CDM Camp Dresser & McKee

Second Semi-Annual 1999 Groundwater Monitoring Report

Union Pacific Railroad
Trailer-On-Flat-Car Site
1717 Middle Harbor Road
Oakland, California

March 2000

PREPARED FOR:
Port of Oakland
530 Water Street
Oakland, California 94607

PREPARED BY:
CDM/FEJ Joint Association
1440 Broadway, Suite 400
Oakland, CA 94612

CDM Project No. 10605-25291-GW.UPTOFC

Report

CDM Camp Dresser & McKee Inc.

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March 20, 2000

Mr. John Prall
Port of Oakland
Environmental Health and Safety Compliance Department
530 Water Street
Oakland, CA 94607

Subject: Second Semi-Annual 1999 Groundwater Monitoring Report
Trailer-On-Flat-Car Railyard
Union Pacific Railroad
1717 Middle Harbor Road, Oakland, California
CDM Project No. 10605-25291-GW.UPTOFC

Dear Mr. Prall:

The Camp Dresser & McKee Inc./F.E. Jordan Joint Association (CDM/FEJ) is pleased present the enclosed Second Semi-Annual 1999 Groundwater Monitoring Report for the Union Pacific Railroad Trailer-on-Flat-Car (TOFC) Railyard located at 1717 Middle Harbor Road in Oakland, California. As required by written directive #502-51231 from the East Bay Municipal Utility Department (EBMUD) and the Alameda County Department of Environmental Health (ACDEH), this report presents the operation, maintenance and monitoring (OM&M) records of the hydrocarbon recovery and groundwater treatment system (treatment system) and the results of the August 1999 groundwater monitoring event.

Please contact the undersign at (925) 933-2900 if you have any questions or comments regarding the report.

Very truly yours,

CAMP DRESSER & McKEE INC.

Hoa Voscott
Task Manager

Michael G. Gray, C.E.G.
Senior Project Manager

Enclosure

Pravil Sharma (925) 296 4920

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Report

Contents

List of Figures

List of Tables

Executive Summary

This second semi-annual 1999 groundwater monitoring report presents the findings of the August and November 1999 sampling events conducted at the Union Pacific Railroad Trailer-on-Flat-Car (TOFC) railyard located at 1717 Middle Harbor Road in Oakland, California. This report was prepared by the Camp Dresser & McKee Inc./F.E. Jordan Joint Association (CDM/FEJ) on behalf of the Port of Oakland (Port) in accordance with the East Bay Municipal Utility District (EBMUD) permit number 502-51231. In addition, the report fulfills the requirements cited in the September 21, 1994 letter prepared by the Alameda County Department of Environmental Health (ACDEH). The objectives of the monitoring program are to evaluate changes in the distribution of petroleum hydrocarbons in groundwater and to document the operation, maintenance, and monitoring of the hydrocarbon recovery system.

On December 24, 1998, the Port assumed responsibility for the groundwater monitoring at the Union Pacific Motor Freight (UPMF) and TOFC railyards. On behalf of the Port, CDM/FEJ has performed the groundwater monitoring at the two railyards since February 1999. Work performed at the railyards was previously performed by Environmental Decision Group, Inc. (formerly Laidlaw Consulting Services) and their subcontractor, Burns & McDonnell, on behalf of Union Pacific Railroad (UPRR). Groundwater monitoring results for the UPMF railyard is presented in a separate semi-annual report.

In May 1992, UPRR began operation of the treatment system to recover light non-aqueous phase liquid (LNAPL) petroleum hydrocarbons (diesel) identified during previous investigations. In March 21, 1997, ACDEH approved the Additional Remediation Work Plan to expand the recovery system from three to five pumping wells. In addition, the ACDEH letter approved the semi-annual groundwater monitoring schedule on an annual basis in February and August. Presently, 17 groundwater wells are sampled at the TOFC railyard and are used to interpret the lateral extent of petroleum hydrocarbons in the groundwater.

On August 12, 1999, groundwater samples were collected from six of seven semi-annually monitored wells. Well OMW-2 was not sampled due to train cars that blocked access to the well. The remaining 10 monitoring well either contained product or are used as recovery wells. The groundwater samples were analyzed for total petroleum hydrocarbons as diesel (TPH-D) and for purgeable aromatic hydrocarbons. In addition, methyl tertiary-butyl ether (MTBE) was analyzed during the August 1999 sampling event.

Concentrations of petroleum hydrocarbons and purgeable aromatics in the groundwater samples collected from the monitoring wells were comparable to those obtained from previous sampling events. In most of the wells, TPH-D concentrations continue to be an order of magnitude less from samples collected during and before 1998. MTBE concentrations, analyzed during the August 1999 sampling event, were detected in groundwater and trip blank samples above laboratory detection limits.

Per CDM/FEJ's request, samples OMW-10, OMW-6 and the trip blank were analyzed by mass spectroscopy to confirm the MTBE results obtained by gas chromatography. Although the additional analyses were performed past the sample holding time, the mass spectroscopy data did not confirm the presence of MTBE in these samples. Future analysis of the groundwater samples (in February 2000) for MTBE will verify this detection.

Groundwater flow beneath the TOFC and UPMF sites is southeast toward Oakland Inner Harbor and is consistent with historical groundwater flow direction interpretations.

Section 1
Introduction

This report presents the results of the semi-annual monitoring program conducted at the Union Pacific Railroad trailer-on-flat-car (TOFC) railyard located at 1717 Middle Harbor Road in Oakland, California (Figure 1-1). This report presents the monitoring program results for the period from July 1, 1999 through November 30, 1999 and documents operation, maintenance and monitoring (OM&M) of the hydrocarbon recovery and groundwater treatment system (treatment system) and the August and November 1999 groundwater monitoring event. The objectives of the monitoring program are to evaluate changes in the distribution of petroleum hydrocarbons in groundwater, if any, and to document the OM&M of the treatment system.

This report was prepared by the Camp Dresser & McKee Inc./F.E. Jordan Joint Association (CDM/FEJ) on behalf of the Port of Oakland (Port) in accordance with the East Bay Municipal Utility District (EBMUD) permit number 502-51231 and in fulfillment of the requirements cited in the September 21, 1994 letter prepared by the Alameda County Department of Environmental Health (ACDEH).

In May 1992, Union Pacific Railroad (UPRR) began operation of the treatment system to recover light non-aqueous phase liquid (LNAPL) petroleum hydrocarbons (diesel) identified during previous investigations (Laidlaw, 1991a). The treatment system design was presented in The Preliminary Design Report and the as-built information was later presented in The Hydrocarbon Recovery Systems, As-Built Construction Report (Laidlaw, 1991b and Laidlaw, 1992a, respectively). On March 21, 1997, ACDEH approved the Additional Remediation Work Plan to expand the recovery of the treatment system from three pumping wells (ORW-1 through ORW-3) to five pumping wells (addition of OMW-9 and OP-4). In addition, the ACDEH letter approved the semi-annual groundwater monitoring schedule of February and August.

On December 24, 1998, the Port assumed responsibility for the groundwater monitoring at the UPRR Motor Freight (UPMF) and TOFC railyards and for OM&M of the two groundwater treatment systems at the railyards. On behalf of the Port, CDM/FEJ has performed the groundwater monitoring at the TOFC and UPMF railyards since February 1999. Work performed at the UPMF and TOFC railyards was previously performed by Environmental Decision Group, Inc. (formerly Laidlaw Consulting Services) and their subcontractor, Burns & McDonnell, on behalf of UPRR. Groundwater monitoring results for the UPMF railyard was presented in a separate report, dated December 1999 (CDM/FEJ, 1999).

The semi-annual monitoring program consists of the results of fluid-level measurements, analytical results for groundwater samples collected by CDM/FEJ in February 1999 and the OM&M activities for the treatment system from July 1, 1999 to November 30, 1999. The purpose of the groundwater monitoring program is to monitor the hydraulic flow direction and the changes in the concentration of

dissolved petroleum hydrocarbons at the TOFC railyard while the OM&M program documents the volume of treated groundwater and recovered product. This report includes a discussion of the background information about the railyard, field and analytical results for the semi-annual period, and summary of findings.

1.1 Background

The TOFC railyard is located on the northeastern portion of UPRR, which is adjacent to the Oakland Inner Harbor or Oakland Estuary (Figures 1-1 and 1-2). The area surrounding the TOFC railyard is used for light to heavy commerce. Residential areas are located approximately one-half mile north of the railyard and across the Oakland Estuary one-half mile south of the railyard.

Previous investigations indicated the presence of LNAPL petroleum hydrocarbons (diesel) floating on groundwater near the fueling area. In May 1992, the treatment system was installed to remove the free phase diesel from extracted groundwater.

Downgradient and approximately 700 feet southeast of the TOFC railyard is the UPMF railyard. Previous investigations have defined the extent of petroleum hydrocarbons in the soil and groundwater (Laidlaw, 1993). Groundwater monitoring has been performed at UPMF railyard since 1993. On the basis of these investigations and subsequent monitoring, petroleum hydrocarbons from the TOFC railyard do not appear to have migrated to the UPMF railyard. The ACDEH treats the UPMF railyard as a separate project and the UPMF railyard's monitoring program results were discussed in a separate report (CDM/FEJ, 1999). However, the water level data collected from the UPMF railyard in conjunction with the TOFC railyard are used to contour the local groundwater elevations.

1.2 Report Organization

This report consists of four sections. This Section 1, Introduction, provides the regulatory framework for the activities at the TOFC railyard and background information. Section 2, Completed Activities, documents the OM&M activities, results of fluid level measurements, and summarizes the groundwater flow direction and quality at the site. Section 3, Summary of Findings, presents the results of the most recent monitoring event. Section 4, References, lists the references cited in this report. Following Section 4, are the Figures, Tables, and Appendices A through C. Appendix A presents the OM&M checklist, Appendix B presents the monitoring well purge and sampling forms, and Appendix C presents the analytical laboratory reports and chain of custody records.

Section 2
Completed Activities

The major activities completed at the TOFC railyard during this reporting period were OM&M of the treatment system, and groundwater elevation measurement and sampling. Work performed during the monitoring events followed the standard operating procedures previously approved by the ACDEH (Laidlaw, 1994). The scope of work performed during this semi-annual monitoring period and consisted of the following:

- Perform operation, maintenance, and monitoring of the hydrocarbon recovery and groundwater treatment system on a weekly basis;
- Measure fluid-levels in all of the TOFC groundwater monitoring wells on a quarterly basis in August and November 1999;
- Purge and sample six groundwater monitoring wells on a semi-annual basis where product was not observed in August 1999;
- Analyze groundwater samples for total petroleum hydrocarbons and volatile aromatic constituents semi-annually and for methyl tertiary-butyl ether (MTBE) in August 1999; and
- Determine the local groundwater flow direction and hydraulic gradient based on the calculated potentiometric surface elevations.

2.1 OM&M of Treatment System

The treatment system at TOFC railyard consist of five recovery wells (ORW-1, ORW-2, ORW-3, OMW-9, and OP-4), a diesel/water separator, a recovered diesel storage tank, air compressor, and an activated carbon treatment system. The recovery of diesel fuel is accomplished by depressing the groundwater table using total-fluid pumps to recover diesel and groundwater, creating a cone of depression surrounding each recovery well. The recovered groundwater is treated via the diesel/water separator and then through the activated carbon treatment system before discharge to the EBMUD sanitary sewer under the permit number 502-51231. The locations of the five recovery wells (ORW-1, ORW-2, ORW-3, OMW-9, and OP-4) and the water treatment facility are indicated on Figure 1-2.

2.1.1 System Operation

During this reporting period, the groundwater recovery and treatment system treated approximately 226,820 gallons of groundwater. Since start-up, May 12, 1992 through November 30, 1999, the system has recovered approximately 7,348,990 gallons of water (see Table 2-1) and 11,200 gallons of diesel (see Table 2-2).

The system has operated continuously since being restarted on June 22, 1998 with minor down time due to required maintenance. It was down for approximately 12 days in July when the oil tank reached its high level, resulting system shutdown. The system was restarted following removal of the oil on July 30, 1999. In addition, the system was down eight days in August 1999 until the air compressor motor was replaced on August 14, 1999.

The combined average pumping rates for ORW-1, ORW-2, ORW-3, OMW-9, and OP-4 was approximately 1.2 gallons per minute (gpm) and is representative of the average cumulative pumping rate for the reporting period.

2.1.2 System Maintenance

System maintenance is performed on a weekly basis and consists of backwashing the carbon vessels, changing particulate filters, and checking the status of recovery pumps and chlorine feed system. In addition, operational readings (cumulative flow, hydrocarbon storage volume, and pressure drop across the particulate filters) are collected during each railyard visit. Copies of the completed treatment system OM&M checklist for each week are included in Appendix A.

2.1.3 System Monitoring

System monitoring is performed on a monthly basis during a scheduled maintenance visit. Recovered groundwater samples are collected from the sampling ports at the treatment system periodically to assess the performance of the system and to compare the concentrations of the discharge with limits established by the EBMUD.

The samples are collected from sampling ports located before (influent), between (midfluent), and after (effluent) the two granular activated carbon vessels at the following frequencies.

- On a monthly basis, water samples are collected from the midfluent stream. These samples are analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020.

- Influent and effluent water samples are collected on a quarterly basis (January, April, July, and October). These samples are analyzed for BTEX using EPA Method 8020 and total petroleum hydrocarbons as diesel (TPH-D) using EPA Method 8015 modified with silica gel cleanup.

2.1.4 System Monitoring Results

Influent and effluent samples are collected quarterly and were obtained on July 7, 1999 and October 8, 1999. For the influent samples, TPH-D, benzene, ethylbenzene, and total xylenes were identified above laboratory detection limits (see Table 2-3). Toluene was not detected above laboratory detection limit. For the effluent samples, no compounds were detected above laboratory detection limits and the EBMUD discharge limits (see Table 2-4).

Midfluent samples are collected monthly and were obtained on July 7, 1999, August 24, 1999, September 3, 1999, October 8, 1999, and November 12, 1999. During this semi-annual period, no compounds were detected above laboratory detection limits (see Table 2-5).

2.1.5 System Activated Carbon Usage

Two 2,000-pound granular activated carbon vessels are connected in series to remove organic compounds dissolved in the recovered groundwater. The second vessel is in-place to reduce a potential discharge to the sewer system in the event of breakthrough of the first carbon vessel.

Table 2-1 presents the estimated amount of spent carbon (adsorption sites loaded with contaminants) and the expected life of the first carbon vessel. The methodologies for performing calculations were originally presented in the Hydrocarbon Recovery System Quarterly Monitoring Report, Second Quarter, 1992 (Laidlaw, 1992b). Based on the calculations, there is approximately 314 days left and the projected breakthrough date is in October 2000. CDM/FEJ will evaluate the need to replace the first carbon vessel in June 2000. The second carbon vessel was replaced on August 28, 1998.

2.2 Groundwater Monitoring

2.2.1 Field Activities

August 1999 Monitoring Event

On August 12, 1999, CDM/FEJ measured fluid levels (combined water and diesel) in all 17 monitoring wells at the TOFC railyard. In addition, fluid levels were measured from eight of the ten wells located at the UPMF railyard. CDM/FEJ's fluid level measurements for the TOFC and UPMF railyards are presented in Tables 2-6 and 2-7, respectively.

On August 13, 1999, CDM/FEJ purged and collected groundwater samples from six of the 17 monitoring wells at the TOFC railyard. Well OMW-2 was not sampled due to train cars that blocked access to the well. In addition, a blind duplicate sample was collected from well OMW-10. This duplicate sample was labeled as OMW-11. Copies of CDM/FEJ's monitoring well purge and sampling forms for the six wells are presented in Appendix B.

Prior to sampling, CDM/FEJ purged a minimum of three well volumes from each well using a new, polypropylene disposable bailer. Groundwater samples were collected with the same disposable bailer following the removal of three well volumes of water. Samples were then decanted into the appropriate laboratory supplied bottles. Specifically, samples were contained in three 40-milliliter glass vials preserved with hydrochloric acid (with no headspace) and one 1-liter amber glass bottle. All samples were transported in a cooler chilled with ice and submitted under chain-of-custody protocol to Curtis & Tompkins, Ltd. (Port designated laboratory), a state-certified analytical laboratory, in Berkeley, California.

Groundwater samples were analyzed for the following:

- TPH-D by EPA Method 8015 Modified with silica gel cleanup;
- BTEX by EPA Method 8020; and
- MTBE by EPA Method 8020.

In accordance with the ACEHS letter to the Port, dated May 28, 1999, MTBE testing was performed during the August 1999 sampling event. According to ACEHS, "the State Water Resources Control Board will not allow closure for a petroleum underground storage tank site unless the site has been tested for MTBE".

November 1999 Monitoring Event
On November 11, 1999, CDM/FEJ measured fluid levels in all 17 monitoring wells at the railyard. In addition, fluid levels were measured from the 10 wells located at the UPMF railyard. CDM/FEJ's fluid level measurements for the TOFC and UPMF railyards are presented in Tables 2-6 and 2-7. As it was not required by the ACDEH, no groundwater samples were collected at the TOFC railyard.

2.2.2 Results of Fluid Level Measurements

During the August and November 1999 monitoring events, fluid levels were measured from the wells at the TOFC and UPMF railyards and were used in calculating groundwater elevations for each monitoring event. Fluid elevations were calculated by substrating the depth to fluid/ groundwater from the elevation of the top of casing at each location. Groundwater elevations in monitoring wells containing product were corrected by multiplying the specific gravity of (0.84) of diesel by the product thickness and adding this value to the water elevation measurement in the well. The cumulative summaries of fluid level measurement data, including free product thickness, for the TOFC and UPMF railyards are presented in Tables 2-6 and 2-7, respectively.

August 1999 Pontentiometric Surface
A groundwater potentiometric surface map, created with measurements collected from groundwater monitoring wells at the TOFC railyard and from the adjacent UPMF railyard on August 12, 1999, is presented as Figure 2-1. In the region of the TOFC railyard, groundwater flow is generally to the southeast. Pumping activity was discontinued on the TOFC railyard (due to system shutdown) during the fluid level measurements, flattening the water table (compare Figure 2-1 to Figure 2-2). Hydraulic gradient slopes uniformly across the site but steepens notably as groundwater approaches the shoreline near well APL/UP-W2.

November 1999 Pontentiometric Surface
A potentiometric surface map, created with measurements collected from groundwater monitoring wells at the TOFC railyard and from the adjacent UPMF on November 11, 1999, is presented as Figure 2-2. In the region of the TOFC railyard, groundwater flow is generally to the southeast. Pumping activity was active at the

TOFC during the fluid level measurements, creating cones of depression around the recovery wells (compare Figure 2-1 to Figure 2-2). Consistent with the August observations , the groundwater gradient varies across the railyards but generally slopes toward well APL/UP-W2.

2.2.3 Results of Groundwater Analytical Testing

August 1999 Monitoring Event

Dissolved TPH-D was detected in groundwater samples collected from four of the six monitoring wells sampled during the August 1999 monitoring event. TPH-D concentrations ranged from below 50 microgram/liter (µg/l) in wells OMW-1 and OMW-8, up to 1,600 µg/l in well OMW-10. TPH-D concentrations were less or comparable from the previous monitoring event (February 1999).

For the six wells sampled, benzene concentrations ranged from less than 0.5 µg/l in most wells to 16 µg/l in well OMW-10. For toluene, concentrations ranged from less than 0.5 µg/l in most wells to 77 µg/l in well OMW-1. Ethylbenzene concentrations ranged from below 0.5 µg/l in most wells to 1.49 µg/l in well OMW-10. For total xylenes, concentrations ranged from below 0.5 µg/l in most wells to 2.32 µg/l in well OMW-1. The concentrations are also consistent with previous monitoring events.

MTBE concentrations were detected in all of the groundwater samples submitted to Curtis & Tompkins, Ltd. In addition, MTBE was detected in the trip blank sample, which originated from the laboratory. MTBE concentrations ranged from 2.5 µg/l in well OMW-1 to 14 µg/l in duplicate sample from well OMW-10. Per CDM/FEJ's request, samples OMW-10, OMW-6 and the trip blank were analyzed by mass spectroscopy to confirm the MTBE results obtained by gas chromatography. Although the additional analyses were performed past the sample holding time, the mass spectroscopy data did not confirm the presence of MTBE in these samples. Future analysis of the groundwater samples (in February 2000) for MTBE will verify this detection.

Well OMW-10 contained the highest measured dissolved concentrations of TPH-D, benzene, and ethylbenzene. Well OMW-1 had the highest measured toluene and total xylenes concentrations. TPH-D and BTEX concentrations measured during the August 1999 monitoring events are presented as Figure 2-3. Cumulative summary of the analytical data for the TOFC railyard is presented in Table 2-8. Analytical reports and chain of custody forms are included in Appendix C.

2.2.4 Results of Field and Laboratory QA/QC

A duplicate groundwater sample (OMW-11) was collected at well OMW-10 and analyzed for BTEX and MTBE to measure groundwater data reproductively. The duplicate sample showed good correlation with its partner sample, particularly for BTEX. In addition, a trip blank sample was collected during the day of field activities and analyzed for BTEX and MTBE. Laboratory results for the trip blank sample were all below laboratory detection limits for BTEX but had a detection of 3.8 µg/l for

MTBE. Following additional analysis with mass spectroscopy, MTBE in the trip blank sample was below laboratory detection limit.

The maximum holding time for TPH-D, BTEX, and MTBE in water is 14 days from the time of sample collection to time of analysis. According to the analytical reports, all samples were analyzed with gas chromatography within the analytes' respective holding times. However, three samples were analyzed for MTBE confirmation with mass spectroscopy after the holding time. Based on the analytical reports' case narratives, no other analytical problems were encountered during laboratory Quality Assurance/Quality Control (QA/QC) procedures.

Section 3
Summary and Conclusions

Based upon the results of the most recent monitoring events in August and November 1999, presented below are the summary of findings and CDM/FEJ's conclusions:

- The treatment system operated continuously during this semi-annual period with two minor down time events. System sampling indicated that all midfluent and effluent samples were below laboratory detection and EBMUD discharge limits.

- The groundwater flow direction was to the south to southeast during the two monitoring events. This flow direction is consistent with previous groundwater monitoring events. Groundwater flow and gradient are clearly influenced by groundwater pumping activities of the remedial system on the TOFC railyard, except during the August 1999 sampling event when the system was non-operational.

- The dissolved BTEX and TPH concentrations in all wells were consistent with historic concentration ranges. TPH-D concentrations continue to be an order of magnitude less than from samples collected in and before 1998.

- MTBE concentrations were detected in groundwater samples from the monitoring wells and trip blank sample from the laboratory. Future MTBE analysis in February 2000 will either confirm or dispute these detections.

- Historic monitoring results show that residual petroleum contamination in the source area has decreased over time, which suggests that a continued source of contamination is not present.

Section 4
References

CDM/FEJ, 1999. First Semi-Annual 1999 Groundwater Monitoring Report. Camp Dresser & McKee Inc./F.E. Jordan Joint Association (CDM/FEJ), August 2, 1999.

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Laidlaw, 1993. Phase II Site Assessment Report. Laidlaw Environmental Services, October 1993.

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Figures

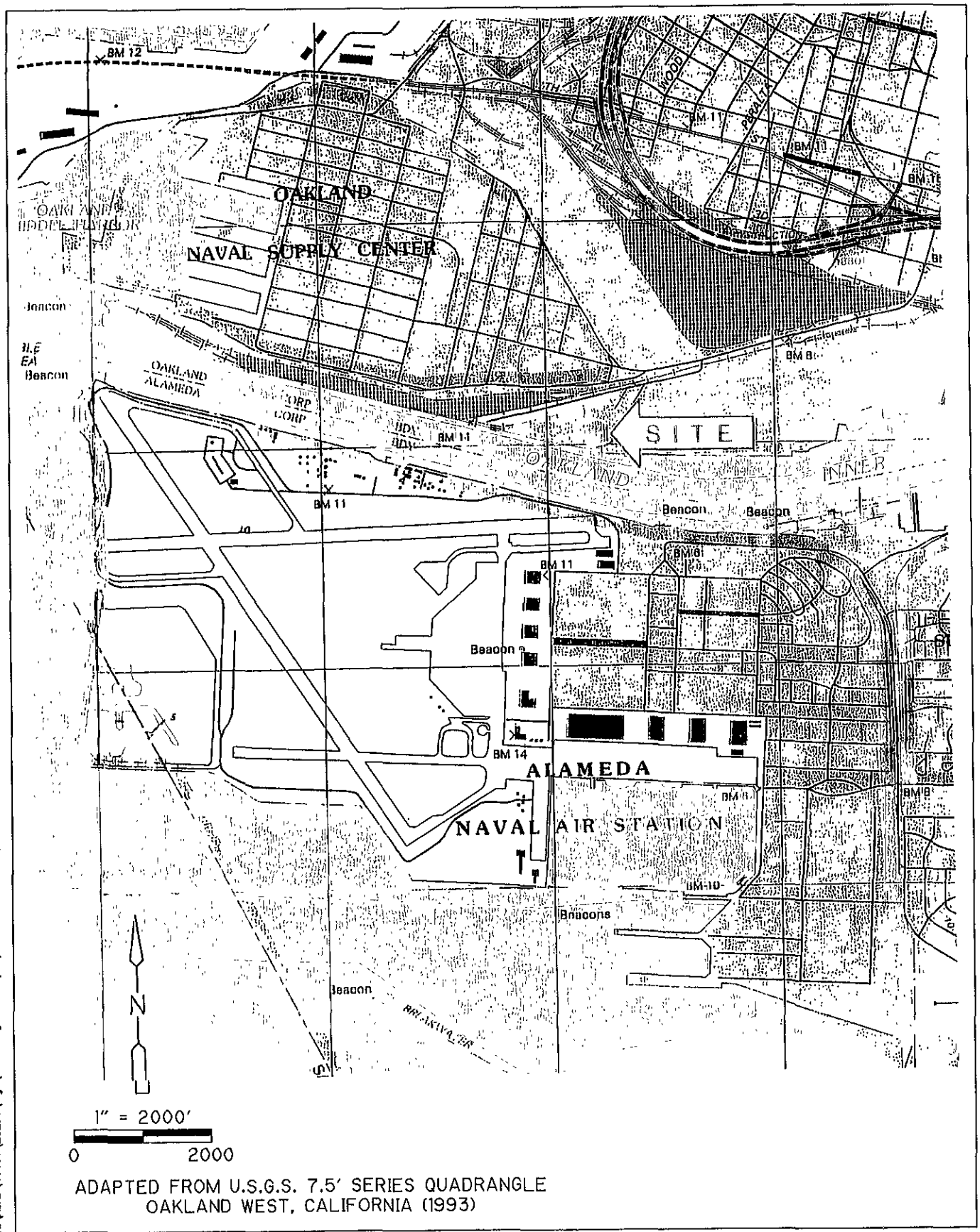

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Figure 1-1

Site Location Map

Second Semi-Annual 1999
Groundwater Monitoring Report - TOFC
Port of Oakland, California

CDM/FEJ Joint Association

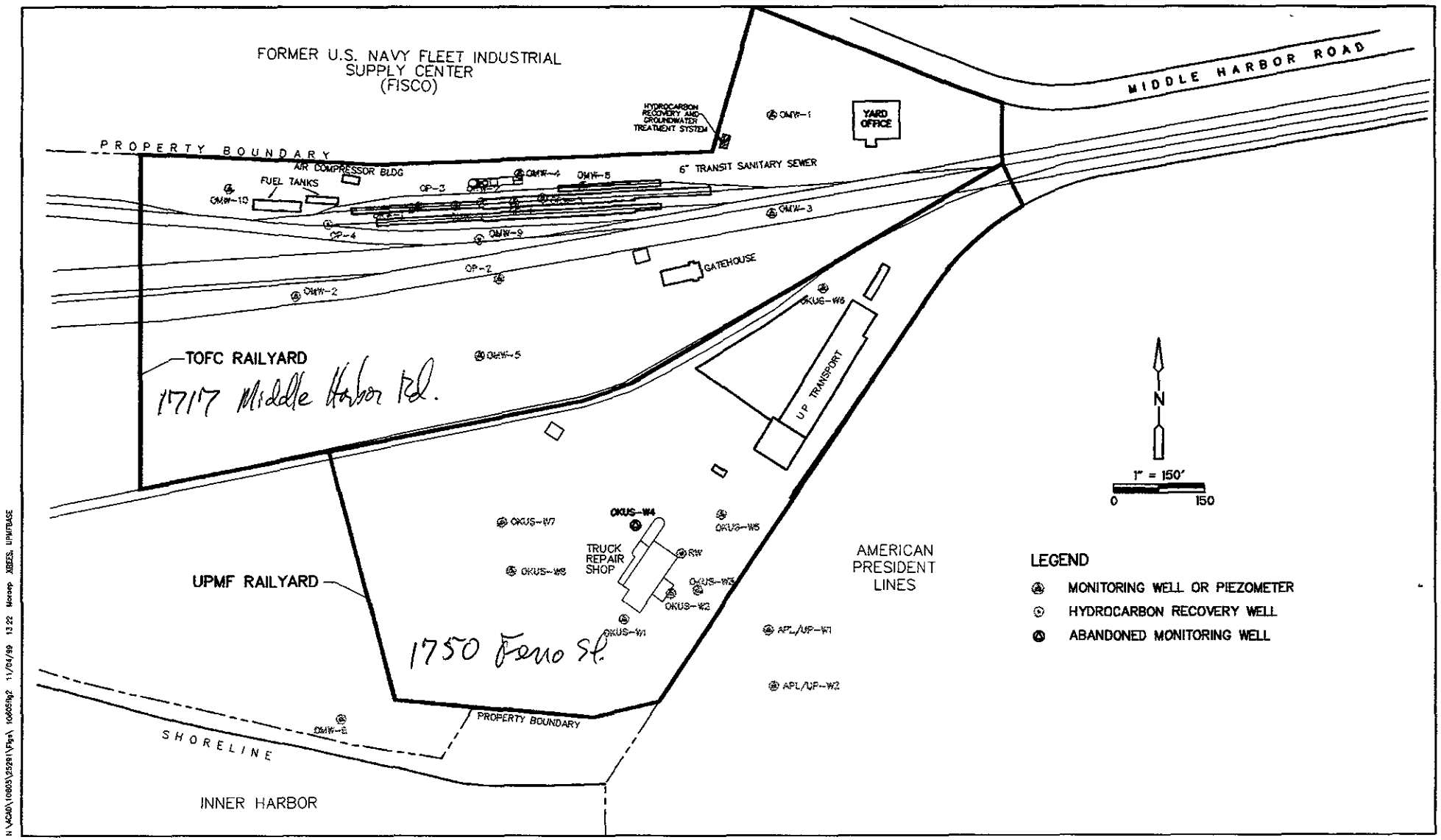

Figure 1-2

Site Map
Second Semi-Annual 1999
Groundwater Monitoring Report - TOFC
Port of Oakland, California

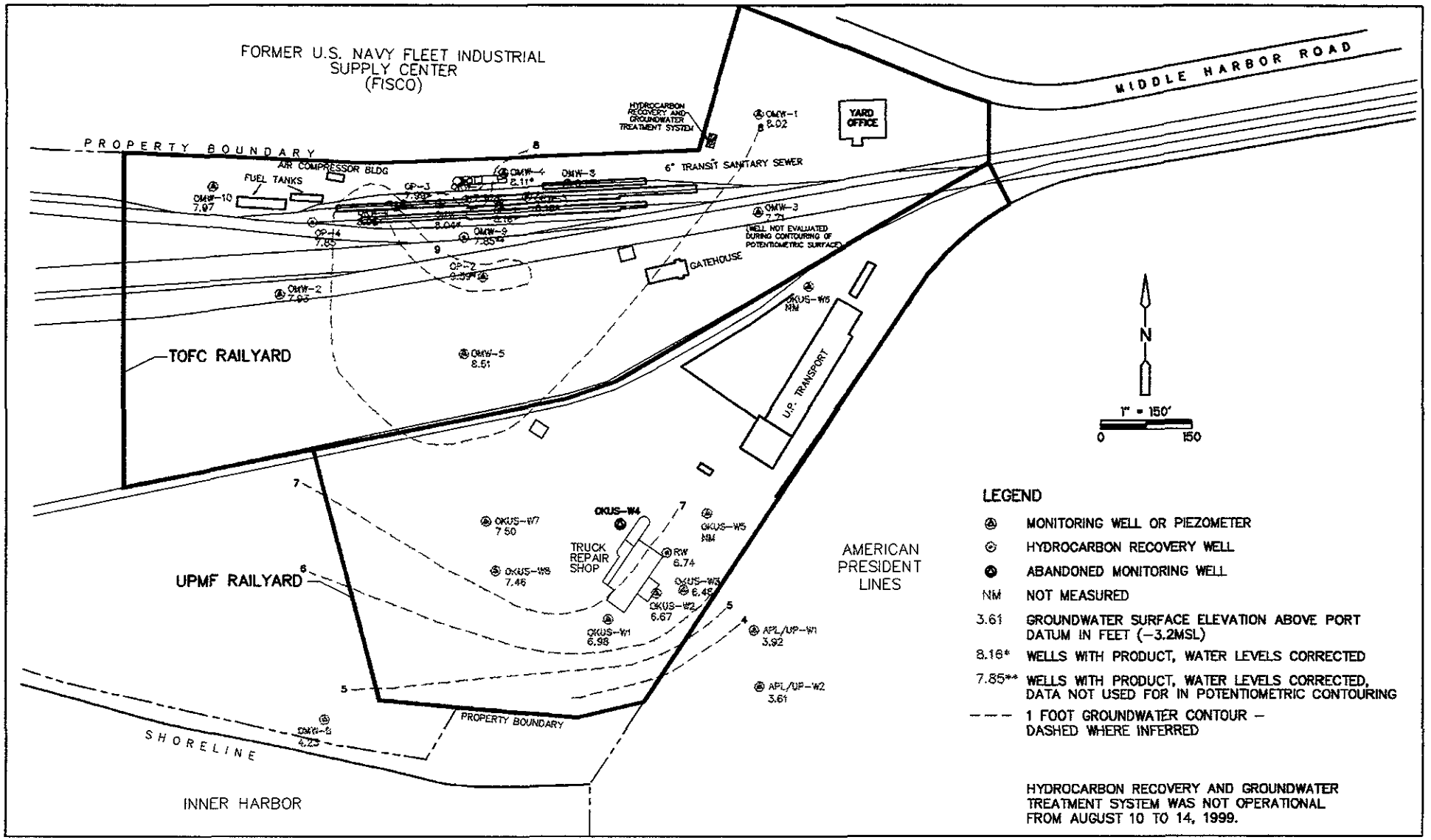

Figure 2-1

Groundwater Potentiometric Surface Map - August 12, 1999
Second Semi-Annual 1999
Groundwater Monitoring Report - TOFC
Port of Oakland, California

