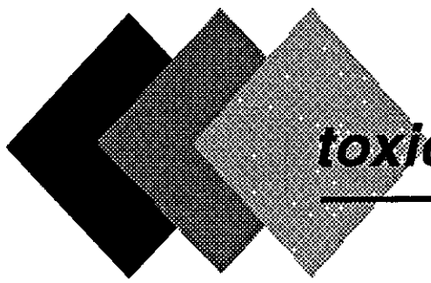


CTTS , Inc.
toxic technology services

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

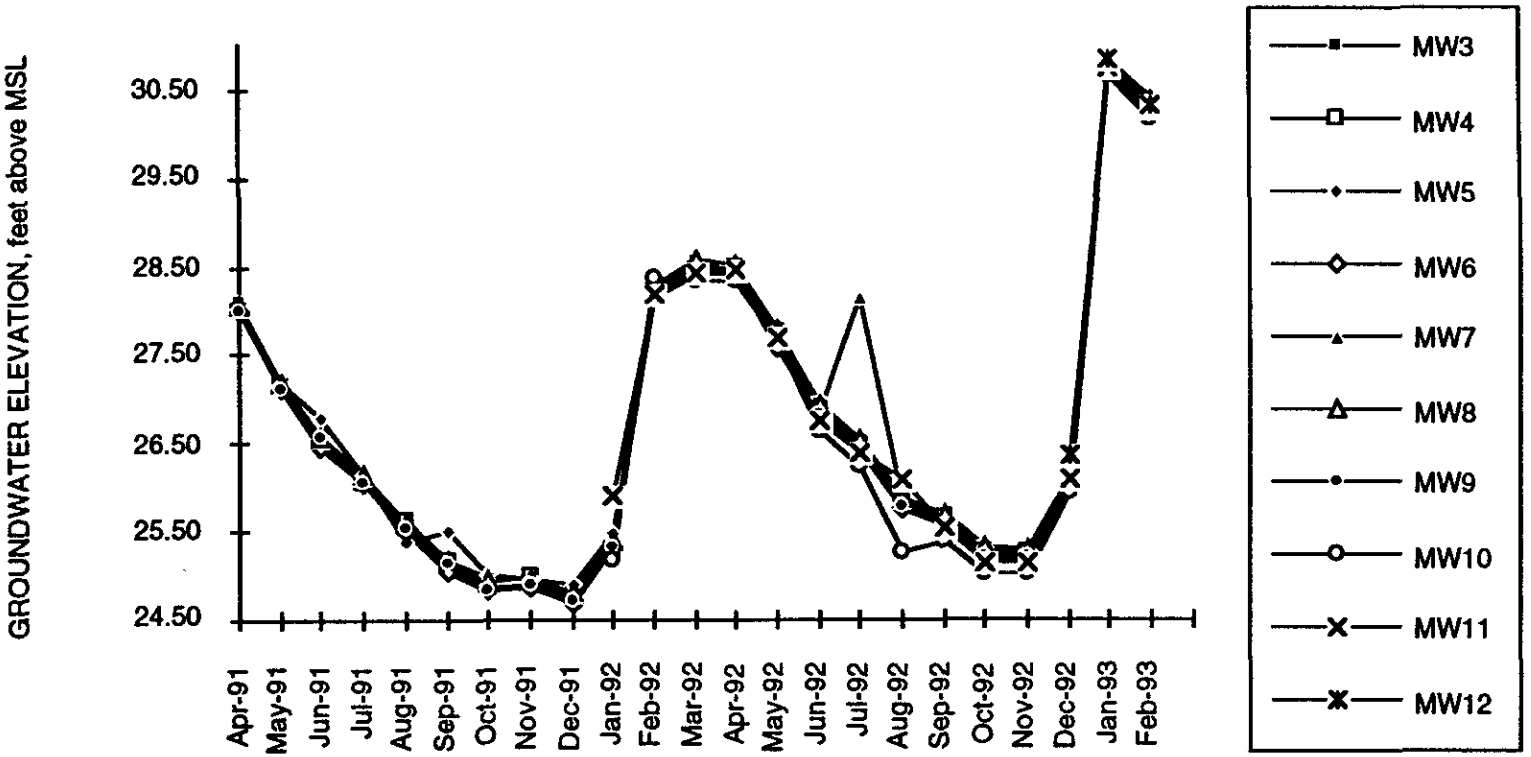
PARAMETER	METHOD	UNITS	F - 1	F - 2	F - 3	F - 4	F - 5	F - 6	F - 7	F - 8	WASTE
Gasoline	5030	mg/Kg	ND	-	2000	-	-	3800	-	1.1	ND
Diesel	3550	mg/Kg	ND	-	*1300	-	-	*1300	-	*110	ND
Motor Oil	3550	mg/Kg	ND	-	ND	-	-	ND	-	67	ND
Semi-Volatile Scan	8270	ug/Kg	-	-	-	-	-	-	-	-	ND
Volatile Scan	8240	ug/Kg	-	-	**ND	-	-	-	-	-	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



