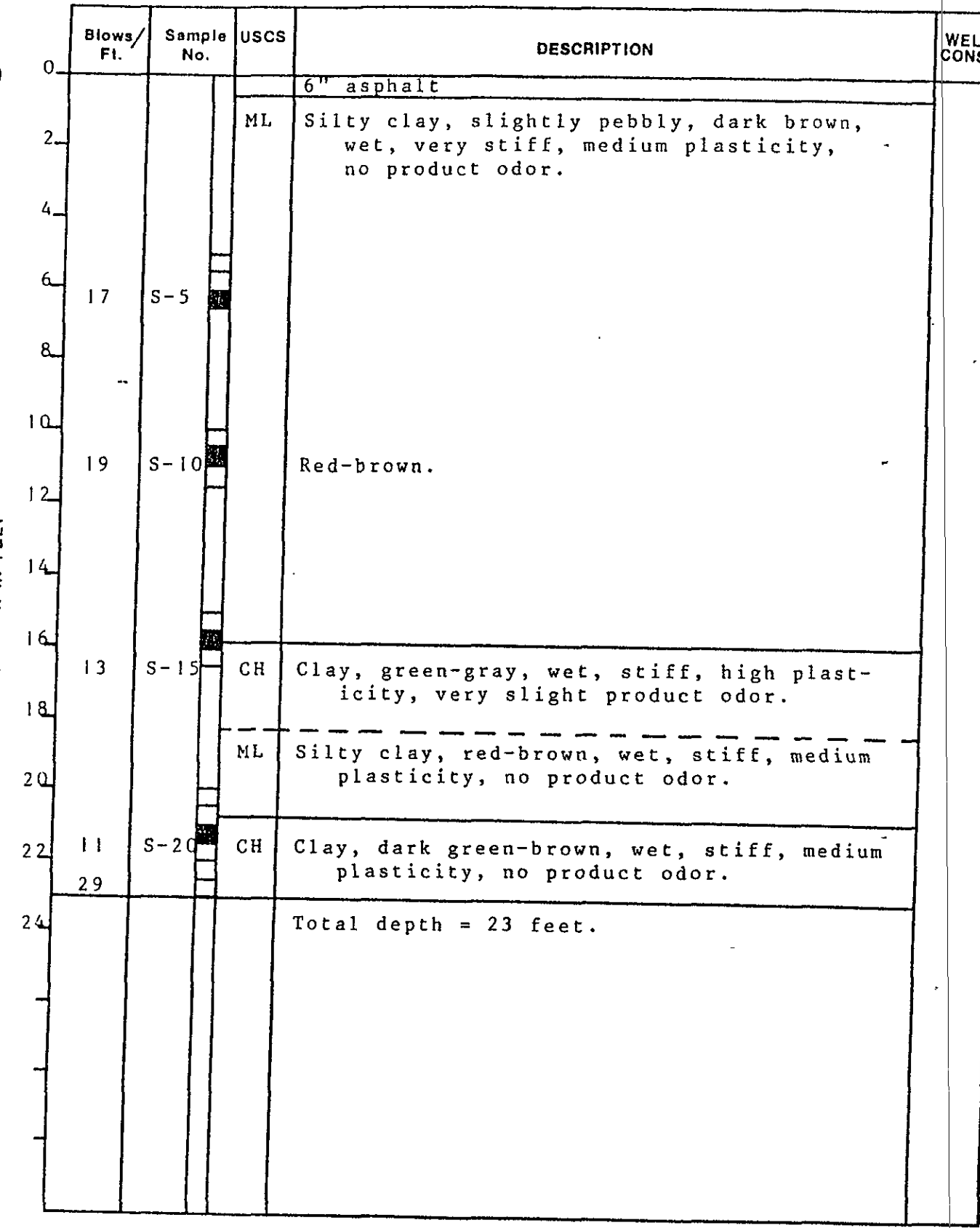
LOG OF BORING B-1/MW-1

Harbert Transportation
Hayward, California

PLATE

P-5

PROJECT NO. 8660.1



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LOG OF BORING B-2

Harbert Transportation
Hayward, California

PLATE

P-6

PROJECT NO. 8660-1

APPENDIX

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94566 ♦ (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

TION OF PROJECT 19984 MEEKLAND WY
HAYWARD

IT
JACK WORTHINGTON
SS 93 JACKSON ST Phone (415) 889-7200
HAYWARD CA Zip 94544

.CANT
APPLIED GEOSYSTEMS *
43255 MISSION BLVD
SS SUITE B Phone (415) 651-1906
FREMONT, CA Zip 94539

IPTION OF PROJECT
Well Construction ✓ Geotechnical ___
c Protection ___ Well Destruction ___

)SED WATER WELL USE
tic ___ Industrial ___ Irrigation ___
ipal ___ Monitoring ✓ Other ___

)SED CONSTRUCTION
ing Method:
otary ___ Air Rotary ___ Auger ✓
___ Other ___

PROJECTS
Drill Hole Diameter 8 in. Depth 30 ft.
Casing Diameter 2 in. Number 1
Surface Seal Depth 8 ft.
Driller's License No. CEG 1264

CHNICAL PROJECTS
Number 1
Diameter 8 in. Maximum Depth 30 ft.

ATED STARTING DATE JUNE 26, 1986
ATED COMPLETION DATE JUNE 27, 1986

y agree to comply with all requirements of permit and Alameda County Ordinance No. 73-68.

ANT'S
TURE C. Robin Ross Date 6/4/86

FOR OFFICE USE

PERMIT NUMBER 86154
LOCATION NUMBER

Approved Craig A. Mayfield Date 13 Jun 86
Craig A. Mayfield

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Notify this office (443-9300) at least one day prior to starting work on permitted work and before placing well seals.
3. Submit to Zone 7 within 30 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or bore hole logs and location sketch for geotechnical projects. Permitted work is completed when the last surface seal is placed or the last boring is completed.
4. Permit is void if project not begun within 90 days of approval date.

(B) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie, or equivalent.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie, or equivalent.

E. WELL DESTRUCTION. See attached.

* Applied Geosystems Representative: Mr. Robin Ross

11985

CHAIN OF CUSTODY RECORD

...LERS: *(Signature)*

ne:

TO:

ENTION:

ne No.

Applied GeoSystems

43255 Mission Blvd. Fremont, CA 94539 (415)651-190

SHIPPING INFORMATION:

Shipper

Address

Date Shipped

Shipment Service

Airbill No. Cooler No.

...nquished by: *(Signature)*	Received by: *(Signature)*	Date	Time
...nquished by: *(Signature)*	Received by: *(Signature)*	Date	Time
...nquished by: *(Signature)*	Received by: *(Signature)*	Date	Time
...nquished by: *(Signature)*	Received for laboratory by*: *(Signature)*	Date 7-2-86	Time 8:00

...s laboratory should complete "Sample Condition Upon Receipt," section below, sign and return top copy to: APPLIED GEOSYSTEMS, 43255 MISSION BLVD., FREMONT, CA. 94539

...mple ...mber	Site/Sample Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
20-B1	8660-1	6/30/86	Total HC	iced
20-B2	8660-1	6/30/86	Total HC	iced

Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

RECORD OF ANALYSIS

Applied GeoSystems
43255 Mission Blvd.
Fremont, CA. 94539

Date 7-7-86

Attention: Glenn R. Dembroff

Date Received: 7-2-86
Date Analyzed: 7-7-86

Laboratory# 8607-S17

Procedure:

The soil samples referenced on the attached Chain-of-Custody were analyzed for the presence and concentration of Benzene, Ethyl-Benzene, Toluene, and Xylenes (BETX) and for Total Hydrocarbons (THC) by EPA method 8020. The sample were concentrated on a Tekmar LSC-2 and ALS automatic sampler prior to injection into a 5890 Hewlett Packard gas chromatograph fitted with a Photo-Ionization detector (PID) and a Flame-Ionization detector (FID). The limit of detection for this method of analysis is 50 micrograms/kilogram (parts per billion = ppb).

The results are presented in the table below:

SAMPLE	SITE	TOTAL HYDROCARBONS
S-20-B1	8660-1	235.16
S-20-B2	8660-1	0.27

Results in milligrams/kilogram (parts per million = ppm).

Tia Tran
Chemist

IAIN OF CUSTODY RECORD

Applied GeoSystems

43255 Mission Blvd. Fremont, CA 94539 (415) 651-19

SAMPLERS: (Signature)

Phone:

SHIP TO: Applied Geo Systems

ATTENTION: Tim Tran

Phone No.

SHIPPING INFORMATION:

Shipper

Address

Date Shipped

Shipment Service

Airbill No. Cooler No.