CDM/FEJ Joint Association

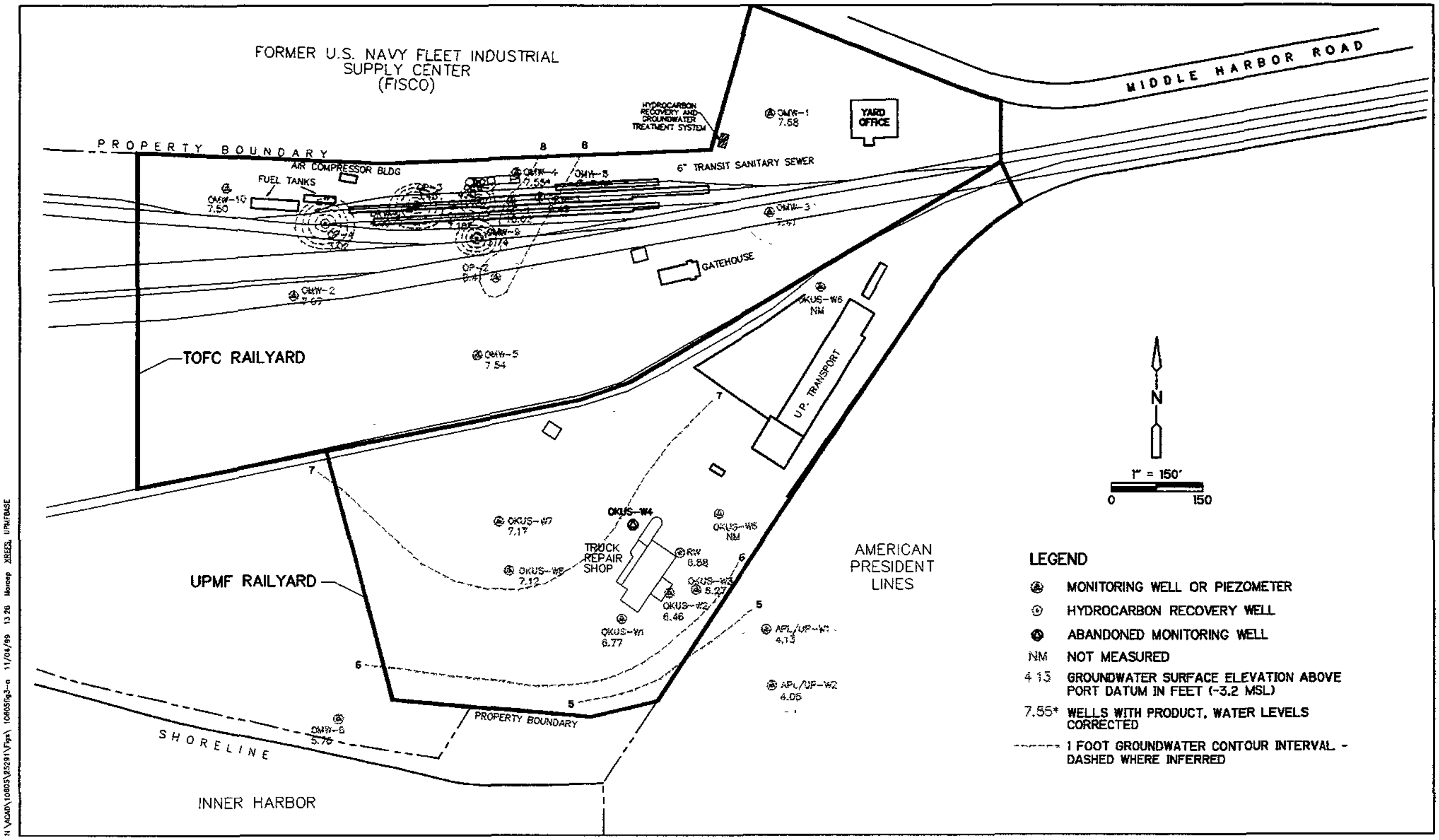

Figure 2-2

Groundwater Potentiometric Surface Map - November 11, 1999

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Groundwater Monitoring Report - TOFC
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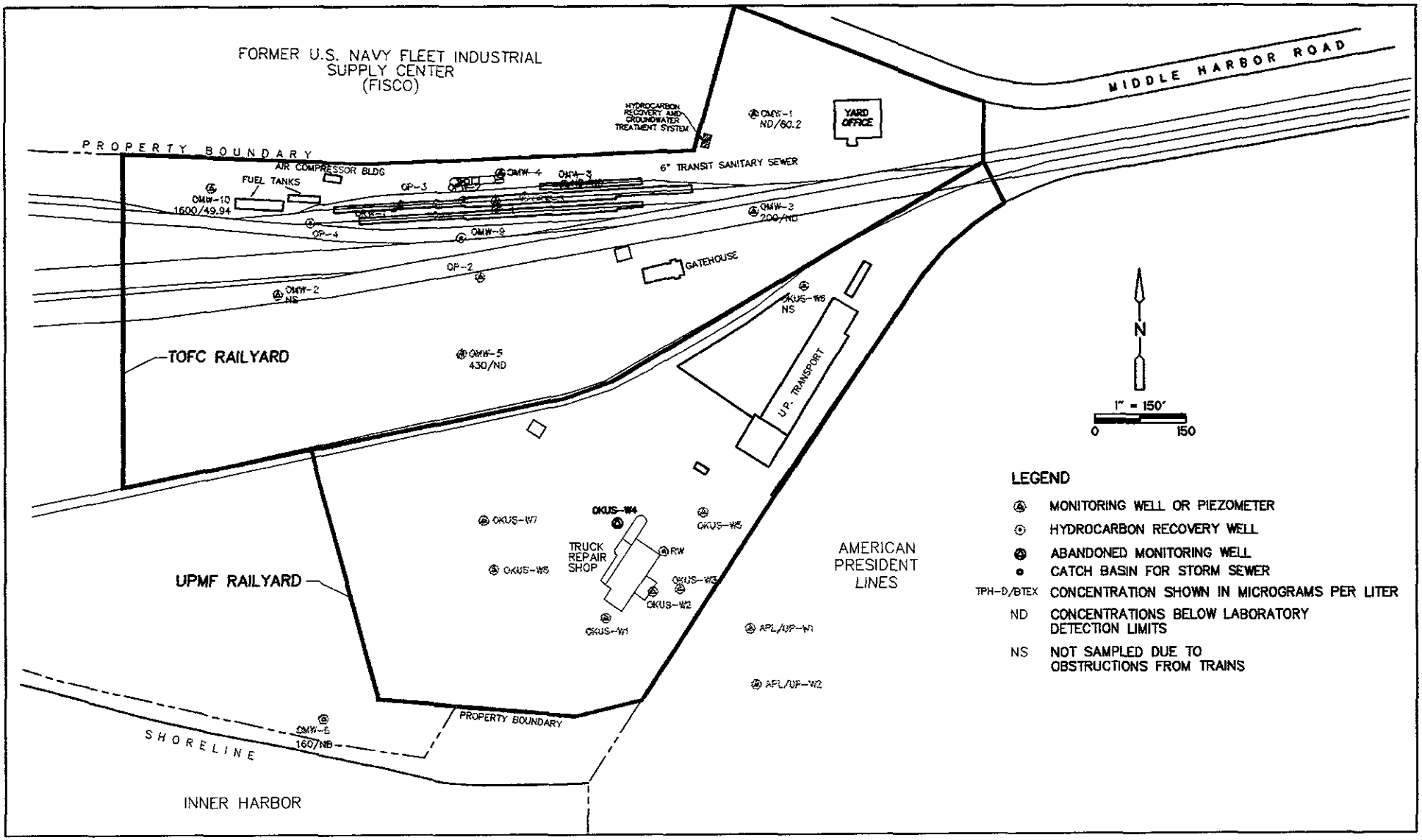

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Figure 2-3

Hydrocarbon Concentrations in Groundwater - August 13, 1999

Second Semi-Annual 1999
Groundwater Monitoring Report - TOFC
Port of Oakland, California

CDM/FEJ Joint Association

Tables

TABLE 2-1

CUMMULATIVE SUMMARY OF GRANULAR ACTIVATED CARBON USAGE
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date	Time	Volume (gallons)	Observed Flowrate (gpm)	Average Flowrate (gpm)	Infl Conc TPHd (mg/l)	Carbon Used (pounds)	Spent Carbon (pounds)	Remaining Pumpable (gallons)	Remaining Pumpable (days)	Projected Breakthru Date
05/07/92	11:35 PM	2020	1.74	1.74	45 *	8	8	531663	213	Dec-92
05/12/92	08:30 AM	12980	1.74	1.74	45	41	49	520703	208	Dec-92
05/19/92	01:30 PM	24990	1.16	1.55	59	50	98	387036	174	Nov-92
05/27/92	10:50 AM	45350	1.79	1.61	61	89	187	356823	154	Oct-92
06/02/92	03:00 PM	73150	3.13	1.91	100	144	331	200426	73	Aug-92
07/07/92	05:35 PM	166500	1.85	1.90	200	661	992	60539	22	Jul-92
08/11/92	11:56 AM	232370	1.32	1.32	6.1	0 +	0	1771651	935	Mar-95
09/25/92	09:55 AM	388390	2.41	1.86	17	333	333	529708	197	Apr-93
11/16/92	09:55 AM	484380	1.28	1.67	100	729	1062	50663	21	Dec-92
12/04/92	09:55 AM	518160	1.30	1.58	8.7	206	1268	454391	200	Jun-93
02/02/93	02:30 PM	673180	1.79	1.62	6.9	796	2064	-50298	-22	Jan-93
03/10/93	03:00 PM	741070	1.31	1.31	30 *	0 +	0	400262	212	Oct-93
03/30/93	09:00 AM	743950	0.10	1.61	44	18	18	270484	117	Jul-93
04/30/93	04:00 PM	755900	0.27	1.51	14	58	76	825055	379	May-94
05/27/93	01:40 PM	854610	2.55	1.58	120	855	931	53482	23	Jun-93
06/30/93	07:30 AM	1007200	3.14	1.68	1.2	1063	1994	27899	12	Jul-93
07/21/93	07:30 AM	1094630	2.89	2.89	2.2 *	0 +	0	2183247	524	Dec-94
07/28/93	08:30 AM	1125630	3.06	2.97	2.2	28	28	2152247	503	Dec-94
08/31/93	01:55 PM	1256910	2.66	2.87	3.2	138	167	1375740	333	Jul-94
09/30/93	04:00 PM	1333050	1.76	2.59	20	219	386	193850	52	Nov-93
10/28/93	05:50 PM	1411050	1.93	2.46	6 1	219	605	549390	155	Apr-94
11/30/93	08:00 PM	1475300	1.35	2.27	31	288	893	85757	26	Dec-93
12/28/93	12:00 PM	1526880	1.29	2.13	10	229	1122	210802	69	Mar-94
01/31/94	03:00 PM	1584340	1.17	2.01	3.3	233	1356	469026	162	Jul-94
02/07/94	12:00 PM	1595300	1.11	1.11	8.0 *	0 +	0	1500982	942	Sep-96
02/25/94	04:00 PM	1658010	2.40	1.75	9.3	90	90	1232840	489	Jun-95
03/30/94	11:00 AM	1785000	2.69	2.06	2.7	141	231	3932895	1323	Nov-97
05/03/94	05:00 PM	1841190	1.14	1.83	67	204	435	140249	53	Jun-94
06/01/94	04:00 PM	1909040	1.63	1.79	3.5	205	639	2333885	904	Nov-96
07/29/94	07:30 PM	2029010	1.43	1.73	1.4	306	946	4522185	1813	Jul-99
08/31/94	07:00 PM	2113920	1.79	1.74	2.1	190	1135	2471828	986	May-97
09/27/94	11:00 AM	2175320	1.60	1.72	5.9	128	1263	749848	302	Jul-95
10/28/94	12:00 PM	2254600	1.77	1.73	5.5	155	1418	635573	255	Jul-95
11/16/94	03:30 PM	2269370	0.54	1.61	39	36	1453	84163	36	Dec-94
11/23/94	11:00 AM	2276880	0.77	0.77	16 *	0 +	0	750491	681	Oct-96
01/25/95	01:30 PM	2468180	2.11	1.44	35 **	812	812	203706	99	May-95
04/12/95	10:50 AM	2549270	0.73	1.20	3.7	246	1059	1527342	883	Sep-97
05/29/95	03:30 PM	2732640	2.70	1.58	0	418	1476	1527342	673	Apr-97
06/30/95	02:00 PM	2830380	2.13	1.69	25	259	1736	63424	26	Jul-95
07/19/95	02:30 PM	2882550	1.90	1.72	13	134	1870	59968	24	Aug-95
07/21/95	11:00 AM	2890500	2.98	2.98	12 *	0 +	0	1000655	233	Mar-96
08/08/95	04:00 PM	2986700	3.67	3.32	11	184	184	991051	207	Mar-96
09/08/95	02:00 PM	3108110	2.73	3.12	11	229	413	865962	192	Mar-96
10/13/95	10:30 AM	3206500	1.96	2.83	66	410	823	107058	26	Nov-95
11/22/95	03:30 PM	3318600	1.94	2.65	38	515	1338	104523	27	Dec-95
12/15/95	08:00 AM	3369800	1.57	2.47	19	223	1562	138533	39	Jan-96
01/08/96	11:45 AM	3554790	5.32	2.88	0.05	691	2253	255074	62	Mar-96
02/12/96	08:00 AM	3714500	3.18	2.92	56	708	2961	4150	1	Feb-96
03/12/96	11:00 AM	3814170	2.38	2.86	42	470	3432	2610	1	Mar-96

TABLE 2-1

CUMMULATIVE SUMMARY OF GRANULAR ACTIVATED CARBON USAGE
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date	Time	Volume (gallons)	Observed Flowrate (gpm)	Average Flowrate (gpm)	Infl Conc TPHd (mg/l)	Carbon Used (pounds)	Spent Carbon (pounds)	Remaining Pumpable (gallons)	Remaining Pumpable (days)	Projected Breakthru Date
04/10/96	08:00 AM	3927670	2.73	2.84	36	550	3982	3011	1	Apr-96
05/06/96	08:00 AM	4035290	2.87	2.87	25 *	0 +	0	480314	116	Aug-96
05/13/96	08:00 AM	4055530	2.69	2.78	14	66	66	829513	207	Dec-96
06/13/96	07:00 AM	4172140	2.62	2.73	18	369	435	522088	133	Oct-96
07/17/96	07:50 AM	4343300	3.49	2.92	9.7	475	910	674587	161	Dec-96
08/19/96	08:00 AM	4478300	2.84	2.90	14	363	1273	311757	75	Nov-96
09/16/96	10:00 AM	4556200	1.93	2.74	14	205	1478	223934	57	Nov-96
10/17/96	02:55 PM	4645700	1.99	2.63	11	225	1703	162148	43	Nov-96
11/25/96	10:25 AM	4781700	2.43	2.61	13	336	2039	-18021	-5	Nov-96
12/13/96	09:35 AM	4829600	1.85	2.52	14	118	2157	-67181	-18	Nov-96
12/19/96	09:40 AM	4840900	1.31	1.31	17 *	0 +	0	706345	375	Dec-97
01/14/97	01:00 PM	4914200	1.95	1.63	22	238	238	480841	205	Aug-97
02/11/97	02:30 PM	5072700	3.92	2.39	13	462	700	600366	174	Aug-97
03/10/97	10:00 AM	5186800	2.96	2.53	16	276	976	384394	105	Jun-97
04/04/97	11:00 AM	5288500	2.82	2.59	8.7	209	1185	562565	151	Sep-97
05/15/97	07:30 AM	5435800	2.50	2.58	8.5	211	1396	426769	115	Sep-97
06/30/97	11:25 AM	5484800	0.74	2.31	8.5 *	69	1465	377769	113	Oct-97
07/18/97	01:00 PM	5580700	3.69	2.48	18	212	1677	107798	30	Aug-97
08/08/97	09:00 AM	5666400	2.86	2.86	18 *	0 +	0	667103	162	Jan-98
08/15/97	11:00 AM	5679200	1.25	2.06	12	32	32	984655	333	Jul-98
09/05/97	11:00 AM	5790000	3.66	2.59	14	240	272	741104	199	Mar-98
6/30/1998***	Not Recorded	5925800	10.48	4.56	26.5	480	751	282887	43	Aug-98
07/29/98	09:30 AM	6083000	12.13	6.08	27.5	581	1333	145697	17	Aug-98
08/28/98	09:00 AM	6166900	1.94	1.94	26	0 +	0	461841	165	Feb-99
09/28/98	10:30 AM	6267800	2.26	2.10	12	355	355	823146	272	Jun-99
10/31/98	10:00 AM	6400200	2.79	2.33	19	380	735	399870	119	Feb-99
11/23/98	10:00 AM	6477700	2.34	2.33	1	140	874	13515883	4025	Nov-09
12/29/98	12:00 AM	6638500	3.10	2.49	6 *	97	971	1029546	288	Oct-99
01/29/99	12:00 AM	6777500	3.11	3.11	12	232	1203	398940	89	Apr-99
02/26/99	10:00 AM	6859255	2.03	2.57	9 *	159	1362	425941	115	Jun-99
03/28/99	10:00 AM	6953415	2.18	2.44	6 *	131	1492	508133	145	Aug-99
04/28/99	10:00 AM	7025380	1.61	2.23	2	53	1545	1364478	424	Jun-00
05/28/99	10:00 AM	7072500	1.09	2.00	6 *	35	1580	419922	145	Oct-99
06/30/99	10:00 AM	7122172	1.05	1.84	9 *	69	1649	233956	88	Sep-99
07/30/99	08:30 AM	7144115	0.85	1.70	2	22	1672	985752	402	Sep-00
08/26/99	15:00 AM	7178400	1.25	1.65	2 *	13	1684	947657	400	Sep-00
09/22/99	08:15 AM	7238770	1.55	1.64	4 *	34	1718	423520	180	Mar-00
10/29/99	08:30 AM	7287050	0.91	1.56	2	27	1745	766574	341	Oct-00
11/30/99	10:00 AM	7348990	1.34	1.54	2 *	23	1768	697752	314	Oct-00

* - Concentration estimate

** - Concentration represents the average estimated value from January to the next sampling event.

*** - Recovery system was inoperable from Sept. 22, 1997 to June 22, 1998. Readings reflect the first 7 days after the system was restarted.

+ - Changed carbon vessel on this date.

Signet meter battery changed on 9/1/95 - last reading 3,089,890 gallons.

Carbon fudge factor: 0.05

gpm - gallons per minute

TABLE 2-2
CUMULATIVE SUMMARY OF DIESEL RECOVERY
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date	Total Volume Recovered (Gallons)	Recovery Rate (Gallons/Day)	Notes
03/02/93	1500	--	VOLUME ESTIMATED FROM GAUGE
05/11/93	1700	2.9	TANK EMPTIED
06/10/93	1900	6.7	VOLUME ESTIMATED FROM GAUGE
09/03/93	2700	9.4	TANK EMPTIED
11/30/93	3400	8.0	VOLUME ESTIMATED FROM GAUGE
02/25/94	4200	9.2	VOLUME ESTIMATED FROM GAUGE
06/01/94	4800	6.3	VOLUME ESTIMATED FROM GAUGE
06/27/94	4900	3.8	TANK EMPTIED
09/23/94	5500	6.8	TANK EMPTIED
12/27/94	6000	5.3	TANK EMPTIED
03/17/95	6300	3.8	TANK EMPTIED
07/14/95	6900	5.0	TANK EMPTIED
10/18/95	7500	6.3	TANK EMPTIED
01/30/96	8200	6.7	TANK EMPTIED
07/08/96	9000	5.0	TANK EMPTIED
01/02/97	9800	4.5	TANK EMPTIED
08/05/97	10500	1.3	TANK EMPTIED
06/30/98*	10600	7.6	VOLUME ESTIMATED FROM GAUGE
09/28/98	10800	5.6	VOLUME ESTIMATED FROM GAUGE
11/23/98	10900	0.4	VOLUME ESTIMATED FROM GAUGE
06/30/99	11000	0.5	VOLUME ESTIMATED FROM GAUGE
11/30/99	11200	1.3	TANK EMPTIED

* Recovery system was inoperable from Sept. 22, 1997 to June 22, 1998.
Readings reflect the first 7 days after the system was restarted.

TABLE 2-3
CUMULATIVE SUMMARY OF ANALYTICAL DATA
INFLUENT SAMPLES
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date Collected	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total Petroleum Hydrocarbons as Diesel (ug/L)
05/12/92	23	22	29	200	7,000
05/19/92	<2	7	3	64	59,000
05/27/92	<5	<5	6	59	61,000
06/02/92	<5	<5	<5	25	100,000
07/07/92	<5	<5	5	26	200,000
08/11/92	9.1	<3	13	51	6,100
09/25/92	8.5	<3	5.5	24	17,000
11/16/92	<50	<50	<50	<50	100,000
12/04/92	4.2	<1	<1	9	8,700
02/02/93	8.3	<1	<1	1.2	6,900
03/30/93	9.5	1.5	8.7	30	44,000
04/30/93	0.7	1.2	1	6.9	14,000
05/27/93	5.4	19	9.2	40	120,000
06/30/93	<0.3	<0.3	<0.3	<0.9	1,200
07/28/93	14	0.6	5.4	25	2,200
08/31/93	12	0.7	4.1	23	3,200
09/30/93	11	0.7	13	35	20,000
10/28/93	10	0.6	9.8	26	6,100
11/30/93	9.2	<0.5	1.2	13	31,000
12/28/93	11	<0.5	4.1	16	10,000
01/31/94	<0.5	<0.5	<0.5	<0.5	3,300
02/25/94	13	1.3	7.7	21	9,300
03/30/94	12	<0.5	2.7	18	2,700
05/03/94	4.4	1.8	9.7	28	67,000
06/01/94	6.5	<0.5	<0.5	9.4	3,500
07/29/94	9.1	<0.5	4.3	17	1,400
08/31/94	NA	NA	NA	NA	2,100
09/27/94	NA	NA	NA	NA	5,900
10/27/94	11	3.1	9.5	18	5,500
11/16/94	NA	NA	NA	NA	39,000
01/05/95	NA	NA	NA	NA	140,000
01/25/95	<30	<30	<30	<30	550,000
04/12/95	1.5	<0.3	<0.3	2.3	3,700
05/29/95	NA	NA	NA	NA	<20*
06/30/95	NA	NA	NA	NA	25,000
07/19/95	11	0.6	5	15	13,000
08/08/95	NA	NA	NA	NA	11,000
09/08/95	NA	NA	NA	NA	11,000
10/13/95	9	0.6	10	20	66,000
11/22/95	NA	NA	NA	NA	38,000
12/15/95	NA	NA	NA	NA	19,000

TABLE 2-3
CUMULATIVE SUMMARY OF ANALYTICAL DATA
INFLUENT SAMPLES
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date Collected	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total Petroleum Hydrocarbons as Diesel (ug/L)
01/08/96	13	<0.5	10	21	<50
02/12/96	NA	NA	NA	NA	56,000
03/12/96	NA	NA	NA	NA	42,000
04/10/96	9.7	<0.5	6.7	10	36,000
05/13/96	NA	NA	NA	NA	14,000
06/13/96	NA	NA	NA	NA	18,000
07/17/96	<0.5	<0.5	<0.5	<2	9,700
08/19/96	NA	NA	NA	NA	14,000
09/16/96	NA	NA	NA	NA	14,000
10/17/96	<0.5	<0.5	<0.5	<1	11,000
11/25/96	NA	NA	NA	NA	13,000
12/13/96	NA	NA	NA	NA	14,000
01/14/97	6.1	<0.5	<0.5	3.9	22,000
02/11/97	NA	NA	NA	NA	13,000
03/10/97	NA	NA	NA	NA	16,000
04/04/97	3	<0.5	<0.5	<1	8,700
05/15/97	NA	NA	NA	NA	8,500
07/18/97	2.4	<0.5	<0.5	1.1	18,000
08/15/97	NA	NA	NA	NA	12,000
09/05/97	NA	NA	NA	NA	14,000
06/25/98	4.6	<0.5	5.3	10.5	26,500
07/09/98	1.5	<0.5	<0.5	1	20,000
08/14/98	NA	NA	NA	NA	26,000
09/11/98	NA	NA	NA	NA	12,000
10/02/98	0.54	<0.5	<0.5	<0.5	19,000
11/06/98	NA	NA	NA	NA	<50
12/16/98	NA	NA	NA	NA	22,000
01/10/99	2.9	<0.5	<0.5	2.01	12,000
04/21/99	0.75	<0.5	<0.5	<1	2,400
07/07/99	2.4	<0.5	1.2	0.85	1,900
10/08/99	<0.5	<0.5	<0.5	<0.5	1,300

TPH/D - Total Petroleum Hydrocarbons as Diesel anaylzed using EPA Method 8015 Mod. with Silicia Gel Cleanup (since 4/99).
BTEX -Benzene, toluene, ethylbenzene, and xylenes analyzed using EPA Method 8020.
Samples were analyzed at Curtis & Tompkins Ltd., a state certified analytical laboratory in Berkeley, California (since 4/99).
ug/L - microgram per liter
NA - Not Analyzed
*Unknown hydrocarbon in the Diesel range reported concentration of 14,000 ug/L

TABLE 2-4
CUMULATIVE SUMMARY OF ANALYTICAL DATA
EFFLUENT SAMPLES
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date Collected	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total Petroleum Hydrocarbons as Diesel (ug/L)
EBMUD Discharge Limit*	5	5	5	5	N/A
05/12/92	<0.5	<0.5	<0.5	<0.5	<50
05/19/92	<0.5	<0.5	<0.5	<0.5	<50
05/27/92	<0.5	<0.5	<0.5	<0.5	<50
06/02/92	<0.5	<0.5	<0.5	<0.5	120
07/07/92	<0.5	<0.5	<0.5	1.1	18,000
08/11/92	<0.5	<0.5	<0.5	<0.5	1,300
09/25/92	<1	<1	<1	1.4	9,700
11/16/92	<0.5	<0.5	<0.5	<0.5	530
12/04/92	<0.5	<0.5	<0.5	<0.5	240
02/02/93	<0.5	<0.5	<0.5	<0.5	<50
03/30/93	<0.5	<0.5	<0.5	<0.5	74
04/30/93	<0.3	<0.3	<0.3	<0.9	<50
05/27/93	<0.3	<0.3	<0.3	<0.9	<50
06/30/93	<0.3	<0.3	<0.3	<0.9	<50
07/28/93	<0.3	<0.3	<0.3	<0.9	<100
08/31/93	<0.3	<0.3	<0.3	<0.9	<50
09/30/93	<0.3	<0.3	<0.3	<0.9	<50
10/28/93	<0.3	<0.3	<0.3	<0.9	<50
11/30/93	<0.5	<0.5	<0.5	<0.5	<50
12/28/93	<0.5	<0.5	<0.5	<0.5	<50
01/31/94	<0.5	<0.5	<0.5	<0.5	<50
02/25/94	<0.5	<0.5	<0.5	<0.5	<50
03/30/94	<0.5	<0.5	<0.5	<0.5	<50
05/03/94	<0.5	<0.5	<0.5	<0.5	<50
06/01/94	<0.5	<0.5	<0.5	<0.5	<50
07/29/94	<0.5	<0.5	<0.5	0.7	<50
10/27/94	<0.5	<0.5	<0.5	0.6	<50
01/25/95	<30	<30	<30	<30	470,000
04/12/95	<0.3	<0.3	<0.3	<0.3	<50
07/19/95	<0.5	<0.5	<0.5	<2	15,000
10/13/95	<0.5	<0.5	<0.5	<2	<50
01/08/96	<0.5	<0.5	<0.5	<2	36,000
04/10/96	<0.5	<0.5	<0.5	<2	1,800
07/17/96	<0.5	<0.5	<0.5	<2	120
10/17/96	<0.5	<0.5	<0.5	<1	<50
01/11/97	<0.5	<0.5	<0.5	<1	<50
04/04/97	<0.5	<0.5	<0.5	<1	<50
07/18/97	<0.5	<0.5	<0.5	<1	96

TABLE 2-4
CUMULATIVE SUMMARY OF ANALYTICAL DATA
EFFLUENT SAMPLES
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date Collected	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total Petroleum Hydrocarbons as Diesel (ug/L)
EBMUD Discharge Limit*	5	5	5	5	N/A
06/25/98	<0.5	<0.5	<0.5	<1	<0.1
07/09/98	<0.5	<0.5	<0.5	<1	66
07/28/98**	N/A	N/A	N/A	N/A	50
10/02/98	<0.5	<0.5	<0.5	<1	<50
01/10/99	<0.5	<0.5	<0.5	<1	<47
04/21/99	<0.5	<0.5	<0.5	<1	<50
07/07/99	<0.5	<0.5	<0.5	<1	<50
10/08/99	<0.5	<0.5	<0.5	<1	<50

* - Discharge limits updated on July 1, 1996.

** - Resampled to verifiy breakthrough

TPH/D - Total Petroleum Hydrocarbons as Diesel anaylzed using EPA Method 8015 Mod. with Silicia Gel Cleanup (since 4/99).

BTEX -Benzene, toluene, ethylbenzene, and xylenes analyzed using EPA Method 8020.

Samples were analyzed at Curtis & Tompkins Ltd., a state certified analytical laboratory in Berkeley, California (since 4/99).

ug/L - microgram per liter

TABLE 2-5
CUMULATIVE SUMMARY OF ANALYTICAL DATA
MIDFLUENT SAMPLES
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date Collected	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
08/11/92	<0.5	<0.5	<0.5	<0.5
09/14/92	<3	<3	<3	<3
11/06/92	<0.5	<0.5	<0.5	<0.5
12/04/92	<3	<3	<3	<3
12/18/92	<0.5	<0.5	<0.5	<0.5
01/20/93	1.2	0.5	<0.5	1.5
02/02/93	0.77	<0.5	<0.5	<0.5
02/16/93	4.3	<0.5	1.2	3.8
03/30/93	<0.5	<0.5	<0.5	<0.5
04/22/93	<0.5	<0.5	<0.5	<0.5
04/30/93	<0.5	<0.5	<0.3	<0.9
05/27/93	<0.5	<0.5	<0.3	<0.9
06/14/93	0.4	0.4	0.4	2.3
06/30/93	<0.3	<0.3	<0.3	<0.9
07/13/93	0.7	0.4	<0.3	<0.9
07/28/93	<0.3	<0.3	<0.3	<0.9
08/31/93	<0.3	<0.3	<0.3	<0.9
09/30/93	<0.3	<0.3	<0.3	<0.9
10/28/93	<0.3	<0.3	<0.3	<0.9
11/30/93	0.6	<0.5	<0.5	<0.5
12/28/93	1.7	<0.5	<0.5	0.7
01/31/94	0.1	<0.5	<0.5	0.5
02/25/94	<0.5	<0.5	<0.5	<0.5
03/30/94	<0.5	<0.5	<0.5	<0.5
05/03/94	<0.5	<0.5	1.3	3.3
06/01/94	<0.5	<0.5	<0.5	<0.5
07/29/94	0.8	<0.5	<0.5	0.6
08/31/94	1.7	<0.5	<0.5	<0.5
09/27/94	1	<0.5	<0.5	<0.5
10/27/94	1.2	0.5	<0.5	0.9
11/16/94	<0.5	<0.5	<0.5	<0.5
01/05/95	4.8	3.5	<3	15
01/25/95	<0.03	<0.03	<0.03	<0.03
04/12/95	1.3	<0.3	<0.3	<0.3
05/29/95	3.2	<0.5	<0.5	<2
06/30/95	2	<0.5	<0.5	<2
07/19/95	2	<0.5	<0.5	<2
08/08/95	<0.5	<0.5	<0.5	<2
09/08/95	<0.5	<0.5	<0.5	<2
11/22/95	<0.5	<0.5	<0.5	<2
12/15/95	<0.5	<0.5	<0.5	<2

TABLE 2-5

CUMULATIVE SUMMARY OF ANALYTICAL DATA
MIDFLUENT SAMPLES
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Date Collected	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
01/08/96	0.8	<0.5	<0.5	<2
02/12/96	1.2	0.5	<0.5	<2
03/12/96	<0.5	<0.5	<0.5	<2
04/10/96	1.8	<0.5	0.6	<2
05/13/96	<0.5	<0.5	<0.5	<2
06/13/96	<0.5	<0.5	<0.5	<2
07/17/96	<0.5	<0.5	<0.5	<2
08/19/96	<0.5	<0.5	<0.5	<1
09/16/96	<0.5	<0.5	<0.5	<1
10/17/96	<0.5	<0.5	<0.5	<1
11/25/96	23	3.7	<0.5	31
12/13/96	<0.5	<0.5	<0.5	<1
01/14/97	<0.5	<0.5	<0.5	<1
02/11/97	<0.5	<0.5	<0.5	<1
03/10/97	<0.5	<0.5	<0.5	<1
04/04/97	<0.5	<0.5	<0.5	<1
05/15/97	<0.5	<0.5	<0.5	<1
07/18/97	<0.5	<0.5	<0.5	<1
08/15/97	<0.5	<0.5	<0.5	<1
09/05/97	<0.5	<0.5	<0.5	<1
06/25/98	<0.5	<0.5	<0.5	<1
07/09/98	<0.5	<0.5	<0.5	<1
08/14/98	<0.5	<0.5	<0.5	<1
09/11/98	<0.5	<0.5	<0.5	<1
10/02/98	<0.5	<0.5	<0.5	<1
11/06/98	<0.5	<0.5	<0.5	<1
12/16/98	<0.5	<0.5	<0.5	<1
01/10/99	<0.5	<0.5	<0.5	<1
02/23/99	<0.5	<0.5	<0.5	<1
03/10/99	<0.5	<0.5	<0.5	<1
04/21/99	<0.5	<0.5	<0.5	<1
05/04/99	<0.5	<0.5	<0.5	<1
06/09/99	<0.5	<0.5	<0.5	<1
07/07/99	<0.5	<0.5	<0.5	<1
08/24/99	<0.5	<0.5	<0.5	<1
09/03/99	<0.5	<0.5	<0.5	<1
10/08/99	<0.5	<0.5	<0.5	<1
11/12/99	<0.5	<0.5	<0.5	<1

BTEX -Benzene, toluene, ethylbenzene, and xylenes analyzed using EPA Method 8020.