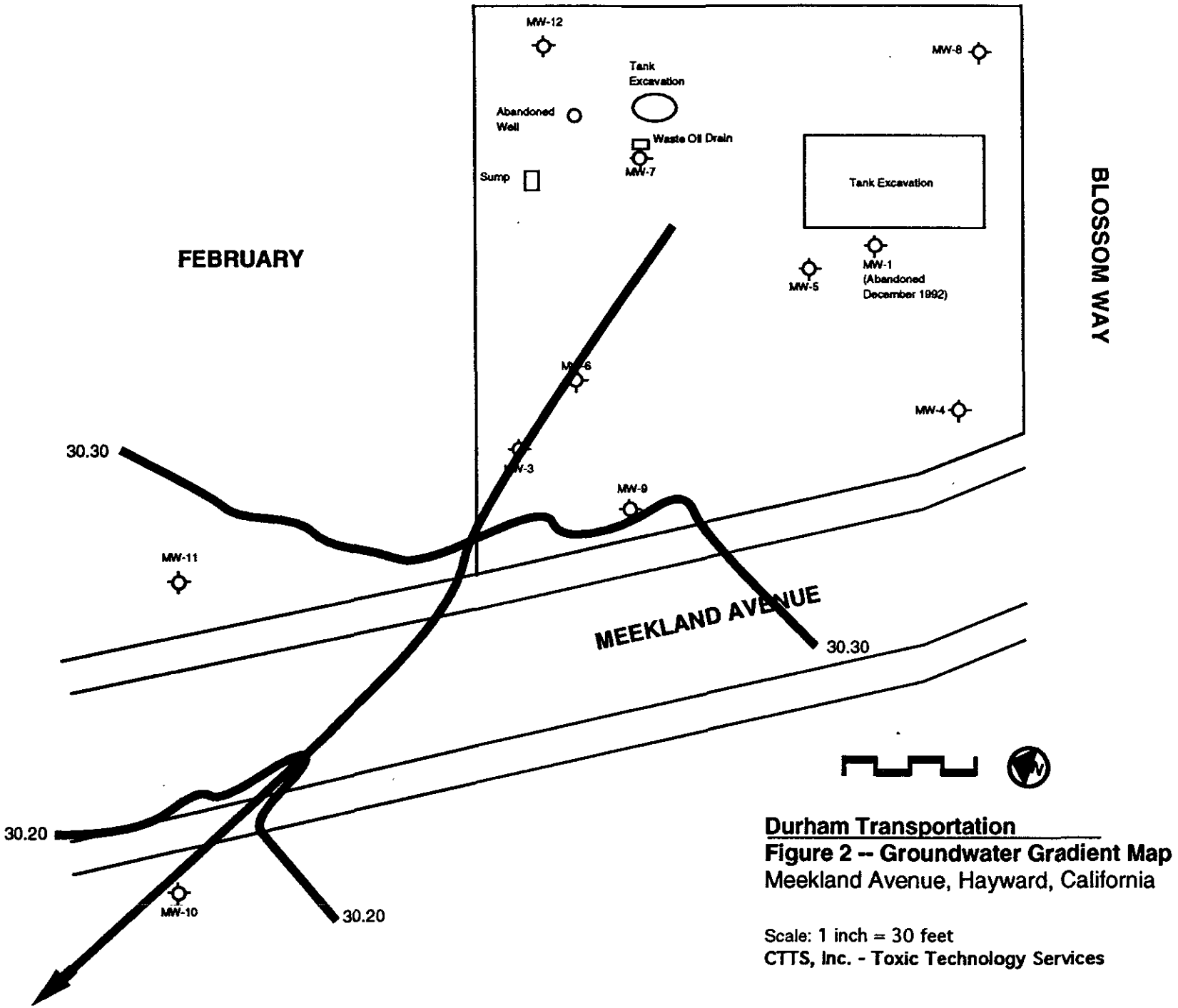


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Figure 2 -- Groundwater Gradient Map

