



June 11, 1992
Project No. 92-1

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

Subject: Progress Report #15
Period Covering
April 1, 1992 - June 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

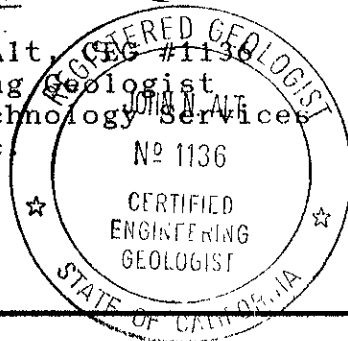
After your review of this document, it is recommended that a copy be sent to Ms. Juliette Shin of the Alameda County Health Care Services Department, Hazardous Materials Division. An extra copy of this report has been provided to you for this purpose.

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, REG. #1136
Consulting Geologist
Toxic Technology Services
CTTS, Inc.



Enclosure
LAP/JNA/lap

INTRODUCTION

The following is the fifteenth 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 April 1, 1991 - June 30, 1991.

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. They indicate a very low westward to northwestward gradient. 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. Therefore an exact gradient was not calculated. Table 1a presents the monthly odor and sheen observations recorded concurrently with the elevations to groundwater.

Figure 1 is a graphical representation of groundwater elevations over time. This indicates that the gradient is quite flat and that the water table fluctuates in response to the various seasons of the year.

QUARTERLY MONITORING WELL SAMPLING AND ANALYSIS

On April 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 Contaminate Level 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 Maximum Contaminant Level (MCL) in drinking water for 1,2-Dichloroethane. All wells, except MW-4, MW-8 and MW-11 are over the MCL for Benzene. MW-1, MW-5 and MW-10 are over the MCL in drinking water for Xylenes and MW-1, MW-3, MW-5, MW-6 and MW-9 are over the recommended drinking water action level for Toluene.

Trace levels of Tetrachloroethene were found in MW-7 and MW-8. Gasoline was found in all wells except 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-8. This seems to indicate the presence of very old gasoline.

MW-8, the on site up gradient well, contains trace levels (0.8 ppb) of Tetrachloroethene. 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.

MW-9, the on-site down gradient well, continues to indicate

contamination, however, at levels generally lower than MW-1, MW-3 and MW-5.

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 contaminate plume. In the two sampling episodes that have included MW-10 and MW-11, both have resulted in indicating that levels in MW-10 are substantially higher than 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, contamination levels in MW-10 have been among the highest values noted.

TABLE 1

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

DATE	MW1	MW3	MW4	MW5	MW6	MW7	MW8	MW9	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

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 -	- -

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

TABLE 2

**GROUNDWATER CHEMICAL DATA--APRIL 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>	<u>MW-7</u>
Gasoline	mg/L	33	7.4	0.78	23	7.2	1.7
Diesel	mg/L	11*	1.8*	0.13*	6.4*	1.8*	0.52*
Benzene	ug/L	8900	730	ND	8600	340	310
Ethylbenzene	ug/L	1200	370	51	ND	350	78
Toluene	ug/L	3500	180	ND	2600	460	28
Xylenes	ug/L	3700	640	4.8	1900	920	170
1,2-Dichloroethane	ug/L	120	19	1.6	130	30	3.2
Tetrachloroethene	ug/L	ND	ND	ND	ND	ND	0.5
		<u>MW-8</u>	<u>MW-9</u>	<u>MW-10</u>	<u>MW-10 DUP</u>	<u>MW-11</u>	
Gasoline	mg/L	ND	2.9	13	15	0.16	
Diesel	mg/L	ND	0.7*	7.5*	5.0*	1.2*	
Benzene	ug/L	ND	510	240	180	ND	
Ethylbenzene	ug/L	ND	80	490	ND	ND	
Toluene	ug/L	ND	260	65	18	ND	
Xylenes	ug/L	ND	260	2500	2700	ND	
1,2-Dichloroethane	ug/L	ND	11	22	20	ND	
Tetrachloroethene	ug/L	0.8	ND	ND	ND	ND	