Samples were analyzed at Curtis & Tompkins Ltd., a state certified analytical laboratory in Berkeley, California (since 2/99).

ug/L - microgram per liter

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OMW-1	01/25/95	8.79		2.52	6.27		6.27
	05/09/95	8.79		5.55	3.24		3.24
	05/17/95	8.79		4.43	4.36		4.36
	07/31/95	8.79		6.43	2.36		2.36
	09/07/95	8.79		6.86	1.93		1.93
	11/30/95	8.79		7.69	1.10		1.10
	01/10/96	8.79		6.48	2.31		2.31
	03/25/96	8.79		5.00	3.79		3.79
	05/17/96	8.79		2.98	5.81		5.81
	07/25/96	8.79		6.29	2.50		2.50
	09/16/96	8.79		7.05	1.74		1.74
	11/12/96	8.79		7.51	1.28		1.28
	01/20/97	8.79		4.26	4.53		4.53
	03/06/97	8.79		4.65	4.14		4.14
	05/20/97	8.79		6.11	2.68		2.68
	07/15/97	8.79		6.66	2.13		2.13
	08/28/97	8.79		6.58	2.21		2.21
	09/15/97	8.79		7.16	1.63		1.63
	11/18/97	8.79		6.58	2.21		2.21
	02/04/98	8.79		1.78	7.01		7.01
	05/21/98	8.79		5.43	3.36		3.36
	07/30/98	8.79		6.41	2.38		2.38
	08/12/98	8.79		6.54	2.25		2.25
	09/28/98	8.79		7.11	1.68		1.68
	11/04/98	8.79		7.32	1.47		1.47
	11/30/98	14.88		7.40	7.48		7.48
	01/27/99	14.88		5.15	9.73		9.73
	02/16/99	14.88		4.63	10.25		10.25
	05/04/99	14.88		4.88	10.00		10.00
	08/12/99	14.88		6.86	8.02		8.02
	11/11/99	14.88		7.20	7.68		7.68
OMW-2	01/25/95	5.88		3.35	2.53		2.53
	05/09/95	5.88	NOT GAUGED				
	05/17/95	5.88		2.44	3.44		3.44
	07/31/95	5.88	NOT GAUGED				
	09/07/95	5.88		4.35	1.53		1.53
	11/30/95	5.88		5.12	0.76		0.76
	01/10/96	5.88		2.60	3.28		3.28
	03/25/96	5.88		2.35	3.53		3.53
	05/17/96	5.88		1.73	4.15		4.15
	07/25/96	5.88		4.07	1.81		1.81
	09/16/96	5.88		4.60	1.28		1.28
	11/12/96	5.88		4.93	0.95		0.95
	01/20/97	5.88		2.44	3.44		3.44
	03/06/97	5.88		4.26	1.62		1.62
	05/20/97	5.88		4.65	1.23		1.23
	07/15/97	5.88		4.64	1.24		1.24
	08/28/97	5.88		4.58	1.30		1.30
	09/15/97	5.88		4.90	0.98		0.98
	11/18/97	5.88		2.11	3.77		3.77
	02/04/98	5.88		1.72	4.16		4.16
	05/21/98	5.88		2.34	3.54		3.54

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OMW-2 cont.	07/30/98	5.88		4.11	1.77		1.77
	08/12/98	5.88		4.30	1.58		1.58
	09/28/98	5.88		4.64	1.24		1.24
	11/04/98	5.88		5.03	0.85		0.85
	11/30/98	12.07		4.82	7.25		7.25
	01/27/99	12.07		2.13	9.94		9.94
	02/16/99	12.07		1.38	10.69		10.69
	05/04/99	12.07		2.49	9.58		9.58
	08/12/99	12.07		4.14	7.93		7.93
	11/11/99	12.07		4.40	7.67		7.67
OMW-3	01/25/95	7.16	NOT GAUGED - WELL UNDER WATER				
	05/09/95	7.16		4.37	2.79		2.79
	05/17/95	7.16		4.46	2.70		2.70
	07/31/95	7.16		5.22	1.94		1.94
	09/07/95	7.16		5.64	1.52		1.52
	11/30/95	7.16		6.36	0.80		0.80
	01/10/96	7.16		5.13	2.03		2.03
	03/25/96	7.16		4.08	3.08		3.08
	05/17/96	7.16		2.61	4.55		4.55
	07/25/96	7.16		5.26	1.90		1.90
	09/16/96	7.16		5.90	1.26		1.26
	11/12/96	7.16		6.22	0.94		0.94
	01/20/97	7.16		3.79	3.37		3.37
	03/06/97	7.16		4.02	3.14		3.14
	05/20/97	7.16		5.34	1.82		1.82
	07/15/97	7.16		5.64	1.52		1.52
	08/28/97	7.16		5.79	1.37		1.37
	09/15/97	7.16		5.95	1.21		1.21
	11/18/97	7.16		5.27	1.89		1.89
	02/04/98	7.16		0.94	6.22		6.22
	05/21/98	7.16		4.12	3.04		3.04
	07/30/98	Well Not Gauged	PVC Damaged				
	08/12/98	Well Not Gauged	PVC Damaged				
	09/28/98	Well Not Gauged	PVC Damaged				
	11/04/98	7.16		5.90	1.26		1.26
	11/30/98	Well Not Gauged					
	01/27/99	12.99		4.70	8.29		8.29
	02/16/99	12.99		3.61	9.38		9.38
	05/04/99	12.99		4.04	8.95		8.95
	08/12/99	12.99		5.28	7.71		7.71
	11/11/99	12.99		5.58	7.41		7.41
OMW-4	01/25/95	7.41	6.23	7.12	0.29	0.89	1.04
	05/09/95	7.41	4.99	6.38	1.03	1.39	2.20
	05/17/95	7.41	5.19	6.58	0.83	1.39	2.00
	07/31/95	7.41	5.78	6.99	0.42	1.21	1.44
	09/07/95	7.41	6.01	6.92	0.49	0.91	1.25
	11/30/95	7.41	6.60	7.06	0.35	0.46	0.74
	01/10/96	7.41	5.73	6.48	0.93	0.75	1.56
	03/25/96	7.41	5.22	6.19	1.22	0.97	2.03
	05/17/96	7.41	5.23	6.26	1.15	1.03	2.02
	07/25/96	7.41	TRACE	5.82	1.59		1.59

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OMW-4 cont.	09/16/96	7.41	6.11	7.55	-0.14	1.44	1.07
	11/12/96	7.41	6.58	8.12	-0.71	1.54	0.58
	01/20/97	7.41	4.75	6.45	0.96	1.70	2.39
	03/06/97	7.41	5.25	6.24	1.17	0.99	2.00
	05/20/97	7.41	5.83	6.35	1.06	0.52	1.50
	07/15/97	7.41	6.24	6.75	0.66	0.51	1.09
	08/28/97	7.41	6.46	7.05	0.36	0.59	0.86
	09/15/97	7.41	6.40	7.11	0.30	0.71	0.90
	11/18/97	7.41	4.76	5.43	1.98	0.67	2.54
	03/31/98	7.41	3.07	4.00	3.41	0.93	4.19
	05/22/98	7.41	3.52	3.41	4.00	-0.11	3.91
	07/30/98	7.41	6.45	7.00	0.41	0.55	0.87
	08/12/98	7.41	5.68	7.02	0.39	1.34	1.52
	09/28/98	7.41	6.02	7.55	-0.14	1.53	1.15
	11/04/98	7.41	6.17	7.65	-0.24	1.48	1.00
	11/30/98	13.38	6.31	6.31	7.07	0.00	7.07
	01/27/99	13.38	5.15	6.75	6.63	1.60	7.97
	02/16/99	13.38	3.59	4.75	8.63	1.16	9.60
	05/04/99	13.38	4.10	5.62	7.76	1.52	9.04
	08/12/99	13.38	5.00	6.68	6.70	1.68	8.11
	11/11/99	13.38	5.55	7.31	6.07	1.76	7.55
OMW-5	01/25/95	7.62	NOT GAUGED				
	05/09/95	7.62	NOT GAUGED				
	05/18/95	7.62		4.84	2.78		2.78
	07/31/95	7.62	NOT GAUGED				
	09/07/95	7.62		5.85	1.77		1.77
	11/30/95	7.62		6.55	1.07		1.07
	01/10/96	7.62		5.46	2.16		2.16
	03/25/96	7.62		4.63	2.99		2.99
	05/17/96	7.62		4.83	2.79		2.79
	07/25/96	7.62		5.66	1.96		1.96
	09/16/96	7.62		6.17	1.45		1.45
	11/12/96	7.62	TRACE	6.59	1.03		1.03
	01/20/97	7.62		3.73	3.89		3.89
	03/06/97	7.62		5.34	2.28		2.28
	05/20/97	7.62		5.59	2.03		2.03
	07/15/97	7.62		6.15	1.47		1.47
	08/28/97	7.62		6.36	1.26		1.26
	09/15/97	7.62		6.58	1.04		1.04
	11/18/97	7.62		5.33	2.29		2.29
	02/04/98	7.62		3.05	4.57		4.57
	05/21/98	7.62		3.56	4.06		4.06
	07/30/98	7.62		4.79	2.83		2.83
	08/12/98	7.62		5.00	2.62		2.62
	09/08/98	7.62		5.73	1.89		1.89
	11/04/98	7.62		6.14	1.48		1.48
	11/30/98	13.76		6.01	7.75		7.75
	01/27/99	13.76		5.00	8.76		8.76
	02/18/99	13.76		4.57	9.19		9.19
	05/04/99	13.76		2.79	10.97		10.97
	8/121999	13.76		5.25	8.51		8.51
	11/11/99	13.76		6.22	7.54		7.54

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OMW-6	01/25/95	5.78		6.91	-1.13		-1.13
	05/09/95	5.78		7.19	-1.41		-1.41
	05/17/95	5.78		6.84	-1.06		-1.06
	07/31/95	5.78		5.65	0.13		0.13
	09/07/95	5.78		5.51	0.27		0.27
	11/30/95	5.78		6.71	-0.93		-0.93
	01/10/96	5.78		6.72	-0.94		-0.94
	03/25/96	5.78		6.73	-0.95		-0.95
	05/17/96	5.78		6.50	-0.72		-0.72
	07/25/96	5.78		6.62	-0.84		-0.84
	09/16/96	5.78		6.44	-0.66		-0.66
	11/12/96	5.78		5.65	0.13		0.13
	01/20/97	5.78		5.52	0.26		0.26
	03/06/97	5.78		7.17	-1.39		-1.39
	05/20/97	5.78		6.39	-0.61		-0.61
	07/15/97	5.78		6.77	-0.99		-0.99
	08/28/97	5.78		6.59	-0.81		-0.81
	09/15/97	5.78		6.02	-0.24		-0.24
	11/18/97	5.78		4.89	0.89		0.89
	02/04/98	5.78		5.85	-0.07		-0.07
	05/21/98	5.78		6.13	-0.35		-0.35
	07/30/98	5.78		6.76	-0.98		-0.98
	08/12/98	5.78		6.88	-1.10		-1.10
	09/28/98	5.78		6.63	-0.85		-0.85
	11/04/98	5.78		5.42	0.36		0.36
	11/30/98	11.67		6.22	5.45		5.45
	01/27/99	11.67		6.65	5.02		5.02
	02/18/99	11.67		5.85	5.82		5.82
	05/04/99	11.67		6.74	4.93		4.93
	08/12/99	11.67		7.44	4.23		4.23
	11/11/99	11.67		5.91	5.76		5.76
OMW-7	01/25/95	7.03	3.31	9.53	-2.50	6.22	2.72
	05/09/95	7.03	5.22	9.25	-2.22	4.03	1.17
	05/17/95	7.03	5.41	8.38	-1.35	2.97	1.14
	07/31/95	7.03	5.61	8.83	-1.80	3.22	0.90
	09/07/95	7.03	5.80	7.97	-0.94	2.17	0.88
	11/30/95	7.03	6.49	7.54	-0.51	1.05	0.37
	01/10/96	7.03	5.40	8.33	-1.30	2.93	1.16
	03/25/96	7.03	5.46	9.60	-2.57	4.14	0.91
	05/17/96	7.03	5.40	8.79	-1.76	3.39	1.09
	07/25/96	7.03	5.92	9.32	-2.29	3.40	0.57
	09/16/96	7.03	6.18	8.86	-1.83	2.68	0.42
	11/12/96	7.03	6.50	8.79	-1.76	2.29	0.16
	01/20/97	7.03	4.95	10.76	-3.73	5.81	1.15
	03/06/97	7.03	5.26	7.70	-0.67	2.44	1.38
	05/20/97	7.03	5.71	8.26	-1.23	2.55	0.91
	07/15/97	7.03	6.21	9.67	-2.64	3.46	0.27
	08/28/97	7.03	6.39	9.10	-2.07	2.71	0.21
	09/15/97	7.03	6.51	8.03	-1.00	1.52	0.28
	11/18/97	7.03	4.58	5.54	1.49	0.96	2.30
	03/31/98	7.03	3.15	6.75	0.28	3.60	3.30

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OMW-7 cont.	05/21/98	7.03	3.68	7.15	-0.12	3.47	2.79
	07/30/98	7.03	5.33	8.70	-1.67	3.37	1.16
	08/12/98	7.03	5.42	8.03	-1.00	2.61	1.19
	09/28/98	7.03	6.11	8.51	-1.48	2.40	0.54
	11/04/98	7.03	6.22	8.22	-1.19	2.00	0.49
	11/30/98	13.17	8.76	8.76	4.41	0.00	4.41
	01/27/99	13.17	5.15	8.75	4.42	3.60	7.44
	02/16/99	13.17	3.06	7.40	5.77	4.34	9.42
	05/04/99	13.17	3.81	8.43	4.74	4.62	8.62
	08/12/99	13.17	4.70	7.41	5.76	2.71	8.04
	11/11/99	13.17	5.58	8.24	4.93	2.66	7.16
OMW-8	01/25/95	7.52	TRACE	3.55	3.97		3.97
	05/09/95	7.52		5.00	2.52		2.52
	05/17/95	7.52		5.16	2.36		2.36
	07/31/95	7.52		5.70	1.82		1.82
	09/07/95	7.52		5.99	1.53		1.53
	11/30/95	7.52		6.53	0.99		0.99
	01/10/96	7.52		5.87	1.65		1.65
	03/25/96	7.52		5.01	2.51		2.51
	05/17/96	7.52		5.18	2.34		2.34
	07/25/96	7.52		5.77	1.75		1.75
	09/16/96	7.52		6.21	1.31		1.31
	11/12/96	7.52		6.69	0.83		0.83
	01/20/97	7.52		4.84	2.68		2.68
	03/06/97	7.52		5.15	2.37		2.37
	05/20/97	7.52		5.81	1.71		1.71
	07/15/97	7.52		6.12	1.40		1.40
	08/28/97	7.52		6.29	1.23		1.23
	09/15/97	7.52		6.40	1.12		1.12
	11/18/97	7.52		5.27	2.25		2.25
	02/04/98	7.52		1.67	5.85		5.85
	05/21/98	7.52		3.97	3.55		3.55
	07/30/98	7.52		5.52	2.00		2.00
	08/12/98	7.52		5.73	1.79		1.79
	09/28/98	7.52		6.17	1.35		1.35
	11/04/98	7.52		6.40	1.12		1.12
	11/30/98	13.62		6.29	7.33		7.33
	01/27/99	13.62		5.47	8.15		8.15
	02/16/99	13.62		4.05	9.57		9.57
	05/04/99	13.62		4.63	8.99		8.99
	08/12/99	13.62		5.50	8.12		8.12
	11/11/99	13.62		6.04	7.58		7.58
OMW-9	01/25/95	6.64	3.83	6.25	0.39	2.42	2.42
	05/09/95	6.64	4.94	9.02	-2.38	4.08	1.05
	05/17/95	6.64	4.18	8.95	-2.31	4.77	1.70
	07/31/95	6.64	6.07	8.46	-1.82	2.39	0.19
	09/07/95	6.64	5.23	6.89	-0.25	1.66	1.14
	11/30/95	6.64	5.76	7.25	-0.61	1.49	0.64
	01/10/96	6.64	4.45	9.00	-2.36	4.55	1.46
	03/25/96	6.64	4.19	8.96	-2.32	4.77	1.69
	05/17/96	6.64	5.41	7.40	-0.76	1.99	0.91

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OMW-9 cont.	07/25/96	6.64	5.16	8.41	-1.77	3.25	0.96
	09/16/96	6.64	5.75	6.19	0.45	0.44	0.82
	11/12/96	6.64	5.84	8.37	-1.73	2.53	0.40
	01/20/97	6.64	4.10	9.42	-2.78	5.32	1.69
	03/06/97	6.64	4.55	7.95	-1.31	3.40	1.55
	05/20/97	6.64	5.09	7.11	-0.47	2.02	1.23
	07/15/97	6.64		* 8.8	6.64		-2.16
	08/28/97	6.64		* 8.8	6.64		-2.16
	09/15/97	6.64		7.80	-1.16		-1.16
	11/18/97	6.64		NA	6.64		NA
	02/04/98	6.64		NA	6.64		NA
	05/21/98	6.64		NA	6.64		NA
	07/30/98	6.64	8.40	* 8.5	6.64	0.10	-1.78
	08/12/98	6.64		NA	6.64		NA
	09/28/98	6.64		8.50	-1.86		-1.86
	11/04/98	6.64	TRACE	6.50	0.14		0.14
	01/27/99	12.31	5.90	7.80	4.51	1.90	6.11
	11/30/98	12.31	8.76	8.76	3.55	0.00	3.55
	02/16/99	12.31	NOT GAUGED				
	05/04/99	12.31	4.13	7.00	5.31	2.87	7.72
	08/12/99	12.31	4.43	4.59	7.72	0.16	7.85
	11/11/99	12.31		8.57	3.74		3.74
OMW-10	01/25/95	7.56	NOT GAUGED - WELL COVERED				
	05/09/95	7.56	NOT GAUGED - WELL COVERED				
	05/17/95	7.56	TRACE	4.64	2.92		2.92
	07/31/95	7.56	NOT GAUGED - WELL COVERED				
	09/07/95	7.56		6.02	1.54		1.54
	11/30/95	7.56	TRACE	7.78	-0.22		-0.22
	01/10/96	7.56	TRACE	4.68	2.88		2.88
	03/25/96	7.56		4.58	2.98		2.98
	05/17/96	7.56		4.75	2.81		2.81
	07/25/96	7.56		5.79	1.77		1.77
	09/16/96	7.56		6.33	1.23		1.23
	11/12/96	7.56	TRACE	6.50	1.06		1.06
	01/20/97	7.56		4.33	3.23		3.23
	03/06/97	7.56		5.05	2.51		2.51
	05/20/97	7.56		5.69	1.87		1.87
	07/15/97	7.56		6.71	0.85		0.85
	08/28/97	7.56		6.11	1.45	SHEEN	1.45
	09/15/97	7.56		6.75	0.81	SHEEN	0.81
	11/18/97	7.56		4.63	2.93		2.93
	02/04/98	7.56		3.00	4.56		4.56
	05/21/98	7.56		4.13	3.43		3.43
	07/30/98	7.56		5.81	1.75		1.75
	08/12/98	7.56		4.94	2.62		2.62
	09/28/98	7.56		6.32	1.24		1.24
	11/04/98	7.56		6.53	1.03		1.03
	11/30/98	13.71		6.48	7.23		7.23
	01/27/99	13.71	NOT GAUGED				
	02/17/99	13.71		3.37	10.34		10.34
	05/04/99	13.71		4.82	8.89		8.89
	08/12/99	13.71		5.74	7.97		7.97

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OMW-10 cont.	11/11/99	13.71		6.21	7.50		7.50
ORW-1	01/25/95	6.59	NOT GAUGED				
	05/09/95	6.59	NOT GAUGED				
	05/18/95	6.59	8.77	9.76	-3.17	0.99	-2.34
	07/31/95	6.59	8.35	10.55	-3.96	2.20	-2.11
	09/07/95	6.59	8.55	11.03	-4.44	2.48	-2.36
	11/30/95	6.59	5.92	5.98	0.61	0.06	0.66
	01/10/96	6.59	TRACE	11.20	-4.61		-4.61
	03/25/96	6.59		11.20	-4.61		-4.61
	05/17/96	6.59		11.40	-4.81		-4.81
	07/25/96	6.59	TRACE	10.90	-4.31		-4.31
	09/16/96	6.59		9.60	-3.01		-3.01
	11/12/96	6.59		9.60	-3.01		-3.01
	01/20/97	6.59	NOT GAUGED				
	03/06/97	6.59	9.55	9.75	-3.16	0.20	-2.99
	05/20/97	6.59	9.75	9.86	-3.27	0.11	-3.18
	07/15/97	6.59		7.98	-1.39	SHEEN	-1.39
	08/28/97	6.59	NOT GAUGED				
	09/15/97	6.59	NOT GAUGED				
	11/18/97	6.59	3.94	3.96	2.63	0.02	2.65
	03/31/98	6.59	2.25	2.88	3.71	0.63	4.24
	05/21/98	6.59	2.66	3.65	2.94	0.99	3.77
	07/30/98	6.59		8.90	-2.31		-2.31
	08/12/98	6.59		10.01	-3.42		-3.42
	09/28/98	6.59		9.72	-3.13		-3.13
	11/04/98	6.59	TRACE	9.45	-2.86		-2.86
	11/30/98	13.29	10.03	10.03	3.26	0.00	3.26
	01/27/99	13.29	9.50	10.00	3.29	0.50	3.71
	02/16/99	13.29	NOT GAUGED	NM			
	05/04/99	13.29	4.97	5.63	7.66	0.66	8.21
	08/12/99	13.29	4.33	4.41	8.88	0.08	8.95
	11/11/99	13.29		4.41	8.88		8.88
ORW-2	01/25/95	6.79	NOT GAUGED				
	05/09/95	6.79	NOT GAUGED				
	05/18/95	6.79	9.55	9.56	-2.77	0.01	-2.76
	07/31/95	6.79	9.30	9.45	-2.66	0.15	-2.53
	09/07/95	6.79	9.45	9.50	-2.71	0.05	-2.67
	11/30/95	6.79	9.66	9.68	-2.89	0.02	-2.87
	01/10/96	6.79	9.55	9.60	-2.81	0.05	-2.77
	03/25/96	6.79	10.75	11.85	-5.06	1.10	-4.14
	05/17/96	6.79	10.60	11.60	-4.81	1.00	-3.97
	07/25/96	6.79	11.70	12.30	-5.51	0.60	-5.01
	09/16/96	6.79	10.95	12.30	-5.51	1.35	-4.38
	11/12/96	6.79	9.63	10.87	-4.08	1.24	-3.04
	01/20/97	6.79	9.61	11.00	-4.21	1.39	-3.04
	03/06/97	6.79	10.05	11.09	-4.30	1.04	-3.43
	05/20/97	6.79	10.70	11.46	-4.67	0.76	-4.03
	07/15/97	6.79	11.68	12.01	-5.22	0.33	-4.94
	08/28/97	6.79	11.60	11.87	-5.08	0.27	-4.85
	09/15/97	6.79	11.90	12.08	-5.29	0.18	-5.14
	11/18/97	6.79	4.09	5.62	1.17	1.53	2.46

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
ORW-2 cont.	03/31/98	6.79	2.27	4.05	2.74	1.78	4.24
	05/21/98	6.79	2.77	4.53	2.26	1.76	3.74
	07/30/98	6.79	11.26	11.36	-4.57	0.10	-4.49
	08/12/98	6.79		12.31	-5.52		-5.52
	09/28/98	6.79	11.88	12.00	-5.21	0.12	-5.11
	11/04/98	6.79	11.50	11.85	-5.06	0.35	-4.77
	11/30/98	12.92	12.52	12.52	0.40	0.00	0.40
	01/27/99	12.92	12.01	12.10	0.82	0.09	0.90
	02/16/99	12.92	NOT GAUGED				
	05/04/99	12.92	3.77	5.28	7.64	1.51	8.91
	08/12/99	12.92	4.33	8.51	4.41	4.18	7.92
	11/11/99	12.92		8.51	4.41		4.41
ORW-3	01/25/95	6.30	NOT GAUGED				
	05/09/95	6.30	NOT GAUGED				
	05/18/95	6.30	9.45	9.48	-3.18	0.03	-3.15
	07/31/95	6.30	TRACE	9.68	-3.38		-3.38
	09/07/95	6.30	9.57	9.60	-3.30	0.03	-3.27
	11/30/95	6.30	TRACE	9.67	-3.37		-3.37
	01/10/96	6.30	TRACE	9.55	-3.25		-3.25
	03/25/96	6.30	11.55	12.05	-5.75	0.50	-5.33
	05/17/96	6.30	11.60	12.10	-5.80	0.50	-5.38
	07/25/96	6.30		11.60	-5.30		-5.30
	09/16/96	6.30	11.40	11.90	-5.60	0.50	-5.18
	11/12/96	6.30	11.63	11.87	-5.57	0.24	-5.37
	01/20/97	6.30	NOT GAUGED		6.30	0.00	6.30
	03/06/97	6.30	11.20	11.50	-5.20	0.30	-4.95
	05/20/97	6.30	8.60	11.49	-5.19	2.89	-2.76
	07/15/97	6.30		11.46	-5.16	SHEEN	-5.16
	08/28/97	6.30		11.55	-5.25		-5.25
	09/15/97	6.30	11.40	11.47	-5.17	0.07	-5.11
	11/18/97	6.30	3.36	3.52	2.78	0.16	2.91
	03/31/98	6.30	2.20	2.69	3.61	0.49	4.02
	05/21/98	6.30	2.31	2.70	3.60	0.39	3.93
	07/30/98	6.30	11.45	11.48	-5.18	0.03	-5.15
	08/12/98	6.30	11.61	11.72	-5.42	0.11	-5.33
	09/28/98	6.30		11.61	-5.31		-5.31
	11/04/98	6.30	11.36	11.38	-5.08	0.02	-5.06
	11/30/98	12.46	11.87	11.87	0.59	0.00	0.59
	01/27/99	12.46	11.30	11.34	1.12	0.04	1.15
	02/16/99	12.46	NOT GAUGED				
	05/04/99	12.46	6.52	6.52	5.94	0.00	5.94
	08/12/99	12.46	4.25	4.30	8.16	0.00	8.16
	11/11/99	12.46	3.95	4.05	8.41	0.10	8.49
OP-1	05/18/95	6.71	3.84	5.05	1.66	1.21	2.68
	07/31/95	6.71	5.23	5.35	1.36	0.12	1.46
	09/07/95	6.71	5.55	6.13	0.58	0.58	1.07
	11/30/95	6.71	5.81	9.36	-2.65	3.55	0.33
	01/10/96	6.71	TRACE	4.41	2.30		2.30
	03/25/96	6.71		3.78	2.93		2.93
	05/17/96	6.71		2.18	4.53		4.53
	07/25/96	6.71		3.71	3.00		3.00

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OP-1 cont.	09/16/96	6.71		3.15	3.56		3.56
	11/12/96	6.71	TRACE	2.90	3.81		3.81
	01/20/97	6.71	TRACE	3.90	2.81		2.81
	03/06/97	6.71	TRACE	4.19	2.52		2.52
	05/20/97	6.71	4.87	4.94	1.77	0.07	1.83
	07/15/97	6.71	4.91	5.18	1.53	0.27	1.76
	08/28/97	6.71	4.55	4.64	2.07	0.09	2.15
	09/15/97	6.71	4.89	5.03	1.68	0.14	1.80
	11/18/97	6.71	3.33	3.38	3.33	0.05	3.37
	03/31/98	6.71	SHEEN	3.83	2.88		2.88
	05/21/98	6.71		3.82	2.89		2.89
	07/30/98	6.71	3.80	12.03	-5.32	8.23	1.59
	08/12/98	6.71	3.90	12.51	-5.80	8.61	1.43
	09/28/98	6.71	4.81	8.77	-2.06	3.96	1.27
	11/04/98	6.71	4.75	6.25	0.46	1.50	1.72
	11/30/98	12.87	8.99	6.01	6.86	-2.98	4.36
	01/27/99	12.87	4.70	6.01	6.86	1.31	7.96
	02/17/99	12.87	SHEEN	4.79	8.08		8.08
	05/04/99	12.87	SHEEN	3.91	8.96		8.96
	08/12/99	12.87	3.60	10.55	2.32	6.95	8.16
	11/11/99	12.87	2.50	4.70	8.17	2.20	10.02
OP-2	05/18/95	7.80	5.15	6.97	0.83	1.82	2.36
	07/31/95	7.80	NOT GAUGED				
	09/07/95	7.80	6.04	7.85	-0.05	1.81	1.47
	11/30/95	7.80	6.85	7.26	0.54	0.41	0.88
	01/10/96	7.80	5.70	6.25	1.55	0.55	2.01
	03/25/96	7.80	5.00	6.67	1.13	1.67	2.53
	05/17/96	7.80	5.30	6.45	1.35	1.15	2.32
	07/25/96	7.80	5.97	6.62	1.18	0.65	1.73
	09/16/96	7.80	6.25	8.15	-0.35	1.90	1.25
	11/12/96	7.80	6.66	8.79	-0.99	2.13	0.80
	01/20/97	7.80	4.74	6.35	1.45	1.61	2.80
	03/06/97	7.80	5.38	6.40	1.40	1.02	2.26
	05/20/97	7.80	5.92	7.26	0.54	1.34	1.67
	07/15/97	7.80	6.34	8.37	-0.57	2.03	1.14
	08/28/97	7.80	6.55	8.45	-0.65	1.90	0.95
	09/15/97	7.80	6.62	8.59	-0.79	1.97	0.86
	11/18/97	7.80	5.55	5.87	1.93	0.32	2.20
	03/31/98	7.80	3.28	6.18	1.62	2.90	4.06
	05/21/98	7.80	NOT GAUGED				
	07/30/98	7.80	5.79	7.64	0.16	1.85	1.71
	08/12/98	7.80	5.92	8.92	-1.12	3.00	1.40
	09/28/98	7.80	6.27	9.05	-1.25	2.78	1.09
	11/04/98	7.80	6.42	8.82	-1.02	2.40	1.00
	11/30/98	13.95	9.20	9.20	4.75	0.00	4.75
	01/27/99	13.95	5.63	6.20	7.75	0.57	8.23
	02/18/99	13.95	3.87	5.57	8.38	1.70	9.81
	05/04/99	13.95	4.54	6.57	7.38	2.03	9.09
	08/12/99	13.95	4.13	5.54	8.41	1.41	9.59
	11/11/99	13.95		5.54	8.41		8.41
OP-3	05/18/95	6.48	4.88	9.86	-3.38	4.98	0.80

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OP-3 cont.	07/31/95	6.48	5.32	8.46	-1.98	3.14	0.66
	09/07/95	6.48	5.16	8.22	-1.74	3.06	0.83
	11/30/95	6.48	5.75	6.52	-0.04	0.77	0.61
	01/10/96	6.48	4.84	10.20	-3.72	5.36	0.78
	03/25/96	6.48	5.12	9.84	-3.36	4.72	0.60
	05/17/96	6.48	5.03	10.29	-3.81	5.26	0.61
	07/25/96	6.48	TRACE	5.61	0.87		0.87
	09/16/96	6.48	5.75	9.29	-2.81	3.54	0.16
	11/12/96	6.48	6.14	8.89	-2.41	2.75	-0.10
	01/20/97	6.48	4.96	8.20	-1.72	3.24	1.00
	03/06/97	6.48	4.75	8.42	-1.94	3.67	1.14
	05/20/97	6.48	6.38	6.95	-0.47	0.57	0.01
	07/15/97	6.48	5.87	7.64	-1.16	1.77	0.33
	08/28/97	6.48	6.89	8.65	-2.17	1.76	-0.69
	09/15/97	6.48	6.03	8.03	-1.55	2.00	0.13
	11/18/97	6.48	3.89	5.61	0.87	1.72	2.31
	03/31/98	6.48	2.70	6.00	0.48	3.30	3.25
	05/21/98	6.48	3.80	6.77	-0.29	2.97	2.20
	07/30/98	6.48	5.79	7.64	-1.16	1.85	0.39
	08/12/98	6.48	5.20	8.40	-1.92	3.20	0.77
	09/28/98	6.48	5.74	7.49	-1.01	1.75	0.46
	11/04/98	6.48	5.86	7.65	-1.17	1.79	0.33
	11/30/98	12.61	7.59	7.59	5.02	0.00	5.02
	01/27/99	12.61	5.28	6.60	6.01	1.32	7.12
	02/17/99	12.61	2.75	3.55	9.06	0.80	9.73
	05/04/99	12.61	3.65	8.71	3.90	5.06	8.15
	08/12/99	12.61	3.99	7.94	4.67	3.95	7.99
	11/11/99	12.61		9.16	3.45		3.45
OP-4	05/18/95	6.32	3.28	7.15	-0.83	3.87	2.42
	07/31/95	6.32	NOT GAUGED				
	09/07/95	6.32	4.64	6.17	0.15	1.53	1.44
	11/30/95	6.32	5.56	5.75	0.57	0.19	0.73
	01/10/96	6.32	3.43	6.45	-0.13	3.02	2.41
	03/25/96	6.32	3.11	6.89	-0.57	3.78	2.61
	05/17/96	6.32	3.30	6.43	-0.11	3.13	2.52
	07/25/96	6.32	4.30	7.58	-1.26	3.28	1.50
	09/16/96	6.32	4.71	8.09	-1.77	3.38	1.07
	11/12/96	6.32	5.10	8.56	-2.24	3.46	0.67
	01/20/97	6.32	3.30	6.49	-0.17	3.19	2.51
	03/06/97	6.32	3.80	4.99	1.33	1.19	2.33
	05/20/97	6.32	4.59	5.28	1.04	0.69	1.62
	07/15/97	6.32		* 6.32	-1.68		-1.68
	08/28/97	6.32		* 6.32	-1.68		-1.68
	09/15/97	6.32		9.90	-3.58		-3.58
	11/18/97	6.32		NA	NA		NA
	02/04/98	6.32		NA	NA		NA
	05/22/98	6.32		NA	NA		NA
	07/30/98	6.32		6.85	-0.53		-0.53
	08/12/98	6.32		NA	NA		NA
	09/28/98	6.32		10.51	-4.19		-4.19
	11/04/98	6.32		9.59	-3.27		-3.27
	11/30/98	12.22		10.77	1.45		1.45

TABLE 2-6

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (TOFC)
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well No.	Date	Well Casing Elevation * (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)	Product Thickness (Feet)	Corrected Water Level Elevation ** (Feet)
OP-4 cont.	01/27/99	12.22		9.50	2.72		2.72
	02/16/99	12.22	NOT GAUGED				
	05/04/99	12.22		8.60	3.62		3.62
	08/12/99	12.22		4.37	7.85		7.85
	11/11/99	12.22		9.20	3.02		3.02

* Elevation of top of casing, all well casings and groundwater elevations measured to City of Oakland Datum (2.998 Mean Sea Level) from May 1996 through August 1998. In February 1999, the well casings were resurveyed to Port Datum (-3.202 Mean sea Level) by PLS Survey Inc.