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	7-7-86	16:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	Received for laboratory by: (Signature)	Date	Time

This laboratory should complete "Sample Condition Upon Receipt," section below, sign and return top copy to: APPLIED GEOSYSTEMS, 43255 MISSION BLVD., FREMONT, CA. 94539

Sample Number	Site/Sample Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
[illegible]	465-5660-1	7-7-86	THC + BTX	ICED
[illegible]	465-5660-1	7-7-86	THC + BTX	ICED

Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

RECORD OF ANALYSIS

Date 7-9-86

Applied GeoSystems
43255 Mission Blvd.
Fremont, CA. 94539

Attention: Glenn R. Dembroff

Date Received: 7-7-86
Date Analyzed: 7-8-86

Laboratory# 8607-W19

Procedure:

The water samples referenced on the attached Chain-of-Custody were analyzed for the presence and concentration of Benzene, Ethyl-Benzene, Toluene, and Xylenes (BETX) and for Total Hydrocarbons (THC) by EPA method 602. The sample were concentrated on a Tekmar LSC-2 and ALS automatic sampler prior to injection into a 5890 Hewlett Packard gas chromatograph fitted with a Photo-Ionization detector (PID) and a Flame -Ionization detector (FID). The limit of detection for this method of analysis is 0.5 micrograms/Liter (parts per billion = ppb).

The results are presented in the table below:

SAMPLE	SITE	BENZENE	ETHYL BENZENE	TOLUENE	TOTAL XYLENES	THC
W-Well	8660-1	0.03	0.005	ND	0.01	0.66
W-28-MW1	8660-1	5.52	1.37	4.92	6.07	42.09

Results in milligrams/Liter (parts per million = ppm).
ND=Non Detectable - Less than 0.0005 milligrams/Liter (ppm).

Tia Tran
Chemist

toxic technology services inc.

January 31, 1990
File No. 89-12

Mr. Jack Worthington
Durham Transportation
27577 (A) Industrial Blvd.
Hayward, California 94545

Subject: Well Abandonment and
Groundwater Monitoring Well Installations
19984 Meekland Road
Hayward, California

Dear Mr. Worthington:

CTTS, Inc. ed to present
this repor well and the
installatio lls at 19984
Meekland Ro

This report ns:

Introdu
Site Hi
Hydroge
Groundw ampling
Well At
Chemica
Conclus

Boring Logs for MW3 & MW4 but no well installation diagrams.

The purpose vo groundwater
monitoring soils during
installation yze the water
and finally, well, sample
and analyze

Contaminants wells. Soils
from the b contaminated.
Contaminatio rocarbons as
gasoline and enes, however
chlorinated s he abandoned
well and ir cated in the
northwest cor found in the
waters of MW- orner of the
subject site)

These data no only requires
soil remedia ion program.
Sources of co e suspected,

particularly the sump located under the washrack on the north end of the property. Recommendations for further investigation are contained within this report.

It is a pleasure to provide Durham Transportation with these environmental services. A cost proposal for the next phase of work will be sent to you under separate cover. If you have any questions, please contact either of the undersigned at (415) 799-1140.

Sincerely,

Lisa A. Polos, R.E.A.
Senior Scientist
Toxic Technology Services
CTTS, Inc.

John N. Alt, CEG #1136
Consulting Geologist
Toxic Technology Services
CTTS, Inc.

LAP/JNA/lap

Enclosure

FINAL REPORT
WELL ABANDONMENT AND
GROUNDWATER MONITORING WELL INSTALLATIONS
19984 MEEKLAND ROAD
HAYWARD, CALIFORNIA

INTRODUCTION

In November 1989, CTTS, Inc. (Toxic Technology Services) was contracted to manage the installation of two groundwater monitoring wells and the abandonment of an unregistered on-site well at 19984 Meekland Road in the Hayward area of Alameda County, California.

This report is the follow-up to a preliminary report dated December 11, 1989 to Mr. Jack Worthington of Durham Transportation. For the sake of completeness, much of that information has been repeated in this final report.

On November 28, 1989, HEW drilling of East Palo Alto installed two groundwater monitoring wells. Supervision of well installations and soil sampling was conducted by Lisa A. Polos, REA of CTTS, Inc. and John Alt, CEG, Consulting Geologist for CTTS, Inc.. Prior to drilling, permits were granted from Zone 7 of the Alameda County Flood Control and Water Conservation District for the installation of the wells. Copies of these permits are presented under Appendix A.

Soil samples were taken at various depths, sampled in brass tubes, sealed in teflon tape and capped with plastic. All samples were kept cool in an ice chest and submitted to TMA Norcal in Richmond, a State certified hazardous waste laboratory, for analysis.

On November 29, 1989, the monitoring wells were developed and samples by Lisa Polos and John Alt. After several well volumes were purged, water samples were taken with disposable bailers. A new bailer was used for each well. Waters were collected in 40ml VOA vial, which already contained the proper preservative.

On December 12, 1989, HEW drilling abandoned, by pressure grouting, the existing, unregistered water well, located at the northeast end of the subject site, behind the washrack. As requested by Tom Peacock of the Alameda County Health Care Agency, Hazardous Materials Division, the well was purged and sampled prior to abandonment. Samples were submitted to TMA Norcal.

Prior to abandonment and closure of this well, a permit was obtained from Zone 7. A copy of this document is presented under Appendix A.

On the same day, two on-site sumps were located. One is located under the washrack. This structure is a concrete, two-stage sump and contains waste in both sections. There was a pipe, that could be a drain, under one of the metal covers associated with the sump. It is unknown where this pipe leads to, but it is possible that there is a tank under the washrack that was used in conjunction with this sump.

The second sump, also containing product, is located in the service station building and is piped to the waste oil tank, formerly located behind the building.

SITE HISTORY

The subject site is located at the northeast corner of the intersection of Meekland Avenue and Blossom Way in the unincorporated area of Alameda County near the City of Hayward (Plate 1).

According to Mr. Scott Owen of the Alameda County Public Works Department, the subject site was a service station and opened in 1946. Mr. Owen assumes that tanks 1, 2 and 4 (Plate 2) were installed in 1947 when the service station started operation. Tank 3 was installed in 1972. In July, 1986, when the property was owned by Harbert Transportation, a subsurface investigation was conducted by Applied Geosystems of Fremont, California.

Soil samples indicated that petroleum hydrocarbons were found at a level of over 200 ppm in B-1 and <1 ppm in B-2 (Plate 2). Groundwater was encountered at 24', and B-1 was converted into a monitoring well (MW-1). MW-1 had 42 ppm of gasoline and BTX values ranging from 5-6 ppm.

Durham Transportation took possession of the property in December, 1986.

In May 1988, precision tank tests using the Horner Ezy-Chek method were conducted on the gasoline tanks. Tanks 1 & 2 were found to be manifolded together above the tank top and the system appeared to be leaking. The test suggested that the leak was in the piping. Tank 3 tested tight.

Durham shut down the leaking system and pumped out the product. In April 1989, tanks 3 & 4 were shut down and product was pumped out and removed. The site is now vacant.

In July 1989, CTTS, Inc. (Toxic Technology Services) was contracted to manage the removal of the four underground storage tanks at the subject site. The actual excavation and removal was conducted by Verl's Construction of San Leandro.

Tank removal took place, following state and local regulations, on August 11, 1989 under the supervision of Ms. Polos and Mr.

John Alt and witnessed by representatives of the Eden Fire District. Product lines to the gasoline dispensers were excavated and removed on August 15, 1989.

Soil samples from the tank and pipe excavation were collected for analysis. The existing groundwater monitoring well (MW-1) was purged and sampled.

Analytical data from the soil samples taken in the pit excavation show significant gasoline, benzene, toluene, ethylbenzene and xylene contamination, particularly around tanks 1 and 2. Soil from the waste oil excavation contained low levels of contaminants. The groundwater sample had detectable levels of toluene and xylene.

On November 28, 1989, two groundwater monitoring wells were installed (Plate 3). Prior to drilling, permits were obtained. On November 29, 1989, the wells were developed and sampled. On December 12, 1989. The existing water well behind the building was purged, sampled and then abandoned according to state and local regulations.

HYDROGEOLOGIC SETTING

The subject site is underlain by generally fine-grained alluvial fan and flood plain deposits derived from the hills located approximately two miles east of the site. The deposits are late Quaternary in age and overlie rock of the Franciscan Assemblage at an unknown but probably great depth.

Three to four feet of fill generally overlies the Quaternary deposits at the site. The fill consists primarily of a clayey to sandy gravel.

The native deposits underlying the fill consist primarily of silty clay to clayey silt with minor and varying amounts of sand and gravel. Lenses of silty sand and gravel, approximately 3 to 4 inches thick, were encountered in the two borings. No other significant bedding or stratification of the units was observed to the depth explored (40 feet) and the deposits are considered to be homogeneous for hydrologic considerations.

