



CTTS, Inc.
toxic technology services

October 19, 1992
Project No. 92-1

Mr. Dave Delamotte
Durham Transportation
P.O. Box 948
Rosemead, California 91770

Subject: Progress Report #16
Period Covering
July 1, 1992 - September 30, 1992
19984 Meekland Avenue, Hayward, CA

Dear Mr. Delamotte:

Enclosed is the fifteenth 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
Quarterly Monitoring Well Sampling and Analysis
Summary

After your review of 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 to 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 either of the undersigned at (510) 799-1140.

Sincerely,

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

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

Enclosure
LAP/JNA/lap

INTRODUCTION

The following is the sixteenth 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 July 1, 1992 - September 30, 1992.

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. This investigation will result in the preparation of a remediation plan that will recommend appropriate, available technology.

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.

The data are presented on Table 1. For the most part, the elevations to groundwater in the wells are within 0.1 feet and are about at the level of error in the measuring techniques. Table 1a presents the monthly odor and sheen observations recorded concurrently with the elevations to groundwater.

Figure 1 is a gradient map depicting the actual 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. The data also indicate that the water table fluctuates in response to the various seasons of the year.

QUARTERLY MONITORING WELL SAMPLING AND ANALYSIS

On July 16 and 17, 1992, the four two-inch diameter on site groundwater monitoring wells (Plate 1) were each purged of a minimum of 6 gallons of water and samples collected. The six four-inch diameter wells were each purged of a minimum of 25 gallons of water and samples collected. Bailing was conducted starting with the least contaminated well moving to wells that have historically shown the greatest levels of contamination, using a PVC Triloc pump. The pump was rinsed between wells with tap water. Samples were collected using a new, disposable, plastic bailer for each well. Purged water was contained in 55 gallon drums.

Sampling was conducted by Lisa Polos, REA, and John Alt, CEG, of Toxic Technology Services.

At the time of sample collection, the contents of the first bailer of water were inspected to assess the presence of any floating product. None of the wells, at the time of sample collection, contained floating product.

Collected samples were put into a cooled ice chest and transported to NET Pacific Laboratory in Santa Rosa California for analysis of Total Petroleum Hydrocarbons as Gasoline and Diesel, BTEX and Volatile Halogenated Hydrocarbons.

Table 2 presented below summarizes the results from this sampling round. The NET analytical reports are presented under Appendix A.

The State of California Maximum Contaminant Level (MCL) in drinking water is 0.5 ppb for 1,2-Dichloroethane, 1750 ppb for Xylenes and 1 ppb for Benzene. The recommended drinking water action level for Toluene is 100 ppb.

SUMMARY

In summary, all wells except MW-8 and MW-11, are over the MCL in drinking water for 1,2-Dichloroethane. All wells except MW-4 and MW-8 are over the MCL for Benzene. MW-1 is over the MCL for Xylenes. MW-1, MW-5, MW-6 and MW-9 are over the recommended drinking water action level for Toluene.

Trace levels of Tetrachloroethane were found in MW-7 and MW-8. The highest level of gasoline was found in MW-1. Petroleum hydrocarbons heavier than gasoline, but lighter than diesel were found in every well except MW-4 and MW-8. This seems to indicate the presence of very old gasoline.

MW-8, the on site up gradient well, contains trace levels of Toluene and Tetrachloroethane. Levels of contamination in MW-8, when present, are substantially lower than in the rest of the wells and still seem to indicate that the source of contamination was located on site.

Data from MW-10 and MW-11 indicate that groundwater contamination has migrated off site. However, levels of contamination in MW-10 seem to suggest the possibility of additional off site sources contributing to the contaminant plume. In the sampling episodes that have included MW-10 and MW-11, results indicate that levels in MW-10 are substantially higher than levels in MW-11. MW-11 is closer to the site and exhibits contaminant levels more in keeping with the closest on site well (MW-3). Yet, contaminant levels in MW-10 have been among the highest values noted.