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

= High Benzene levels

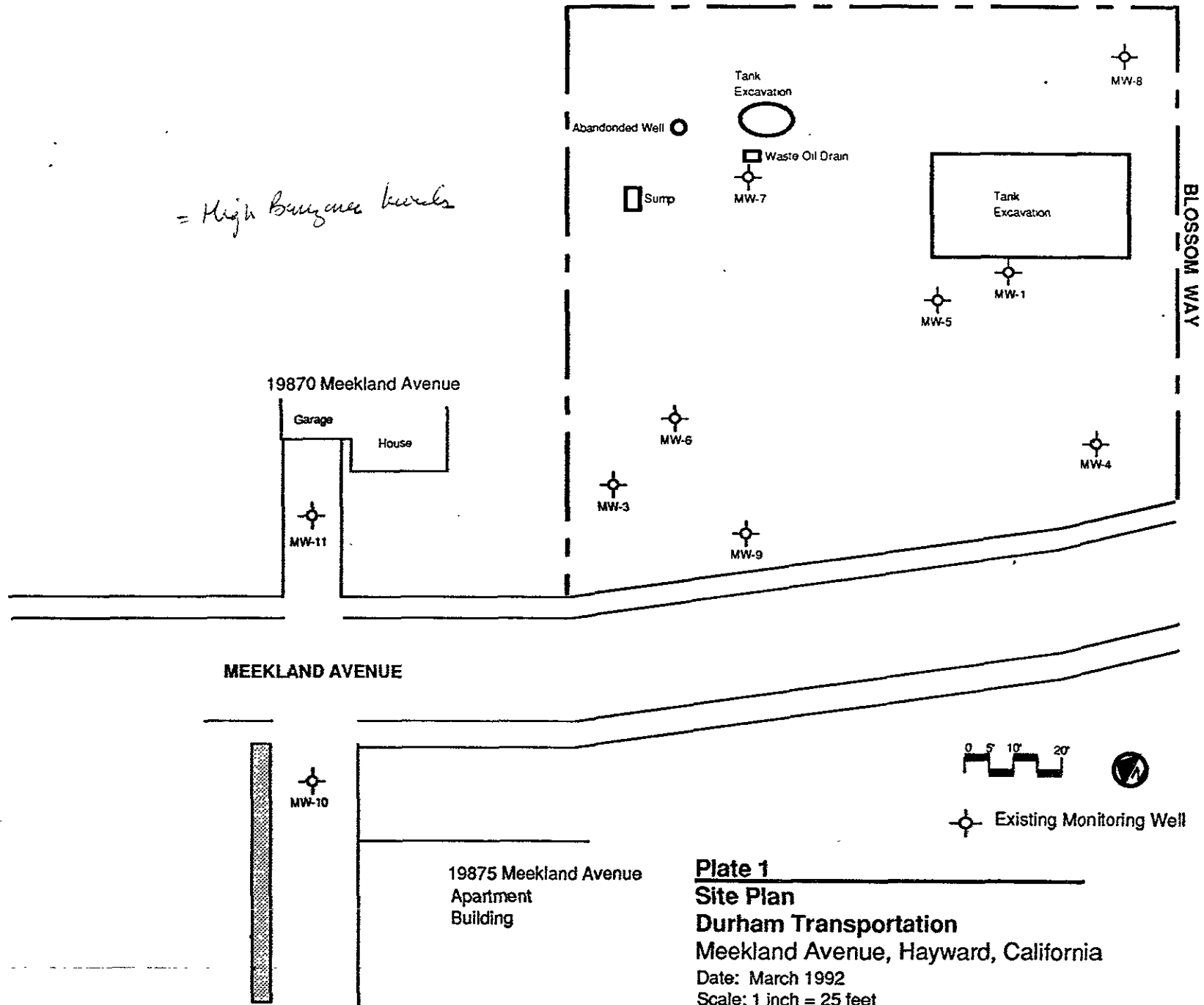


Plate 1
Site Plan
Durham Transportation
Meekland Avenue, Hayward, California
Date: March 1992
Scale: 1 inch = 25 feet
CTTS, Inc. - Toxic Technology Services