The groundwater gradient at the site is essentially flat. The elevation of the groundwater was measured in the three monitoring wells on-site by surveying the elevation of the top of the casing and measuring the depth to groundwater using an electronic probe. The elevations are based on Alameda County benchmark BLO-MEEK located in the middle of the intersection of Blossom Way and Meekland Ave. The depth to groundwater was measured on December 19, 1989 and again on January 29, 1990. The data are presented on Table 1. They indicate a very low westward to northwestward gradient. The elevations of groundwater in the three wells are within 0.1 foot and are about at the level of error in the

measuring techniques. Therefore an exact gradient was not calculated.

TABLE 1
DEPTH TO GROUNDWATER

Monitoring Well	Elev. Top of Casing	12/19/89 Depth	12/19/89 Elev.	1/29/90 Depth	1/29/90 Elev.
MW-1	55.13	29.07	26.06	28.73	26.35
MW-3	54.34	28.35	25.99	28.00	26.34
MW-4	54.61	28.59	26.02	28.18	26.43

Note: All measurements are in feet.

GROUNDWATER MONITORING-WELL INSTALLATION AND SAMPLING

On November 28, 1989, two groundwater monitoring wells, identified as MW-3 and MW-4, were installed at the subject site by HEW Drilling, Inc., using a CME 55 drill rig with hollow stem augers. Mr. John Alt, CEG and Ms. Lisa Polos supervised the installation. The locations of the wells are shown on Plate 2. Augers were steam cleaned prior to the drilling of the wells. A standard split barrel sampler with 2-5/8" OD and 2" ID was used for soil sampling. It had the capacity for obtaining an 18 inch sample using three six-inch long brass liners. Prior to obtaining each sample, the disassembled sampler and the brass liners were washed in a solution of TSP in water. Each piece was triple rinsed, with the final rinse being distilled water.

A boring log was prepared for each well. Copies of these logs are presented in Appendix B. Blow counts were recorded for each six inches of penetration of the sampler, and the time at which each sample was taken was noted on the field log. Soil samples were collected at five foot intervals during the drilling. The lower-most sample liner (next to the shoe) was retained for any required chemical analysis. The soil exposed in the ends of the tube was quickly noted, and the ends were then sealed with teflon tape and snug-fitting plastic caps. The edges of the caps were sealed with plastic tape. The cap was labeled with the sample number, depth, date, and project name. The soil samples were placed in a chilled ice chest as they were collected, and selected soil samples were marked to be sent to TMA/Norcal, a State certified hazardous waste laboratory for analysis. The second and third samples were inspected and used for the sample description.

Two-inch (ID) Schedule 40 PVC pipe was used for the well casings. Each well was screened with slotted (0.020 inch openings) casings in the lower 15 feet of the well and capped at the bottom with a slip on cap. The 8-inch diameter borings were filled in the annular space between the casing and bore wall with clean #3 sand to a depth of approximately 2 feet above the top of the slotted

casing. Above the sand-pack, at least two feet of bentonite pellets was used as a seal, and the remainder of the annulus was filled with cement grout. Monitoring Well Installation Reports with more detailed information on each of the well installations were recorded and are in the files.

The units encountered in the borings for monitoring wells MW-3 and MW-4 are shown on the boring logs (Appendix B). The soil samples collected from MW-3 had no odor above a depth of 20 feet The sample at 20 feet had a slight solvent odor. The sample was moist and was probably within the capillary fringe of the groundwater table. The sample at a depth of 25 feet had a very strong odor of gasoline. Below 25 feet the samples were from the saturated zone and had a slight odor of gasoline. The sample at 25 feet is probably within the zone of groundwater fluctuation and the contamination in the soil was deposited during a period of a higher groundwater level.

The soil samples from MW-4 had a slight odor of gasoline from a depth of 20 feet to the bottom of the boring. A very slight odor was detected in the sample from a depth of 15 feet.

Photographs taken during the sampling and installation of MW-3 and MW-4 are enclosed with this report.

During the well installation, Mr. Tom Peacock of the Alameda County Health Agency, Hazardous Materials Division, visited the site. He requested that a water sample be taken from the well that was to be abandoned and submitted for chemical analysis. A copy of Mr. Peacock's Hazardous Materials Inspection Form is presented under Appendix C.

On November 29, 1989, Mr. John Alt and Ms. Lisa Polos developed the wells by evacuating 15 gallons of water from each well by bailing prior to sampling. After the wells were developed, groundwater samples were collected using separate three-foot disposable bailers.

The first sample from each well was retrieved from the surface of the water, and the contents of the bailer were inspected to assess whether or not there was any floating product present. Groundwater from both wells had odor and sheen, but both were more noticeable in MW-3. Sample vials and jars, provided by the laboratory, were filled from the bailer.

MW-1, which was installed in 1986, was not sampled at this time, however, upon opening the well cap and checking the water level, a strong odor was detected. A sheen was observed on the water purged from this well in August 1989.

WELL ABANDONMENT

A water well was located at the northeast corner of the building

and connected to a holding water tank inside the building by a galvanized surface pipe. Previous attempts to activate the pump to sample the well were not successful.

Alameda County Public Works Department has no record of a well at the subject site prior to the 1986 installation of one monitoring well by Applied Geosystems. No data were available regarding the total depth, screened interval or condition of the well. Because of the potential that the well could act as a conduit for downward migration of the near surface contamination, it was decided that the well should be grouted and abandoned.

The grouting was done on December 12, 1989 by HEW Drilling, Inc.

The well head and surface piping was removed and the pump was then taken out of the well. The well was four inches in diameter with a PVC casing. The total depth of the well was measured at 67.9 feet to the ground surface. The top of the casing was approximately one foot below the ground surface.

The depth to standing water in the well was measured at 29.9 feet from the ground surface. The well was purged by bailing and a water sample collected. The initial bailer of water has no odor, sheen or product. After bailing approximately 2 gallons, a solvent odor was detected. The odor increased in intensity as more water was extracted from the well, however, the samples collected had no noticeable odor. The sample was shipped in a cooled ice chest to TMA/Norcal and analyzed for Volatile Halogenated Hydrocarbons, Total Petroleum Hydrocarbons as gasoline and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX). Results are presented in the following section.

The well was pressured grouted using a tremie pipe starting from the bottom and continuing upward. The grout mix was one 90lb. sack of Lonestar Cement Type I & II per five gallons of water. A total of 22 sacks of cement were used to grout the well. The level of the cement grout was brought up to where it overflowed the top of the casing.

Photos of the abandoned well are presented at the end of this report.

CHEMICAL DATA SUMMARY

Table 2 is a summary of positive analytical results from the soil and water samples collected.

TABLE 2
ANALYTICAL SUMMARY

Monitoring Well 3 (MW-3) is located at the northwest corner of the subject site.

Soils

20.5'	Trichloroethene	200 ug/kg (ppb)
	Benzene	130 ug/kg
	Toluene	22 ug/kg
25.5'	Benzene	440 ug/kg
	Toluene	480 ug/kg
	Ethylbenzene	200 ug/kg
	Xylenes	930 ug/kg
	Gasoline	52 ug/g (ppm)
30.5'	Benzene	540 ug/kg
	Toluene	188 ug/kg
	Ethylbenzene	210 ug/kg
	Xylenes	400 ug/kg
	Gasoline	23 ug/g

Water

MW-3	Benzene	4600 ug/L (ppb)
	Toluene	1100 ug/L
	Ethylbenzene	680 ug/L
	Xylenes	1100 ug/L
	Gasoline	29 mg/L (ppm)
	1,2-Dichloroethane	36 ug/L
	Total Lead	0.04 mg/L (ppm)

MW-4 is located at the southwest corner of the subject site.

Soils

15.5'	Benzene	20 ug/kg (ppb)
	Toluene	19 ug/kg
	Ethylbenzene	13 ug/kg
20.5'	Benzene	75 ug/kg
	Toluene	20 ug/kg
	Ethylbenzene	26 ug/kg
	Xylenes	15 ug/kg

Water

MW-4	Benzene	33 ug/L (ppb)
	Toluene	1.0 ug/L
	Ethylbenzene	1.3 ug/L

	Xylenes	5.2 ug/L
	Total Lead	0.012 mg/L (ppm)

ABW is the water well used for on-site operations and was abandoned.

Water

ABW	Benzene	200 ug/L (ppb)
	Toluene	18 ug/L
	Ethylbenzene	24 ug/L
	Xylenes	34 ug/L
	1,2-Dichloroethane	1.5 ug/L
	Gasoline	1.8 mg/L (ppm)

Complete laboratory results and chain of custody sheets are presented under Appendix D.

CONCLUSIONS AND RECOMMENDATIONS

The data indicates that there is significant hydrocarbon contamination in the groundwater on-site and that it is particularly high at the northwest corner of the property. The extent of this contamination is not yet known.

Soils at the depths where groundwater is encountered have relatively low levels of contamination and probably get this contamination from the groundwater fluctuation. The fact that there was no visible contamination in the borings until approximately twenty feet, lends credence to this.