TABLE 1

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

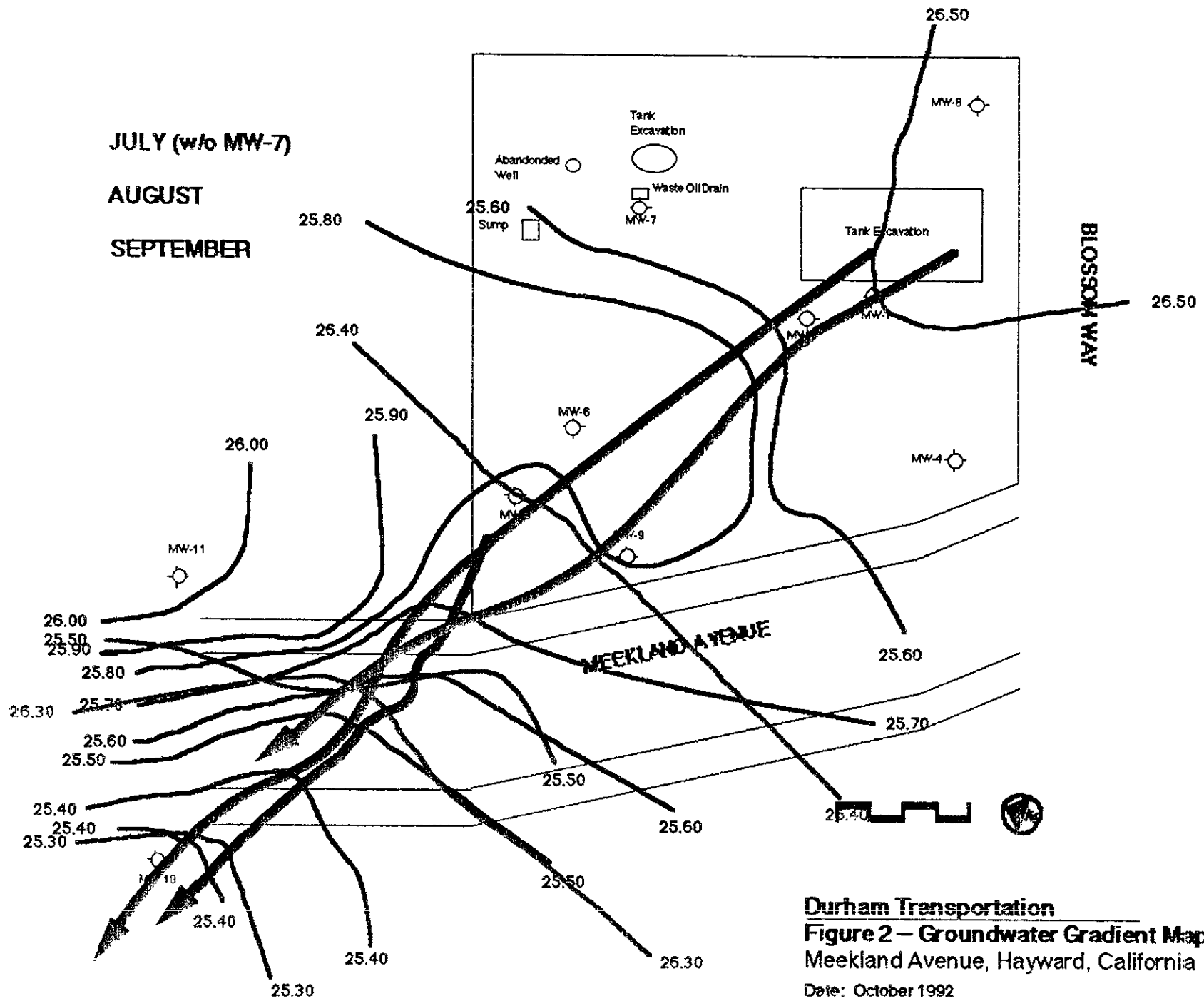
DATE	MW 1	MW 3	MW 4	MW 5	MW 6	MW 7	MW 8	MW 9	MW10	MW11
Jan-91	25.18	25.16	25.22	25.54	25.16	25.21	.	.	.	.
Feb-91	25.44	25.38	25.45	25.39	25.40	25.46	25.48	25.40	.	.
Mar-91	27.48	27.45	29.56	26.62	27.46	27.50	27.40	27.40	.	.
Apr-91	28.15	28.09	27.99	28.04	28.00	28.02	28.06	27.99	.	.
May-91	27.18	27.12	27.16	27.17	27.11	27.19	27.19	27.13	.	.
Jun-91	26.54	26.45	26.56	26.77	26.46	26.53	26.57	26.58	.	.
Jul-91	26.12	26.04	26.05	26.13	26.04	26.10	26.13	26.04	.	.
Aug-91	25.59	25.49	25.62	25.37	25.50	25.59	25.60	25.52	.	.
Sep-91	25.15	25.18	25.18	25.49	25.06	25.16	25.18	25.15	.	.
Oct-91	24.88	24.86	24.92	25.00	24.82	24.97	24.94	24.84	.	.
Nov-91	24.96	24.90	24.97	24.94	24.87	24.94	24.96	24.89	.	.
Dec-91	24.76	24.69	24.78	24.89	24.67	24.76	24.79	24.70	.	.
Jan-92	25.39	25.31	25.28	25.48	25.31	25.37	25.37	25.32	25.16	25.90
Feb-92	28.24	28.23	28.22	28.24	28.15	28.24	28.26	28.19	28.37	28.18
Mar-92	28.46	28.54	28.46	28.49	28.40	28.46	28.59	28.42	28.32	28.41
Apr-92	28.49	28.43	28.48	28.39	28.43	28.49	28.51	28.44	28.32	28.44
May-92	27.77	27.76	27.75	27.79	27.56	27.75	27.79	27.70	27.67	27.68
Jun-92	26.91	26.92	26.87	26.88	26.81	26.87	26.92	26.81	26.64	26.76
Jul-92	26.50	26.40	26.47	26.49	26.41	28.16	26.53	26.41	26.23	26.37
Aug-92	25.86	25.88	25.85	25.81	25.76	25.83	25.88	25.79	25.26	26.07
Sep-92	25.65	25.68	25.64	25.60	25.56	25.61	25.67	25.56	25.39	25.54