Meekland Avenue, Hayward, California

Scale: 1 inch = 30 feet

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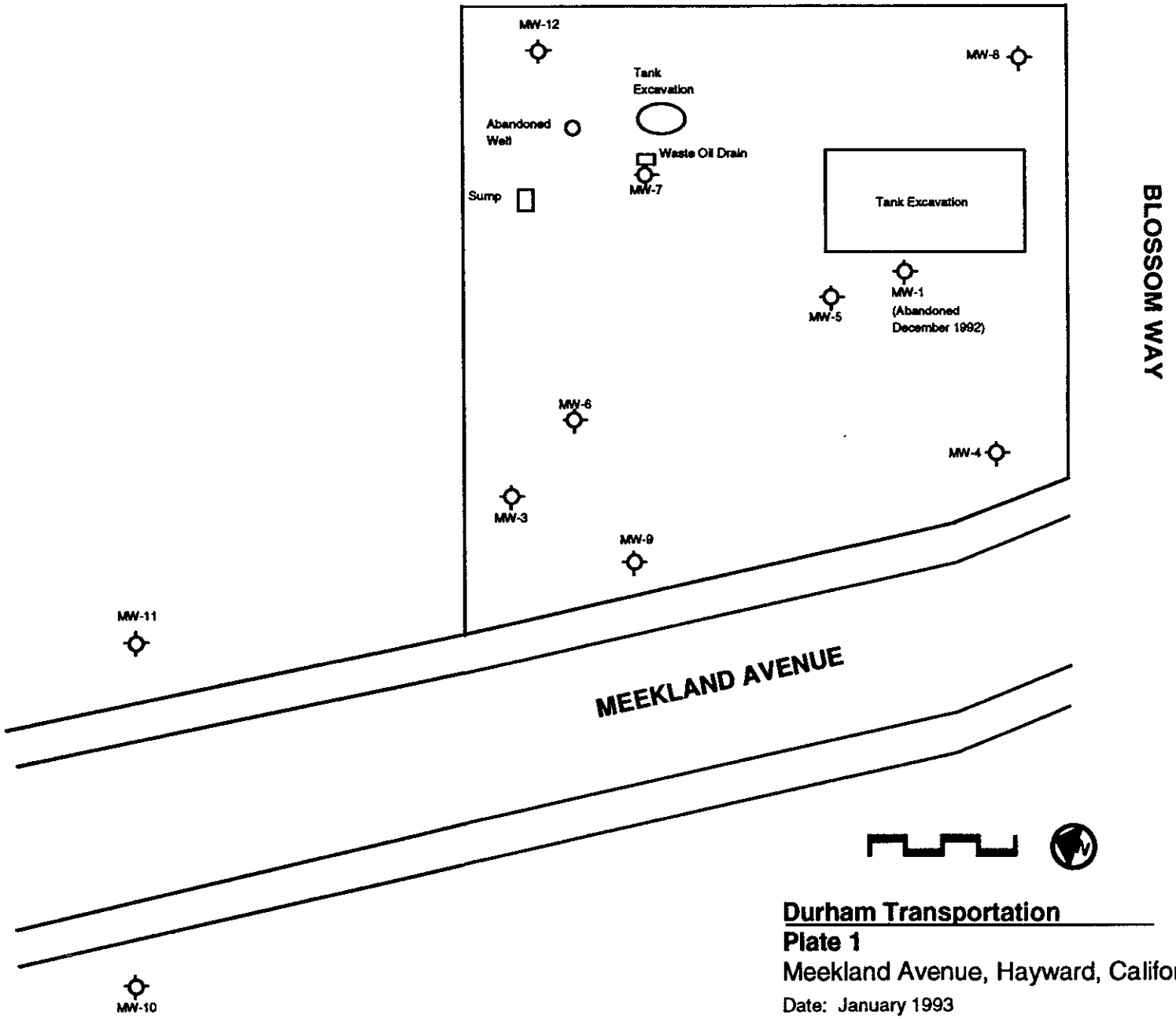