Water and product levels below pump housing - reported value is depth to pump.

** The groundwater elevations in the monitoring wells with product are corrected by multiplying the specific gravity (0.84) of diesel by the diesel thickness and adding this value to the water elevation measurement from the well.

NA = Not Applicable. Wells are not gauged due to pump components blocking casing.

TABLE 2-7
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (UPMF)
PORT OF OAKLAND
UNION PACIFIC MOTOR FREIGHT (UPMF) RAILYARD

WELL NO.	ELEV. TOC *	DATE	DEPTH TO PRODUCT	PRODUCT THICKNESS	DEPTH TO WATER	GROUNDWATER ELEV. *
OKUS-W1	9.17	05/29/96 S	N/A	NP	7.80	1.37
	9.17	08/27/96 S	N/A	NP	8.34	0.83
	9.17	11/13/96 S	N/A	NP	8.71	0.46
	9.17	02/17/97 S	N/A	NP	7.58	1.59
	9.17	05/21/97 S	N/A	NP	8.24	0.93
	9.17	08/27/97 S	N/A	NP	8.37	0.80
	9.17	11/19/97 S	N/A	NP	8.28	0.89
	9.17	02/04/98 S	N/A	NP	6.95	2.22
	9.17	05/21/98 S	N/A	NP	7.48	1.69
	9.17	08/12/98 S	N/A	NP	7.95	1.22
	15.24	11/30/98 S	N/A	NP	8.00	7.24
	15.24	02/16/99 C	N/A	NP	7.73	7.51
	15.24	05/04/99 C	N/A	NP	7.72	7.52
	15.24	08/12/99 C	N/A	NP	8.26	6.98
OKUS-W2	9.71	05/29/96 S	N/A	NP	8.72	0.99
	9.71	07/25/96 B	N/A	NP	9.03	0.68
	9.71	08/27/96 S	N/A	NP	9.24	0.47
	9.71	09/16/96 B	N/A	NP	9.35	0.36
	9.71	11/13/96 S	N/A	NP	9.62	0.09
	9.71	11/25/96 B	N/A	NP	9.36	0.35
	9.71	01/20/97 B	N/A	NP	8.48	1.23
	9.71	02/17/97 S	N/A	NP	8.41	1.30
	9.71	03/6/97 S	N/A	NP	8.67	1.04
	9.71	05/21/97 S	N/A	NP	9.13	0.58
	9.71	05/27/97 S	N/A	NP	9.10	0.61
	9.71	07/15/97 B	N/A	NP	9.24	0.47
	9.71	08/27/97 S	N/A	NP	9.29	0.42
	9.71	09/15/97 B	N/A	NP	9.42	0.29
	9.71	11/19/97 S	N/A	NP	9.21	0.50
	9.71	02/04/98 S	N/A	NP	7.50	2.21
	9.71	05/21/98 S	N/A	NP	8.33	1.38
	9.71	08/12/98 S	N/A	NP	8.80	0.91
	15.73	11/30/98 S	N/A	NP	8.97	6.76
	15.73	01/27/99 B	N/A	NP	8.97	6.76
	15.73	02/16/99 C	N/A	NP	8.52	7.21
	15.73	05/04/99 C	N/A	NP	8.58	7.15
	15.73	08/12/99 C	N/A	NP	9.06	6.67
OKUS-W3	9.80	05/29/96 S	N/A	NP	8.94	0.86
	9.80	07/25/96 B	N/A	NP	9.32	0.48
	9.80	08/27/96 S	N/A	NP	9.52	0.28
	9.80	09/16/96 B	N/A	NP	9.63	0.17

TABLE 2-7
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (UPMF)
PORT OF OAKLAND
UNION PACIFIC MOTOR FREIGHT (UPMF) RAILYARD

WELL NO.	ELEV. TOC *	DATE	DEPTH TO PRODUCT	PRODUCT THICKNESS	DEPTH TO WATER	GROUNDWATER ELEV. *
OKUS-W3 cont.	9.80	11/13/96 S	N/A	NP	9.90	-0.10
	9.80	11/25/96 B	N/A	NP	9.65	0.15
	9.80	01/20/97 B	N/A	NP	8.74	1.06
	9.80	02/17/97 S	N/A	NP	8.67	1.13
	9.80	03/6/97 B	N/A	NP	8.92	0.88
	9.80	05/21/97 S	N/A	NP	9.44	0.36
	9.80	05/27/97 B	N/A	NP	9.40	0.40
	9.80	07/15/97 B	N/A	NP	9.53	0.27
	9.80	08/27/97 S	N/A	NP	WELL INACCESSABLE	
	9.80	11/19/97 S	N/A	NP	9.45	0.35
	9.80	02/5/98 B	N/A	NP	7.65	2.15
	9.80	05/21/98 S	N/A	NP	8.63	1.17
	9.80	08/12/98 S	N/A	NP	9.13	0.67
	15.85	11/30/98 S	N/A	NP	9.22	6.63
	15.85	01/27/99 B	N/A	NP	9.25	6.60
	15.85	02/16/99 C	N/A	NP	8.02	7.83
	15.85	05/04/99 C	N/A	NP	8.91	6.94
	15.85	08/12/99 C	N/A	NP	9.39	6.46
OKUS-W4	7.35	08/9/95 B	N/A	NP	6.10	1.25
	7.35	11/29/95 B	N/A	NP	6.70	0.65
		05/13/97 B	WELL DECOMMISSIONED			
OKUS-W5	9.25	05/29/96 S	9.06	P	--	--
	9.25	06/13/96 B	9.11	P	--	--
	9.25	07/25/96 B	9.11	P	--	--
	9.25	8/9/96 B	9.22	P	--	--
	9.25	08/27/96 S	9.44	P	--	--
	9.25	09/16/96 B	N/A	--	--	--
	9.25	10/17/96 B	9.65	P	--	--
	9.25	11/13/96 S	9.87	P	--	--
	9.25	12/16/96 B	N/A	--	--	--
	9.25	01/20/97 B	N/A	--	--	--
	9.25	02/17/97 S	9.09	P	--	--
	9.25	05/21/97 S	9.29	P	--	--
	9.25	08/27/97 S	9.42	P	--	--
	9.25	11/19/97 S	9.87	P	--	--
	9.25	02/5/98 B	7.13	P	--	--
	9.25	05/22/98 S	8.65	P	--	--
	9.25	08/13/98 S	9.03	P	--	--
	15.32	11/30/99 S	9.27	P	--	--
	15.32	02/16/99 C	8.00	0.33	--	--
	15.32	05/04/99 C	N/A	P	--	--

TABLE 2-7
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (UPMF)
PORT OF OAKLAND
UNION PACIFIC MOTOR FREIGHT (UPMF) RAILYARD

WELL NO.	ELEV. TOC *	DATE	DEPTH TO PRODUCT	PRODUCT THICKNESS	DEPTH TO WATER	GROUNDWATER ELEV. *
OKUS-W5 cont.	15.32	08/12/99 C	N/A	P	--	--
OKUS-W6	7.02	08/9/95 B	5.65	P	--	--
	7.02	09/7/95 B	5.98	P	--	--
	7.02	10/18/95 B	6.38	P	--	--
	7.02	11/10/95 B	6.52	P	--	--
	7.02	12/15/95 B	5.47	P	--	--
	7.02	01/10/96 B	5.58	P	--	--
	7.02	02/16/96 B	4.70	P	--	--
	7.02	03/25/96 B	4.72	P	--	--
	7.02	05/29/96 S	5.02	P	--	--
	7.02	06/13/96 B	4.99	P	--	--
	7.02	07/25/96 B	5.23	P	--	--
	7.02	08/9/96 B	5.66	P	--	--
	7.02	08/27/96 S	5.82	P	--	--
	7.02	09/16/96 B	N/A	--	--	--
	7.02	10/17/96 B	6.50	P	--	--
	7.02	11/13/96 S	6.27	P	--	--
	7.02	12/16/96 B	N/A	--	--	--
	7.02	01/20/97 C	N/A	--	--	--
	7.02	02/17/97 S	4.71	P	--	--
	7.02	05/21/97 S	6.03	P	--	--
	7.02	08/27/97 S	6.00	P	--	--
	7.02	11/19/97 S	5.54	P	--	--
	7.02	02/5/98 B	3.30	P	--	--
	7.02	05/22/98 S	4.48	P	--	--
	7.02	08/13/98 S	5.81	P	--	--
	13.10	11/30/98 S	5.96	P	--	--
	13.10	02/16/99 C	6.00	P	--	--
	13.10	05/04/99 C	N/A	P	--	--
	13.10	08/12/99 C	N/A	P	--	--
OKUS-W7	6.91	05/29/96 S	N/A	NP	5.08	1.83
	6.91	08/27/96 S	N/A	NP	5.68	1.23
	6.91	11/13/96 S	N/A	NP	6.00	0.91
	6.91	02/17/97 S	N/A	NP	4.85	2.06
	6.91	05/21/97 S	N/A	NP	5.53	1.38
	6.91	08/27/97 S	N/A	NP	5.76	1.15
	6.91	11/19/97 S	N/A	NP	5.65	1.26
	6.91	02/04/98 S	N/A	NP	4.45	2.46
	6.91	05/21/98 S	N/A	NP	4.69	2.22
	6.91	08/12/98 S	N/A	NP	5.28	1.63
	12.98	11/30/98 S	N/A	NP	5.47	7.51

TABLE 2-7
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (UPMF)
PORT OF OAKLAND
UNION PACIFIC MOTOR FREIGHT (UPMF) RAILYARD

WELL NO.	ELEV. TOC *	DATE	DEPTH TO PRODUCT	PRODUCT THICKNESS	DEPTH TO WATER	GROUNDWATER ELEV. *
OKUS-W7 cont.	12.98	02/19/99 C	N/A	NP	5.11	7.87
	12.98	05/04/99 C	N/A	NP	4.92	8.06
	12.98	08/12/99 C	N/A	NP	5.48	7.50
OKUS-W8	6.75	05/29/96 S	N/A	NP	4.93	1.82
	6.75	08/27/96 S	N/A	NP	5.52	1.23
	6.75	11/13/96 S	N/A	NP	5.90	0.85
	6.75	02/17/97 S	N/A	NP	4.69	2.06
	6.75	05/21/97 S	N/A	NP	5.36	1.39
	6.75	08/27/97 S	N/A	NP	5.59	1.16
	6.75	11/19/97 S	N/A	NP	5.45	1.30
	6.75	02/04/98 S	N/A	NP	4.36	2.39
	6.75	05/21/98 S	N/A	NP	4.45	2.30
	6.75	08/12/98 S	N/A	NP	5.05	1.70
	12.80	11/30/98 S	N/A	NP	5.20	7.60
	12.80	02/16/99 C	N/A	NP	5.00	7.80
	12.80	05/04/99 C	N/A	NP	4.81	7.99
	12.80	08/12/99 C	N/A	NP	5.34	7.46
APL/UP-W1	8.12	05/29/96 S	N/A	NP	WELL INACCESSABLE	
	8.12	08/27/96 S	N/A	NP	WELL INACCESSABLE	
	8.12	11/12/96 B	N/A	NP	WELL INACCESSABLE	
	8.12	02/17/97 S	N/A	NP	10.02	-1.90
	8.12	05/21/97 S	N/A	NP	10.14	-2.02
	8.12	08/27/97 S	N/A	NP	9.91	-1.79
	8.12	11/18/97 B	N/A	NP	9.32	-1.20
	8.12	02/04/98 S	N/A	NP	9.80	-1.68
	8.12	05/21/98 S	N/A	NP	10.21	-2.09
	8.12	08/12/98 S	N/A	NP	9.76	-1.64
	14.19	11/30/98 S	N/A	NP	9.77	4.42
	14.19	02/18/99 C	N/A	NP	10.19	4.00
	14.19	05/04/99 C	N/A	NP	10.39	3.80
	14.19	08/12/99 C	N/A	NP	10.27	3.92
APL/UP-W2	7.31	05/29/96 S	N/A	NP	9.68	-2.37
	7.31	08/27/96 S	N/A	NP	9.53	-2.22
	7.31	11/13/96 S	N/A	NP	9.57	-2.26
	7.31	02/17/97 S	N/A	NP	9.07	-1.76
	7.31	05/21/97 S	N/A	NP	9.42	-2.11
	7.31	08/27/97 S	N/A	NP	9.17	-1.86
	7.31	11/18/97 B	N/A	NP	8.59	-1.28
	7.31	02/04/98 S	N/A	NP	8.80	-1.49
	7.31	05/21/98 S	N/A	NP	9.58	-2.27

TABLE 2-7
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (UPMF)
PORT OF OAKLAND
UNION PACIFIC MOTOR FREIGHT (UPMF) RAILYARD

WELL NO.	ELEV. TOC *	DATE	DEPTH TO PRODUCT	PRODUCT THICKNESS	DEPTH TO WATER	GROUNDWATER ELEV. *
APL/UP-W2 cont.	7.31	08/12/98 S	N/A	NP	8.99	-1.68
	13.19	11/30/98 S	N/A	NP	8.76	4.43
	13.19	02/18/99 C	N/A	NP	9.55	3.64
	13.19	05/04/99 C	N/A	NP	9.76	3.43
	13.19	08/12/99 C	N/A	NP	9.58	3.61
RW	--	05/29/96 S	N/A	NP	8.68	--
	--	06/13/96 B	N/A	NP	8.68	--
	--	07/25/96 B	N/A	NP	9.09	--
	--	08/9/96 B	N/A	NP	9.16	--
	--	08/27/96 S	N/A	NP	9.18	--
	--	09/16/96 B	N/A	NP	9.33	--
	--	10/17/97 B	N/A	NP	9.50	--
	--	11/12/96 B	N/A	SHEEN	9.59	--
	--	11/25/96 B	9.43	0.02	9.45	--
	--	12/16/96 B	9.12	0.10	9.22	--
	--	01/20/97 B	N/A	SHEEN	8.50	--
		02/11/97 B	N/A	NP	8.33	--
	--	02/17/97 S	8.39	0.01	8.40	--
	--	03/6/97 B	N/A	NP	8.70	--
	--	04/29/97 B	N/A	SHEEN	9.03	--
	--	05/21/97 S	9.10	0.02	9.12	--
	--	05/27/97 B	9.09	0.03	9.12	--
	--	07/15/97 B	N/A	NP	9.22	--
		08/15/97 B	N/A	NP	9.17	--
	--	08/27/97 S	N/A	SHEEN	9.29	--
	--	11/19/97 S	N/A	SHEEN	9.29	--
	--	02/6/98 B	N/A	SHEEN	7.24	--
	--	05/22/98 S	N/A	SHEEN	8.21	--
	--	08/13/98 S	8.74	0.08	8.82	--
	15.84	11/30/98 S	N/A	SHEEN	8.92	6.92
	15.84	01/27/99 B	8.95	0.05	9.00	6.84
	15.84	02/16/99 C	N/A	SHEEN	8.41	7.43
	15.84	05/04/99 C	8.33	0.08	8.41	7.43
	15.84	08/12/99 C	8.95	0.15	9.10	6.74

-- Depth to water was not measured due to the presence of product in well.

N/A Non Applicable

NP - No Product

P - Product (bunker C) was encountered but the oil/water interface could not be found.

* Elevation of top of casing, all well casings and groundwater elevations measured to City of Oakland Datum (2.998 Mean Sea Level) from May 1996 through August 1998. In February 1999, the well casings were resurveyed to Port Datum (-3.202 Mean sea Level) by PLS Survey Inc.

TABLE 2-7
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENT DATA (UPMF)
PORT OF OAKLAND
UNION PACIFIC MOTOR FREIGHT (UPMF) RAILYARD

WELL NO.	ELEV. TOC *	DATE	DEPTH TO PRODUCT	PRODUCT THICKNESS	DEPTH TO WATER	GROUNDWATER ELEV. *

S = Measurement collected by Safety-Kleen personnel during quarterly sampling.

B = Measurements collected by Burns & McDonnell Waste Consultant personnel.

C = Measurements collected by Camp Dresser & McKee Inc. personnel during quarterly sampling.

TABLE 2-8
CUMULATIVE SUMMARY OF ANALYTICAL DATA
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well Number	Date Sampled	Total Petroleum Hydrocarbons-Diesel ug/L	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)
OMW-1	05/11/92	<50	<0.5	<0.5	<0.5	<0.5	
	08/11/92	60	<0.5	<0.5	<0.5	<0.5	
	11/13/92	67	<0.5	0.61 *	<0.5	<0.5	
	05/14/93	<50	<0.3	<0.3	<0.3	<0.9	
	11/10/93	<50	<0.3	<0.3	<0.3	<0.9	
	05/02/94	<50	<0.5	<0.5	<0.5	<0.5	
	11/15/94	<50	<0.5	<0.5	<0.5	<0.5	
	05/17/95	<50	<0.5	<0.5	<0.5	<0.5	
	11/30/95	240	<0.5	<0.5	<0.5	<0.5	
	05/29/96	56	<0.5	<0.5	<0.5	<0.5	
	11/12/96	<50	<0.5	<0.5	<0.5	<0.5	
	08/28/97	130	<0.5	<0.5	<0.5	<0.5	
	02/05/98	<50	<0.5	<0.5	<0.5	<0.5	
	08/13/98	170	<0.5	<0.5	<0.5	<0.5	
	02/17/99	<50	1.9	<0.5	<0.5	<0.5	
	08/13/99	<50	<0.5	77	0.88	2.32	2.5
OMW-2	05/11/92	4,500	<0.5	<0.5	<0.5	<0.5	
	08/11/92	2,700	<0.5	<0.5	<0.5	<0.5	
	11/13/92	3,400	<0.5	0.57 *	1.1	3.3	
	05/14/93	<50	<0.3	<0.3	<0.3	<0.9	
	11/10/93	<50	<0.3	<0.3	<0.3	<0.9	
	05/02/94	<50	<0.5	<0.5	<0.5	<0.5	
	11/16/94	260	<0.5	<0.5	<0.5	<0.5	
	05/17/95	82	<0.5	<0.5	<0.5	<0.5	
	11/30/95	4,000	<0.5	<0.5	<0.5	<0.5	
	05/29/96	580	<0.5	<0.5	<0.5	<0.5	
	11/12/96	3,400	<0.5	<0.5	<0.5	<0.5	
	08/28/97	720	<0.5	<0.5	<0.5	<0.5	
	02/05/98	1,800	<0.5	<0.5	2.3	<0.5	
	08/13/98	2,000	<0.5	<0.5	<0.5	<0.5	
	02/18/99	<50	<0.5	<0.5	1.9	<0.5	
OMW-3	05/11/92	2,300	0.3 J	1.3	0.3 J	3.4	
	08/11/92	5,800	<0.5	0.71	<0.5	1.7	
	11/13/92	110,000	<0.5	0.89 *	1.5	8.4	
	05/14/93	180	<0.3	36	<0.3	2.7	
	11/10/93	1,800	<0.3	0.5	<0.3	<0.9	
	05/02/94	1,800	<0.5	2.3	<0.5	0.89	
	11/15/94	1,200	<0.5	<0.5	<0.5	<0.5	
	05/17/95	460	<0.5	1.3	<0.5	<0.5	
	11/30/95	2,400	<0.5	<0.5	<0.5	<0.5	
	05/29/96	2,300	<0.5	<0.5	<0.5	<0.5	
	11/12/96	3,100	<0.5	<0.5	<0.5	<0.5	
	08/28/97	1,400	<0.5	<0.5	<0.5	<0.5	
	02/05/98	1,300	<0.5	<0.5	<0.5	<0.5	
	08/13/98	3,200	<0.5	<0.5	<0.5	<0.5	
	02/17/99	250 YH	<0.5	<0.5	<0.5	<0.5	
	08/13/99	200	<0.5	<0.5	<0.5	<0.5	3.3
OMW-5	05/11/92	2,100	<0.5	.4 J	<0.5	0.3	
	08/11/92	2,100	<0.5	<0.5	<0.5	<0.5	
	11/13/92	4,400	<0.5	0.78 *	<0.5	<0.5	

TABLE 2-8

CUMULATIVE SUMMARY OF ANALYTICAL DATA
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well Number	Date Sampled	Total Petroleum Hydrocarbons-Diesel ug/L	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)
OMW-5 cont.	05/14/93	11,000	<0.3	1.8	<0.3	<0.9	
	11/10/93	<50	<0.3	0.6	<0.3	<0.9	
	05/02/94	<50	<0.5	<0.5	<0.5	<0.5	
	11/16/94	520	<0.5	1.2	1.4	7.7	
	05/18/95	2,400	<0.5	<0.5	<0.5	1.7	
	11/30/95	13,000	<0.5	<0.5	<0.5	<0.5	
	05/29/96	5,800	<0.5	<0.5	<0.5	<0.5	
	11/12/96	****** NOT SAMPLED - Well Contained Product/Sheen******					
	08/28/97	1,700	<0.5	<0.5	<0.5	<0.5	
	02/05/98	2,200	<0.5	<0.5	<0.5	<0.5	
	08/13/98	3,700	<0.5	<0.5	<0.5	<0.5	
	02/18/99	370	<0.5	<0.5	<0.5	<0.5	
	08/13/99	430 YH	<0.5	<0.5	<0.5	<0.5	0.0051
OMW-6	05/11/92	520	<0.5	<0.5	<0.5	0.0016	
	08/11/92	550	<0.5	<0.5	<0.5	<0.5	
	11/13/92	6,000	<0.5	0.77 *	<0.5	<0.5	
	05/14/93	180	<0.3	<0.3	<0.3	<0.9	
	11/10/93	<50	<0.3	<0.3	<0.3	<0.9	
	05/02/94	<50	<0.5	<0.5	<0.5	<0.5	
	11/16/94	460	<0.5	<0.5	<0.5	<0.5	
	05/17/95	1,100	<0.5	<0.5	<0.5	<0.5	
	11/30/95	2,500	<0.5	<0.5	<0.5	<0.5	
	05/29/96	2,300	<0.5	<0.5	<0.5	<0.5	
	11/12/96	1,900	<0.5	<0.5	<0.5	<0.5	
	08/28/97	990	<0.5	<0.5	<0.5	<0.5	
	02/05/98	1,500	<0.5	<0.5	<0.5	<0.5	
	08/13/98	1,500	<0.5	<0.5	<0.5	<0.5	
	02/18/99	550 Y	<0.5	<0.5	<0.5	<0.5	
	08/13/99	160	<0.5	<0.5	<0.5	<0.5	4.6
OMW-8	05/11/92	240	<0.5	<0.5	<0.5	<0.5	
	08/11/92	220	<0.5	<0.5	<0.5	<0.5	
	11/13/92	260	<0.5	0.58 *	<0.5	<0.5	
	05/14/93	<50	<0.3	<0.3	<0.3	<0.9	
	11/10/93	<50	<0.3	<0.3	<0.3	<0.9	
	05/02/94	<50	<0.5	<0.5	<0.5	<0.5	
	11/15/94	260	<0.5	<0.5	<0.5	<0.5	
	05/17/95	260	<0.5	<0.5	<0.5	<0.5	
	11/30/95	1,700	<0.5	<0.5	<0.5	<0.5	
	05/29/96	1,300	<0.5	<0.5	<0.5	<0.5	
	11/12/96	1,300	<0.5	<0.5	<0.5	<0.5	
	08/28/97	1,300	<0.5	<0.5	<0.5	<0.5	
	02/05/98	1,900	<0.5	<0.5	<0.5	<0.5	
	08/13/98	1,600	<0.5	<0.5	<0.5	<0.5	
	02/17/99	52 YH	<0.5	<0.5	<0.5	<0.5	
	08/13/99	<50	<0.5	<0.5	<0.5	<0.5	6.5
OMW-10	05/11/92	2,100	33	<0.5	<0.5	2.7	
	08/11/92	1,300	9.6	<0.5	<0.5	0.62	
	11/13/92	2,800	6.6	0.84	<0.5	0.62	
	05/14/93	****** NOT SAMPLED - Well Contained Product/Sheen******					
	11/10/93	2,600	4.3	1.1	<0.3	0.12	
	05/02/94	2,600	0.52	<0.5	<0.5	<0.5	

TABLE 2-8

CUMULATIVE SUMMARY OF ANALYTICAL DATA
PORT OF OAKLAND
TRAILER-ON-FLAT-CAR (TOFC) RAILYARD

Well Number	Date Sampled	Total Petroleum Hydrocarbons-Diesel ug/L	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)
OMW-10 cont.	11/16/94	****** NOT SAMPLED - Well Contained Product/Sheen******					
	05/17/95	****** NOT SAMPLED - Well Contained Product/Sheen******					
	11/30/95	****** NOT SAMPLED - Well Contained Product/Sheen******					
	05/29/96	****** NOT SAMPLED - Well Contained Product/Sheen******					
	11/12/96	****** NOT SAMPLED - Well Contained Product/Sheen******					
	08/28/97	****** NOT SAMPLED - Well Contained Product/Sheen******					
	02/05/98	9,100	18000	<0.5	<0.5	<0.5	
	08/13/98	4,500	210	0.5	<0.5	<0.5	
	02/17/99	15,000	1.9	<0.5	<0.5	<0.5	
(duplicate)	02/17/99	19,000	1.9	<0.5	<0.5	<0.5	
	08/13/99	1,600	16	31	1.49	1.45	11 C
(duplicate)	08/13/99	NA	16	34	0.59	1.65	14
TRIP BLANK	08/13/99	NA	<0.5	<0.5	<0.5	<0.5	3.8

J - Estimated value below reporting limit.

* 0.62 ug/L was detected in the trip blank.

ug/L - micrograms per liter

TPH/D - Total Petroleum Hydrocarbons as Diesel anaylzed using EPA Method 8015 Mod. with Silicia Gel Cleanup (since 2/99).

BTEX -*Benzene, toluene, ethylbenzene,* and xylenes analyzed using EPA Method 8020.

Samples were analyzed at Curtis & Tompkins Ltd., a state certified analytical laboratory in Berkeley, California (since 2/99).

Y - Sample exhibits diesel fuel pattern which does not resemble standard, per Curtis & Tompkins, Ltd.

H - Heavier hydrocarbons than indicated standard, per Curtis & Tompkins, Ltd.

L - Lighter hydrocarbons than indicated standard, per Curtis & Tompkins, Ltd.

C - Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported results by more than a factor of two, per Curtis & Tompkins, Ltd.

Due to the presence of product, recovery wells ORW-1, ORW-2, ORW-3, OP-1, OP-2, OP-3, and OP-4 and monitoring wells OMW-4, OMW-7, and OMW-9 were not sampled.

Appendix A

OM&M Checklist

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 7/7/99
Inspector's Name: JOSCOTT
Company: CAM
Time Inspector On-site: 800
Offsite: 950
UPRR Person Notified: Tom
Time: 810
Reason for Visit: OM&M
Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons):	1342980	
Neptune Volume (gallons):	7133640	
Flow Rate thru Carbon (gallons/minute):	12.4	
Filter Pressure - Inlet (psig):	10	@ 940
Filter Pressure - Outlet (psig):	10	@ 940
Oil Level in Tank (inches):	58 1/2"	
OP-4 meter reading (gallons):	—	@
OMW-9 meter reading (gallons):	712589	@

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty? No,
Duration of backwashing: 830 - 910
Observation of Effluent: clear afterwards

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes		
ORW-2	Yes		
ORW-3	No		
OMW-9	Yes		
OP-4	No, bad battery		

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 50 gallons

Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ✓

Change Oil in Compressor every 3 months: ✓

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 7-13-99
Inspector's Name: Vescott — Company: Cloud
Time Inspector On-site: 810 — Offsite: 940
UPRR Person Notified: Tom — Time: 815
Reason for Visit: Oil & gas
Weather Conditions: Sunny, 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons):	134500	
Neptune Volume (gallons):	7138460	
Flow Rate thru Carbon (gallons/minute):	18.0	
Filter Pressure - Inlet (psig):	12	@
Filter Pressure - Outlet (psig):	4	@
Oil Level in Tank (inches):	42"	
OP-4 meter reading (gallons):	138707	@
OMW-9 meter reading (gallons):	801180	@

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty? yes
Duration of backwashing: 830 - 910
Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	no		
ORW-2	↓		
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 1/2 drum
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok
Change Oil in Compressor every 3 months: ✓

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Call Rex to fire system pumps - air compressor seems fine but no air is getting to pumps.

42" @ oil tank.

Call to order more sodium hypochlorite.

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 7/21/99
Inspector's Name: Vosloff Company: CBG
Time Inspector On-site: ~~10:00~~ 850 Offsite: 1100
UPRR Person Notified: Gary Time: 900
Reason for Visit: Check Oil / Restart system if possible
Weather Conditions: Cool, Cloudy 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? Yes (No) High oil condition

System Readings:

Signet Volume (gallons): 134517 0
Neptune Volume (gallons): 7138670
Flow Rate thru Carbon (gallons/minute): ~~0~~
Filter Pressure - Inlet (psig): ~~0~~ @
Filter Pressure - Outlet (psig): ~~0~~ @
Oil Level in Tank (inches): 42"
OP-4 meter reading (gallons): — @
OMW-9 meter reading (gallons): — @

Change Filters: Yes (No)

Procedures:

Observations:

Backwash Primary Carbon Canisters: Yes (No)

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	↓		
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 3 drums delivered today
Period of Feed System Operation: —

Air Compressor:

Check Oil Level: OK
Change Oil in Compressor every 3 months: ✓

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

System is down to ~~low~~ high oil level in 1,000-gal tank, Approximately 670 gallons in tank. In the process of having vendor remove / dispose the oil

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 7/30/13
Inspector's Name: SCOTT — Company: CDM
Time Inspector On-site: 830 — Offsite: 900
UPRR Person Notified: Gary — Time: 935
Reason for Visit: Quarterly
Weather Conditions: Cool Sl.