TABLE 1a

**GROUNDWATER ODOR AND SHEEN OBSERVATIONS
DURHAM TRANSPORTATION--MEEKLAND PROJECT**

	MW1	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11
Jan-91	O S	- -	- -	- -	o -	o -	. .	. .	. .	. .
Feb-91	O S	- -	- -	o -	o -	- -	- -	o -	. .	. .
Mar-91	X X	X X	X X	X X	X X	X X	X X	X X	. .	. .
Apr-91	O -	- -	- S	- -	- -	- -	- -	- -	. .	. .
May-91	- -	- -	- -	o -	- -	- -	- -	- -	. .	. .
Jun-91	o -	- -	- -	o -	- -	- -	- -	- -	. .	. .
Jul-91	O S	- -	- -	- -	o -	- -	- -	- -	. .	. .
Aug-91	O S	- -	o -	o -	o -	o -	- -	- -	. .	. .
Sep-91	O S	- -	- -	o -	o -	- -	- -	- -	. .	. .
Oct-91	O S	- -	- -	- -	- -	- -	- -	- -	. .	. .
Nov-91	O S	- -	- -	o -	o -	- -	- -	- -	. .	. .
Dec-91	O S	o -	- -	o -	o -	- -	- -	- -	. .	. .
Jan-92	O S	o -	- -	o -	o -	- -	- -	o -	o -	o -
Feb-92	O -	- -	- -	o -	- -	- -	- -	- -	O -	- -
Mar-92	O -	- -	- -	o S	- -	- -	- -	o -	o -	- -
Apr-92	o -	o -	- -	o -	o -	- -	- -	- -	o -	- -
May-92	O S	o -	- -	o -	- -	o -	- -	- -	o -	o -
Jun-92	O -	- -	- -	- -	- -	- -	- -	- -	O -	- -
Jul-92	O -	- -	- -	o -	- -	- -	- -	- -	- -	- -
Aug-92	O -	- -	- -	o -	- -	- -	- -	- -	- -	- -
Sep-92	O -	- -	- -	o -	- -	- -	- -	- -	o -	- -