The data also indicates that a chlorinated solvent is present in the groundwater of the downgradient well at a level higher that acceptable for drinking waters. Lead levels are higher in this well also, but not at a level that is particularly significant when compared to the other constituents.

Even though this particular groundwater aquifer is not currently a drinking water source, the Water Quality Control Board and Alameda County can require clean-up to levels determined by them.

The appearance of the chlorinated solvents and the lead raise the possibility of sources of contamination other than the underground tank pits on the east side of the property. Certainly the sump under the washrack is suspect, but it is possible that there is another underground tank that the sump drained into, or exists independently, and is leaking into the soil and groundwater.

It is appropriate to send a copy of this report to Zone 7, Alameda County Environmental Health, the Water Quality Control Board and the Eden Fire Department. Upon authorization from

Durham Transportation, Toxic Technology Services will dispatch these copies.

The next phase of work is to define the vertical and lateral extent of the on-site contamination and characterize it. The recommended steps to accomplish this are outlined below. A proposal detailing the scope of work and the estimated costs will be sent to Durham Transportation under separate cover.

1. Take monthly monitoring well water levels.

2. Sample and analyze monitoring wells on a quarterly basis.

3. Sample and analyze the contents of the sump under the washrack.

4. Dispose of washrack sump and waste oil sump as a hazardous waste.

5. Demolish building and hook up temporary utilities.

6. Conduct a soil gas survey, analyzing for gasoline hydrocarbons and BTEX over the entire site and additionally, volatile halogenated hydrocarbons on the north side of the site.

7. Install, at a minimum, two additional groundwater monitoring wells, at locations determined by the outcome of the soil gas survey.

8. Conduct trenching exploration and sampling around the tank excavations, the sumps and any "hotspots" discovered by the soil gas survey.

9. Prepare a remediation plan detailing soil and groundwater clean-up, timetables and costs.

PLATES

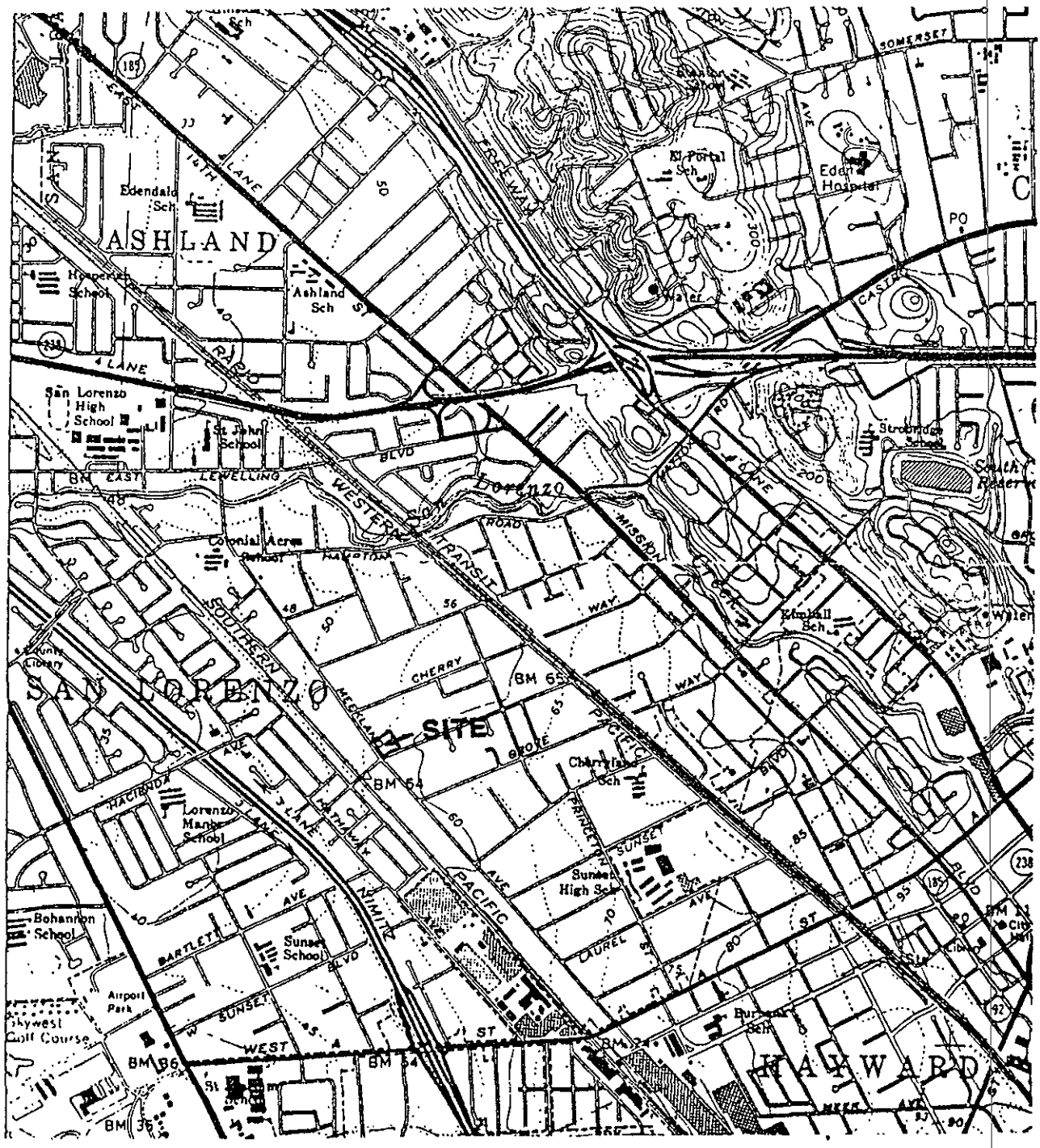


PLATE	No. 1
SITE LOCATION MAP	

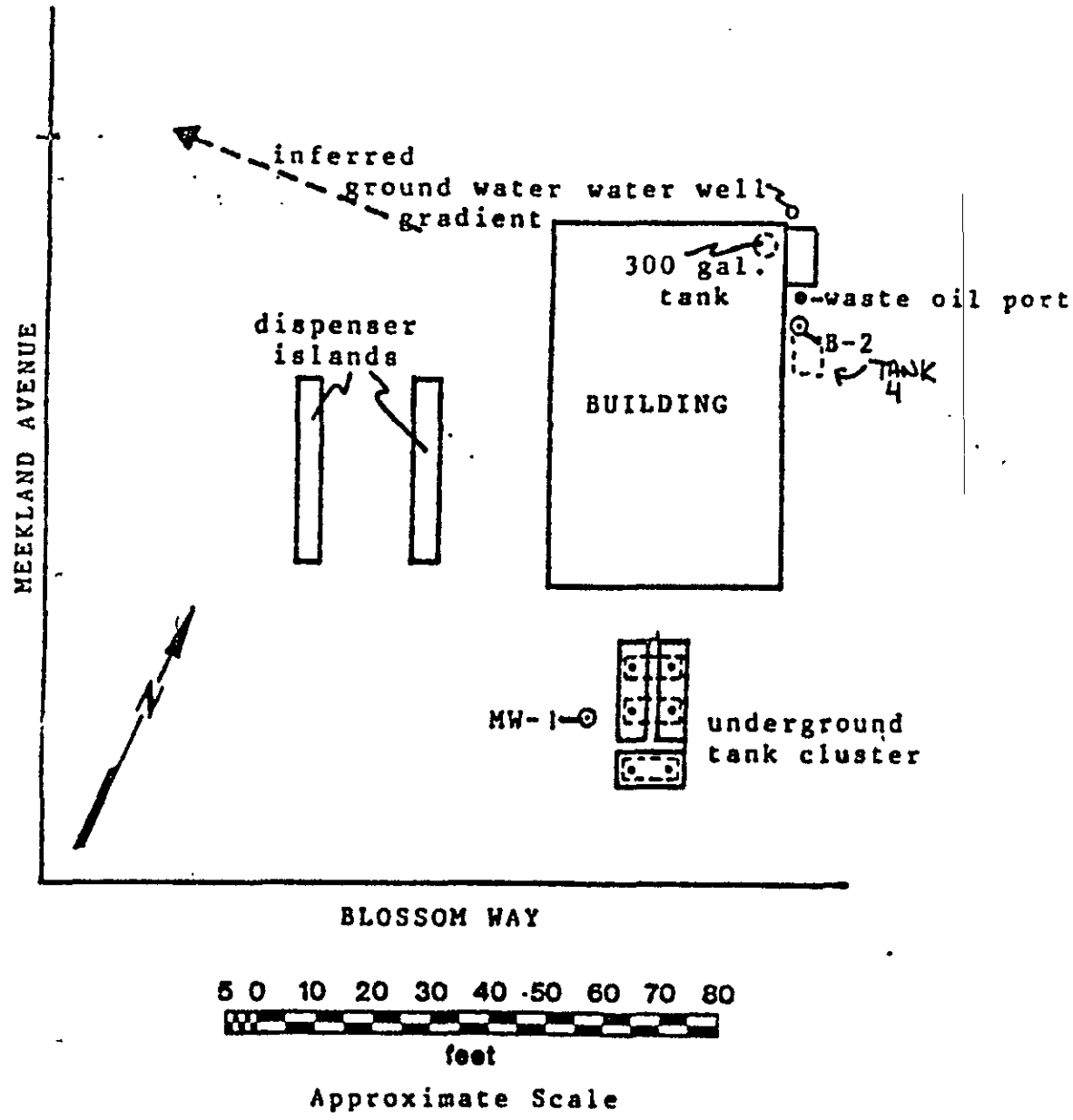


PLATE 2

Boring and Well Locations From 1986

Site Location: 19984 Meekland Road, Hayward

Toxic Technology Services
P.O. Box 515
Rodeo, California 94572

Project #89-6
Durham Transportation
27577 (A) Industrial Blvd.
Hayward, CA 94545

ES
ENGINEERING-SCIENCE, INC.