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons):	1350210		
Neptune Volume (gallons):	7144115		
Flow Rate thru Carbon (gallons/minute):	20.1		
Filter Pressure - Inlet (psig):	~~10~~	11	@
Filter Pressure - Outlet (psig):	~~15~~	9	@
Oil Level in Tank (inches):	< 12"		
OP-4 meter reading (gallons):	–		@
OMW-9 meter reading (gallons):	–		@

Change Filters: Yes (No)

Procedures:

Observations:

Backwash Primary Carbon Canisters: Yes (No)

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1			
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 3 drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok
Change Oil in Compressor every 3 months: ✓

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date: 8-3-09

Inspector's Name: [illegible] Company: [illegible]

Time Inspector On-site: 1830 Offsite: 1940

UPRR Person Notified: — Time: —

Reason for Visit: OM&M

Weather Conditions: Sunny, cool [illegible]

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** (circled) **No**

System Readings:

Signet Volume (gallons):	1255530 / 7150038	
Neptune Volume (gallons):	10.5	
Flow Rate thru Carbon (gallons/minute):		
Filter Pressure - Inlet (psig):	10	@
Filter Pressure - Outlet (psig):	10	@
Oil Level in Tank (inches):	<1/2"	
OP-4 meter reading (gallons):	—	@
OMW-9 meter reading (gallons):	—	@

Change Filters: **Yes** **No** (circled)

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No** (circled)

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes		
ORW-2	no		
ORW-3	yes		
OMW-9	Yes		
OP-4	no		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: _____

Period of Feed System Operation: _____

Air Compressor:

Check Oil Level: _____

Change Oil in Compressor every 3 months: _____

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

_____

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Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 8-6-09
Inspector's Name: C. S. Company: CDM
Time Inspector On-site: 845 Offsite:
UPRR Person Notified: Tom Time: 900
Reason for Visit: OM&M
Weather Conditions: Cool, 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons):	1358810		
Neptune Volume (gallons):	1153670		
Flow Rate thru Carbon (gallons/minute):	23		
Filter Pressure - Inlet (psig):	10	@	1020
Filter Pressure - Outlet (psig):	9	@	1020
Oil Level in Tank (inches):	<12"		
OP-4 meter reading (gallons):	illegible	@	930
OMW-9 meter reading (gallons):	illegible	@	930

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty? no
Duration of backwashing: 935 - 1010
Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	ye	
ORW-2	yes		
ORW-3	no		
OMW-9	yes		
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 2½ drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: OK
Change Oil in Compressor every 3 months: ✓

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date: 8/16/99

Inspector's Name: Joscott — Company: CH2M

Time Inspector On-site: 8:40 — Offsite: 1020

UPRR Person Notified: Tom — Time: 850

Reason for Visit: O&M

Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons):	1365810	
Neptune Volume (gallons):	7161510	
Flow Rate thru Carbon (gallons/minute):	10	
Filter Pressure - Inlet (psig):	10	@
Filter Pressure - Outlet (psig):	9	@
Oil Level in Tank (inches):	<12"	
OP-4 meter reading (gallons):	—	@
OMW-9 meter reading (gallons):	—	@

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty? no

Duration of backwashing: 930 - 1000

Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes		
ORW-2	yes		
ORW-3	yes		
OMW-9	yes		
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 2 1/2 drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: OK
Change Oil in Compressor every 3 months: ~

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No** (circled)

IV. Comments

The system was down due to a blown air compressor motor from Tuesday 8/10 - Friday 8/13.
The motor was replaced on 8/13.

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

pection Date: 8-20-99
Inspector's Name: REX ROSS Company: CALCON / SYSTEMS
Time Inspector On-site: 0700 Offsite: 0900
PRR Person Notified: Time/Date:
Reason for Visit: MAINT.
Weather Conditions: NICE

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons): 137097
Neptune Volume (gallons): 07167180
Flow Rate thru Carbon (gallons/minute): 12
Filter Pressure - Inlet (psig): 11
Filter Pressure - Outlet (psig): 9
Oil Level in Tank (inches): LESS THAN 12"
W-4 meter reading (gallons): 740155
OMW-9 meter reading (gallons): 507182

Change Filters: Yes (No)

Procedures:

Observations:

Backwash Primary Carbon Canisters: Yes (No)

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Clean?	Comments
ORW-1	YES	YES	
ORW-2	YES	YES	
ORW-3	NO		O/S - FAULTY CONTROL MECHANISM
W-9	NO	"	"STUCK" REBARGED PUMP
OP-4	NO		"STUCK" " "

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

8-20-99

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: ALMOST FULL BBL

Period of Feed System Operation: CONTINUOUS

Air Compressor:

Check Oil Level: OK

Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? Yes (No)

Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 8-24-99
Inspector's Name: Vescolt
Company: CDM
Time Inspector On-site: 820
Offsite: 1000
UPRR Person Notified: Tom
Time: 830
Reason for Visit: O&M
Weather Conditions: Cool, overcast 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons): 1380850
Neptune Volume (gallons): 7178120
Flow Rate thru Carbon (gallons/minute): 17.5
Filter Pressure - Inlet (psig): 10 @ 950
Filter Pressure - Outlet (psig): 6 @ 950
Oil Level in Tank (inches): 27
OP-4 meter reading (gallons): 7407.20 @
OMW-9 meter reading (gallons): 6220100 @

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty? ha
Duration of backwashing: 900 - 935
Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	ya	ya	
ORW-2	"	"	
ORW-3	"	"	
OMW-9	"	"	
OP-4	"	"	

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 2 drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: OK ✓
Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date: 8-26-99

Inspector's Name: Voscott — Company: Cal24

Time Inspector On-site: 1500 — Offsite: 1600

UPRR Person Notified: — — Time:

Reason for Visit: Routine

Weather Conditions: Sunny, 120

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons):	1351160		
Neptune Volume (gallons):	7176400		
Flow Rate thru Carbon (gallons/minute):	12.5		
Filter Pressure - Inlet (psig):	11	@	1600
Filter Pressure - Outlet (psig):	10	@	1600
Oil Level in Tank (inches):	12		
OP-4 meter reading (gallons):		@	
OMW-9 meter reading (gallons):		@	

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	ok		
ORW-2	ok		
ORW-3	ok		
OMW-9	ok		
OP-4	ok		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: _____

Period of Feed System Operation: _____

Air Compressor:

Check Oil Level: _____

Change Oil in Compressor every 3 months: _____

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 8-1-99
Inspector's Name: Voscott
Company: CDM
Time Inspector On-site: 810
Offsite: 945
UPRR Person Notified: —
Time: —
Reason for Visit: Quarterly
Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons):	1393630		
Neptune Volume (gallons):	7192180		
Flow Rate thru Carbon (gallons/minute):	12.4		
Filter Pressure - Inlet (psig):	11	@	930
Filter Pressure - Outlet (psig):	10	@	930
Oil Level in Tank (inches):	<12"		
OP-4 meter reading (gallons):	ok	@	
OMW-9 meter reading (gallons):	ok	@	

Change Filters: (Yes) No

Procedures: Same as usual

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty? no
Duration of backwashing: 900 - 930
Observation of Effluent: clear after 30 mins.

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	yes	
ORW-2	yes	↓	
ORW-3	no		
OMW-9	yes		
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 1 1/2 drum

Period of Feed System Operation: Continuous

Air Compressor:

Check Oil Level: ok

Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date: 9-3-99

Inspector's Name: Wesch Company: CDM

Time Inspector On-site: 830 Offsite: 930

UPRR Person Notified: — Time: —

Reason for Visit: O&M

Weather Conditions: Cool, 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons):	1398700		
Neptune Volume (gallons):	719780		
Flow Rate thru Carbon (gallons/minute):	20		
Filter Pressure - Inlet (psig):	10	@	900
Filter Pressure - Outlet (psig):	9	@	900
Oil Level in Tank (inches):	<12		
OP-4 meter reading (gallons):	—	@	—
OMW-9 meter reading (gallons):	—	@	—

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes		
ORW-2	Yes		
ORW-3	No		
OMW-9	Yes		
OP-4	Yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 1½ drums

Period of Feed System Operation: Continuous

Air Compressor:

Check Oil Level: OK

Change Oil in Compressor every 3 months: OK

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date:	9-7-99		
Inspector's Name:	Voscott	Company:	Cow
Time Inspector On-site:	850	Offsite:	1010
UPRR Person Notified:	—	Time:	—
Reason for Visit:	OMW		
Weather Conditions:	Overcast 50s		

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons):	1408780	
Neptune Volume (gallons):	7208880	
Flow Rate thru Carbon (gallons/minute):	20	
Filter Pressure - Inlet (psig):	11	@ 1000
Filter Pressure - Outlet (psig):	10	@ 1000
Oil Level in Tank (inches):	12	
OP-4 meter reading (gallons):	43696	@
OMW-9 meter reading (gallons):	880416	@

Change Filters: **Yes** **No**

Procedures:	Seam
Observations:	clogged w/ silt

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?	No
Duration of backwashing:	930 - 955
Observation of Effluent:	mud-clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes		
ORW-2	"		
ORW-3	"		
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 1 drum

Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok

Change Oil in Compressor every 3 months: ok

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date:	9-10-99		
Inspector's Name:	Voscott	Company:	QSM
Time Inspector On-site:	810	Offsite:	910
UPRR Person Notified:	—	Time:	—
Reason for Visit:	OM&M		
Weather Conditions:	Overcast, cool 50s		

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **(Yes)** **No**

System Readings:

Signet Volume (gallons):	1414830	
Neptune Volume (gallons):	7215496	
Flow Rate thru Carbon (gallons/minute):	12	
Filter Pressure - Inlet (psig):	10	@ 900
Filter Pressure - Outlet (psig):	9	@ 900
Oil Level in Tank (inches):	<12	
OP-4 meter reading (gallons):	—	@
OMW-9 meter reading (gallons):	—	@

Change Filters: **(Yes)** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **(No)**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	✓		
ORW-2	✓		
ORW-3	✓		
OMW-9	✓		
OP-4	✓		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 1 drum
Period of Feed System Operation: Continuous

Air Compressor:

Check Oil Level: OK
Change Oil in Compressor every 3 months: ok

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No** (circled)

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date:	9-15-99		
Inspector's Name:	Vasco H	Company:	CDM
Time Inspector On-site:	800 —	Offsite:	900
UPRR Person Notified:	—	Time:	—
Reason for Visit:	Quarterly		
Weather Conditions:	Cool, cloudy 50s.		

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons):	1423350	
Neptune Volume (gallons):	7224810	
Flow Rate thru Carbon (gallons/minute):	19.0	
Filter Pressure - Inlet (psig):		@
Filter Pressure - Outlet (psig):		@
Oil Level in Tank (inches):		
OP-4 meter reading (gallons):		@
OMW-9 meter reading (gallons):		@

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1			
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: _____

Period of Feed System Operation: _____

Air Compressor:

Check Oil Level: _____

Change Oil in Compressor every 3 months: _____

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

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Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 9-17-99
Inspector's Name: Voscott Company: CBM
Time Inspector On-site: 800 Offsite: 945
UPRR Person Notified: — Time: —
Reason for Visit: routine
Weather Conditions: overcast 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons): 1427500
Neptune Volume (gallons): 7229396
Flow Rate thru Carbon (gallons/minute):
Filter Pressure - Inlet (psig): @
Filter Pressure - Outlet (psig): @
Oil Level in Tank (inches):
OP-4 meter reading (gallons): @
OMW-9 meter reading (gallons): @

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1			
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: _____

Period of Feed System Operation: _____

Air Compressor:

Check Oil Level: _____

Change Oil in Compressor every 3 months: _____

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

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Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date: 7/22/99

Inspector's Name: VdScott Company: CBEC

Time Inspector On-site: 815 Offsite: 945

UPRR Person Notified: — Time: —

Reason for Visit: OMaM

Weather Conditions: Overcast 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons): 1435860

Neptune Volume (gallons): 7238770

Flow Rate thru Carbon (gallons/minute):

Filter Pressure - Inlet (psig): 10 @ 930

Filter Pressure - Outlet (psig): 9 @ 930

Oil Level in Tank (inches): <12"

OP-4 meter reading (gallons): @

OMW-9 meter reading (gallons): @

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty? no

Duration of backwashing: 1/2 hour

Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	yes	
ORW-2	yes		
ORW-3	—		
OMW-9	yes		
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: full

Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok

Change Oil in Compressor every 3 months: ✓

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 10-1-96
Inspector's Name: Vossett Company: CDM
Time Inspector On-site: 830 Offsite: 940
UPRR Person Notified: — Time: —
Reason for Visit: OMBM
Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons): 1450810
Neptune Volume (gallons): 7254866
Flow Rate thru Carbon (gallons/minute): 10.2
Filter Pressure - Inlet (psig): 11 @ 920
Filter Pressure - Outlet (psig): 10 @ 920
Oil Level in Tank (inches): <12" @
OP-4 meter reading (gallons): @
OMW-9 meter reading (gallons): @

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1			
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: Full drum
Period of Feed System Operation: Continuous

Air Compressor:

Check Oil Level: OK
Change Oil in Compressor every 3 months: OK

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date: 10-5-99

Inspector's Name: [illegible] Company:

Time Inspector On-site: [illegible] Offsite: 1040

UPRR Person Notified: Time: —

Reason for Visit: Oland

Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons):	1456210	
Neptune Volume (gallons):	1260780	
Flow Rate thru Carbon (gallons/minute):	12.5	
Filter Pressure - Inlet (psig):	10	@ 1030
Filter Pressure - Outlet (psig):	4	@ 1030
Oil Level in Tank (inches):	42	
OP-4 meter reading (gallons):		@
OMW-9 meter reading (gallons):		@

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	yes	
ORW-2	yes		
ORW-3	no		
OMW-9	yes	V	
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: _____

Period of Feed System Operation: _____

Air Compressor:

Check Oil Level: _____

Change Oil in Compressor every 3 months: _____

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

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Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 10-8-99
Inspector's Name: Vosco T. Company: CAU
Time Inspector On-site: 800 Offsite: 1020
UPRR Person Notified: — Time: —
Reason for Visit: Oakall
Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons): 1462670
Neptune Volume (gallons): 7260740
Flow Rate thru Carbon (gallons/minute): 19.2
Filter Pressure - Inlet (psig): 10 @ 940
Filter Pressure - Outlet (psig): 9 @ 940
Oil Level in Tank (inches): 12
OP-4 meter reading (gallons): — @
OMW-9 meter reading (gallons): — @

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty? yes
Duration of backwashing: 900-930
Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	yes	ok
ORW-2	//	//	//
ORW-3	//	//	//
OMW-9	//	//	//
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 1/2 drum
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok
Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Delivery of 6-drums of Sodium Hypochlorite

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 10/11/05
Inspector's Name: Voscott — Company: CBM
Time Inspector On-site: 830 — Offsite: 1000
UPRR Person Notified: — — Time: —
Reason for Visit: annual – delivery of chemicals
Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **(Yes)** **No**

System Readings:

Signet Volume (gallons):	1465660	
Neptune Volume (gallons):	7271220	
Flow Rate thru Carbon (gallons/minute):	20.0	
Filter Pressure - Inlet (psig):	11	@ 945
Filter Pressure - Outlet (psig):	10	@ 945
Oil Level in Tank (inches):	<12	
OP-4 meter reading (gallons):	—	@
OMW-9 meter reading (gallons):	—	@

Change Filters: **(Yes)** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **(No)**

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes		
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 6 drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok
Change Oil in Compressor every 3 months: ok

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Delivery of 6 - drums of Sodium hypochlorite.

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 10/14/99
Inspector's Name: Voscott Company: CAM
Time Inspector On-site: 800 Offsite: 915
UPRR Person Notified: — Time: —
Reason for Visit: CAM
Weather Conditions: Sunny 60s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons): 1467480
Neptune Volume (gallons): 7273390
Flow Rate thru Carbon (gallons/minute): 19
Filter Pressure - Inlet (psig): 16 @ 900
Filter Pressure - Outlet (psig): 9 @ 900
Oil Level in Tank (inches): <12"
OP-4 meter reading (gallons): ok @
OMW-9 meter reading (gallons): ok @

Change Filters: **Yes** **No**

Procedures:

Observations: clean

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	yes	
ORW-2	yes		
ORW-3	no		
OMW-9	yes		
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 6 drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: OK
Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date:	10/18/99		
Inspector's Name:	Voscott	Company:	CDM
Time Inspector On-site:	830	Offsite:	1130
UPRR Person Notified:	—	Time:	—
Reason for Visit:	OM&M – sample free product		
Weather Conditions:	Sunny 60s		

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **(Yes)** **No**

System Readings:

Signet Volume (gallons):	1470510	
Neptune Volume (gallons):	7276690	
Flow Rate thru Carbon (gallons/minute):	12	
Filter Pressure - Inlet (psig):	10	@ 11a
Filter Pressure - Outlet (psig):	9	@ 11:00
Oil Level in Tank (inches):	<12	
OP-4 meter reading (gallons):	✓	@
OMW-9 meter reading (gallons):	✓	@

Change Filters: **(Yes)** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **(Yes)** **No**

Is holding tank half empty?	No
Duration of backwashing:	10:00 - 10:55
Observation of Effluent:	clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	yes	
ORW-2	yes	✓	
ORW-3	no		
OMW-9	yes		
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 5 1/2 drums

Period of Feed System Operation: Continuous

Air Compressor:

Check Oil Level: OK

Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

collected free product
Samples from OPW-2 and OP-3
and 1 OKUS-WG.

Samples were submitted to Centris & Tonkin.

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 10/25/99
Inspector's Name: V. Oscott — Company: Cal
Time Inspector On-site: 840 — Offsite: 1020
UPRR Person Notified: — — Time: —
Reason for Visit: Quarterly
Weather Conditions: Sunny 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **(Yes)** **No**

System Readings:

Signet Volume (gallons):	1479700	
Neptune Volume (gallons):	728190	
Flow Rate thru Carbon (gallons/minute):	10	
Filter Pressure - Inlet (psig):	9	@ 1000
Filter Pressure - Outlet (psig):		@ 1000
Oil Level in Tank (inches):	42	
OP-4 meter reading (gallons):	✓	@
OMW-9 meter reading (gallons):	✓	@

Change Filters: **(Yes)** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **(Yes)** **No**

Is holding tank half empty?
Duration of backwashing: 930 - 1000
Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	no	no	
ORW-2	✓		
ORW-3			
OMW-9	yes	✓	
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 6 drums

Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok

Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date:	10/29/99		
Inspector's Name:	Voscott	Company:	CAM
Time Inspector On-site:	830	Offsite:	915
UPRR Person Notified:	—	Time:	—
Reason for Visit:	OM&M		
Weather Conditions:	Cool 50s		

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **(Yes)** **No**

System Readings:

Signet Volume (gallons):	1480040
Neptune Volume (gallons):	7287050
Flow Rate thru Carbon (gallons/minute):	19
Filter Pressure - Inlet (psig):	10 @ 90
Filter Pressure - Outlet (psig):	9 @ 90
Oil Level in Tank (inches):	<12"
OP-4 meter reading (gallons):	" @
OMW-9 meter reading (gallons):	" @

Change Filters: **(Yes)** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **(No)**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes	—	
ORW-2	Yes		
ORW-3	"		
OMW-9	Yes		
OP-4	Yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 5 1/2 drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level:
Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 11/3/99
Inspector's Name: Voscott — Company: Cdm
Time Inspector On-site: 800 — Offsite: 930
UPRR Person Notified: — — Time: —
Reason for Visit: Quarterly
Weather Conditions: Cool 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **(Yes)** **No**

System Readings:

Signet Volume (gallons):	1487500	
Neptune Volume (gallons):	7295390	
Flow Rate thru Carbon (gallons/minute):	20	
Filter Pressure - Inlet (psig):	10	@ 915
Filter Pressure - Outlet (psig):	9	@ 915
Oil Level in Tank (inches):	<12	
OP-4 meter reading (gallons):	ok	@
OMW-9 meter reading (gallons):	ok	@

Change Filters: **(Yes)** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **(No)**

Is holding tank half empty?
Duration of backwashing:
Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes		
ORW-2	No		
ORW-3	no		
OMW-9	Yes		
OP-4	Yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 5 1/2 drums

Period of Feed System Operation: Continuous

Air Compressor:

Check Oil Level: ok

Change Oil in Compressor every 3 months: ok

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No** (circled)

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date:	4/12/99		
Inspector's Name:	Vesch	Company:	OMI
Time Inspector On-site:	8[illegible]	Offsite:	945
UPRR Person Notified:	—	Time:	—
Reason for Visit:	OM&M		
Weather Conditions:	Sunny 60s		

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons):	1504700	
Neptune Volume (gallons):	7313690	
Flow Rate thru Carbon (gallons/minute):	17	
Filter Pressure - Inlet (psig):	10	@ 736
Filter Pressure - Outlet (psig):	9	@ 730
Oil Level in Tank (inches):	42	
OP-4 meter reading (gallons):	—	@
OMW-9 meter reading (gallons):	—	@

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	Yes	No	
ORW-2	Yes	No	
ORW-3	Yes	No	
OMW-9	Yes	No	
OP-4	Yes	No	

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 5 drums
Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: OK
Change Oil in Compressor every 3 months: yes 11/12/99

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Inspection Date: 11-19-99

Inspector's Name: Vosicott — Company: CRW

Time Inspector On-site: 815 — Offsite: 930

UPRR Person Notified: — — Time: —

Reason for Visit: O M & M

Weather Conditions: Cool, sunny 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? (Yes) No

System Readings:

Signet Volume (gallons): 1516600

Neptune Volume (gallons): 0732697.0

Flow Rate thru Carbon (gallons/minute): 18

Filter Pressure - Inlet (psig): 10 @

Filter Pressure - Outlet (psig): 9 @

Oil Level in Tank (inches): 12.6

OP-4 meter reading (gallons): ✓ @

OMW-9 meter reading (gallons): ✓ @

Change Filters: (Yes) No

Procedures:

Observations:

Backwash Primary Carbon Canisters: (Yes) No

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1			
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: _____

Period of Feed System Operation: _____

Air Compressor:

Check Oil Level: _____

Change Oil in Compressor every 3 months: _____

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

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Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date: 11/24/99
Inspector's Name: V Scott — Company: CBuy
Time Inspector On-site: 830 — Offsite: 1045
UPRR Person Notified: — — Time: —
Reason for Visit: O&M
Weather Conditions: Sunny 50s

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **Yes** **No**

System Readings:

Signet Volume (gallons): 1524190
Neptune Volume (gallons): 7335190
Flow Rate thru Carbon (gallons/minute): 19
Filter Pressure - Inlet (psig): 10 @ 1030
Filter Pressure - Outlet (psig): 9 @ 1030
Oil Level in Tank (inches): 42
OP-4 meter reading (gallons): ~ @
OMW-9 meter reading (gallons): ~ @

Change Filters: **Yes** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **Yes** **No**

Is holding tank half empty? no
Duration of backwashing: 30 mins
Observation of Effluent: clear

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1	yes	yes	
ORW-2	yes		
ORW-3	no		
OMW-9	yes		
OP-4	yes		

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard

1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 4½ drums

Period of Feed System Operation: continuous

Air Compressor:

Check Oil Level: ok

Change Oil in Compressor every 3 months: ok

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

OPERATION, MAINTENANCE & MONITORING CHECKLIST

Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Inspection Date:	11/30/99		
Inspector's Name:	JDScott	Company:	CDM
Time Inspector On-site:	1400	Offsite:	1530
UPRR Person Notified:	—	Time:	—
Reason for Visit:	Quarterly		
Weather Conditions:	Cool 50s		

Record status as found and any repairs/adjustments performed

Treatment System General Inspection/Readings:

System Operating? **(Yes)** **No**

System Readings:

Signet Volume (gallons):	1536480		
Neptune Volume (gallons):	7348990		
Flow Rate thru Carbon (gallons/minute):	17		
Filter Pressure - Inlet (psig):	11	@	1515
Filter Pressure - Outlet (psig):	10	@	1515
Oil Level in Tank (inches):	<12		
OP-4 meter reading (gallons):	4	@	
OMW-9 meter reading (gallons):	4	@	

Change Filters: **(Yes)** **No**

Procedures:

Observations:

Backwash Primary Carbon Canisters: **(Yes)** **No**

Is holding tank half empty?

Duration of backwashing:

Observation of Effluent:

Inspection and Cleaning of Pumps:

Wells	Operating?	Requires Cleaning?	Comments
ORW-1			
ORW-2			
ORW-3			
OMW-9			
OP-4			

OPERATION, MAINTENANCE & MONITORING CHECKLIST
Union Pacific Railroad - Oakland Trailer-on-flat-car (TOFC) railyard
1717 Middle Harbor Road, Oakland, California

Chlorine Feed System:

Volume of Sodium Hypochlorite Remaining: 4 drums

Period of Feed System Operation: Continuous

Air Compressor:

Check Oil Level: OK ✓

Change Oil in Compressor every 3 months:

Sampling:

Sample Location	Sampling Frequency	Analytes	EPA Method	Sampling Method
Midpoint	Monthly	BTEX	8020	3 - 40 ml vials with HCl 4 degree Celcius
Influent Effluent	Quarterly January, April, July, October	BTEX TPH-D	8020 8015M	3 - 40 ml vials with HCl 1 - 1 liter amber glass 4 degree Celcius

Performed during this visit? **Yes** **No**

IV. Comments

Before departing site, please call Hoa Voscott at CDM (925-296-8071)
If no answer, dial "0" for operator and request a page.

Appendix B

Monitoring Well Fluid Level Logs and Purge Forms

8/12/99

Well	Time	DTP	DTW	Comments	Sample Well	DTB	Analsyis	
OMW-1	831		6.86		y	12.07	TPH-D	BTEX/MTBE
OMW-2	900		4.14		y	9.92	TPH-D	BTEX/MTBE
OMW-3	836		5.28		y	10.69	TPH-D	BTEX/MTBE
OMW-4	1003	5.0	6.68					
OMW-5	850		5.25		y	17.46	TPH-D	BTEX/MTBE
OMW-6	1020		7.44		y	11.8	TPH-D	BTEX/MTBE
OMW-7	925	4.70	7.41					
OMW-8	955		5.50		y	17.46	TPH-D	BTEX/MTBE
OMW-9	937	4.43	4.54					
OMW-10	910		5.74		y	15.35	TPH-D	BTEX/MTBE
ORW-1	918	4.33	4.41					
ORW-2	930	4.55	8.51					
ORW-3	1004	4.25	4.30					
OP-1	945	3.60	10.55					
OP-2	852	4.13	5.54					
OP-3	930	3.99	7.94					
OP-4	915		4.37					
OKUS-W1	1040		8.20		y	18.8	TPH-G/D	BTEX/MTBE
OKUS-W2	1032		9.06		y	22.33	TPH-G/D	BTEX/MTBE
OKUS-W3	1023		9.25		y	22.09	TPH-G/D	BTEX/MTBE
OKUS-W5	—		—	Product	y - 1994		TPH-G/D	BTEX/MTBE
OKUS-W6	—		—	product	y - 1993		TPH-G/D	BTEX/MTBE
OKUS-W7	1028		5.48		y	19.84	TPH-G/D	BTEX/MTBE
OKUS-W8	1025	5	5.34		y	14.8	TPH-G/D	BTEX/MTBE
APL/UP-W1	1215		10.27		y	21.85	TPH-G/D	BTEX/MTBE
APL/UP-W2	1218		9.58		y	16.98	TPH-G/D	BTEX/MTBE
RW	1045	8.95	9.1		y		TPH-G/D	BTEX/MTBE

Well No.: OMW-1	Site: Port of Oakland (TOFC)	Date: 8/13/99
Client: Port of Oakland	Project No.: 10605 - 25291 - GW. UP TOFC	
Well Casing Diameter: (2") 4" 6" Other:	Well Casing Material: (PVC) SS Other:	
Well Headspace:	PID (ppm): —	FID (ppm): —
Sampler: P. Sharma		

Total Depth of Well (feet): 12.07 Reference Point: — Datum: —

Depth to Water (feet): 6.86

Water Column Height (feet): 5.21 (X) (2" - 0.16 / 4" - 0.65 / 6" - 1.47 / —" - —) Gal/feet = .83 (X) 3 = 2.5 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☒ Bailer: PVC ☐ Teflon ☐ SS ☐ Disposable ☐

Pump Make/Model: Geotech Geopump 2 Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): 5.5'-6.5' to 12' Purge/Decon Water Containerized? Y ☒ N ☐ Container Type/ Volume? 55-gallon drum

Time	Gallons	Temp. (C / F)	pH	Conductivity (~~mhos~~ mS/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
850	—	—	—	—	—	—	—	murky, dull yellow
	0.5	22.6	8.25	1.10	7	1.30	146	fine sediment
	1.0	22.6	8.20	1.05	5	1.02	117	
	1.5	22.6	8.14	1.09	6	1.02	-80	
	2.0	22.6	8.11	1.06	11	0.51	-24	increase in sediment
	2.5	22.1	8.03	1.10	40	1.99	-10	
930	2.6	22.1	8.04	1.11	41	1.08	8	stop purge, let water recharge before sampling

SAMPLE COLLECTION METHOD:

Pump: ☑ Flow rate: —
Bailer: ☐ Type: —
Other: ☐ Desc.: —

Sample ID: OMW-1
Dup. ID (If appl.): —
Sample Time: ~~930~~ 1000

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative
8015	1-L Amber	—
8020	3 40-mL VOAs	HCl

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MONITORING WELL PURGE AND SAMPLING FORM

Well No.: OMW-8	Site: UPTOFC	Date: 8/13/99
Client: Port of Oakland	Project No.: 10605-25291-GW.UPTOFC	
Well Casing Diameter: (2") 4" 6" Other:	Well Casing Material: (PVC) SS Other:	
Well Headspace:	PID (ppm): —	FID (ppm): —
Sampler: Voscott		

Total Depth of Well (feet): 17.46 Reference Point: — Datum: —

Depth to Water (feet): 5.50

Water Column Height (feet): 11.96 (X) (2" - 0.16 / 4" - 0.65 / 6" - 1.47) Gal/feet = 1.91 (X) 3 = 5.7 Minimum Purge Volume (Gallons)

—" - —

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☐ Teflon ☑ SS ☐ Disposable ☑

Pump Make/Model: _____ Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): _____ Purge/Decon Water Containerized? Y ☐ N ☐ Container Type/ Volume? _____

Time	Gallons	Temp. (C) F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
850	0	—	—	—	—	—	—	
857	2	20.9	8.1	2.61	90	1.1	-132	
907	4	20.7	7.9	2.67	21	1.2	-140	
916	6	20.6	8.0	2.68	169	1.8	-144	

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: _____

Bailer: ☑ Type: Disp.

Other: ☐ Desc.: _____

Sample ID: OMW-8

Dup. ID (If appl.): _____

Sample Time: 920

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative
8015	1-L Amber	—
8020	3-40 mL VOAs	HCl

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MONITORING WELL PURGE AND SAMPLING FORM

Well No.: OMW-3	Site: TOFC	Date: 8/13/99
Client: Port of Oakland	Project No.: 10605-25291-GW-UPTOPG	
Well Casing Diameter: (2") 4" 6" Other:	Well Casing Material: (PVC) SS Other:	
Well Headspace:	PID (ppm): —	FID (ppm): —
Sampler: Sharma		

Total Depth of Well (feet): 10.69 Reference Point: — Datum: —

Depth to Water (feet): 5.28

Water Column Height (feet): 5.41 (X) (2" - 0.16, 4" - 0.65, 6" - 1.47, —" - —) Gal/feet = 0.87 (X) 3 = 2.6 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☒ Teflon ☐ SS ☐ Disposable ☐

Pump Make/Model: — Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): — Purge/Decon Water Containerized? Y ☒ N ☐ Container Type/ Volume? SS-gallon drum

Time	Gallons	Temp. (C) F)	pH	Conductivity (~~mhos~~/cm) mS	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
935	—	—	—	—	—	—	—	small debris like
	0.5	20.2	8.35	1.91	28	2.47	-128	leaf fragments, etc.
	1.0	20.2	8.10	2.28	98	2.72	-89	fine sediment well dry
0950	1.5	20.3	8.12	2.31	100	2.70	-93	let recharge and sample

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: —
Bailer: ☒ Type: —
Other: ☐ Desc.: —

Sample ID: OMW-3
Dup. ID (If appl.): —
Sample Time: 1010

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative
8015	1-L Amber	—
8020	3 40mL VOAs	HCl

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MONITORING WELL PURGE AND SAMPLING FORM

Well No.: OMW-10	Site: Port of Oakland (UPTOFC)	Date: 8/13/99	
Client: Port of Oakland	Project No.: 10605-25291-GW.UPTOFC		
Well Casing Diameter: (2") 4" 6" Other:	Well Casing Material: (PVC) SS Other:		
Well Headspace:	PID (ppm): —	FID (ppm): —	
Sampler: P. Sharma			

Total Depth of Well (feet): 15.35 Reference Point: — Datum: —

Depth to Water (feet): 5.74

Water Column Height (feet): 9.61 (X) (2" - 0.16, 4" - 0.65, 6" - 1.47, —" - —) Gal/feet = 1.52 (X) 3 = 4.6 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☒ Bailer: PVC ☐ Teflon ☐ SS ☐ Disposable ☐

Pump Make/Model: Geotech Geopump2 Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): 6'- Purge/Decon Water Containerized? Y ☒ N ☐ Container Type/ Volume? 55-gallon drum

Time	Gallons	Temp. (C) F)	pH	Conductivity (~~umhos~~/cm) mS	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
1020	—	—	—	—	—	—	—	clear, slight yellow tint
	0.5	21.6	8.14	1.97	0	0.35	-164	
	1.0	21.6	8.05	1.98	0	0.19	-168	
	1.5	21.7	7.99	2.11	0	0.13	-172	
	2.0	21.5	7.96	2.13	0	0.45	-177	# begin purge with bailer 1 gallon
	~~3.5~~					2.05	-165	
	4.0	21.8	7.95	2.14	0	1.27	-155	sheen on groundwater
	4.5	21.6	7.95	2.14	0	0.81	-159	
1055	5.0	21.6	7.96	2.10	8	0.34	-166	

SAMPLE COLLECTION METHOD:

Pump: ☒ Flow rate: —
Bailer: ☐ Type: —
Other: ☐ Desc.: —

Sample ID: OMW-10
Dup. ID (If appl.): OMW-11 (1120)
Sample Time: 1100
OMW-12 (1115) RINSATE SAMPLE W/ PURGE - PERISTALTIC PUMP / SILICON TUBING

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative
8015	1 - L Amber	—
8020	3 - 40 mL VOAs	HCl

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MONITORING WELL PURGE AND SAMPLING FORM

Well No.: OMW-5	Site: UPTOFC	Date: 8-13-99
Client: Port of Oakland	Project No.: 10605-25291-GW.UPTOFC	
Well Casing Diameter: (2") 4" 6" Other:	Well Casing Material: (PVC) SS Other:	
Well Headspace:	PID (ppm): —	FID (ppm): —
Sampler: Sharma		

Total Depth of Well (feet): 17.46 Reference Point: _____ Datum: _____

Depth to Water (feet): 5.25

Water Column Height (feet): 12.21 (X) (2" - 0.16 / 4" - 0.65 / 6" - 1.47 / ___" - ___) Gal/feet = 1.95 (X) 3 = 5.9 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☐ Teflon ☑ SS ☐ Disposable ☑

Pump Make/Model: _____ Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): _____ Purge/Decon Water Containerized? Y ☐ N ☐ Container Type/ Volume? _____

Time	Gallons	Temp. (F)	pH	Conductivity (~~umhos~~ mS/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
1115	—	—	—	—	—	—	—	
1125	2	19.9	8.17	3.24	431	2.28	-110	well dry, let recharge
1215	3	19.9	6.73	3.50	177	1.51	-98	

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: _____

Bailer: ☑ Type: Disp.