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



JULY (w/o MW-7)

AUGUST

SEPTEMBER

Durham Transportation
Figure 2 – Groundwater Gradient Map
 Meekland Avenue, Hayward, California
 Date: October 1992
 Scale: 1 inch = 30 feet
 CTTS, Inc. – Toxic Technology Services

TABLE 2

**GROUNDWATER CHEMICAL DATA--JULY 1992
DURHAM TRANSPORTATION--MEEKLAND PROJECT**

<u>PARAMETER</u>	<u>UNITS</u>	<u>MW-1</u>	<u>MW-3</u>	<u>MW-4</u>	<u>MW-5</u>	<u>MW-6</u>		
Gasoline	mg/L	41	3	ND	27	8.6		
Diesel	mg/L	*19	*2.4	ND	*5.9	*1.7		
Benzene	ug/L	5600	190	ND	6000	1300		
Ethylbenzene	ug/L	1300	ND	ND	ND	380		
Toluene	ug/L	2600	2.8	ND	1500	280		
Xylenes	ug/L	4000	410	ND	1600	1100		
1,2-Dichloroethane	ug/L	49	30	1.3	93	35		
Tetrachloroethene	ug/L	ND	ND	ND	ND	ND		
		<u>MW-7</u>	<u>MW-7 DUP</u>	<u>MW-8</u>	<u>MW-9</u>	<u>MW-10</u>	<u>MW-11</u>	
Gasoline	mg/L	1.9	1.2	ND	4.4	8.1	2.1	
Diesel	mg/L	*0.59	*0.7	ND	*1.3	*4.4	*0.71	
Benzene	ug/L	410	21	ND	860	74	39	
Ethylbenzene	ug/L	78	1	ND	210	360	100	
Toluene	ug/L	21	2.6	3.3	340	ND	2.3	
Xylenes	ug/L	170	90	ND	640	1100	53	
1,2-Dichloroethane	ug/L	8.7	8.2	ND	22	29	ND	
Tetrachloroethene	ug/L	2.1	2	1.6	ND	ND	ND	

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

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: 08/06/1992
NET Client Acct No: 70700
NET Pacific Job No: 92.3950
Received: 07/17/1992

Client Reference Information

Durham, Project No. 92-1Q3

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

JS:rct
Enclosure(s)



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3950

Date: 08/06/1992
Page: 2

Ref: Durham, Project No. 92-1Q3

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results		Units
			MW-8 07/16/1992 129735	MW-11 07/16/1992 129736	
TPH (Gas/BTXE,Liquid)			--	--	
METHOD 5030 (GC,FID)					
DATE ANALYZED			07-22-92	07-22-92	
DILUTION FACTOR*			1	1	
as Gasoline	5030	0.05	ND	2.1	mg/L
METHOD 8020 (GC,Liquid)			--	--	
DATE ANALYZED			07-22-92	07-22-92	
DILUTION FACTOR*			1	1	
Benzene	8020	0.5	ND	39	ug/L
Ethylbenzene	8020	0.5	ND	100	ug/L
Toluene	8020	0.5	3.3	2.3	ug/L
Xylenes (Total)	8020	0.5	ND	53	ug/L
SURROGATE RESULTS			--	--	
Bromofluorobenzene	5030		99	110	% Rec.
METHOD 3510 (GC,FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			07-18-92	07-18-92	
DATE ANALYZED			07-20-92	07-20-92	
as Diesel	3510	0.05	ND	0.71**	mg/L