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

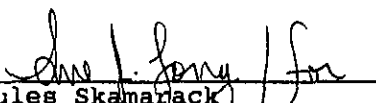
Date: 05/07/1992
NET Client Acct No: 70700
NET Pacific Job No: 92.2140
Received: 04/17/1992

Client Reference Information

Durham - 2nd Quarterly Monitoring, Proj. No. 92-2

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 Skamajack
Laboratory Manager

JS:rct
Enclosure(s)



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2140

Date: 05/07/1992
Page: 2

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-8 (04/16/1992, 120195), MW-9 (04/16/1992, 120196**), Units. Rows include TPH (Gas/BTXE, Liquid), Benzene, Ethylbenzene, Toluene, Xylenes (Total), Bromofluorobenzene, as Diesel, and as Motor Oil.

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2140

Date: 05/07/1992
Page: 3

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-8 (04/16/1992, 120195), MW-9 (04/16/1992, 120196), Units. Includes rows for METHODOLOGY (METHOD 601), ANALYSIS (DATE ANALYZED, DILUTION FACTOR), and SURROGATE RESULTS (1,4-Difluorobenzene, 1,4-Dichlorobutane).



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2140

Date: 05/07/1992
Page: 4

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-10 (04/16/1992, 120197**), MW-11 (04/16/1992, 120198**), Units. Rows include TPH (Gas/BTXE, Liquid) with sub-rows for Method 5030 and Method 8020, and Method 3510.

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.

*** Note: This sample was originally analyzed for PETROLEUM HYDROCARBONS as gasoline/btxe on 04-30-92 at a 1:1 dilution and reanalyzed at other dilutions to achieve a result within linear range of the instrument. The result from both dates are comparable.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2140

Date: 05/07/1992

Page: 5

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-10 (04/16/1992, 120197), MW-11 (04/16/1992, 120198), 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: 92.2140

Date: 05/07/1992

Page: 6

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-3 (04/16/1992, 120199**), MW-4 (04/16/1992, 120200**), Units. Rows include TPH (Gas/BTXE, Liquid), Benzene, Ethylbenzene, Toluene, Xylenes (Total), Bromofluorobenzene, Diesel, and Motor Oil.

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.



NET Pacific, Inc

Client No: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2140

Date: 05/07/1992
Page: 7

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-3 (04/16/1992, 120199), MW-4 (04/16/1992, 120200), 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: 92.2140

Date: 05/07/1992

Page: 8

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Table with columns: Parameter, Method, Reporting Limit, MW-7 (04/16/1992, 120201**), MW-10 Dup (04/16/1992, 120202**), Units. Rows include TPH (Gas/BTXE, Liquid), Benzene, Ethylbenzene, Toluene, Xylenes (Total), Bromofluorobenzene, as Diesel, and as Motor Oil.

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.

*** Note: This sample was originally analyzed for PETROLEUM HYDROCARBONS as gasoline/btxe on 04-30-92 at a 1:1 dilution and reanalyzed at other dilutions to achieve a result within linear range of the instrument. The result from both dates are comparable.



NET Pacific, Inc

Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2
Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	MW-7	MW-10 Dup	Units
			04/16/1992 120201	04/16/1992 120202	
METHOD 601 (GC,Liquid)					
DATE ANALYZED			04-30-92	04-30-92	
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	3.2	20	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	0.5	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		99	185	% Rec.
1,4-Dichlorobutane	601		78	95	% Rec.



NET Pacific, Inc

Client No: 70700
 Client Name: Toxic Technology Services
 NET Job No: 92.2140

Date: 05/07/1992

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Ref: Durham - 2nd Quarterly Monitoring, Proj. No. 92-2

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verif Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Diesel	0.05	mg/L	106	ND	64	72	12
Motor Oil	0.5	mg/L	105	ND	N/A	N/A	N/A
Gasoline	0.05	mg/L	114	ND	103	92	11
Benzene	0.5	ug/L	90	ND	95	95	< 1
Toluene	0.5	ug/L	91	ND	96	96	< 1

COMMENT: Blank Results were ND on other analytes tested.