Durham Transportation

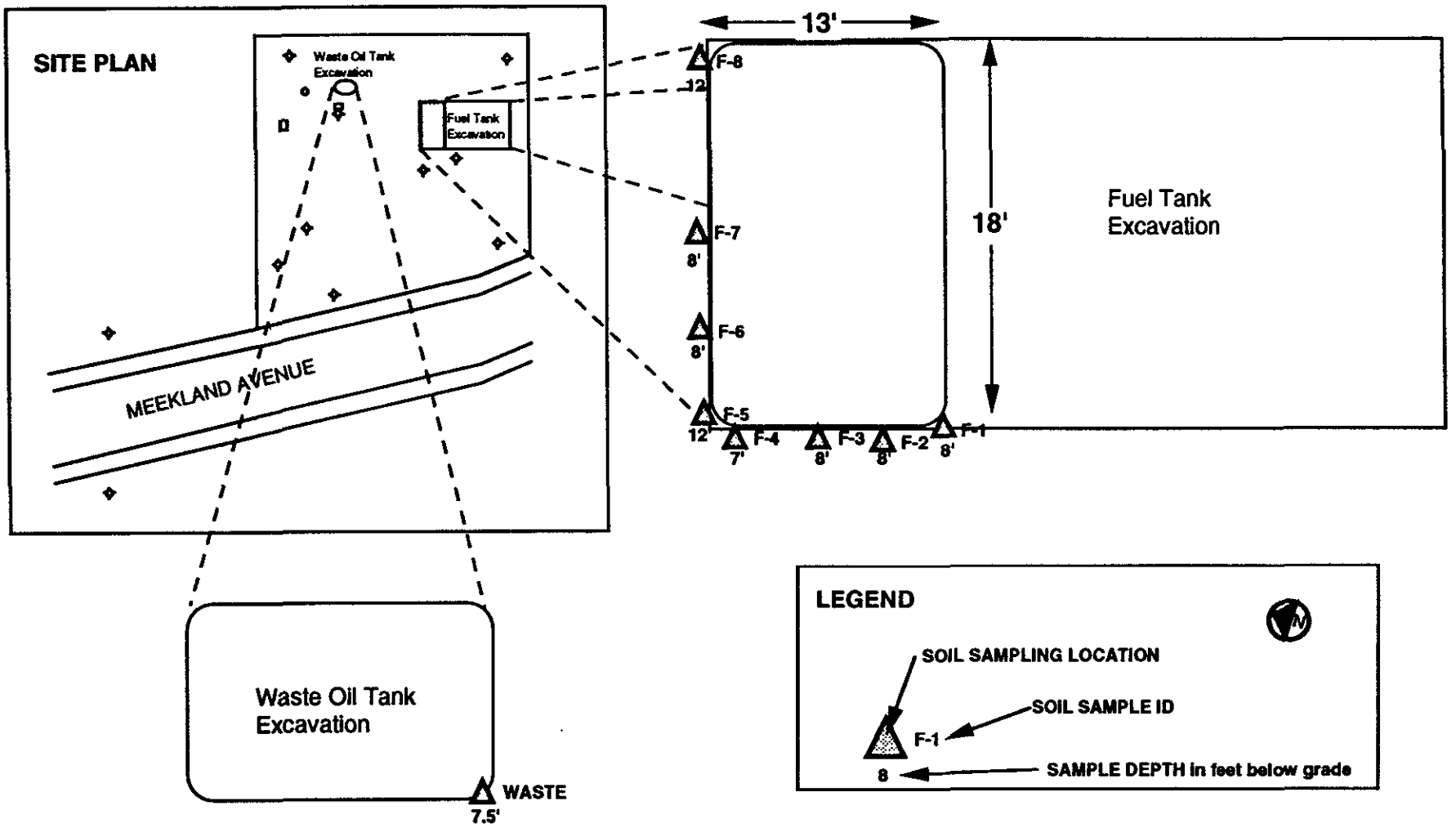
Plate 1

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

** 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

ANALYSES: 8270, TPH-G, BTEX, TPH-D+MO, CAM 17 Metals, VOCs (8010), total O+G, 8240, 418.1 OG, RCI, 96 LC50 per LP, fat head minos

TURNAROUND TIME: 14 DAY (S)

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 (crossed out)	~~cancel gtpx, 8010, diesel per LP to JR 2/8/93 on the composite~~
↓		F-2	↓		↓	↓	↓	hold	
		F-3						X X X X X X X	
		F-4						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	
		~~composite into 1 sample~~ no comp							
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 AM
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 Mackay 2-5-93 1600	Andy Mackay	2-5-93 1800	
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME 2/6/93 10:00	RECEIVED FOR LABORATORY BY A Lopez

METHOD OF SHIPMENT

REMARKS:

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: 03/10/1993
NET Client Acct. No: 70700
NET Pacific Job No: 93.00724
Received: 02/25/1993

Client Reference Information

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:

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

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.

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

5680 West End Road • Arcata California 95521 • 707-822-4649 • FAX 707-822-6831

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)

Michelle Dostal
QA Officer

Jesse G. Chaney, Jr.
Laboratory Director