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



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3950

Date: 08/06/1992
Page: 3

Ref: Durham, Project No. 92-1Q3

Table with columns: Parameter, Method, Reporting Limit, MW-8 (07/16/1992, 129735), MW-11 (07/16/1992, 129736), Units. Includes sections for METHOD 601 (GC, Liquid) and SURROGATE RESULTS.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3950

Date: 08/06/1992

Page: 4

Ref: Durham, Project No. 92-1Q3

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verif Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Diesel	0.05	mg/L	80	ND	80	82	2.3
Motor Oil	0.5	mg/L	67	ND	N/A	N/A	N/A
Diesel	0.05	mg/L	80	ND	85	92	7.1
Motor Oil	0.5	mg/L	67	ND	N/A	N/A	N/A
Gasoline	0.05	mg/L	90	ND	92	88	3.0
Benzene	0.5	ug/L	112	ND	N/A	N/A	<1
Toluene	0.5	ug/L	120	ND	101	97	4.0

COMMENT: Blank Results were ND on other analytes tested.

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verif Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Benzene	0.5	ug/L	100	ND	87	89	2.3
Toluene	0.5	ug/L	100	ND	89	88	1.2
1,1-Dichloroethene	0.4	ug/L	105	ND	43	43	<1
Trichloroethene	0.4	ug/L	98	ND	57	56	1.8
Chlorobenzene	0.4	ug/L	124	ND	58	56	3.5

COMMENT: Blank Results were ND on other analytes tested.

- < : 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, $100 \text{ [Value 1 - Value 2]}/\text{mean value}$.
- 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.

CHAIN OF CUSTODY RECORD

7604

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS	<div style="text-align: center;"> <p>TPH-D TPH-G STEX 601</p> </div>				REMARKS
SAMPLERS: (Signature)											
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION						
92103		Durham				55	<div style="text-align: center;"> <p>296 TA</p> </div>				<p>STEX Box 515 Redwood, CA 94572 (510) 797-1140</p>
Lisa Flores											
7/16/92				X	MW 8	X	X	X	X		
"				X	MW 11	X	X	X	X		

CUSTODY SEALED 7/16/92
31906 [Signature] sealed intact

Relinquished by: (Signature) Lisa Flores	Date / Time 7/16/92	Received by: (Signature) Mike [Signature]	Relinquished by: (Signature) [Signature]	Date / Time 7/16/92	Received by: (Signature) [Signature]
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature) (VIA NCS)	Date / Time	Received for Laboratory by: (Signature) [Signature]	Date / Time 7/17/92	0800	Remarks



®

NATIONAL
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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

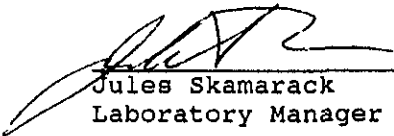
Date: 08/10/1992
NET Client Acct No: 70700
NET Pacific Job No: 92.3996
Received: 07/18/1992

Client Reference Information

Durham, Project No. 92-103

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

JS:rct
Enclosure(s)



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

Date: 08/10/1992

Page: 2

Ref: Durham, Project No. 92-103

Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-1 (07/17/1992, 129946), MW-3 (07/17/1992, 129947), Units. Rows include TPH (Gas/BTXE, Liquid) with Method 5030, and various hydrocarbons (Benzene, Ethylbenzene, Toluene, Xylenes) with Method 8020. Also includes SURROGATE RESULTS for Bromofluorobenzene with Method 5030, and Method 3510 for Diesel.

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



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

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Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-1 (07/17/1992, 129946), MW-3 (07/17/1992, 129947), Units. Includes rows for various chemical compounds like Bromodichloromethane, Chlorobenzene, etc., and surrogate results.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

Date: 08/10/1992

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Ref: Durham, Project No. 92-103

Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-5 (07/17/1992, 129948), MW-6 (07/17/1992, 129949), Units. Rows include TPH (Gas/BTXE, Liquid), Benzene, Ethylbenzene, Toluene, Xylenes (Total), and Bromofluorobenzene.