Gasoline	0.05	mg/L	106	ND	104	101	3.5
Benzene	0.5	ug/L	90	ND	99	98	< 1
Toluene	0.5	ug/L	91	ND	97	96	1.6

COMMENT: Blank Results were ND on other analytes tested.

Gasoline	0.05	mg/L	96	ND	95	97	2.1
Benzene	0.5	ug/L	88	ND	92	93	< 1
Toluene	0.5	ug/L	89	ND	95	95	< 1

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
Chlorobenzene	0.4	ug/L	100	ND	92	91	1.1
1,1-Dichloroethene	0.4	ug/L	100	ND	128	123	4.0
Trichloroethene	0.4	ug/L	100	ND	89	87	2.3

COMMENT: Blank Results were ND on other analytes tested.



NET Pacific, Inc

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.



NET Pacific, Inc

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, $100 \frac{|\text{Value 1} - \text{Value 2}|}{\text{mean value}}$.
- 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

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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

5777

PROJ. NO. **92-2**
 PROJECT NAME **Durham - 2nd Q Monitoring**
 SAMPLERS (Signature) **Lisa D. Plos**

NO. OF CONTAINERS	TPH-G	TPH-D	BTEX	COI
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X

To Box 375
 Rodeo, CA 94572
 PO# 92-22Q
 REMARKS
 Invoice & Report to
 Lisa Plos

STA. NO	DATE	TIME	COMP.	GRAB	STATION LOCATION
MW-8	4/16/92			X	/
MW-9				X	
MW-10				X	
MW-11				X	
MW-3				X	
MW-4				X	
MW-7				X	
MW-10 Dup	4/16/92			X	

5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	
5	X	X	X	X	

run Dup as additional sample
 please

Seals intact. AL.
 LMM 0081
 JUSTODY SEALED 4/16/92

Relinquished by: (Signature)
Lisa Plos

Date / Time
 4/16/92 5:00 PM

Received by: (Signature)
Mike Tavares

Relinquished by: (Signature)
Mike Tavares

Date / Time
 4/16/92 1:00

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)
A Lopez

Date / Time
 4/17/92 11:00

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: 05/07/1992
NET Client Acct. No: 70700
NET Pacific Job No: 92.2162
Received: 04/20/1992

Client Reference Information

Durham, 2nd Quarterly, Project No. 92-1

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 Skarack
Laboratory Manager

Enclosure(s)



Client Acct: 70700
 Client Name: Toxic Technology Services
 NET Job No: 92.2162

Date: 05/07/1992
 Page: 2

NET Pacific, Inc

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: MW-1
 Date Taken: 04/17/1992
 Time Taken:
 LAB Job No: (-120304**)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTEXE,Liquid)			--	
METHOD 5030 (GC,FID)				
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			100	
as Gasoline	5030	0.05	33	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			100	
Benzene	8020	0.5	8,900	ug/L
Ethylbenzene	8020	0.5	1,200	ug/L
Toluene	8020	0.5	3,500	ug/L
Xylenes (Total)	8020	0.5	3,700	ug/L
SURROGATE RESULTS			--	
Bromofluorobenzene	5030		112	% Rec.
METHOD 3510 (GC,FID)				
DILUTION FACTOR*			10	
DATE EXTRACTED			04-24-92	
DATE ANALYZED			05-01-92	
as Diesel	3510	0.05	11	mg/L
as Motor Oil	3510	0.5	ND	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.



Client Acct: 70700
 Client Name: Toxic Technology Services
 NET Job No: 92.2162

Date: 05/07/1992
 Page: 3

NET Pacific, Inc

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: MW-1
 Date Taken: 04/17/1992
 Time Taken:
 LAB Job No: (-120304)