Other: ☐ Desc.: _____

Sample ID: OMW-5

Dup. ID (If appl.): _____

Sample Time: 1215

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative
8015	1-L Amber	—
8020	3-mL VOAs	HCl

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MONITORING WELL PURGE AND SAMPLING FORM

Well No.: OMW-6	Site: UPTOFC	Date: 8-13-99
Client: Port of Oakland	Project No.: 10605 - 25291 - GW. UPTOFC	
Well Casing Diameter: (2") 4" 6" Other:	Well Casing Material: (PVC) SS Other:	
Well Headspace:	PID (ppm): —	FID (ppm): —
Sampler: P. Sharma		

Total Depth of Well (feet): 11.80 Reference Point: — Datum: —

Depth to Water (feet): 7.44

Water Column Height (feet): 4.36 (X) (2" - 0.16, 4" - 0.65, 6" - 1.47) Gal/feet = 0.70 (X) 3 = 2.1 Minimum Purge Volume (Gallons)

—" - —

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☐ Teflon ☑ SS ☐ Disposable ☑

Pump Make/Model: _____ Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): _____ Purge/Decon Water Containerized? Y ☐ N ☐ Container Type/ Volume? _____

Time	Gallons	Temp. (C / F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
1135	—	—	—	—	—	—	—	
	0.5	19.3	6.75	4.00	54	1.12	-188	
	1.5	18.9	6.70	3.70	401	1.47	-164	
1155	2.5	18.8	6.66	3.63	392	0.95	-162	

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: _____

Bailer: ☒ Type: _____

Other: ☐ Desc.: _____

Sample ID: OMW-6

Dup. ID (if appl.): _____

Sample Time: 1155

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative
8015	1-L Amber	—
8020	3-40mL VOAs	HCl

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MONITORING WELL PURGE AND SAMPLING FORM

11/11/99

Well	Time	DTP	DTW	Comments	Sample Well	DTB	Analsyis	
OMW-1	817		7.20					
OMW-2	903		4.40					
OMW-3	820		5.58					
OMW-4	1012	5.55	7.31					
OMW-5	908		6.22					
OMW-6	1203		5.91					
OMW-7	1019	5.58	8.24					
OMW-8	827		6.04					
OMW-9	945		8.57					
OMW-10	835		6.21					
ORW-1	842		5.20					
ORW-2	950		9.55					
ORW-3	1008	3.95	4.05					
OP-1	1000	2.50	4.70					
OP-2	912		6.22					
OP-3	848		9.16					
OP-4	854		9.20					
OKUS-W1	1222		8.47					
OKUS-W2	1217		9.27		y	22.33	TPH-G/D	BTEX/MTBE
OKUS-W3	1220		9.58		y	22.09	TPH-G/D	BTEX/MTBE
OKUS-W5								
OKUS-W6								
OKUS-W7	925		5.81					
OKUS-W8	922		5.68					
APL/UP-W1	1320		10.06		y	21.85	TPH-G/D	BTEX/MTBE
APL/UP-W2	1316		9.14		y	16.98	TPH-G/D	BTEX/MTBE
RW	1445	✓	9.26					

Well No.: OKUS-W3	Site:	Date: 11/11/99
Client:	Project No.:	
Well Casing Diameter: 2" 4" 6" Other:	Well Casing Material: PVC SS Other:	
Well Headspace:	PID (ppm):	FID (ppm):
Sampler:		

Total Depth of Well (feet): 22.09 Reference Point: _____ Datum: _____

Depth to Water (feet): 9.58

Water Column Height (feet): 12.51 (X) (2" - 0.16, 4" - 0.65, 6" - 1.47, ___" - ___) Gal/feet = 2.0 (X) 3 = 6.0 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☐ Teflon ☐ SS ☐ Disposable ☐

Pump Make/Model: _____ Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): _____ Purge/Decon Water Containerized? Y ☐ N ☐ Container Type/ Volume? _____

Time	Gallons	Temp. (C / F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
1230	0	—	—	—				
1235	1	76.8	6.60	2,450				
1238	1.5	73.1	6.91	4540				
1245	4.0	71.3	6.99	3980				
1251	5.0	70.6	7.05	3890				
1255	6.5	70.4	7.04	3810				

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: _____
Bailer: ☐ Type: _____
Other: ☐ Desc.: _____

Sample ID: OKUS-W3
Dup. ID (if appl.): _____
Sample Time: 1300

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative

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MONITORING WELL PURGE AND SAMPLING FORM

J:\Ed Madrid\0102.24\01/10/97 13:42:39\MWPSF\N:\TEMP\

Well No.: OKUS-W2	Site:	Date: 11/11/99
Client:	Project No.:	
Well Casing Diameter: 2" 4" 6" Other:	Well Casing Material: PVC SS Other:	
Well Headspace:	PID (ppm):	FID (ppm):
Sampler:		

Total Depth of Well (feet): 22.33

Depth to Water (feet): 9.27

Reference Point: _____ Datum: _____

Water Column Height (feet): 13.06 (X) (2" - 0.16) 4" - 0.65 6" - 1.47 ___" - ___ Gal/feet = 2.1 (X) 3 = 6.3 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☐ Teflon ☐ SS ☐ Disposable ☐

Pump Make/Model: _____ Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): _____ Purge/Decon Water Containerized? Y ☐ N ☐ Container Type/ Volume? _____

Time	Gallons	Temp. (C / F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
1230	–	~~74~~	–	–				
1236	1.5	74.2	6.89	2,190				clear, yellow tint
1241	3.0	71.3	6.85	4,010				
1246	4.5	70.9	6.99	4,030				
1250	6.0	71.0	7.00	4,000				
1255	7.0	71.0	6.99	4,040				

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: _____

Bailer: ☒ Type: _____

Other: ☐ Desc.: _____

Sample ID: OKUS-W2

Dup. ID (If appl.): _____

Sample Time: 1310

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative

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MONITORING WELL PURGE AND SAMPLING FORM

J. La Madrid 8:02:24 01/10/97 13:42:39 MWPSF N:\TEMP\

Well No.: APL/UP-W1	Site:	Date: 11/11/99
Client:	Project No.:	
Well Casing Diameter: 2" 4" 6" Other:	Well Casing Material: PVC SS Other:	
Well Headspace:	PID (ppm):	FID (ppm):
Sampler:		

Total Depth of Well (feet): 21.85 Reference Point: _____ Datum: _____

Depth to Water (feet): 10.06

Water Column Height (feet): 11.79 (X) (2" - 0.16, 4" - 0.65, 6" - 1.47, ___" - ___) Gal/feet = 1.9 (X) 3 = 5.7 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☐ Teflon ☐ SS ☐ Disposable ☐

Pump Make/Model: _____ Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): _____ Purge/Decon Water Containerized? Y ☐ N ☐ Container Type/ Volume? _____

Time	Gallons	Temp (C / F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
—	—	—	—	—				
1220	1.5	68.7	7.6	2380				
1327	3.0	67.4	7.2	2270				
1338	4.5	66.6	7.3	2220				
1343	6.0	66.4	7.3	2180				

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: _____
Bailer: ☐ Type: _____
Other: ☐ Desc.: _____

Sample ID: APL/UP-W1
Dup. ID (If appl.): _____
Sample Time: 1345

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative

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MONITORING WELL PURGE AND SAMPLING FORM

J. La Madrid 0:02.24 01/10/97 13:42.39 MWPSF N:\TEMP\

Well No.: APL/UP-W2	Site:	Date: 11/11/99
Client:	Project No.:	
Well Casing Diameter: 2" 4" 6" Other:	Well Casing Material: PVC SS Other:	
Well Headspace:	PID (ppm):	FID (ppm):
Sampler:		

Total Depth of Well (feet): 16.98 Reference Point: _____ Datum: _____

Depth to Water (feet): 9.14

Water Column Height (feet): 7.84 (X) 2" - 0.16, 4" - 0.65, 6" - 1.47, ___" - ___ Gal/feet = 1.25 (X) 3 = 3.75 Minimum Purge Volume (Gallons)

PURGE METHOD:

Submersible Pump ☐ Bladder Pump ☐ Hand Pump ☐ Peristaltic Pump ☐ Bailer: PVC ☐ Teflon ☐ SS ☐ Disposable ☐

Pump Make/Model: _____ Purge Equipment Decon'd? Y ☐ N ☐

Depth of Pump Intake (feet): _____ Purge/Decon Water Containerized? Y ☐ N ☐ Container Type/ Volume? _____

Time	Gallons	Temp. (C / F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observations/Comments
1325								
1330	1.0	71.5	7.44	2,360				clear, no tint
1335	2.0	70.0	7.32	2,180				
1340	3.0	69.7	7.29	2,220				
1345	4.0	69.8	7.30	2,190				

SAMPLE COLLECTION METHOD:

Pump: ☐ Flow rate: _____
Bailer: ☒ Type: _____
Other: ☐ Desc.: _____

Sample ID: 1350
Dup. ID (if appl.): APL/UP-W20 (1400)
Sample Time: APL/UP-W2

SAMPLE ANALYSES:

Method:	Container Type/Vol.	Preservative

CDM environmental engineers, scientists, planners, & management consultants

MONITORING WELL PURGE AND SAMPLING FORM

Appendix C

Analytical Laboratory Reports and Chain of Custody Records

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

Laboratory Number 140345

Camp, Dresser & McKee
1 Walnut Creek Center
100 Pringle Ave, Suite 300
Walnut Creek, CA 94596

Project#: 10605
Location: Port Of Oakland

Sample ID	Lab ID
INFLUENT	140345-001
EFFLUENT	140345-002
MIDPOINT	140345-003

I certify that this data package has been reviewed for technical correctness and completeness. Please see attached narrative for a discussion of any analytical problems related to this sample set. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

The case narrative is an integral and inseparable part of this report.

Signature: _____ Date: 8-2-99
Title: Operations Manager

Signature: _____ Date: 30502499
Title: Project Manager

Curtis & Tompkins, Ltd.

Lab#: **140345**
Client: **Camp, Dresser & McKee**
Project#: **10605**
Location: **Port of Oakland**

Receipt Date: **07/07/99**

CASE NARRATIVE

This report contains sample results and batch QC for three water samples which were received, cold and intact, from the above referenced project on July 7, 1999.

BTXE: No analytical problems were encountered.

TPH/Extractables: These extracts were treated with silica gel prior to analysis, to remove potential biogenic interferences. The hydraulic fluid range was quantitated using a single-point calibration, the diesel and motor oil ranges were quantitated using a five-point calibration.

The blank spike and blank spike duplicate were inadvertently not spiked with the surrogate. The diesel spike recoveries and sample surrogate recoveries are within acceptance limits, so the quality of the data should not be affected.

No other analytical problems were encountered.

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 140345

Project No: 10605
Project Name: Port
Project P.O.: TSO - 19
Turnaround Time: standard

Sampler: Voscott
Report To: Voscott
Company: Cam
Telephone: 925-296-8100
Fax: 925-933-4174

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO	Preservative: HNO_3	Preservative: ICE	Field Notes	Analyses: BTEX	Analyses: Diesel w/ silica gel cleanup
1	INFLUENT	7/7 930		✓		3	✓					✓	✓
2	EFFLUENT	" 935		↓		3	✓					✓	✓
3	MID-POINT	↓ 940		↓		2	✓					✓	
For Laboratory Use													

Notes: TSO-19

RELINQUISHED BY:	RECEIVED BY:
7/7 @ 955 DATE/TIME	7/7/00 0955 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Signature

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140345-001	INFLUENT	49235	07/07/99	07/10/99	07/10/99	
140345-002	EFFLUENT	49235	07/07/99	07/10/99	07/10/99	
140345-003	MIDPOINT	49235	07/07/99	07/10/99	07/10/99	

Matrix: Water

Analyte	Units	140345-001	140345-002	140345-003
Diln Fac:		1	1	1
Benzene	ug/L	2.4	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	1.2	<0.5	<0.5
m,p-Xylenes	ug/L	0.82	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5
Surrogate				
Trifluorotoluene	%REC	92	94	95
Bromofluorobenzene	%REC	101	101	101

BTXE	
Client: Camp, Dresser & McKee	Analysis Method: EPA 8021B
Project#: 10605	Prep Method: EPA 5030
Location: Port Of Oakland	

METHOD BLANK	
Matrix: Water	Prep Date: 07/09/99
Batch#: 49235	Analysis Date: 07/09/99
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC02337

Analyte	Result
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	90	51-143
Bromofluorobenzene	93	37-146

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 49235
Units: ug/L
Diln Fac: 1

Prep Date: 07/10/99
Analysis Date: 07/10/99

BS Lab ID: QC02341

Analyte	Spike Added	BS	%Rec #	Limits
Benzene	20	18.92	95	65-111
Toluene	20	18.4	92	76-117
Ethylbenzene	20	19.63	98	71-121
m,p-Xylenes	40	40.14	100	80-123
o-Xylene	20	20.42	102	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	96	51-143
Bromofluorobenzene	101	37-146

BSD Lab ID: QC02342

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Benzene	20	18.88	94	65-111	0	10
Toluene	20	18.13	91	76-117	1	10
Ethylbenzene	20	19	95	71-121	3	11
m,p-Xylenes	40	39.01	98	80-123	3	10
o-Xylene	20	19.76	99	75-127	3	11

Surrogate	%Rec	Limits
Trifluorotoluene	95	51-143
Bromofluorobenzene	100	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140345-001	INFLUENT	49238	07/07/99	07/09/99	07/13/99	
140345-002	EFFLUENT	49238	07/07/99	07/09/99	07/13/99	

Matrix: Water

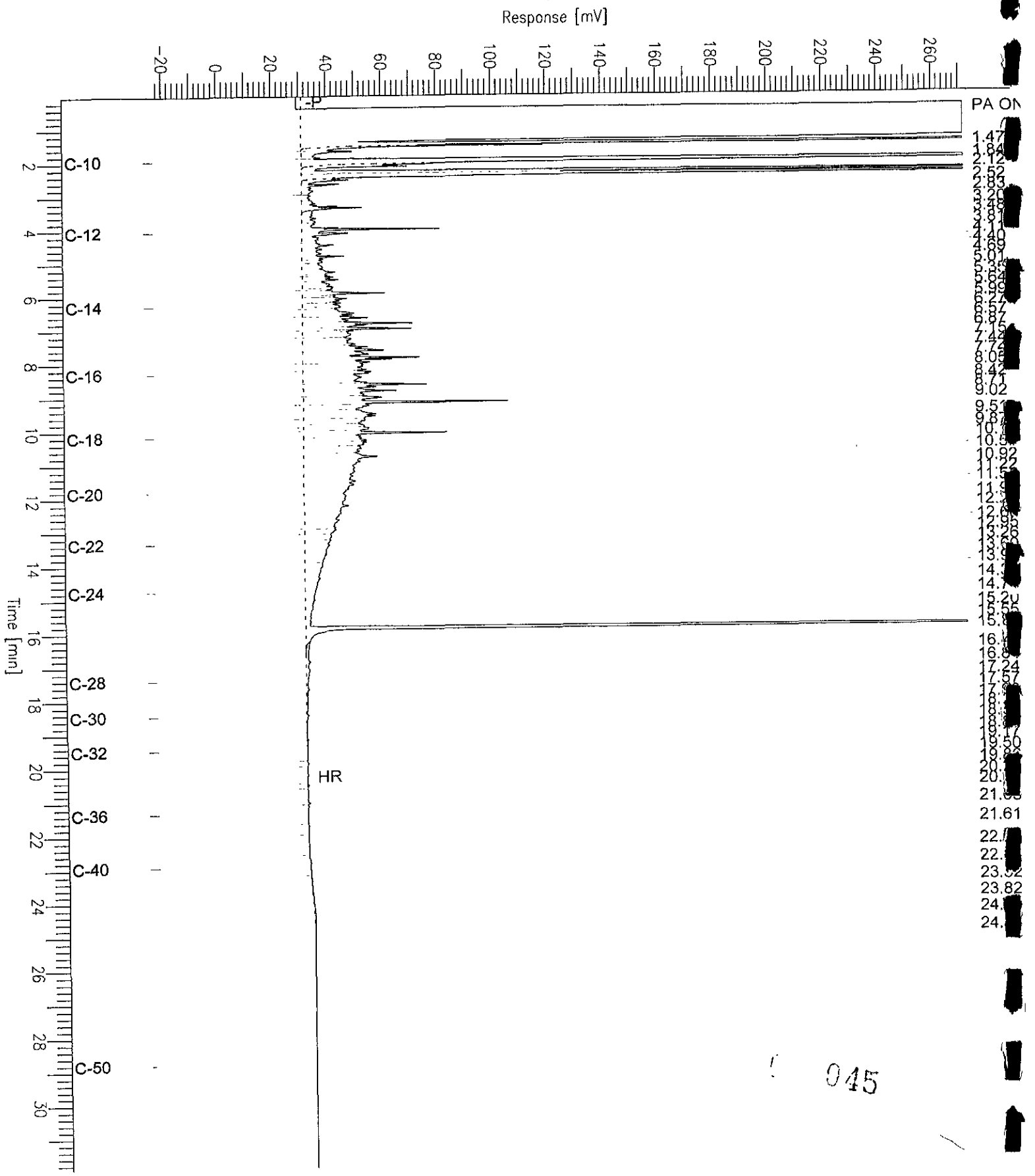
Analyte	Units	140345-001		140345-002
Diln Fac:		1		1
Diesel C10-C24	ug/L	1900	L	<50
Motor Oil C24-C36	ug/L	<300		<300
Hydraulic Fluid,C22-50	ug/L	<300		<300
Surrogate				
Hexacosane	%REC	61		61

L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 140345-001sg,49238
FileName : G:\GC13\CHB\193B009.RAW
Method : BTEH151.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -23 mV

Sample #: 49238 Page 1 of 1
Date : 7/13/99 09:40 AM
Time of Injection: 7/13/99 12:16 AM
Low Point : -23.02 mV High Point : 271.67 mV
Plot Scale: 294.7 mV



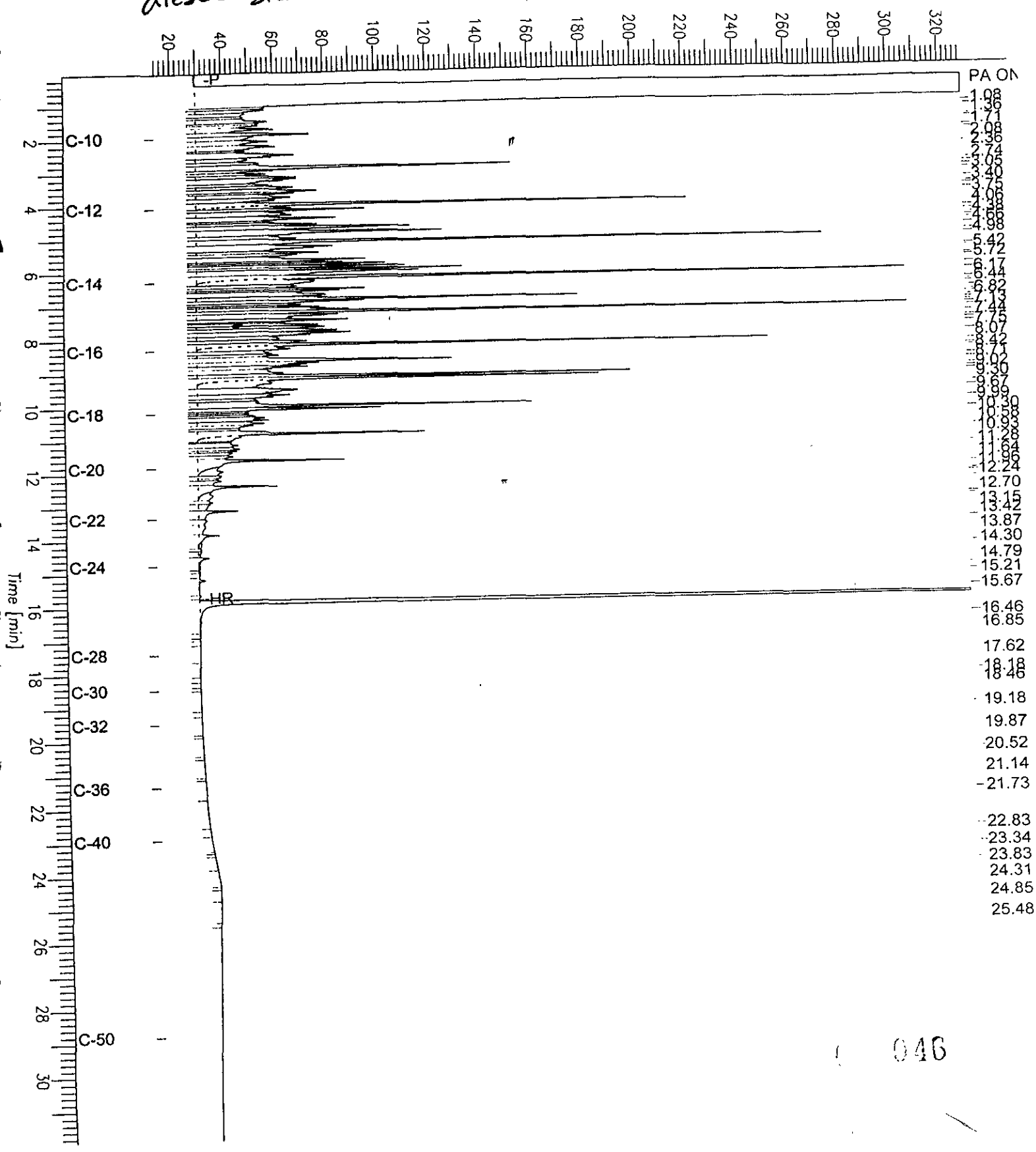
045

Chromatogram

Sample Name : ccv,99ws7711,dsl
FileName : G:\GC13\CHB\193B002.RAW
Method : BTEH151.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 14 mV

Sample #: 500mg/l
Date : 7/12/99 11:37 AM
Time of Injection: 7/12/99 10:40 AM
Low Point : 13.63 mV High Point : 328.87 mV
Plot Scale: 315.2 mV

diesel standard

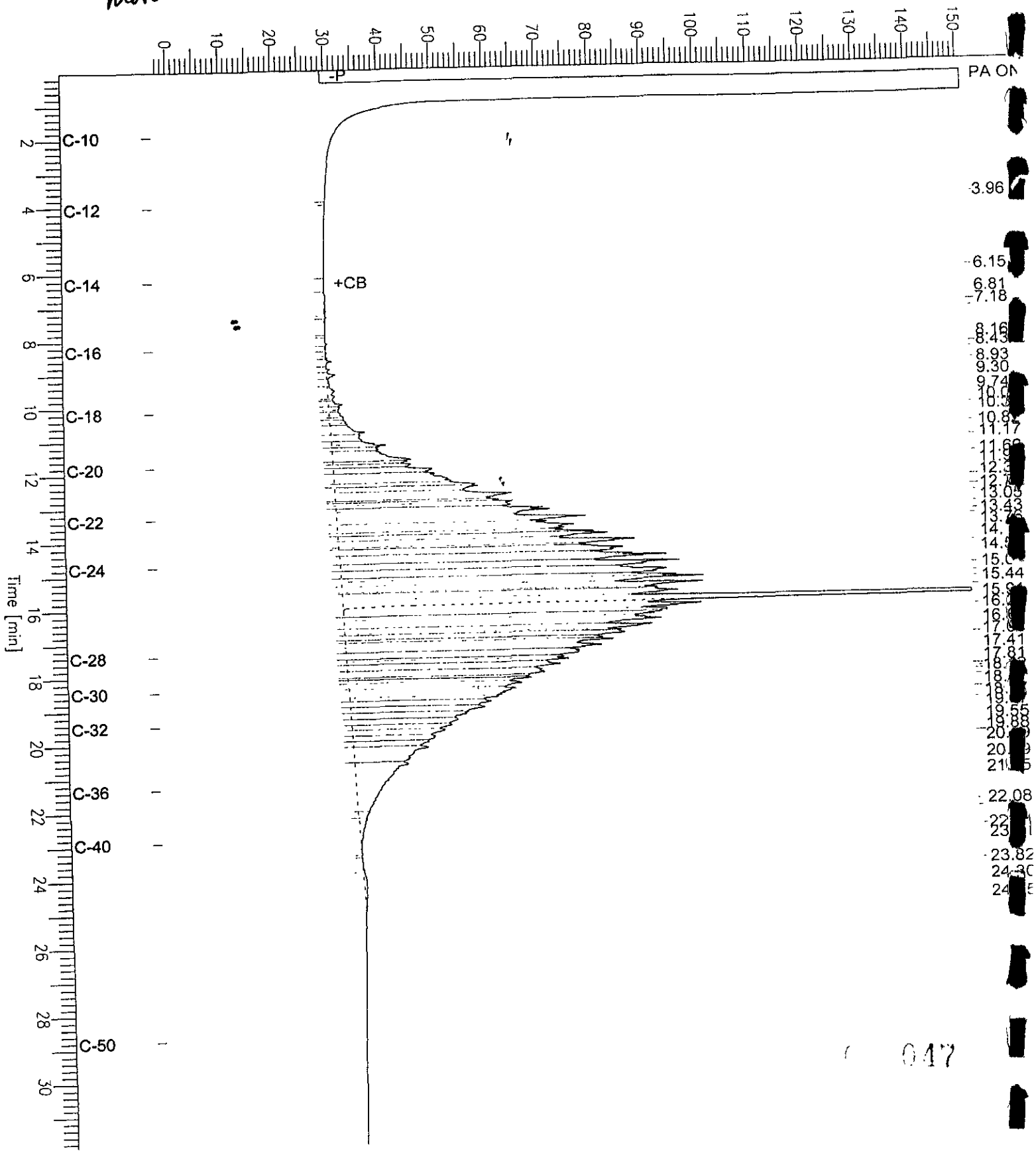


Chromatogram

Sample Name : ccv,99ws7712,mo
FileName : G:\GC13\CHB\193B003.RAW
Method : BTEH151.MTH
Start Time : 0.01 min
End Time : 31.91 min
Scale Factor: 0.0
Plot Offset: -3 mV

Sample #: 500mg/l
Date : 7/12/99 11:37 AM
Time of Injection: 7/12/99 11:21 AM
Low Point : -2.75 mV
High Point : 150.88 mV
Plot Scale: 153.6 mV

motor oil standard



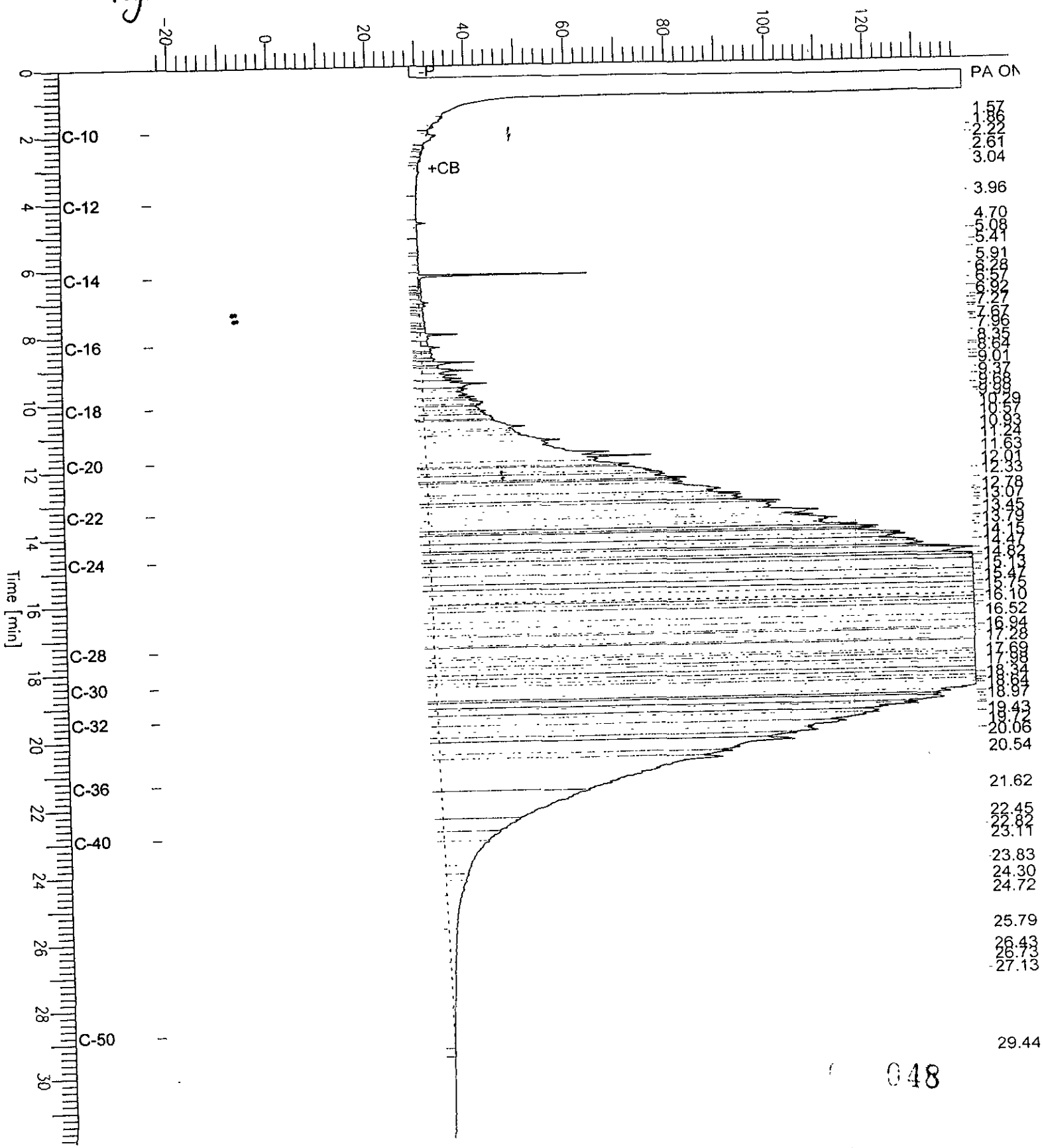
047

Chromatogram

Sample Name : ccv,99ws7607,ho
FileName : G:\GC13\CHB\193B005.RAW
Method : BTEH151.MTH
Start Time : 0.00 min End Time : 31.90 min
Scale Factor: 0.0 Plot Offset: -23 mV

Sample #: 1250mg/l
Date : 7/13/99 09:25 AM
Time of Injection: 7/12/99 09:28 PM
Low Point : -23.43 mV High Point : 139.94 mV
Plot Scale: 163.4 mV

hydraulic oil standard



BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 49238
Units: ug/L
Diln Fac: 1

Prep Date: 07/09/99
Analysis Date: 07/12/99

MB Lab ID: QC02353

Analyte	Result
Diesel C10-C24	<50
Motor Oil C24-C36	<300
Hydraulic Fluid,C22-50	<300

Surrogate	%Rec	Recovery Limits
Hexacosane	82	58-128

Lab #: 140345

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 49238
Units: ug/L
Diln Fac: 1

Prep Date: 07/09/99
Analysis Date: 07/20/99

BS Lab ID: QC02354

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C10-C24	2475	1457	59	50-114

Surrogate	%Rec	Limits
Hexacosane	0*	58-128

BSD Lab ID: QC02355

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	2475	1842	74	50-114	23	25

Surrogate	%Rec	Limits
Hexacosane	0*	58-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

ANALYTICAL REPORT

Prepared for:

Camp, Dresser & McKee
1 Walnut Creek Center
100 Pringle Ave, Suite 300
Walnut Creek, CA 94596

Date: 31-AUG-99
Lab Job Number: 141092
Project ID: 10605
Location: Port Of Oakland