RESEARCH AND DEVELOPMENT
LABORATORY
600 BANCROFT WAY
BERKELEY, CALIFORNIA 94710
(415) 841-7353

Date: December 11, 1989

Job No.: 5261-4202

Work Order No.: 1560

Client: TMA/NORCAL
Attention: Sample Control
Address: 2030 Wright Avenue
Richmond, Ca. 94804

Attached are the analytical reports for the sample(s) received by this laboratory on 10-20-89. Samples were received intact and at room temperature.

Sample Preparation Data

Laboratory Sample No.	Client Sample ID	Test	Date collected	Date* extracted	Date* 2nd col.
89120002	MW-3-6721-5-1	3020	N/A	12-05-89	
89120002	MW-3-6721-5-1	PB-F	11-29-89		
89120003	MW-4-6721-5-2	3020	N/A	12-05-89	
89120003	MW-4-6721-5-2	PB-F	11-29-89		

* If applicable

APPENDIX A

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT 19934 Meekland Road
Hayward, CA

(2) CLIENT
Name Durham Transportation (415)
Address 27577(A) Industrial Phone 887-6005
City Hayward, CA Zip 94545

(3) APPLICANT
Name Lisa Polas
CTTS, Inc. (415)
Address PO Box 515 Phone 799-1140
City Rodeo, CA Zip 94572

(4) DESCRIPTION OF PROJECT
Water Well Construction X Geotechnical Investigation
Cathodic Protection ___ General ___
Well Destruction ___ Contamination X

(5) PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring X Other ___

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other Hollow-Stem Auger

DRILLER'S LICENSE NO. 384167

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 40 ft.
Surface Seal Depth 19-0 ft. Number 2

GEOTECHNICAL PROJECTS
Number of Borings 2 Maximum
Hole Diameter 8 in. Depth 40 ft.

(7) ESTIMATED STARTING DATE Nov. 28, 1989
ESTIMATED COMPLETION DATE Nov. 29, 1989

(8) I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Lisa A. Polas Date 11-22-89

FOR OFFICE USE

PERMIT NUMBER 89690
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as arrive at the Zone 7 office five days prior proposed starting date.
2. Submit to Zone 7 within 60 days after complet of permitted work the original Department Water Resources Water Well Drillers Report equivalent for well projects, or drilling l and location sketch for geotechnical projects.
3. Permit is void if project not begun within days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal industrial wells or 20 feet for domestic, irri tion, and monitoring wells unless a lesser de is specially approved.

(C.) GEOTECHNICAL. Backfill bore hole with compacted c tings or heavy bentonite and upper two feet with c pacted material. In areas of known or suspec contamination, tremied cement grout shall be used place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concr placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved [signature] Date 22 Nov
Todd N. Wendler

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT 19984 Mackland Rd
Hayward, CA

(2) CLIENT
Name Durham Transportation (415)
Address 27577 (A) Industrial Phone 887-6005
City Hayward, CA Zip 94545

(3) APPLICANT
Name Lisa Polos
GTC, Inc (415)
Address Po Box 515 Phone 777-1140
City Rodeo, CA Zip 94572

(4) DESCRIPTION OF PROJECT

Water Well Construction	___	Geotechnical Investigation	
Cathodic Protection	___	General	___
Well Destruction	X	Contamination	___

(5) PROPOSED WATER WELL USE

Domestic	___	Industrial	___	Irrigation	___
Municipal	___	Monitoring	___	Other	___

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other ___

DRILLER'S LICENSE NO. 384167

WELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth ___ ft.
Surface Seal Depth ___ ft. Number ___

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

(7) ESTIMATED STARTING DATE Nov. 28, 1989
ESTIMATED COMPLETION DATE Nov 29, 1989

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Lisa D. Polos Date 11-22-89

FOR OFFICE USE

PERMIT NUMBER 89691
LOCATION NUMBER 3S/2W 17G80

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as arrive at the Zone 7 office five days prior proposed starting date.
2. Submit to Zone 7 within 60 days after comple of permitted work the original Department Water Resources Water Well Drillers Report equivalent for well projects, or drilling and location sketch for geotechnical projects.
3. Permit is void if project not begun within days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal Industrial wells or 20 feet for domestic, irri tion, and monitoring wells unless a lesser de is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted c tings or heavy bentonite and upper two feet with c pacted material. In areas of known or suspec contamination, tremied cement grout shall be used place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concr placed by tremie.

(E) WELL DESTRUCTION. See attached.

Approved Todd N. Wendler Date 22 Nov

APPENDIX B

BORING LOCATION: Meekland and Blossom Ave		ELEVATION AND DATUM:	
DRILLING CONTRACTOR: HEW Drilling	DRILLER: Jeff	DATE STARTED: 11-28-89	DATE FINISHED: 11-28-89
DRILLING EQUIPMENT: CME 55		COMPL. DEPTH (FT): 40	ROCK DEPTH (FT): -
DIAMETER OF BORING:		NO. OF SAMPLES: UNDIST. 7	CORE:
PURPOSE OF BORING: Monitoring Well		WATER DEPTH(FT): FIRST 34	COMPL.:
SAMPLING EQUIPMENT:		LOGGED BY: J. Alt	CHECKED BY:
COMMENTS:			

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG LITHOLOGY	SAMPLES NO.	SAMPLES TYPE	BLOW COUNT	DRILLING RATE/TIME	REMARKS
	Fill						
	dark brown clay, dry, adobe						
5					6		
					8		
	reddish brown fine sandy silt with some clay, dry				10		
	Tan sandy silt to silty sand. Thin lens of coarse sand at 11 ft.; dry, becoming moist at 15 ft.				3		
10					5		
					8		
15					2		
					4		
					6		
20					2		
	Gray clay, moist, mottled brown, moderately plastic				4		
					5		
25					4		
					7		
					10		
30							

Project: Durham Site

Project No.:

LOG OF BORING

B-3

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG LITHOLOGY	SAMPLES NO.	SAMPLES TYPE	SAMPLES BLOW COUNT	SAMPLES DRILLING RATE/ TIME	REMARKS
30	Gray clay mottled brown, moist, moderately plastic.				4 4 5		
35	Brown clayey sand and gravel, grades downward to brown clayey silt.				5 7 11		
40	Bottom of boring No sample						
45							
50							
55							
60							
65							
70							

Project

Project No.

CONT. LOG OF BORING B-3

BORING LOCATION Meekland and Bl ...om Ave
DRILLING CONTRACTOR HEW Drilling | DRILLER Jeff
DRILLING EQUIPMENT CME 55
DIAMETER OF BORING
PURPOSE OF BORING Monitoring Well
SAMPLING EQUIPMENT
COMMENTS

ELEVATION AND DATUM
DATE STARTED 11-28-89 | DATE FINISHED 11-28-89
COMPLETION DEPTH (FT) 40 | ROCK DEPTH (FT) -
NO. OF UNDIST. SAMPLES 7 | CORE
WATER DEPTH(FT) FIRST | COMPL.
LOGGED BY: J. Alt | CHECKED BY:

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG LITHOLOGY	SAMPLES NO.	SAMPLES TYPE	BLOW COUNT	DRILLING RATE/TIME	REMARKS
	Fill - Sand and Gravel						
5	Dark brown clay, dry				8 6 4		
	Tan silty clay, dry						
10	brown sandy gravel				5 6 9		
15	Gray clayey silt to silty clay, locally sandy				2 4 4		
20	Same as above moist				1 4 4		
25	Same as above with brown mottlings				4 5 6		
30							

Project Durham Site
Project No.

LOG OF BORING B-4

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG LITHOLOGY	NO	TYPE	BLOW COUNTS	DRILLING RATE/TIME	REMARKS
30	Gray clay, moist, mottled brown				4 7 13		
35	Brown silty clay, wet				6 7 9		
40	bottom of boring						
45							
50							
55							
60							
65							
70							

Project
Project No.