Parameter	Method	Reporting Limit	Results	Units
METHOD 601 (GC,Liquid)				
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			5	
Bromodichloromethane	601	0.4	ND	ug/L
Bromoform	601	0.4	ND	ug/L
Bromomethane	601	0.4	ND	ug/L
Carbon tetrachloride	601	0.4	ND	ug/L
Chlorobenzene	601	0.4	ND	ug/L
Chloroethane	601	0.4	ND	ug/L
2-Chloroethylvinyl ether	601	1.0	ND	ug/L
Chloroform	601	0.4	ND	ug/L
Chloromethane	601	0.4	ND	ug/L
Dibromochloromethane	601	0.4	ND	ug/L
1,2-Dichlorobenzene	601	0.4	ND	ug/L
1,3-Dichlorobenzene	601	0.4	ND	ug/L
1,4-Dichlorobenzene	601	0.4	ND	ug/L
Dichlorodifluoromethane	601	0.4	ND	ug/L
1,1-Dichloroethane	601	0.4	ND	ug/L
1,2-Dichloroethane	601	0.4	118	ug/L
1,1-Dichloroethene	601	0.4	ND	ug/L
trans-1,2-Dichloroethene	601	0.4	ND	ug/L
1,2-Dichloropropane	601	0.4	ND	ug/L
cis-1,3-Dichloropropene	601	0.4	ND	ug/L
trans-1,3-Dichloropropene	601	0.4	ND	ug/L
Methylene chloride	601	10	ND	ug/L
1,1,2,2-Tetrachloroethane	601	0.4	ND	ug/L
Tetrachloroethene	601	0.4	ND	ug/L
1,1,1-Trichloroethane	601	0.4	ND	ug/L
1,1,2-Trichloroethane	601	0.4	ND	ug/L
Trichloroethene	601	0.4	ND	ug/L
Trichlorofluoromethane	601	0.4	ND	ug/L
Vinyl chloride	601	0.4	ND	ug/L
SURROGATE RESULTS			--	
2-Chlorotoluene	601		71	% Rec.



NET Pacific, Inc

Client Acct: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2162

Date: 05/07/1992
Page: 4

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: MW-5
Date Taken: 04/17/1992
Time Taken:
LAB Job No: (-120305**)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)			--	
METHOD 5030 (GC,FID)			05-01-92	
DATE ANALYZED			200	
DILUTION FACTOR*			23	mg/L
as Gasoline	5030	0.05		
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			200	
Benzene	8020	0.5	8,600	ug/L
Ethylbenzene	8020	0.5	ND	ug/L
Toluene	8020	0.5	2,600	ug/L
Xylenes (Total)	8020	0.5	1,900	ug/L
SURROGATE RESULTS			--	
Bromofluorobenzene	5030		110	% Rec.
METHOD 3510 (GC,FID)			10	
DILUTION FACTOR*			04-24-92	
DATE EXTRACTED			05-01-92	
DATE ANALYZED				
as Diesel	3510	0.05	6.4	mg/L
as Motor Oil	3510	0.5	ND	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.



Client Acct: 70700
 Client Name: Toxic Technology Services
 NET Job No: 92.2162

Date: 05/07/1992
 Page: 5

NET Pacific, Inc

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: MW-5
 Date Taken: 04/17/1992
 Time Taken:
 LAB Job No: (-120305)

Parameter	Method	Reporting Limit	Results	Units
METHOD 601 (GC,Liquid)				
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			10	
Bromodichloromethane	601	0.4	ND	ug/L
Bromoform	601	0.4	ND	ug/L
Bromomethane	601	0.4	ND	ug/L
Carbon tetrachloride	601	0.4	ND	ug/L
Chlorobenzene	601	0.4	ND	ug/L
Chloroethane	601	0.4	ND	ug/L
2-Chloroethylvinyl ether	601	1.0	ND	ug/L
Chloroform	601	0.4	ND	ug/L
Chloromethane	601	0.4	ND	ug/L
Dibromochloromethane	601	0.4	ND	ug/L
1,2-Dichlorobenzene	601	0.4	ND	ug/L
1,3-Dichlorobenzene	601	0.4	ND	ug/L
1,4-Dichlorobenzene	601	0.4	ND	ug/L
Dichlorodifluoromethane	601	0.4	ND	ug/L
1,1-Dichloroethane	601	0.4	ND	ug/L
1,2-Dichloroethane	601	0.4	125	ug/L
1,1-Dichloroethene	601	0.4	ND	ug/L
trans-1,2-Dichloroethene	601	0.4	ND	ug/L
1,2-Dichloropropane	601	0.4	ND	ug/L
cis-1,3-Dichloropropene	601	0.4	ND	ug/L
trans-1,3-Dichloropropene	601	0.4	ND	ug/L
Methylene chloride	601	10	ND	ug/L
1,1,2,2-Tetrachloroethane	601	0.4	ND	ug/L
Tetrachloroethene	601	0.4	ND	ug/L
1,1,1-Trichloroethane	601	0.4	ND	ug/L
1,1,2-Trichloroethane	601	0.4	ND	ug/L
Trichloroethene	601	0.4	ND	ug/L
Trichlorofluoromethane	601	0.4	ND	ug/L
Vinyl chloride	601	0.4	ND	ug/L
SURROGATE RESULTS				
2-Chlorotoluene	601		82	% Red.