Reviewed by: _____

Reviewed by: _____

CHAIN OF CUSTODY FORM

Page 1 of 1

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 141092

Analyses

Sampler:	VOSCOTT
Report To:	VOSCOTT
Company:	CDM
Telephone:	(925) 296-8074
Fax:	(925) 933-4474

Project No:	10605
Project Name:	Port of Oakland
Project P.O.:	T80 19
Turnaround Time:	Standard

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO	Preservative: HNO_3	Preservative: ICE	Field Notes	BTEX 8021
	MIDFLOAT	8/24 950		✓		3	✓					✓

For Laboratory Use

Notes:

T80 - 19

RELINQUISHED BY:	RECEIVED BY:
8/24/99 1002 DATE/TIME	8/24/99 1002 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Signature

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141092-001	MIDFLUENT	50123	08/24/99	08/24/99	08/24/99	

Matrix: Water

Analyte	Units	141092-001
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	65
Bromofluorobenzene	%REC	68

Lab #: 141092

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50123
Units: ug/L
Diln Fac: 1

Prep Date: 08/24/99
Analysis Date: 08/24/99

MB Lab ID: QC05752

Analyte	Result
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	99	51-143
Bromofluorobenzene	101	37-146

Lab #: 141092

BATCH QC REPORT

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 50123
Units: ug/L
Diln Fac: 1

Prep Date: 08/24/99
Analysis Date: 08/24/99

BS Lab ID: QC05753

Analyte	Spike Added	BS	%Rec #	Limits
Benzene	20	18.19	91	65-111
Toluene	20	18.75	94	76-117
Ethylbenzene	20	18.98	95	71-121
m,p-Xylenes	40	40.48	101	80-123
o-Xylene	20	19.81	99	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	103	51-143
Bromofluorobenzene	106	37-146

BSD Lab ID: QC05754

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Benzene	20	18.36	92	65-111	1	10
Toluene	20	19.17	96	76-117	2	10
Ethylbenzene	20	19.3	97	71-121	2	11
m,p-Xylenes	40	41.17	103	80-123	2	10
o-Xylene	20	20.06	100	75-127	1	11

Surrogate	%Rec	Limits
Trifluorotoluene	104	51-143
Bromofluorobenzene	106	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

A N A L Y T I C A L R E P O R T

Prepared for:

Camp, Dresser & McKee
1 Walnut Creek Center
100 Pringle Ave, Suite 300
Walnut Creek, CA 94596

Date: 10-SEP-99
Lab Job Number: 141283
Project ID: 10605
Location: Port Of Oakland

Reviewed by: _____

Reviewed by: _____

CHAIN OF CUSTODY FORM

Page 1 of 1

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 141283

Sampler: Voscoll

Project No: 10605

Report To: Voscoll

Project Name: Port of Oakland

Company: CDM

Project P.O.: TSO 19

Telephone: (925) 296-8071

Turnaround Time: Standard

Fax: (925) 933-4174

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Field Notes	Analyses: BTEX
For Laboratory Use	MIDPOINT	9/3 930		✓		3	✓					✓

Notes: TSO 19

RELINQUISHED BY:

Signature — 9/3 @ 930 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

Lisa Bennett 9/03/99 9:45 DATE/TIME

DATE/TIME

DATE/TIME

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141283-001	MIDPOINT	50411	09/03/99	09/08/99	09/08/99	

Matrix: Water

Analyte	Units	141283-001
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	93
Bromofluorobenzene	%REC	94

BTXE	
Client: Camp, Dresser & McKee	Analysis Method: EPA 8021B
Project#: 10605	Prep Method: EPA 5030
Location: Port Of Oakland	

METHOD BLANK	
Matrix: Water	Prep Date: 09/07/99
Batch#: 50411	Analysis Date: 09/07/99
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC06942

Analyte	Result
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	83	51-143
Bromofluorobenzene	83	37-146

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 50411
Units: ug/L
Diln Fac: 1

Prep Date: 09/07/99
Analysis Date: 09/07/99

LCS Lab ID: QC06941

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	19.45	20	97	65-111
Toluene	18.53	20	93	76-117
Ethylbenzene	19.84	20	99	71-121
m,p-Xylenes	39.73	40	99	80-123
o-Xylene	20.47	20	102	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	88	51-143
Bromofluorobenzene	89	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 5 outside limits

Lab #: 141283 BATCH QC REPORT Page

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141256-004
Matrix: Water
Batch#: 50411
Units: ug/L
Diln Fac: 1

Sample Date: 08/30/99
Received Date: 08/31/99
Prep Date: 09/07/99
Analysis Date: 09/07/99

MS Lab ID: QC06944

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Benzene	20	6.65	25.38	94	55-122
Toluene	20	0.53	18.65	91	63-139
Ethylbenzene	20	16.24	35.11	94	61-137
m,p-Xylenes	40	7.33	46.34	98	57-148
o-Xylene	20	2.87	23.44	103	70-141

Surrogate	%Rec	Limits
Trifluorotoluene	93	51-143
Bromofluorobenzene	95	37-146

MSD Lab ID: QC06945

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Benzene	20	25.37	94	55-122	0	10
Toluene	20	18.84	92	63-139	1	10
Ethylbenzene	20	35.01	94	61-137	0	10
m,p-Xylenes	40	46.15	97	57-148	0	10
o-Xylene	20	23.56	103	70-141	1	10

Surrogate	%Rec	Limits
Trifluorotoluene	91	51-143
Bromofluorobenzene	94	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

A N A L Y T I C A L R E P O R T

Prepared for:

Camp, Dresser & McKee
1 Walnut Creek Center
100 Pringle Ave, Suite 300
Walnut Creek, CA 94596

Date: 21-OCT-99
Lab Job Number: 141891
Project ID: 10605
Location: Port Of Oakland

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd.

Laboratory Number: **141891**
Client: **Camp, Dresser & McKee**
Project#: **10605**
Location: **Port of Oakland**

Receipt Date: **10/8/99**

CASE NARRATIVE

This hardcopy data package contains sample and QC results for three water samples that were received on October 8, 1999. All samples were received cold and intact.

BTXE: No analytical problems were encountered.

Total Extractable Hydrocarbons: All extracts were treated with silica gel prior to analysis. No analytical problems were encountered.

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 141891

Analyses

Sampler: VOSCOTT
Project No: 12605
Report To: VOSCOTT
Project Name: TSO-09
Company: CDM
Project P.O.:
Telephone: 925-933-2900
Turnaround Time: standard
Fax: 925-933-4774

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO	HNO_3	ICE	Field Notes	TPH-D (Silica gel cleanup)	BTEX
1	INFLUENT	10/8 9a		✓		4	✓			✓		✓	✓
2	MIDPOINT	940		✓		3	✓			✓			✓
3	EFFLUENT	950		✓		4	✓			✓		✓	✓

For Laboratory Use

Notes:

TSO - 19
Bill

RELINQUISHED BY:	RECEIVED BY:
Signature 10/8 1430 DATE/TIME	Signature 10/8/99 10:40 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141891-001	INFLUENT	51263	10/08/99	10/14/99	10/14/99	
141891-002	MIDPOINT	51263	10/08/99	10/14/99	10/14/99	
141891-003	EFFLUENT	51263	10/08/99	10/14/99	10/14/99	

Matrix: Water

Analyte Diln Fac:	Units	141891-001 1	141891-002 1	141891-003 1
Benzene	ug/L	<0.5	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5
Surrogate				
Trifluorotoluene	%REC	83	80	80
Bromofluorobenzene	%REC	86	84	85

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 51263
Units: ug/L
Diln Fac: 1

Prep Date: 10/13/99
Analysis Date: 10/13/99

MB Lab ID: QC10200

Analyte	Result
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	79	51-143
Bromofluorobenzene	79	37-146

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 51263
Units: ug/L
Diln Fac: 1

Prep Date: 10/13/99
Analysis Date: 10/13/99

LCS Lab ID: QC10199

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	17.61	20	88	65-111
Toluene	17.71	20	89	76-117
Ethylbenzene	19.55	20	98	71-121
m,p-Xylenes	38.21	40	96	80-123
o-Xylene	19.4	20	97	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	79	51-143
Bromofluorobenzene	81	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 5 outside limits

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 141923-001
Matrix: Water
Batch#: 51263
Units: ug/L
Diln Fac: 1

Sample Date: 10/04/99
Received Date: 10/04/99
Prep Date: 10/13/99
Analysis Date: 10/13/99

MS Lab ID: QC10203

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Benzene	20	<0.5	18.09	90	55-122
Toluene	20	<0.5	18.28	91	63-139
Ethylbenzene	20	<0.5	19.45	97	61-137
m,p-Xylenes	40	<0.5	39.47	99	57-148
o-Xylene	20	<0.5	19.99	100	70-141

Surrogate	%Rec	Limits
Trifluorotoluene	83	51-143
Bromofluorobenzene	89	37-146

MSD Lab ID: QC10204

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Benzene	20	17.76	89	55-122	2	10
Toluene	20	18.06	90	63-139	1	10
Ethylbenzene	20	18.92	95	61-137	3	10
m,p-Xylenes	40	38.62	97	57-148	2	10
o-Xylene	20	19.66	98	70-141	2	10

Surrogate	%Rec	Limits
Trifluorotoluene	81	51-143
Bromofluorobenzene	87	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
141891-001	INFLUENT	51256	10/08/99	10/12/99	10/14/99	
141891-003	EFFLUENT	51256	10/08/99	10/12/99	10/14/99	

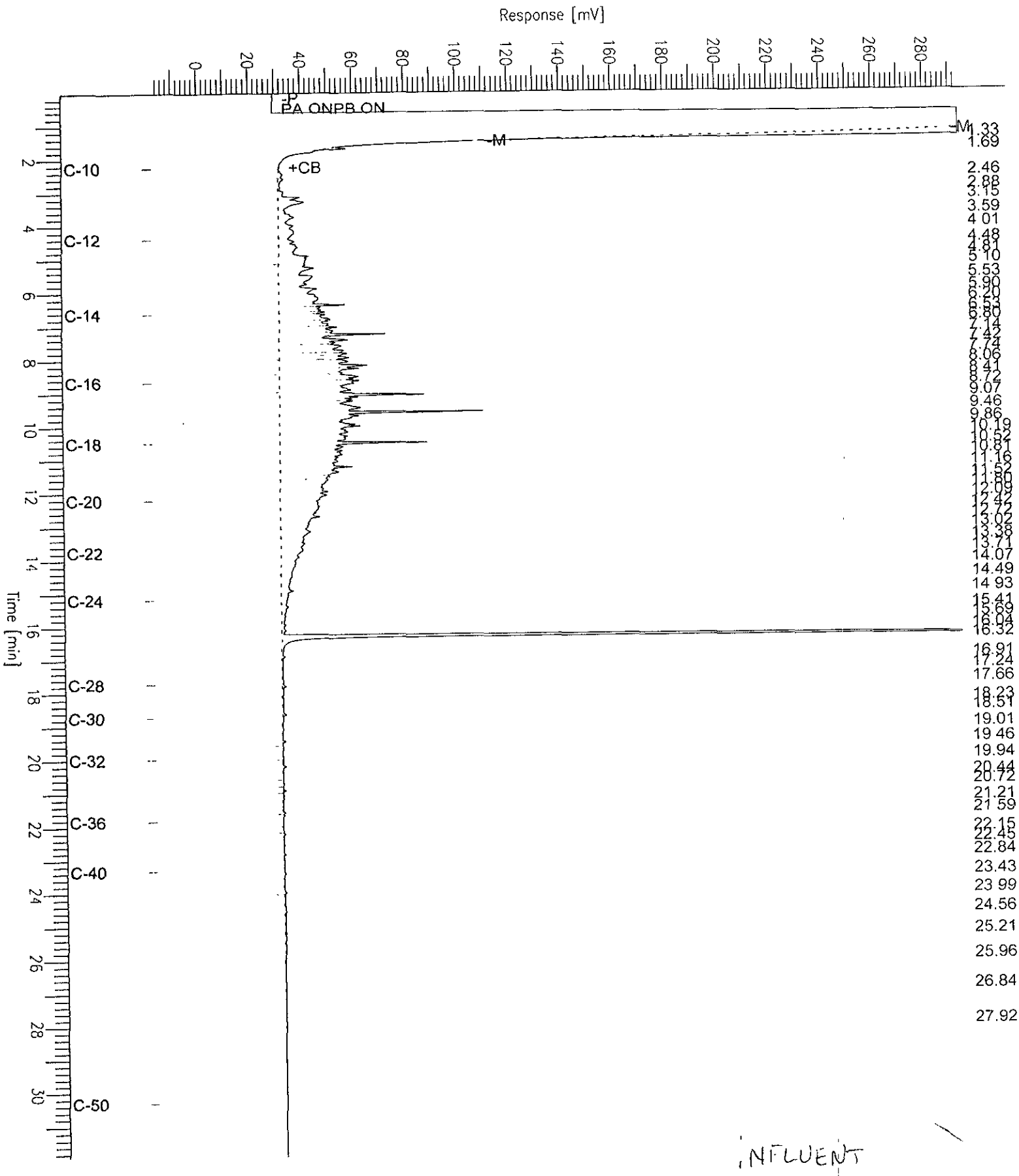
Matrix: Water

Analyte	Units	141891-001	141891-003
Diln Fac:		1	1
Diesel C10-C24	ug/L	1300	<50
Motor Oil C24-C36	ug/L	<320	<300
Hydraulic Fluid,C22-50	ug/L	<320	<300
Surrogate			
Hexacosane	%REC	90	89

Chromatogram

Sample Name : 141891-001sg,51256
FileName : G:\GC13\CHB\287B020.RAW
Method : BTEH274.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -17 mV

Sample #: 51256 Page 1 of 1
Date : 10/15/1999 09:20 AM
Time of Injection: 10/14/1999 09:24 PM
Low Point : -17.43 mV High Point : 293.90 mV
Plot Scale: 311.3 mV

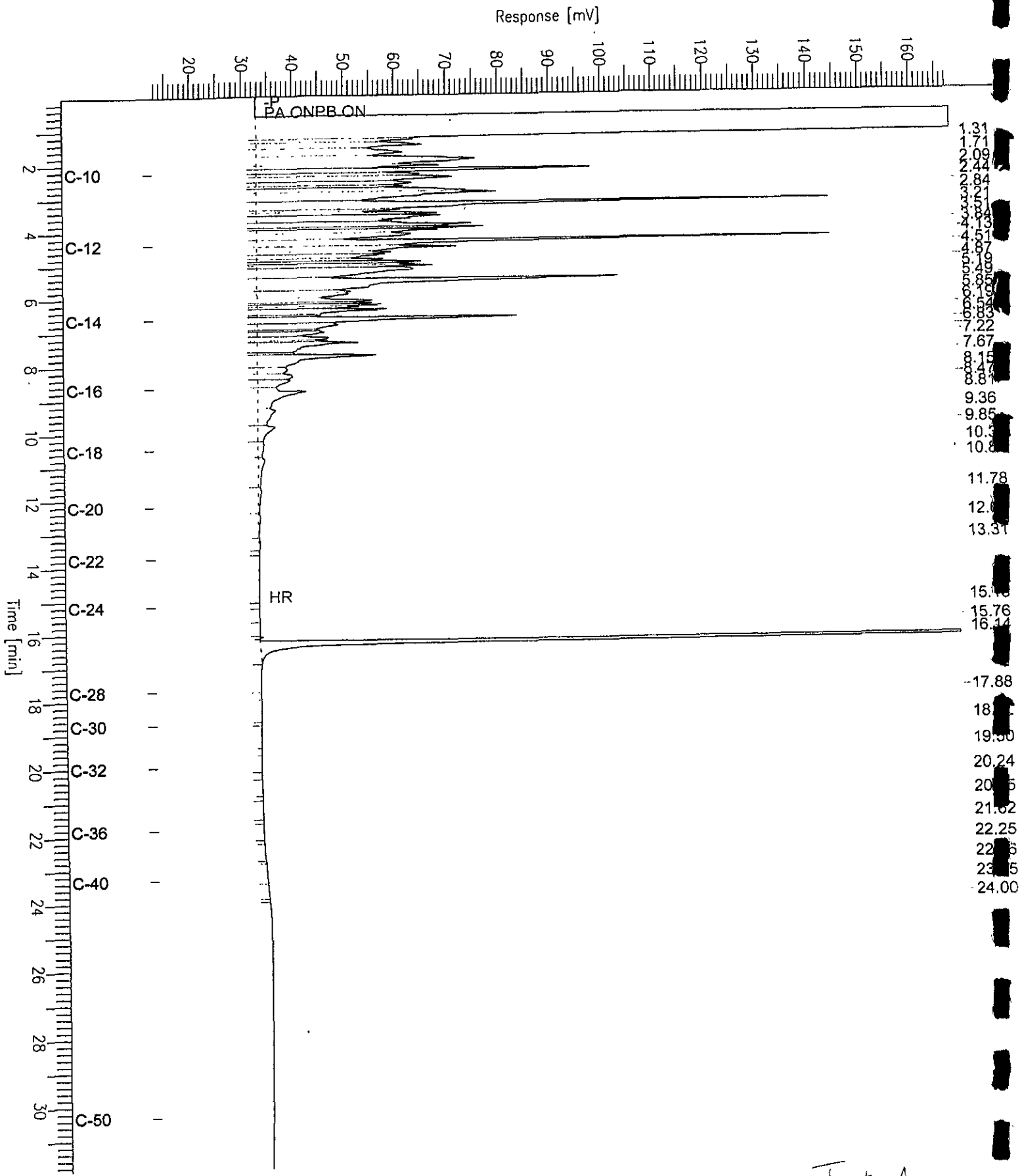


INFLUENT

Chromatogram

Sample Name : ccv,99ws8085,jet
FileName : G:\GC13\CHB\287B002.RAW
Method : BTEH274.MTH
Start Time : 0.01 min
Scale Factor: 0.0
End Time : 31.91 min
Plot Offset: 13 mV

Sample #: 250mg/1
Date : 10/14/1999 09:35 AM
Time of Injection: 10/14/1999 08:52 AM
Low Point : 12.77 mV
High Point : 167.86 mV
Plot Scale: 155.1 mV

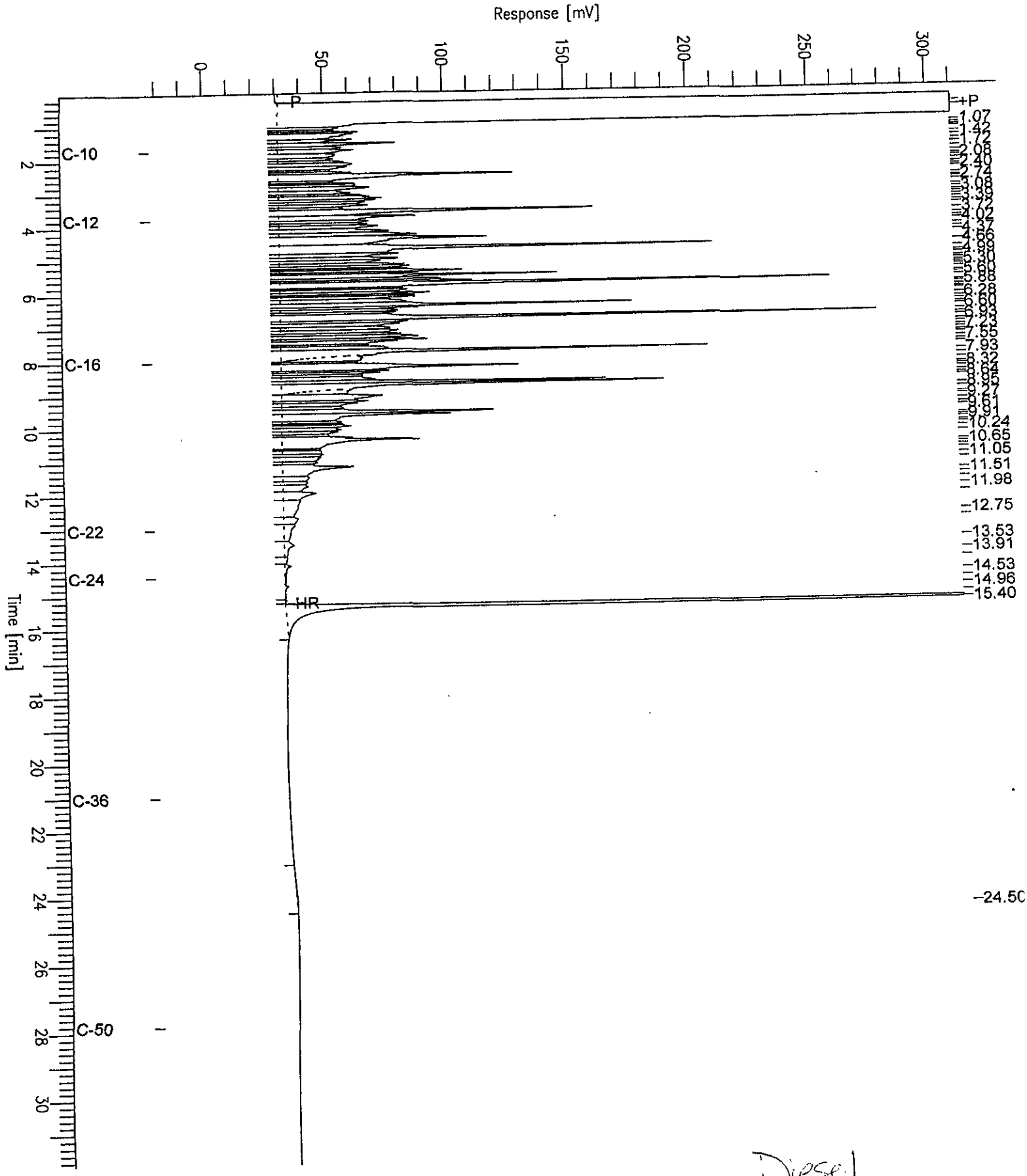


Test A

Chromatogram

Sample Name : x,ccv,99ws8168,dsl
FileName : G:\GC11\CHA\287A029.RAW
Method : ATEH245.MTH
Start Time : 0.01 min
Scale Factor: 0.0
End Time : 31.91 min
Plot Offset: -22 mV

Sample #: 500mg/l
Date : 10/15/99 01:29 PM
Time of Injection: 10/15/99 11:47 AM
Low Point : -21.92 mV
High Point : 310.61 mV
Plot Scale: 332.5 mV

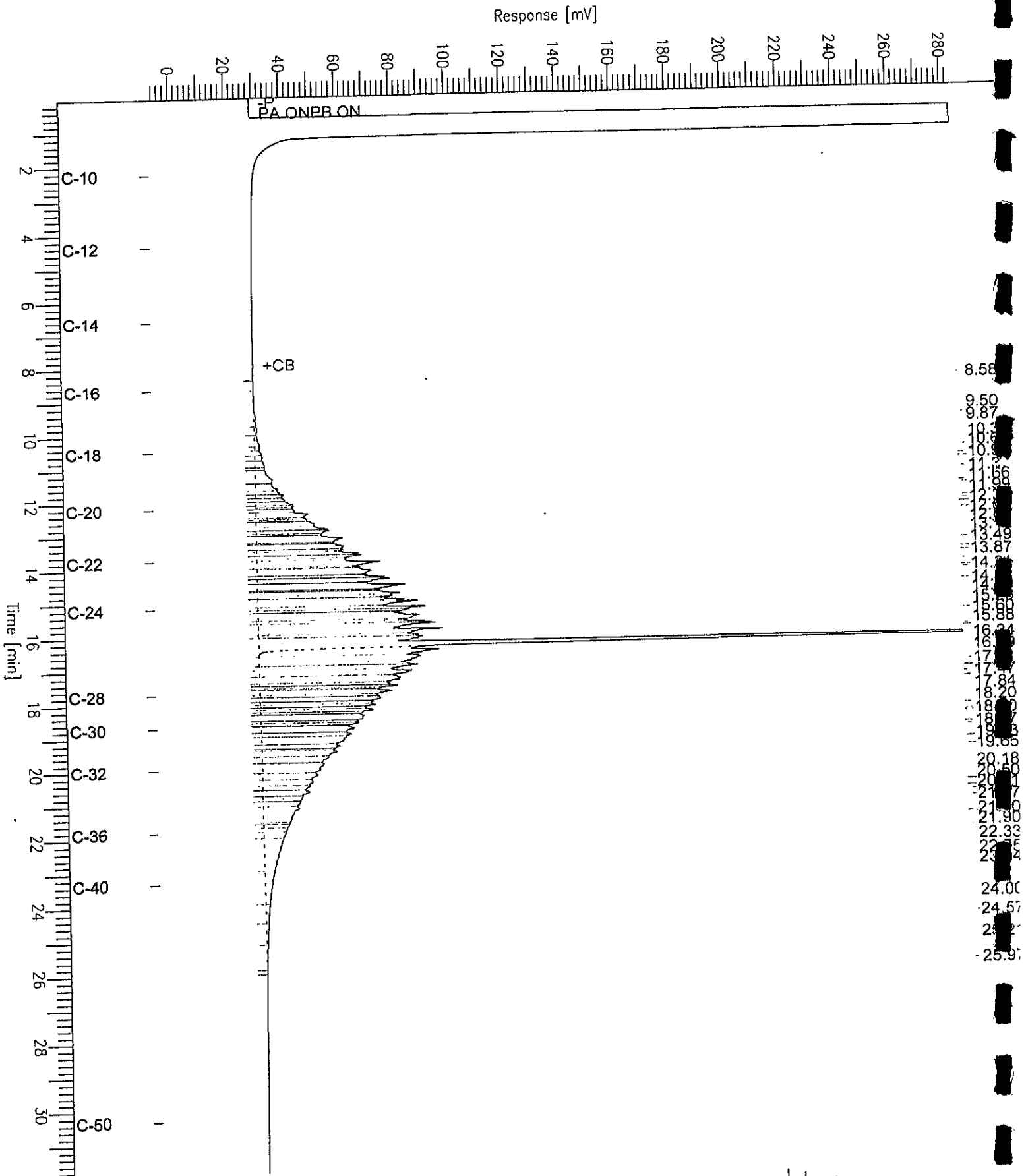


Diesel

Chromatogram

Sample Name : ccv,99ws8084,mo
FileName : G:\GC13\CHB\287B011.RAW
Method : BTEH274.MTH
Start Time : 0.01 min
Scale Factor: 0.0
End Time : 31.91 min
Plot Offset: -7 mV

Sample #: 500mg/l
Date : 10/15/1999 07:26 AM
Time of Injection: 10/14/1999 03:07 PM
Low Point : -6.83 mV
High Point : 283.12 mV
Plot Scale: 290.0 mV



Lab #: 141891

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client:	Camp, Dresser & McKee	Analysis Method:	EPA 8015M
Project#:	10605	Prep Method:	EPA 3520
Location:	Port Of Oakland		

METHOD BLANK

Matrix:	Water	Prep Date:	10/12/99
Batch#:	51256	Analysis Date:	10/14/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC10175

Analyte	Result
Diesel C10-C24	<50
Motor Oil C24-C36	<300
Hydraulic Fluid,C22-50	<300

Surrogate	%Rec	Recovery Limits
Hexacosane	98	58-128

Curtis & Tompkins, Ltd.

Lab #: 141891

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 51256
Units: ug/L
Diln Fac: 1

Prep Date: 10/12/99
Analysis Date: 10/15/99

BS Lab ID: QC10176

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C10-C24	2475	1831	74	50-114

Surrogate	%Rec	Limits
Hexacosane	92	58-128

BSD Lab ID: QC10177

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	2475	1578	64	50-114	15	25

Surrogate	%Rec	Limits
Hexacosane	89	58-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

ANALYTICAL REPORT

Prepared for:

Camp, Dresser & McKee
1 Walnut Creek Center
100 Pringle Ave, Suite 300
Walnut Creek, CA 94596

Date: 29-NOV-99
Lab Job Number: 142521
Project ID: 10605
Location: Port Of Oakland

Reviewed by: _____

Reviewed by: _____

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 142521

Sampler: VOSCOTT
Report To: VOSCOTT
Company: CDM
Telephone: (925)296-8071
Fax: (925)933-4174

Project No: 10605
Project Name: Port
Project P.O.: TSO-19
Turnaround Time: Standard

Analyses

BTEX 8260 ✓

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO	Preservative: HNO_3	Preservative: ICE	Field Notes
1	MIDPOINT	11/12 930		✓		3	✓			✓	

For Laboratory Use

Notes:
TSO-19

RELINQUISHED BY:

Signature	DATE/TIME
[signature]	11/12 0950
	DATE/TIME
	DATE/TIME

RECEIVED BY:

Signature	DATE/TIME
[signature]	11/12/99
	DATE/TIME
	DATE/TIME

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
142521-001	MIDPOINT	51972	11/12/99	11/13/99	11/13/99	

Matrix: Water

Analyte	Units	142521-001
Diln Fac:		1
MTBE	ug/L	<2
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	100
Bromofluorobenzene	%REC	101

BTXE	
Client: Camp, Dresser & McKee	Analysis Method: EPA 8021B
Project#: 10605	Prep Method: EPA 5030
Location: Port Of Oakland	

METHOD BLANK	
Matrix: Water	Prep Date: 11/12/99
Batch#: 51972	Analysis Date: 11/12/99
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC101066

Analyte	Result
MTBE	<2.0
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	102	51-143
Bromofluorobenzene	100	37-146

Lab #: 142521 BATCH QC REPORT

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 51972
Units: ug/L
Diln Fac: 1

Prep Date: 11/12/99
Analysis Date: 11/12/99

BS Lab ID: QC101113

Analyte	Spike Added	BS	%Rec #	Limits
MTBE	20	20.5	103	66-126
Benzene	20	21.01	105	65-111
Toluene	20	21.58	108	76-117
Ethylbenzene	20	22.15	111	71-121
m,p-Xylenes	40	45.96	115	80-123
o-Xylene	20	22.88	114	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	102	51-143
Bromofluorobenzene	100	37-146

BSD Lab ID: QC101114

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
MTBE	20	19.93	100	66-126	3	12
Benzene	20	20.19	101	65-111	4	10
Toluene	20	20.58	103	76-117	5	10
Ethylbenzene	20	21.17	106	71-121	5	11
m,p-Xylenes	40	43.89	110	80-123	5	10
o-Xylene	20	21.91	110	75-127	4	11

Surrogate	%Rec	Limits
Trifluorotoluene	101	51-143
Bromofluorobenzene	100	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

A N A L Y T I C A L R E P O R T

Prepared for:

Camp, Dresser & McKee
1 Walnut Creek Center
100 Pringle Ave, Suite 300
Walnut Creek, CA 94596

Date: 14-OCT-99
Lab Job Number: 140979
Project ID: 10605
Location: Port Of Oakland

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd.

Laboratory Number: 140979
Client: Camp, Dresser & McKee
Location: Port of Oakland
Project#: 10605

Received Date: 08/13/99

CASE NARRATIVE

This hardcopy data package contains sample and QC results for nine water samples that were received on August 13, 1999. All samples were received cold and intact.

BTXE/MTBE: Samples OMW-10, OMW-6 and Trip Blank (CT#140979-004, -007 and –009) were analyzed by Mass Spectroscopy to confirm the MTBE results obtained by Gas Chromatography. The client requested this confirmation on August 25th, past the sample hold dates. The Mass Spectroscopy data does not confirm the presence of MTBE in these samples. No other analytical problems were encountered.

Total Extractable Hydrocarbons: No analytical problems were encountered.

CURTIS & TOMPKINS, LTD. BERKELEY LOGIN CHANGE FORM

Reason for change: X Client Request: By: HOA V. CDM Date/Time: 8/26/99 Initials: A

_____ Login Review

Current Lab ID	Previous Lab ID	Client ID	Matrix	Add/Cancel	Analysis	Duedate
146979-004		CMW-12	Water	Add	8020MS	
" -007	/	CMW-6	"	"	"	
" -009	/	Trip Blank	"	"	"	
/						
/						
						/

Confirm MTBE

Curtis & Tompkins, Ltd.