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



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

Date: 08/10/1992
Page: 5

Ref:

Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	MW-5	MW-6	Units
			07/17/1992 129948	07/17/1992 129949	
METHOD 601 (GC,Liquid)					
DATE ANALYZED			07-30-92	07-30-92	
DILUTION FACTOR*			1	1	
Bromodichloromethane	601	0.4	ND	ND	ug/L
Bromoform	601	0.4	ND	ND	ug/L
Bromomethane	601	0.4	ND	ND	ug/L
Carbon tetrachloride	601	0.4	ND	ND	ug/L
Chlorobenzene	601	0.4	ND	ND	ug/L
Chloroethane	601	0.4	ND	ND	ug/L
2-Chloroethylvinyl ether	601	1.0	ND	ND	ug/L
Chloroform	601	0.4	ND	ND	ug/L
Chloromethane	601	0.4	ND	ND	ug/L
Dibromochloromethane	601	0.4	ND	ND	ug/L
1,2-Dichlorobenzene	601	0.4	ND	ND	ug/L
1,3-Dichlorobenzene	601	0.4	ND	ND	ug/L
1,4-Dichlorobenzene	601	0.4	ND	ND	ug/L
Dichlorodifluoromethane	601	0.4	ND	ND	ug/L
1,1-Dichloroethane	601	0.4	ND	ND	ug/L
1,2-Dichloroethane	601	0.4	93	35	ug/L
1,1-Dichloroethene	601	0.4	ND	ND	ug/L
trans-1,2-Dichloroethene	601	0.4	ND	ND	ug/L
1,2-Dichloropropane	601	0.4	ND	ND	ug/L
cis-1,3-Dichloropropene	601	0.4	ND	ND	ug/L
trans-1,3-Dichloropropene	601	0.4	ND	ND	ug/L
Methylene chloride	601	10	ND	ND	ug/L
1,1,2,2-Tetrachloroethane	601	0.4	ND	ND	ug/L
Tetrachloroethene	601	0.4	ND	ND	ug/L
1,1,1-Trichloroethane	601	0.4	ND	ND	ug/L
1,1,2-Trichloroethane	601	0.4	ND	ND	ug/L
Trichloroethene	601	0.4	ND	ND	ug/L
Trichlorofluoromethane	601	0.4	ND	ND	ug/L
Vinyl chloride	601	0.4	ND	ND	ug/L
SURROGATE RESULTS					
1,4-Difluorobenzene	601		N/A	130	% Rec.
1,4-Dichlorobutane	601		143	136	% Rec.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

Date: 08/10/1992

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Ref: Durham, Project No. 92-103

Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-5 (07/17/1992, 129948), MW-6 (07/17/1992, 129949), Units. Includes rows for METHODOLOGY (METHOD 601), ANALYSIS DATE (07-30-92), DILUTION FACTOR (1), and various chemical compounds like Bromodichloromethane, Bromoform, etc., with their respective results (ND, 93, 35, etc.).



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

Date: 08/10/1992
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Ref: Durham, Project No. 92-103

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results		Units
			MW-10	MW-4	
			07/17/1992	07/16/1992	
			129950	129951	
TPH (Gas/BTXE,Liquid)			--	--	
METHOD 5030 (GC,FID)					
DATE ANALYZED			07-27-92	07-27-92	
DILUTION FACTOR*			20	1	
as Gasoline	5030	0.05	8.1	ND	mg/L
METHOD 8020 (GC,Liquid)			--	--	
DATE ANALYZED			07-27-92	07-27-92	
DILUTION FACTOR*			20	1	
Benzene	8020	0.5	74	ND	ug/L
Ethylbenzene	8020	0.5	360	ND	ug/L
Toluene	8020	0.5	ND	ND	ug/L
Xylenes (Total)	8020	0.5	1,100	ND	ug/L
SURROGATE RESULTS			--	--	
Bromofluorobenzene	5030		101	92	% Rec.
METHOD 3510 (GC,FID)					
DILUTION FACTOR*			10	1	
DATE EXTRACTED			07-22-92	07-22-92	
DATE ANALYZED			07-24-92	07-24-92	
as Diesel	3510	0.05	4.4**	ND	mg/L