Client Acct: 70700
 Client Name: Toxic Technology Services
 NET Job No: 92.2162

Date: 05/07/1992
 Page: 6

NET Pacific, Inc

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: MW-6
 Date Taken: 04/17/1992
 Time Taken:
 LAB Job No: (-120306**)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)			--	
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			10	
as Gasoline	5030	0.05	7.2	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			10	
Benzene	8020	0.5	340	ug/L
Ethylbenzene	8020	0.5	350	ug/L
Toluene	8020	0.5	460	ug/L
Xylenes (Total)	8020	0.5	920	ug/L
SURROGATE RESULTS			--	
Bromofluorobenzene	5030		131	% Rec.
METHOD 3510 (GC,FID)				
DILUTION FACTOR*			1	
DATE EXTRACTED			04-24-92	
DATE ANALYZED			05-01-92	
as Diesel	3510	0.05	1.8	mg/L
as Motor Oil	3510	0.5	ND	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than Diesel.



NET Pacific, Inc

Client Acct: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2162

Date: 05/07/1992
Page: 7

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: MW-6
Date Taken: 04/17/1992
Time Taken:
LAB Job No: (-120306)

Table with 5 columns: Parameter, Method, Reporting Limit, Results, Units. Contains a list of chemical compounds and their analysis results, including a section for SURROGATE RESULTS.



NET Pacific, Inc

Client Acct: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2162

Date: 05/07/1992
Page: 8

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: B-1
Date Taken: 04/17/1992
Time Taken:
LAB Job No: (-120307)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)			--	
METHOD 5030 (GC,FID)			05-01-92	
DATE ANALYZED			1	
DILUTION FACTOR*			1	
as Gasoline	5030	0.05	ND	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			1	
Benzene	8020	0.5	ND	ug/L
Ethylbenzene	8020	0.5	ND	ug/L
Toluene	8020	0.5	ND	ug/L
Xylenes (Total)	8020	0.5	ND	ug/L
SURROGATE RESULTS			--	
Bromofluorobenzene	5030		110	% Red.
METHOD 3510 (GC,FID)				
DILUTION FACTOR*			1	
DATE EXTRACTED			04-24-92	
DATE ANALYZED			05-01-92	
as Diesel	3510	0.05	ND	mg/L
as Motor Oil	3510	0.5	ND	mg/L



Client Acct: 70700
 Client Name: Toxic Technology Services
 NET Job No: 92.2162

Date: 05/07/1992
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NET Pacific, Inc

Ref: Durham, 2nd Quarterly, Project No. 92-1

SAMPLE DESCRIPTION: B-1
 Date Taken: 04/17/1992
 Time Taken:
 LAB Job No: (-120307)