CONT. LOG OF BORING B-4

APPENDIX C

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

80 Swan Way, #200
Oakland, CA 94621
(415) 271-4320

II,III

Site ID # ____ Site Name Durham Trans. Today's Date 2/15/

Site Address 1998 Merkland Ave.

City Hayward Zip 94541 Phone ____

____ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
____ II. Business Plans, Acute Hazardous Materials
~~____~~ III. Underground Tanks Removal - well installation

• Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

II.A BUSINESS PLANS (Title 19)

___	1. Immediate Reporting	2703
___	2. Bus. Plan Stds.	25503(b)
___	3. RR Care > 30 days	25503.7
___	4. Inventory Information	25504(a)
___	5. Inventory Complete	2730
___	6. Emergency Response	25504(b)
___	7. Training	25504(c)
___	8. Deficiency	25505(a)
___	9. Modification	25505(b)

II.B ACUTELY HAZ. MATLS

___	10. Registration Form Filed	25533(a)
___	11. Form Complete	25533(b)
___	12. RMPP Contents	25534(c)
___	13. Implement Sch. Req'd? (Y/N)	___
___	14. OffSite Conseq. Assess.	25524(c)
___	15. Probable Risk Assessment	25534(d)
___	16. Persons Responsible	25534(g)
___	17. Certification	25534(f)
___	18. Exemption Request? (Y/N)	25536(b)
___	19. Trade Secret Requested?	25538

III. UNDERGROUND TANKS (Title 23)

General

___	1. Permit Application	25284 (H&S)
___	2. Pipeline Leak Detection	25292 (H&S)
___	3. Records Maintenance	2712
___	4. Release Report	2651
___	5. Closure Plans	2670

Monitoring for Existing Tanks

___ 6. Method
1) Monthly Test
2) Daily Vadose
Semi-annual gndwater
One time soils
3) Daily Vadose
One time soils
Annual tank test
4) Monthly Gndwater
One time soils
5) Daily Inventory
Annual tank testing
Cont pipe leak det
Vadose/gndwater mon.
6) Daily Inventory
Annual tank testing
Cont pipe leak det
7) Weekly Tank Gauge
Annual tank tstng
8) Annual Tank Testing
Daily Inventory
9) Other ____

___	7. Precis Tank Test Date: ____	2643
___	8. Inventory Rec.	2644
___	9. Soil Testing.	2646
___	10. Ground Water.	2647

New Tanks

___	11. Monitor Plan	2632
___	12. Access. Secure	2634
___	13. Plans Submit Date: ____	2711
___	14. As Built Date: ____	2635

Rev 8/88

Comments:

Installing 2 monitoring wells + 1 existing immediately to the West of the gasoline tank in NW & SW corners of lot.

Well near washrack behind the station near the waste oil pit to be abandoned and closed.

Recommend collecting water sample from well on back pad prior to closing.

Contact: Lisa Bolus

Title: Senior Scientist

Signature: Lisa A. Bolus

II, III

Inspector: [signature]

Signature: ____

APPENDIX D

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040

(415) 235-2633

December 11, 1989

Toxic Technology Services
P.O. Box 515
Rodeo, CA 94572

Attention: Lisa Polos

TMA/Norcal Reference: 6721-3

Dear Lisa:

Enclosed are the results of the analyses of soil samples received November 28, 1989.

Please feel free to call with any questions.

Sincerely,

Victoria Taylor
Organics Department
Manager

VT/td

EPA METHOD 8010
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-3,20.5'
TMA/Norcal I.D.: 6721-3-2

Date Received: 11/28/89
Date Analyzed: 12/1/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
75-71-8	Dichlorodifluoromethane	ND	50
29479-9	Chloromethane	ND	10
29584-5	Bromomethane	ND	30
75-01-4	Vinyl Chloride	ND	10
29480-2	Chloroethane	ND	10
75-09-2	Dichloromethane	ND	10
75-69-4	Trichlorofluoromethane	ND	20
75-35-4	1,1-Dichloroethene	ND	10
75-34-3	1,1-Dichloroethane	ND	10
156-60-5	trans-1,2-Dichloroethene	ND	10
76-66-3	Chloroform	ND	10
107-06-2	1,2-Dichloroethane	ND	10
71-55-6	1,1,1-Trichloroethane	ND	10
56-23-5	Carbon Tetrachloride	ND	10
75-27-4	Bromodichloromethane	ND	10
78-87-5	1,2-Dichloropropane	ND	10
10061-02-6	trans-1,3-Dichloropropene	ND	10
79-01-6	Trichloroethene	200	10
124-48-1	Chlorodibromomethane	ND	10
79-00-5	1,1,2-Trichloroethane	ND	10
10061-01-5	cis-1,3-Dichloropropene	ND	10
110-75-8	2-Chloroethylvinyl ether	ND	10
75-25-2	Bromoform	ND	10
79-34-5	1,1,2,2-Tetrachloroethane	ND	10
127-18-4	Tetrachloroethene	ND	10
108-90-7	Chlorobenzene	ND	10
541-73-1	1,3-Dichlorobenzene	ND	10
95-50-1	1,2-Dichlorobenzene	ND	10
106-46-7	1,4-Dichlorobenzene	ND	10

Analyst

Data Release Authorized By

EPA METHOD 8010
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-3,25.5'
TMA/Norcal I.D.: 6721-3-3

Date Received: 11/28/89
Date Analyzed: 12/8/89

CAS. NO.	COMPOUND	RESULTS (ug/L)	DETECTION LIMITS (ug/L)
75-71-8	Dichlorodifluoromethane	<50	50
29479-9	Chloromethane	<10	10
29584-5	Bromomethane	<30	30
75-01-4	Vinyl Chloride	<10	10
29480-2	Chloroethane	<10	10
75-09-2	Dichloromethane	<10	10
75-69-4	Trichlorofluoromethane	<20	20
75-35-4	1,1-Dichloroethene	<10	10
75-34-3	1,1-Dichloroethane	<10	10
156-60-5	trans-1,2-Dichloroethene	<10	10
76-66-3	Chloroform	<10	10
107-06-2	1,2-Dichloroethane	<10	10
71-55-6	1,1,1-Trichloroethane	<10	10
56-23-5	Carbon Tetrachloride	<10	10
75-27-4	Bromodichloromethane	<10	10
78-87-5	1,2-Dichloropropane	<10	10
10061-02-6	trans-1,3-Dichloropropene	<10	10
79-01-6	Trichloroethene	<10	10
124-48-1	Chlorodibromomethane	<10	10
79-00-5	1,1,2-Trichloroethane	<10	10
10061-01-5	cis-1,3-Dichloropropene	<10	10
110-75-8	2-Chloroethylvinyl ether	<10	10
75-25-2	Bromoform	<10	10
79-34-5	1,1,2,2-Tetrachloroethane	<10	10
127-18-4	Tetrachloroethene	<10	10
108-90-7	Chlorobenzene	<10	10
541-73-1	1,3-Dichlorobenzene	<10	10
95-50-1	1,2-Dichlorobenzene	<10	10
106-46-7	1,4-Dichlorobenzene	<10	10

Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: N/A
TMA/Norcal I.D.: Method Blank

Date Received: N/A
Date Analyzed: 11/30/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	Benzene	ND	5
108-88-3	Toluene	15	5
100-41-4	Ethylbenzene	ND	5
1330-20-7	Xylenes	ND	15

C.D. Smith
Analyst

Date Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-3,20.5'
TMA/Norcal I.D.: 6721-3-2

Date Received: 11/28/89
Date Analyzed: 11/30/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	Benzene	130	5
108-88-3	Toluene	22	5
100-41-4	Ethylbenzene	<5.0	5
1330-20-7	Xylenes	<15	15

C J Smith
Analyst

Nicholas Taylor
Date Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-3,25.5'
Method: 6721-3-3

Date Received: 11/28/89
Date Analyzed: 11/30/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	Benzene	440	5
108-88-3	Toluene	480	5
100-41-4	Ethylbenzene	200	5
1330-20-7	Xylenes	930	15

G.W. Smith
Analyst

Victoria Taylor
Date Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-3,30.5'
Method: 6721-3-4

Date Received: 11/28/89
Date Analyzed: 11/30/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMIT (ug/kg)
71-43-2	Benzene	540	5
108-88-3	Toluene	188	5
100-41-4	Ethylbenzene	210	5
1330-20-7	Xylenes	400	15

G. D. Smith
Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-4,15.5'
Method: 6721-3-5

Date Received: 11/28/89
Date Analyzed: 11/30/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMIT (ug/kg)
71-43-2	Benzene	20	5
108-88-3	Toluene	19	5
100-41-4	Ethylbenzene	13	5
1330-20-7	Xylenes	<15	15