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



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

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Table with columns: Parameter, Method, Reporting Limit, MW-10 (07/17/1992, 129950), MW-4 (07/16/1992, 129951), Units. Includes rows for various chemical compounds like Bromodichloromethane, Chlorobenzene, and surrogate results.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.3996

Date: 08/10/1992
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Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	MW-7	MW-9	Units
			07/16/1992	07/16/1992	
TPH (Gas/BTXE,Liquid)					
METHOD 5030 (GC,FID)			--	--	
DATE ANALYZED			07-25-92	07-27-92	
DILUTION FACTOR*			1	10	
as Gasoline	5030	0.05	1.2	4.4	mg/L
METHOD 8020 (GC,Liquid)			--	--	
DATE ANALYZED			07-25-92	07-27-92	
DILUTION FACTOR*			1	10	
Benzene	8020	0.5	21	860	ug/L
Ethylbenzene	8020	0.5	1.0	210	ug/L
Toluene	8020	0.5	2.6	340	ug/L
Xylenes (Total)	8020	0.5	90	640	ug/L
SURROGATE RESULTS			--	--	
Bromofluorobenzene	5030		101	94	% Rec.
METHOD 3510 (GC,FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			07-22-92	07-22-92	
DATE ANALYZED			07-24-92	07-24-92	
as Diesel	3510	0.05	0.70**	1.3**	mg/L

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



NET Pacific, Inc

Ref: Durham, Project No. 92-103

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results		Units
			MW-7	MW-9	
			07/16/1992 129952	07/16/1992 129953	
METHOD 601 (GC,Liquid)					
DATE ANALYZED			07-30-92	07-30-92	
DILUTION FACTOR*			1	1	
Bromodichloromethane	601	0.4	ND	ND	ug/L
Bromoform	601	0.4	ND	ND	ug/L
Bromomethane	601	0.4	ND	ND	ug/L
Carbon tetrachloride	601	0.4	ND	ND	ug/L
Chlorobenzene	601	0.4	ND	ND	ug/L
Chloroethane	601	0.4	ND	ND	ug/L
2-Chloroethylvinyl ether	601	1.0	ND	ND	ug/L
Chloroform	601	0.4	ND	ND	ug/L
Chloromethane	601	0.4	ND	ND	ug/L
Dibromochloromethane	601	0.4	ND	ND	ug/L
1,2-Dichlorobenzene	601	0.4	ND	ND	ug/L
1,3-Dichlorobenzene	601	0.4	ND	ND	ug/L
1,4-Dichlorobenzene	601	0.4	ND	ND	ug/L
Dichlorodifluoromethane	601	0.4	ND	ND	ug/L
1,1-Dichloroethane	601	0.4	ND	ND	ug/L
1,2-Dichloroethane	601	0.4	8.2	22	ug/L
1,1-Dichloroethene	601	0.4	ND	ND	ug/L
trans-1,2-Dichloroethene	601	0.4	ND	ND	ug/L
1,2-Dichloropropane	601	0.4	ND	ND	ug/L
cis-1,3-Dichloropropene	601	0.4	ND	ND	ug/L
trans-1,3-Dichloropropene	601	0.4	ND	ND	ug/L
Methylene chloride	601	10	ND	ND	ug/L
1,1,2,2-Tetrachloroethane	601	0.4	ND	ND	ug/L
Tetrachloroethene	601	0.4	2.0	ND	ug/L
1,1,1-Trichloroethane	601	0.4	ND	ND	ug/L
1,1,2-Trichloroethane	601	0.4	ND	ND	ug/L
Trichloroethene	601	0.4	ND	ND	ug/L
Trichlorofluoromethane	601	0.4	ND	ND	ug/L
Vinyl chloride	601	0.4	ND	ND	ug/L
SURROGATE RESULTS					
1,4-Difluorobenzene	601		59	111	% Rec.
1,4-Dichlorobutane	601		120	129	% Rec.