Parameter	Method	Reporting Limit	Results	Unit#
METHOD 601 (GC,Liquid)				
DATE ANALYZED			05-01-92	
DILUTION FACTOR*			1	
Bromodichloromethane	601	0.4	1.2	ug/L
Bromoform	601	0.4	ND	ug/L
Bromomethane	601	0.4	ND	ug/L
Carbon tetrachloride	601	0.4	ND	ug/L
Chlorobenzene	601	0.4	ND	ug/L
Chloroethane	601	0.4	ND	ug/L
2-Chloroethylvinyl ether	601	1.0	ND	ug/L
Chloroform	601	0.4	14	ug/L
Chloromethane	601	0.4	ND	ug/L
Dibromochloromethane	601	0.4	ND	ug/L
1,2-Dichlorobenzene	601	0.4	ND	ug/L
1,3-Dichlorobenzene	601	0.4	ND	ug/L
1,4-Dichlorobenzene	601	0.4	ND	ug/L
Dichlorodifluoromethane	601	0.4	ND	ug/L
1,1-Dichloroethane	601	0.4	ND	ug/L
1,2-Dichloroethane	601	0.4	ND	ug/L
1,1-Dichloroethene	601	0.4	ND	ug/L
trans-1,2-Dichloroethene	601	0.4	ND	ug/L
1,2-Dichloropropane	601	0.4	ND	ug/L
cis-1,3-Dichloropropene	601	0.4	ND	ug/L
trans-1,3-Dichloropropene	601	0.4	ND	ug/L
Methylene chloride	601	10	ND	ug/L
1,1,2,2-Tetrachloroethane	601	0.4	ND	ug/L
Tetrachloroethene	601	0.4	ND	ug/L
1,1,1-Trichloroethane	601	0.4	ND	ug/L
1,1,2-Trichloroethane	601	0.4	ND	ug/L
Trichloroethene	601	0.4	ND	ug/L
Trichlorofluoromethane	601	0.4	ND	ug/L
Vinyl chloride	601	0.4	ND	ug/L
SURROGATE RESULTS			--	
2-Chlorotoluene	601		85	% Rec.



NET Pacific, Inc

Client Acct: 70700
Client Name: Toxic Technology Services
NET Job No: 92.2162

Date: 05/07/1992
Page: 10

Ref: Durham, 2nd Quarterly, Project No. 92-1

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Diesel	0.05	mg/L	116	ND	91	83	10
Motor Oil	0.5	mg/L	100	ND	N/A	N/A	N/A
Gasoline	0.05	mg/L	86	ND	102	86	17
Benzene	0.5	ug/L	94	ND	126	106	17
Toluene	0.5	ug/L	94	ND	117	105	11

COMMENT: Blank Results were ND on other analytes tested.

Gasoline	0.05	mg/L	105	ND	105	97	7.9
Benzene	0.5	ug/L	95	ND	100	91	9.1
Toluene	0.5	ug/L	100	ND	100	95	5.5

COMMENT: Blank Results were ND on other analytes tested.

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Chlorobenzene	0.4	ug/L	N/A	ND	88	81	9.0
1,1-Dichloroethene	0.4	ug/L	N/A	ND	99	98	4.1
Trichloroethene	0.4	ug/L	N/A	ND	100	101	< 1

COMMENT: Blank Results were ND on other analytes tested.



NET Pacific, Inc

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 501 through 525: 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.

435 Tesconi Circle, Santa Rosa, CA 95401

CHAIN OF CUSTODY RECORD

Toxic Tech

5795

PROJ NO.		PROJECT NAME				NO. OF CONTAINERS	<div style="display: flex; justify-content: space-around;"> COI TPH-G BTEX TPH-D </div> <small>with material</small>				REMARKS
SAMPLERS (Signature)											
STA. NO	DATE	TIME	COMP.	GRAB	STATION LOCATION						
92-1	Durham 2Q sampling									TO # 92-12Q Report & invoice to Toxic Technology Services	
<i>Joe Plot</i>											
MW-1	4/17			X		5	X	X	X	X	Normal TA Be careful of sampling date & holding times
MW-5	|					5	X	X	X	X	
MW-6	|					5	X	X	X	X	
B-1	✓			✓		5	X	X	X	X	

Relinquished by: (Signature) <i>Joe Plot</i>	Date / Time 4/20/92 10:00	Received by: (Signature) <i>R. Gall</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature) <i>R. Gall</i>	Date / Time 4/20/92 12:10	Received for Laboratory by: (Signature) <i>J. Lopez</i>	Date / Time 4-20-92 12:10	Remarks	