C.O Smith
Analyst

Victoria Taylor
Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-4,20.5'
Method: 6721-3-6

Date Received: 11/28/89
Date Analyzed: 11/30/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMIT (ug/kg)
71-43-2	Benzene	75	5
108-88-3	Toluene	20	5
100-41-4	Ethylbenzene	26	5
1330-20-7	Xylenes	15	15

Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: B-4,35.5'
Method: 6721-3-7

Date Received: 11/28/89
Date Analyzed: 11/30/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMIT (ug/kg)
71-43-2	Benzene	<5	5
108-88-3	Toluene	13*	5
100-41-4	Ethylbenzene	<5	5
1330-20-7	Xylenes	<15	15

* Less than Blank

C. D. Smith
Analyst

Victoria Taylor
Data Release Authorized By

ANALYSIS RESULTS REPORT
TOTAL PETROLEUM HYDROCARBONS
SOIL MATRIX

Client: Toxic Technology Services
Sample Delivery Group: 3
Method: MOD 8015 - P&T

Date Received: 11/28/89
Date Analyzed: 11/30/89

TMA SAMPLE I.D.	CLIENT I.D.	GASOLINE (UG/G)	DETECTION LIMIT (UG/G)
BLANK	NA	<10	10
6721-3-2	B-3,20.5'	<10	10
6721-3-3	B-3,25.5'	52	10
6721-3-4	B-3,30.5'	23	10
6721-3-5	B-4,15.5'	<10	10
6721-3-6	B-4,20.5'	<10	10
6721-3-7	B-4,35.5'	<10	10

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040

(415) 235-2633

December 8, 1989

Toxic Technology Services
P.O. Box 515
Rodeo, CA 94572

Attention: Lisa Polos

TMA/Norcal Reference: 6721-4

Dear Lisa:

Enclosed are the results of the analyses of water samples for Benzene, Toluene, Ethylbenzene, Xylenes, and Total Petroleum Hydrocarbons. The results for 6721-4-3 is unconfirmed. The confirmation analysis will be available Monday.

Please feel free to call with any questions.

Sincerely,

Victoria Taylor
Organics Department
Manager

VT/td

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services

Date Received: 11/29/89

Client Sample I.D.: N/A

Date Analyzed: 12/11/89

TMA/Norcal I.D.: Method Blank

CAS. NO.	COMPOUND	RESULTS (ug/L)	DETECTION LIMITS (ug/L)
71-43-2	Benzene	<0.3	0.3
108-88-3	Toluene	<0.3	0.3
100-41-4	Ethylbenzene	<0.3	0.3
1330-20-7	Xylenes	<0.3	0.3

Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services

Date Received: 11/29/89

Client Sample I.D.: MW3

Date Analyzed: 11/30/89

TMA/Norcal I.D.: 6742-4-1

CAS. NO.	COMPOUND	RESULTS (ug/L)	DETECTION LIMITS (ug/L)
71-43-2	Benzene	O.R.*	7.5
108-88-3	Toluene	1100	7.5
100-41-4	Ethylbenzene	680	7.5
1330-20-7	Xylenes	1100	7.5

* Over range

Diem Nguyen
Analyst

Victoria Taylor
Date Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Date Received: 11/29/89

Client Sample I.D.: MW3 DL
Date Analyzed: 12/1/89

TMA/Norcal I.D.: 6742-4-1 DL

CAS. NO.	COMPOUND	RESULTS (ug/L)	DETECTION LIMITS (ug/L)
71-43-2	Benzene	4600	15
108-88-3	Toluene	NQ	—
100-41-4	Ethylbenzene	NQ	—
1330-20-7	Xylenes	NQ	—

Diem Nguyen
Analyst

Victoria Taylor
Date Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services — Date Received: 11/29/8

Client Sample I.D.: BKUP-MW4 — Date Analyzed: 11/30/89

TMA/Norcal I.D.: 6721-4-2

CAS. NO.	COMPOUND	RESULTS (ug/L)	DETECTION LIMITS (ug/L)
71-43-2	Benzene	33	0.3
108-88-3	Toluene	1.0	0.3
100-41-4	Ethylbenzene	1.3	0.3
1330-20-7	Xylenes	5.2	0.3

Diem Nguyen
Analyst

Victoria Taylor
Date Release Authorized By

ANALYSIS RESULTS REPORT
TOTAL PETROLEUM HYDROCARBONS
WATER MATRIX

Client: Toxic Technology Services

Date Received: 11/29/89

Client Sample I.D.: 4

Date Analyzed: 11/30/89

Method: MOD 8015 P & T

TMA/SAMPLE I.D.	CLIENT I.D.	GASOLINE (mg/L)	DETECTION LIMITS (ug/L)
Method Blank	N/A	<0.5	0.5
6721-4-1	MW3	29	0.5
6721-4-2	BKUP-MW4	<0.5	0.5

Analyst

Date Release Authorized By

EPA METHOD 8010
TARGET ANALYTE RESULTS

NORCAL I.D.: 6721-4-3

CLIENT I.D.: MW3-BKUP

CAS. NO.	COMPOUND	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
75-71-8	Dichlorodifluoromethane	ND	2.00
29479-9	Chloromethane	ND	0.50
29584-5	Bromomethane	ND	1.20
75-01-4	Vinyl Chloride	ND	0.50
29480-2	Chloroethane	ND	0.52
75-09-2	Dichloromethane	ND	0.50
75-69-4	Trichlorofluoromethane	ND	0.80
75-35-4	1,1-Dichloroethene	ND	0.50
75-34-3	1,1-Dichloroethane	ND	0.50
156-60-5	trans-1,2-Dichloroethene	ND	0.50
76-66-3	Chloroform	ND	0.50
107-06-2	1,2-Dichloroethane	36	0.50
71-55-6	1,1,1-Trichloroethane	ND	0.50
56-23-5	Carbon Tetrachloride	ND	0.50
75-27-4	Bromodichloromethane	ND	0.50
78-87-5	1,2-Dichloropropane	ND	0.50
10061-02-6	trans-1,3-Dichloropropene	ND	0.50
79-01-6	Trichloroethene	ND	0.50
124-48-1	Chlorodibromomethane	ND	0.50
79-00-5	1,1,2-Trichloroethane	ND	0.50
10061-01-5	cis-1,3-Dichloropropene	ND	0.50
110-75-8	2-Chloroethylvinyl ether	ND	0.50
75-25-2	Bromoform	ND	0.50
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50
127-18-4	Tetrachloroethene	ND	0.50
108-90-7	Chlorobenzene	ND	0.50
541-73-1	1,3-Dichlorobenzene	ND	0.50
95-50-1	1,2-Dichlorobenzene	ND	0.50
106-46-7	1,4-Dichlorobenzene	ND	0.50

Analyst

Data Release Authorized By

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040
(415) 235-2633

December 18, 1989

Toxic Technology Services
P.O. Box 515
Rodeo, CA 94572

Attention: Lisa Polos

TMA/Norcal Reference: 6721-6

Dear Lisa:

Enclosed are the results of the analyses of soil samples received December 12, 1989.

Please feel free to call with any questions.

Sincerely,

Victoria Taylor
Organics Department
Supervisor

VT/td

EPA METHOD 601
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: ABW 12-12
TMA/Norcal I.D.: 6721-6-2

Date Received: 12/12/89
Date Analyzed: 12/14/89

CAS. NO.	COMPOUND	RESULTS (ug/L)	DETECTION LIMITS (ug/L)
75-71-8	Dichlorodifluoromethane	<2.00	2.00
29479-9	Chloromethane	<0.50	0.50
29584-5	Bromomethane	<1.20	1.20
75-01-4	Vinyl Chloride	<0.50	0.50
29480-2	Chloroethane	<0.52	0.52
75-09-2	Dichloromethane	<0.50	0.50
75-69-4	Trichlorofluoromethane	<0.80	0.80
75-35-4	1,1-Dichloroethene	<0.50	0.50
75-34-3	1,1-Dichloroethane	<0.50	0.50
156-60-5	trans-1,2-Dichloroethene	<0.50	0.50
76-66-3	Chloroform	<0.50	0.50
107-06-2	1,2-Dichloroethane	1.5	0.50
71-55-6	1,1,1-Trichloroethane	<0.50	0.50
56-23-5	Carbon Tetrachloride	<0.50	0.50
75-27-4	Bromodichloromethane	<0.50	0.50
78-87-5	1,2-Dichloropropane	<0.50	0.50
10061-02-6	trans-1,3-Dichloropropene	<0.50	0.50
79-01-6	Trichloroethene	<0.50	0.50
124-48-1	Chlorodibromomethane	<0.50	0.50
79-00-5	1,1,2-Trichloroethane	<0.50	0.50
10061-01-5	cis-1,3-Dichloropropene	<0.50	0.50
110-75-8	2-Chloroethylvinyl ether	<0.50	0.50
75-25-2	Bromoform	<0.50	0.50
79-34-5	1,1,2,2-Tetrachloroethane	<0.50	0.50
127-18-4	Tetrachloroethene	<0.50	0.50
108-90-7	Chlorobenzene	<0.50	0.50
541-73-1	1,3-Dichlorobenzene	<0.50	0.50
95-50-1	1,2-Dichlorobenzene	<0.50	0.50
106-46-7	1,4-Dichlorobenzene	<0.50	0.50