CHAIN OF CUSTODY FORM

Page 1 of 1

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 140979

Sampler: VOSCOTT / SHARMA

Project No: 10605

Report To: VOSCOTT

Project Name: Port of Oakland

Company: CDM

Project P.O.: TS019

Telephone: (925) 296-8071

Turnaround Time: Standard

Fax: (925) 933-4174

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO	Preservative: HNO_3	Preservative: ICE	Field Notes	Analyses: BTEX/MTBE 8020	Analyses: TPH-D w/ silica gel cleanup
1	OMW-8	8/13 920		✓		4	✓			✓		✓	✓
2	OMW-1	8/13 1000		✓		4	✓			✓		✓	✓
3	OMW-3	8/13 1010		✓		4	✓			✓		✓	✓
4	OMW-10	8/13 1100		✓		4	✓			✓		✓	✓
5	OMW-11	8/13 1130		✓		4	✓			✓		✓	✓
6	OMW-12	8/13 1115		✓		3 40ml	✓			✓		✓ (1)	✓ — No Labels Amber for other VOA's only 8/16/99
7	OMW-6	8/13 1155		✓		4	✓			✓		✓	✓
8	OMW-5	8/13 1125		✓		4	✓			✓		✓	✓
9	Trip Blank										HOLD on 8/16/99		
10													
Lab													

Notes:
TS0-19
TPH-D w/ silica gel cleanup

RELINQUISHED BY:	RECEIVED BY:
Signature 8/13/99 DATE/TIME	Lisa Bennett 8/13/99 2:23 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140979-001	OMW-8	50050	08/13/99	08/23/99	08/23/99	
140979-002	OMW-1	50050	08/13/99	08/23/99	08/23/99	
140979-003	OMW-3	50050	08/13/99	08/23/99	08/23/99	
140979-004	OMW-10	50050	08/13/99	08/23/99	08/23/99	

Matrix: Water

Analyte Diln Fac:	Units	140979-001 1	140979-002 1	140979-003 1	140979-004 1
MTBE	ug/L	6.5	2.5	3.3	11 C
Benzene	ug/L	<0.5	<0.5	<0.5	16
Toluene	ug/L	<0.5	77	<0.5	31
Ethylbenzene	ug/L	<0.5	0.88	<0.5	0.54
m,p-Xylenes	ug/L	<0.5	1.6	<0.5	0.95
o-Xylene	ug/L	<0.5	0.72	<0.5	0.5
Surrogate					
Trifluorotoluene	%REC	112	109	90	104
Bromofluorobenzene	%REC	113	111	93	109

C: Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140979-005	OMW-11	50050	08/13/99	08/23/99	08/23/99	
140979-006	OMW-12	50050	08/13/99	08/23/99	08/23/99	
140979-007	OMW-6	50050	08/13/99	08/23/99	08/23/99	
140979-008	OMW-5	50050	08/13/99	08/23/99	08/23/99	

Matrix: Water

Analyte Diln Fac:	Units	140979-005 1	140979-006 1	140979-007 1	140979-008 1
MTBE	ug/L	14	5.1	4.6	5.1
Benzene	ug/L	16	<0.5	<0.5	<0.5
Toluene	ug/L	34	25	<0.5	<0.5
Ethylbenzene	ug/L	0.59	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	1.1	0.77	<0.5	<0.5
o-Xylene	ug/L	0.55	<0.5	<0.5	<0.5
Surrogate					
Trifluorotoluene	%REC	105	105	117	110
Bromofluorobenzene	%REC	111	110	117	112

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140979-009	TRIP BLANK	50050	08/13/99	08/23/99	08/23/99	

Matrix: Water

Analyte	Units	140979-009
Diln Fac:		1
MTBE	ug/L	3.8
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	92
Bromofluorobenzene	%REC	96

Lab #: 140979

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50050
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/23/99

MB Lab ID: QC05455

Analyte	Result
MTBE	<2.0
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	95	51-143
Bromofluorobenzene	94	37-146

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 50050
Units: ug/L
Diln Fac: 1

Prep Date: 08/23/99
Analysis Date: 08/23/99

LCS Lab ID: QC05454

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	13.2	20	66	66-126
Benzene	18.13	20	91	65-111
Toluene	19.06	20	95	76-117
Ethylbenzene	17.69	20	88	71-121
m,p-Xylenes	37.11	40	93	80-123
o-Xylene	19.35	20	97	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	102	51-143
Bromofluorobenzene	97	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 6 outside limits

Lab #: 140979

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8021B
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: OMW-6
Lab ID: 140979-007
Matrix: Water
Batch#: 50050
Units: ug/L
Diln Fac: 1

Sample Date: 08/13/99
Received Date: 08/13/99
Prep Date: 08/24/99
Analysis Date: 08/24/99

MS Lab ID: QC05456

Analyte	Spike Added	Sample	MS	%Rec #	Limits
MTBE	20	4.6	24.07	97	49-136
Benzene	20	<0.5	19.76	99	55-122
Toluene	20	<0.5	20.21	101	63-139
Ethylbenzene	20	<0.5	20.19	101	61-137
m,p-Xylenes	40	<0.5	42.24	106	57-148
o-Xylene	20	<0.5	21.3	107	70-141

Surrogate	%Rec	Limits
Trifluorotoluene	113	51-143
Bromofluorobenzene	118	37-146

MSD Lab ID: QC05457

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
MTBE	20	24.65	100	49-136	2	11
Benzene	20	20	100	55-122	1	10
Toluene	20	20.44	102	63-139	1	10
Ethylbenzene	20	20.47	102	61-137	1	10
m,p-Xylenes	40	42.84	107	57-148	1	10
o-Xylene	20	21.59	108	70-141	1	10

Surrogate	%Rec	Limits
Trifluorotoluene	113	51-143
Bromofluorobenzene	118	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140979-001	OMW-8	49985	08/13/99	08/17/99	08/20/99	
140979-002	OMW-1	49985	08/13/99	08/17/99	08/20/99	
140979-003	OMW-3	49985	08/13/99	08/17/99	08/20/99	
140979-004	OMW-10	49985	08/13/99	08/17/99	08/20/99	

Matrix: Water

Analyte Diln Fac:	Units	140979-001 1	140979-002 1	140979-003 1	140979-004 1
Diesel C10-C24	ug/L	<50	<50	200	1600
Surrogate					
Hexacosane	%REC	83	71	79	71

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140979-005	OMW-11	49985	08/13/99	08/17/99	08/20/99	
140979-007	OMW-6	49985	08/13/99	08/17/99	08/20/99	
140979-008	OMW-5	49985	08/13/99	08/17/99	08/20/99	

Matrix: Water

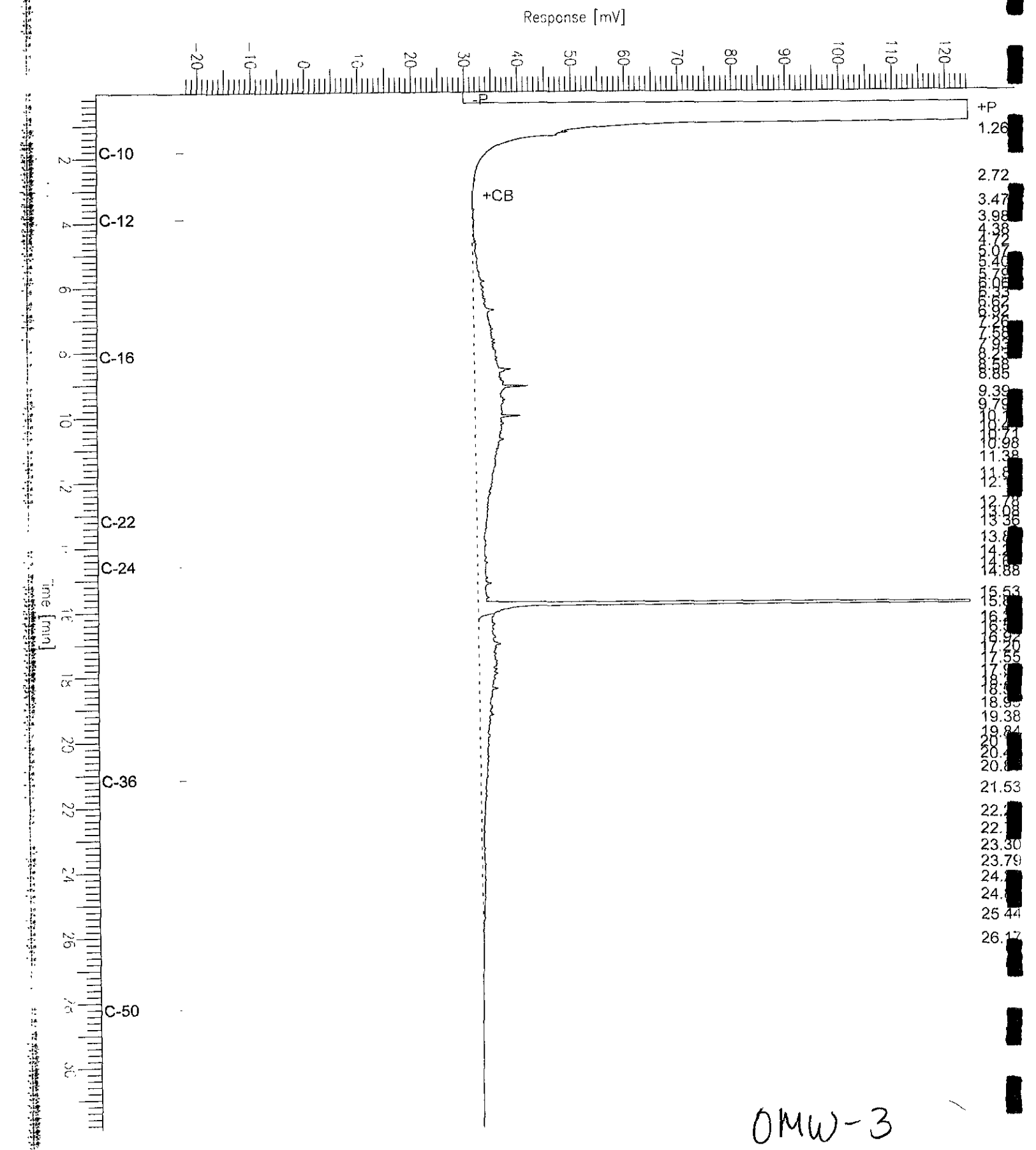
Analyte Diln Fac:	Units	140979-005 1	140979-007 1	140979-008 1
Diesel C10-C24	ug/L	1100	160	430 YH
Surrogate				
Hexacosane	%REC	64	93	97

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

Chromatogram

Sample Name : 140979-003sg,49985
FileName : G:\GC11\CHA\231A020.RAW
Method : ATEH229.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -22 mV

Sample #: 49985 Page 1 of 1
Date : 8/20/99 11:41 AM
Time of Injection: 8/20/99 02:01 AM
Low Point : -22.41 mV High Point : 124.35 mV
Plot Scale: 146.8 mV

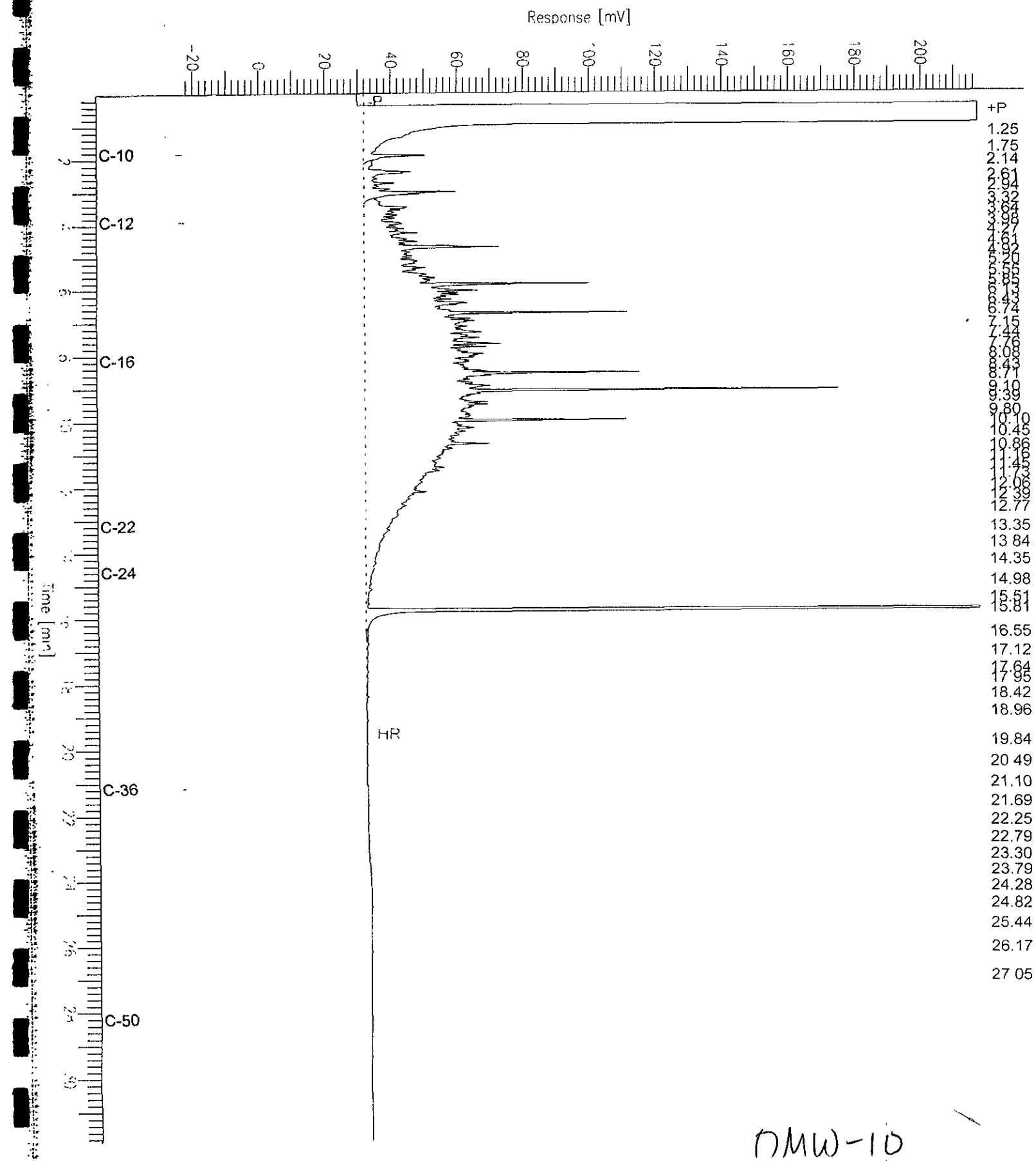


OMW-3

Chromatogram

Sample Name : 140979-004sg,49985
FileName : G:\GC11\CHA\231A021.RAW
Method : ATEH229.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -22 mV

Sample #: 49985 Page 1 of 1
Date : 8/20/99 11:41 AM
Time of Injection: 8/20/99 02:41 AM
Low Point : -22.43 mV High Point : 217.22 mV
Plot Scale: 239.7 mV

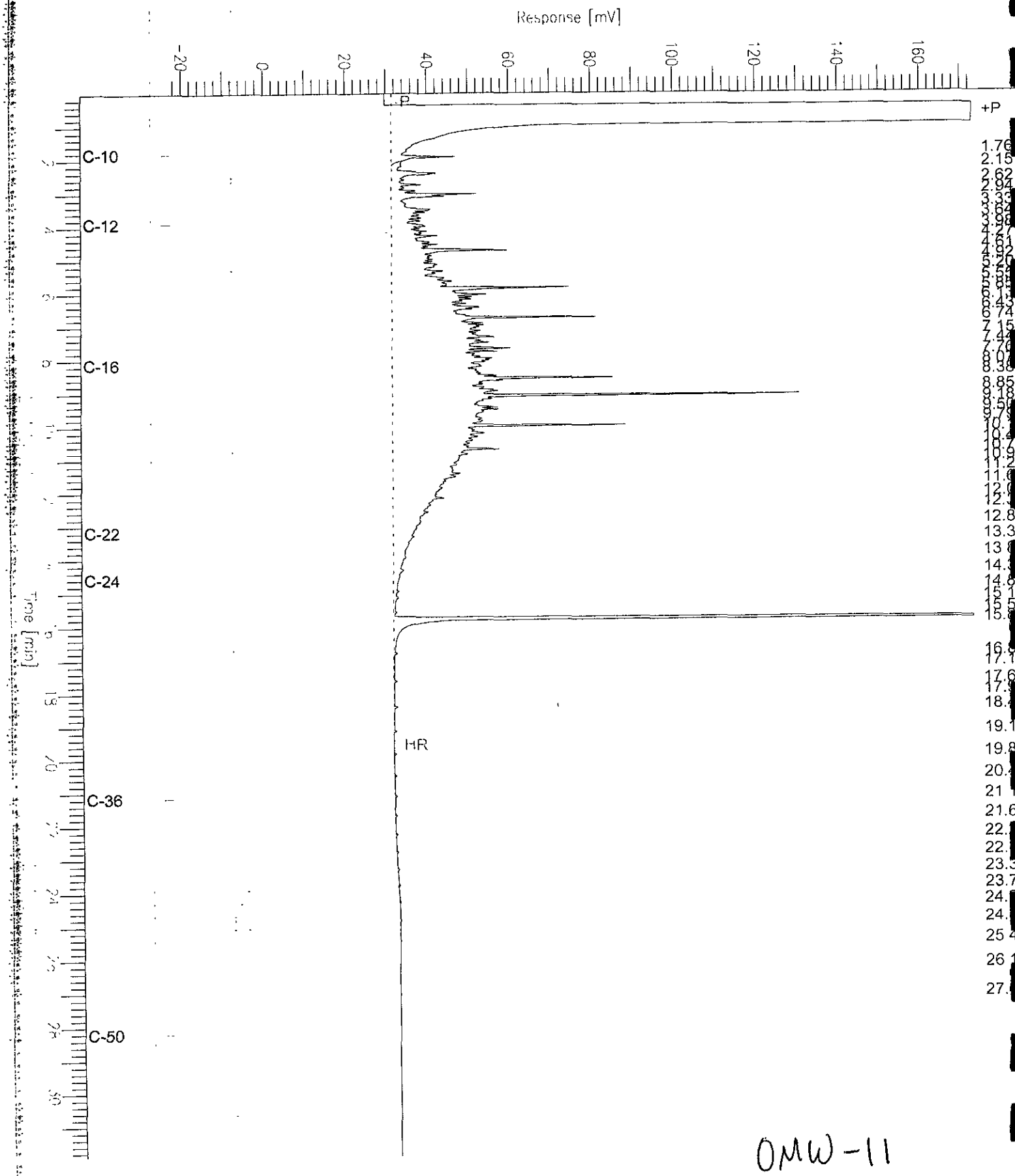


DMW-10

Chromatogram

Sample Name : 140979-005sg,49985
FileName : G:\GC11\CHA\231A022.RAW
Method : ATEH229.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -23 mV

Sample #: 49985 Page 1 of 1
Date : 8/20/99 11:43 AM
Time of Injection: 8/20/99 03:22 AM
Low Point : -22.64 mV High Point : 172.94 mV
Plot Scale: 195.6 mV



OMW-11

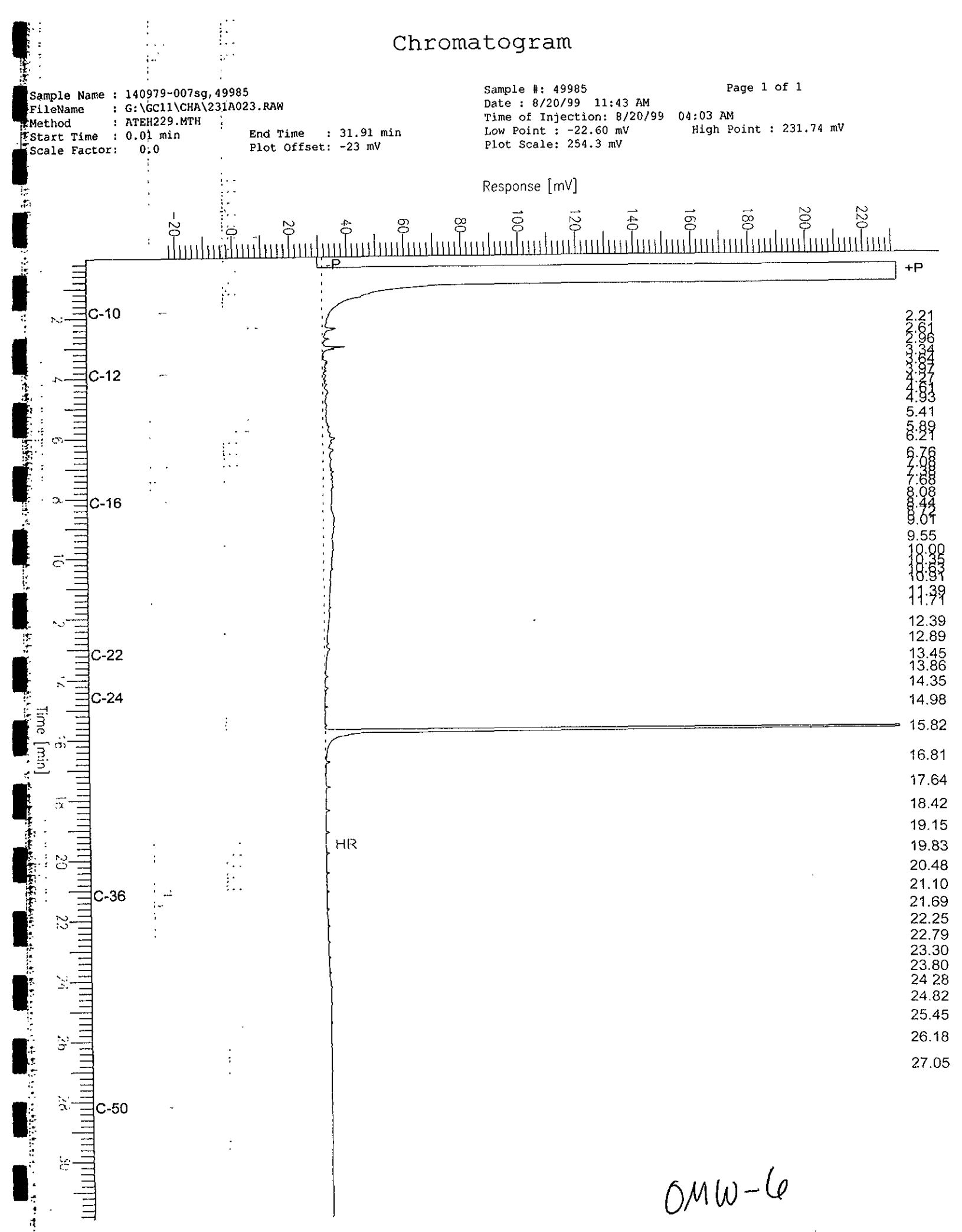
Chromatogram

Sample Name : 140979-007sg,49985
FileName : G:\GC11\CHA\231A023.RAW
Method : ATEH229.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: -23 mV

Sample #: 49985
Date : 8/20/99 11:43 AM
Time of Injection: 8/20/99 04:03 AM
Low Point : -22.60 mV
Plot Scale: 254.3 mV

High Point : 231.74 mV



OMW-6

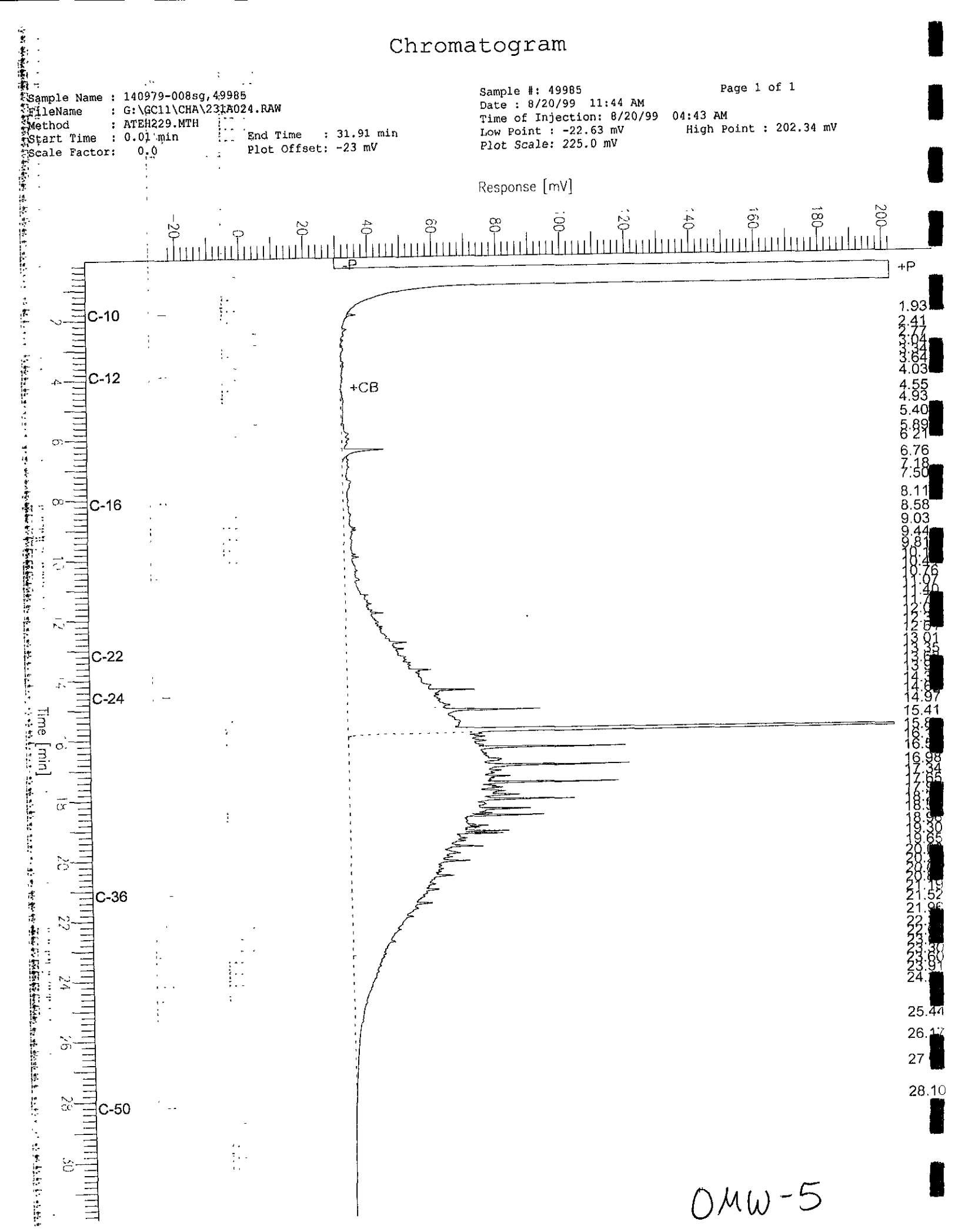
Chromatogram

Sample Name : 140979-008sg,49985
FileName : G:\GC11\CHA\231A024.RAW
Method : ATEH229.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: -23 mV

Sample #: 49985
Date : 8/20/99 11:44 AM
Time of Injection: 8/20/99 04:43 AM
Low Point : -22.63 mV
Plot Scale: 225.0 mV

High Point : 202.34 mV



OMW-5

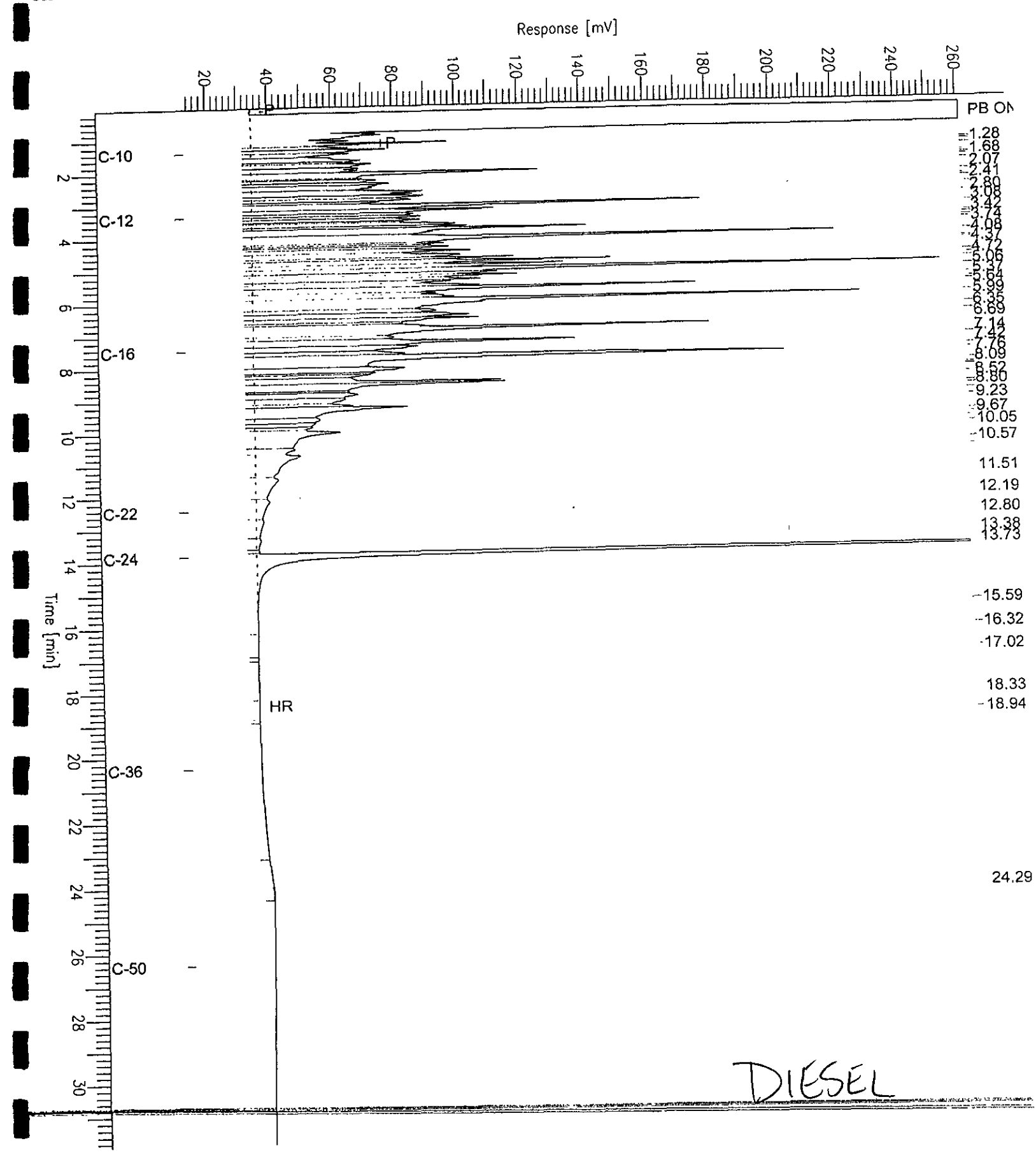
Chromatogram

Sample Name : x,ccv,99ws7881,dsl
FileName : C:\GC15\CHB\235B017.RAW
Method : BTEH223.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: 13 mV

Sample #: 500mg/1
Date : 8/24/99 09:28 AM
Time of Injection: 8/24/99 04:13 AM
Low Point : 13.13 mV
Plot Scale: 248.0 mV

High Point : 261.12 mV



BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 49985
Units: ug/L
Diln Fac: 1

Prep Date: 08/17/99
Analysis Date: 08/24/99

MB Lab ID: QC05226

Analyte	Result	
Diesel C10-C24	<50	
Surrogate	**%Rec**	**Recovery Limits**
Hexacosane	79	58-128

Lab #: 140979

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 49985
Units: ug/L
Diln Fac: 1

Prep Date: 08/17/99
Analysis Date: 08/24/99

BS Lab ID: QC05227

Analyte	Spike Added	BS	%Rec	#	Limits
Diesel C10-C24	2475	1835	74		50-114

Surrogate	%Rec	Limits
Hexacosane	81	58-128

BSD Lab ID: QC05228

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
Diesel C10-C24	2475	1894	77		50-114	3		25

Surrogate	%Rec	Limits
Hexacosane	85	58-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Aromatic Volatile Organics
EPA 8020 Analyte List

Client:	Camp, Dresser & McKee	Analysis Method:	EPA 8260A
Project#:	10605	Prep Method:	EPA 5030
Location:	Port Of Oakland		

Field ID:	OMW-10	Sampled:	08/13/99
Lab ID:	140979-004	Received:	08/13/99
Matrix:	Water	Extracted:	08/26/99
Batch#:	50169	Analyzed:	08/26/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
MTBE	ND	0.5

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	107	76-127
Toluene-d8	97	90-109
Bromofluorobenzene	109	82-118

Aromatic Volatile Organics
EPA 8020 Analyte List

Client:	Camp, Dresser & McKee	Analysis Method:	EPA 8260A
Project#:	10605	Prep Method:	EPA 5030
Location:	Port Of Oakland		

Field ID:	OMW-6	Sampled:	08/13/99
Lab ID:	140979-007	Received:	08/13/99
Matrix:	Water	Extracted:	08/26/99
Batch#:	50169	Analyzed:	08/26/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
MTBE	ND	0.5

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	95	76-127
Toluene-d8	92	90-109
Bromofluorobenzene	109	82-118

Aromatic Volatile Organics
EPA 8020 Analyte List

Client:	Camp, Dresser & McKee	Analysis Method:	EPA 8260A
Project#:	10605	Prep Method:	EPA 5030
Location:	Port Of Oakland		

Field ID:	TRIP BLANK	Sampled:	08/13/99
Lab ID:	140979-009	Received:	08/13/99
Matrix:	Water	Extracted:	09/07/99
Batch#:	50169	Analyzed:	09/07/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
MTBE	ND	0.5

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	109	76-127
Toluene-d8	96	90-109
Bromofluorobenzene	111	82-118

Purgeable Aromatics by GC/MS
EPA 8020 Analyte List

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50169
Units: ug/L
Diln Fac: 1

Prep Date: 08/26/99
Analysis Date: 08/26/99

MB Lab ID: QC05928

Analyte	Result	Reporting Limit
MTBE	ND	0.5
Surrogate	**%Rec**	**Recovery Limits**
1,2-Dichloroethane-d4	101	76-127
Toluene-d8	92	90-109
Bromofluorobenzene	115	82-118

BATCH QC REPORT

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS
EPA 8020 Analyte List

Client: Camp, Dresser & McKee
Project#: 10605
Location: Port Of Oakland

Analysis Method: EPA 8260A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 50169
Units: ug/L
Diln Fac: 1

Prep Date: 08/26/99
Analysis Date: 08/26/99

MB Lab ID: QC05929

Analyte	Result	Reporting Limit
MTBE	ND	0.5
Surrogate	**%Rec**	**Recovery Limits**
1,2-Dichloroethane-d4	99	76-127
Toluene-d8	93	90-109
Bromofluorobenzene	111	82-118