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Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results		Units
			MW-7 DUP	B-1	
			07/16/1992	07/17/1992	
			129954	129955	
TPH (Gas/BTXE,Liquid)			--	--	
METHOD 5030 (GC,FID)					
DATE ANALYZED			07-25-92	07-25-92	
DILUTION FACTOR*			1	1	
as Gasoline	5030	0.05	1.9	ND	mg/L
METHOD 8020 (GC,Liquid)			--	--	
DATE ANALYZED			07-25-92	07-25-92	
DILUTION FACTOR*			1	1	
Benzene	8020	0.5	410	ND	ug/L
Ethylbenzene	8020	0.5	78	ND	ug/L
Toluene	8020	0.5	21	ND	ug/L
Xylenes (Total)	8020	0.5	170	ND	ug/L
SURROGATE RESULTS			--	--	
Bromofluorobenzene	5030		MI	93	% Rec.
METHOD 3510 (GC,FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			07-22-92	07-22-92	
DATE ANALYZED			07-24-92	07-24-92	
as Diesel	3510	0.05	0.59**	ND	mg/L

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

MI - Matrix interference



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
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Table with columns: Parameter, Method, Reporting Limit, MW-7 DUP (07/16/1992, 129954), B-1 (07/17/1992, 129955), Units. Includes rows for various chemical compounds like Bromodichloromethane, Chloroform, and Tetrachloroethene, along with surrogate results.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
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QUALITY CONTROL DATA

Table with 8 columns: Parameter, Reporting Limits, Units, Cal Verf Stand % Recovery, Blank Data, Spike % Recovery, Duplicate Spike % Recovery, RPD. Rows include Diesel, Motor Oil, Gasoline, Benzene, Toluene.

COMMENT: Blank Results were ND on other analytes tested.

QUALITY CONTROL DATA

Table with 8 columns: Parameter, Reporting Limits, Units, Cal Verf Stand % Recovery, Blank Data, Spike % Recovery, Duplicate Spike % Recovery, RPD. Rows include Benzene, Toluene, 1,1-Dichloroethene, Trichloroethene, Chlorobenzene.

COMMENT: Blank Results were ND on other analytes tested.

** Note: The QC Data for this analysis was accepted based on the following: Poor spike recoveries in this batch required re-extraction which was not possible due to insufficient sample volume. Surrogate spike recoveries were within the control limits for undiluted samples. Surrogate recoveries were unable to determine (UTD) on samples requiring dilutions. These recoveries indicate that the extraction procedure was in control. Acceptance criteria for the surrogate spike is 70 - 120% recovery.

Table with 2 columns: NET Sample No., Surrogate % Recovery. Lists sample numbers 129946 through 129955 and their corresponding recovery percentages or UTD status.



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, $100 \text{ [Value 1 - Value 2] / mean value}$.
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- 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.

TMA
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 CHAIN OF CUSTODY RECORD

7633

PROJ. NO.		PROJECT NAME				NO. OF CONTAINERS	Analyses				REMARKS
92-103		Durham					TPH-D	TPH-G	BTEX	COI	
Date						(Signature) Lisa Blos					
7/17/92				MW-1-	5	X	X	X	X		
				MW-3-	5						
				MW-5-	5						
				MW-6-	5						
				MW-10-	5						
7/16/92				MW-4-	5						
7/16/92				MW-7-	5						
7/16/92				MW-9	5						
7/16/92				MW-7 DUP	5	↓	↓	↓	↓	Analyze as separate sample analyze for B ¹ for all per Lisa to Nora 7/20/92	
7/17/92				B-1	5	↓	↓	↓	↓		
DUPLICATE 7/17/92											
e 1900 MW											
						Received 1 IL AMBER & 4 vials ID. B-1 A.L.					

Relinquished by: (Signature) Lisa Blos	Date / Time 7/17/92 5:25 PM	Received by: (Signature) Mike Tarnas	Relinquished by: (Signature) Mike Tarnas	Date / Time 7/17/92 19:00	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) Amy Lopez	Date / Time 7/18/92 12:00	Remarks	