Analyst

Data Release Authorized By

EPA METHOD 8020
TARGET ANALYTE RESULTS

Client: Toxic Technology Services
Client Sample I.D.: ABW-12-12
TMA/Norcal I.D.:

Date Received: 12/12/89
Date Analyzed: 12/13/89

CAS. NO.	COMPOUND	RESULTS (ug/kg)	DETECTION LIMITS (ug/kg)
71-43-2	Benzene	200 ug/L	2.5 ug/L
108-88-3	Toluene	18 ug/L	0.3 ug/L
100-41-4	Ethylbenzene	24	0.3
108-38-3	Xylenes	34	0.5

C. Smith
Analyst

Data Release Authorized By

ANALYSIS RESULTS REPORT
TOTAL PETROLEUM HYDROCARBONS
WATER MATRIX

Client: Toxic Technology Services
Sample Delivery Group: 6
Analysis Method: P & T FULV

Date Received: 12/12/89
Date Analyzed: 12/13/89
Date Report: 12/15/89

TMA Sample I.D.	Client I.D.	Gasoline (mg/l)	Detection Limits (mg/l)
Blank	N/A	<1.0	0.5
6721-6-1	ABW 12-12	1.8	0.5

C.U. Smith
Analyst

Victoria Taylor
Date Release Authorized By

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040
(415) 235-2633 Fax No. (415) 235-0438

January 15, 1990

Toxic Technologies
P.O. Box 515
Rodeo, CA 94572

Attention: Lisa Polos

Dear Lisa:

Enclosed are the results of the metals analysis for samples received November 29, 1989.

I am leaving TMA/Norcal as of January 17, 1990. Robert Fox will handle your projects from that time forward.

Sincerely,

Victoria Taylor
Program Manager

VT/td
Enclosures

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANIC ANALYTICAL REPORT

Work Order No.: 1560 % Moisture: NA

Client ID: MW-3-6721-5-1 11/29/89 Matrix: WATER
T-1117

Laboratory ID: 89120002 Unit: mg/L

Parameter	Result	Reporting Limit	Analytical Method	Date Analyzed
LEAD	0.04	0.005	GF-AA	12/06/89

NA- Not Applicable
ND- Not Detected

ANALYST: J. Mitchell

GROUP LEADER: 12/11/89

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANIC ANALYTICAL REPORT

Work Order No.: 1560 % Moisture: NA

Client ID: NA Matrix: WATER

Laboratory ID: PREPARATION BLANK Unit: mg/L

Parameter	Result	Reporting Limit	Analytical Method	Date Analyzed
LEAD	ND	0.005	GF-AA	12/06/89

NA- Not Applicable
ND- Not Detected

ANALYST: J. Michael

GROUP LEADER: 12/11/89

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANIC ANALYTICAL REPORT

Work Order No.: 1560 % Moisture: NA

Client ID: MW-4-6721-5-2 11/29/89 Matrix: WATER
T-1054

Laboratory ID: 89120003 Unit: mg/L

Parameter	Result	Reporting Limit	Analytical Method	Date Analyzed
LEAD	0.012	0.005	GF-AA	12/06/89

NA- Not Applicable
ND- Not Detected

ANALYST: J. Michaud

GROUP LEADER: 12/11/89

ENGINEERING-SCIENCE, INC.

W. O. 5'60

CHAIN OF CUSTODY RECORD

Proj. No. 52W-4202

Project Name: TMA-Norcal, Richmond, CA

SAMPLERS (Signature)

STA. NO.	DATE	TIME			STATION LOCATION	NO. OF CONTAINERS	PB-F					REMARKS
	11/29	1117			MW-3-6721-5-1	1	X					89120002
	"	1054			MW-4-6721-5-2	1	X					89120003

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 by: (Signature)

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks
		[signature]	11/30/89 1615	Cool + Intact Rm. Temp. °C

2030 Wright Avenue
Richmond, California 94804
(415) 235-2633
(TWX) 910-382-8132

TMA

Thermo Analytical Inc.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
89-12	~~Dow~~ CTTS, Inc

(Signature)
Lisa A. Polosi

location	NO. OF CONTAINERS	analyses: Gas/BTEX	analyses: TPH-D	analyses:	analyses:	analyses:	analyses:	REMARKS
MW3	3	X	X		-			
MW4	3	X	X					from use back-up vial for GAS/BTEX

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 by: (Signature)
Relinquished by: (Signature) Lisa A. Polosi	Date / Time 11/29/89 14:30	Received for Laboratory by: (Signature) Deborah Fisher	Date / Time 11/29/89 14:30	Remarks	

ichmond, CA 94804-0040
(415) 235-2633

Thermo Analytical Inc.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
89-12	Durham-Rockland

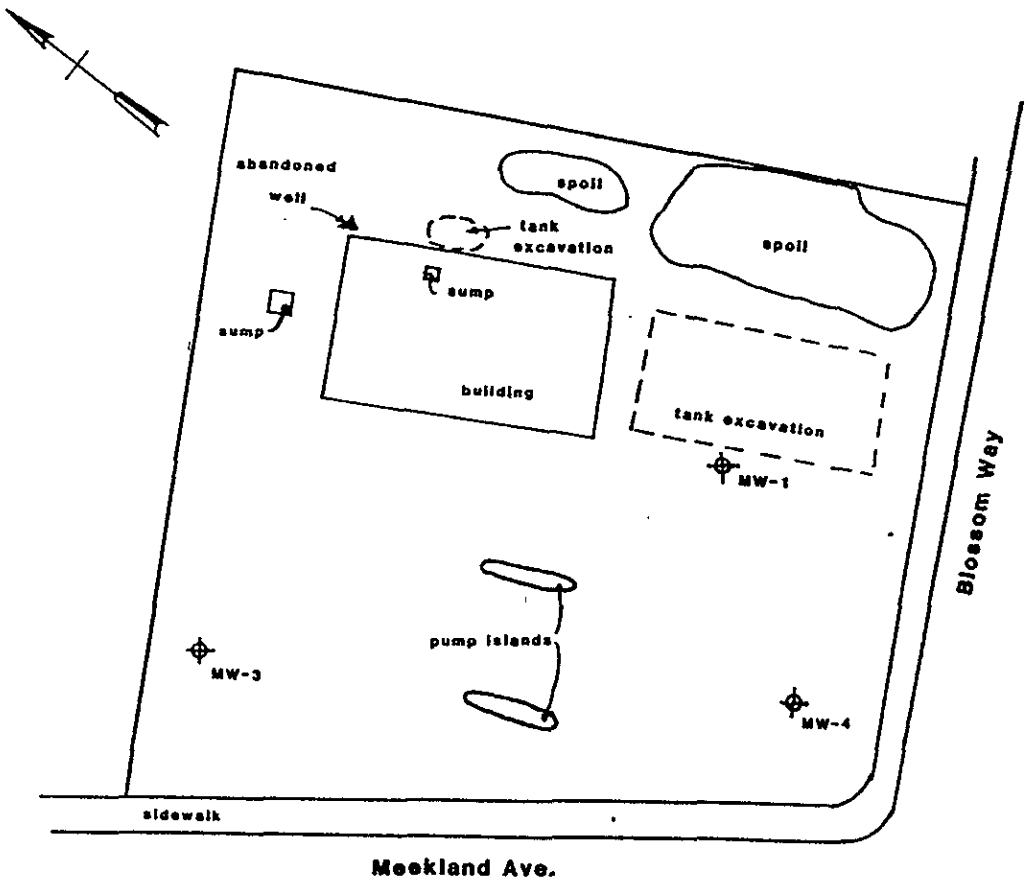
CTTS, Inc
PO Box 515
Rodeo, CA 94572 Attn: Lisa Polos

Location	Date	Time	NO. OF CONTAINERS	analyses: G35/BTEX	8010 (chlorinated hydrocarbons)	REMARKS
~~MW~~						Please run on 3-4 wkday TA.
ABW	12-12	11:00	2-VOAs	X		
ABW	12-12	11:30	2-VOAs		X	use back-up VOA

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Lisa A. Polos	12/12/89 15:45				
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) Victoria Taylor	Date / Time 12-12 3:50	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

"quality environmental analyses"



SITE PLAN - DURHAM TRANSPORTION		
SCALE: 1" = 20'	APPROVED BY:	DRAWN BY
DATE JANUARY 1990		REVISED
CTTS, Inc.		DRAWING NUMBER 3